

Prevention of alcohol-related harm: community-based interventions

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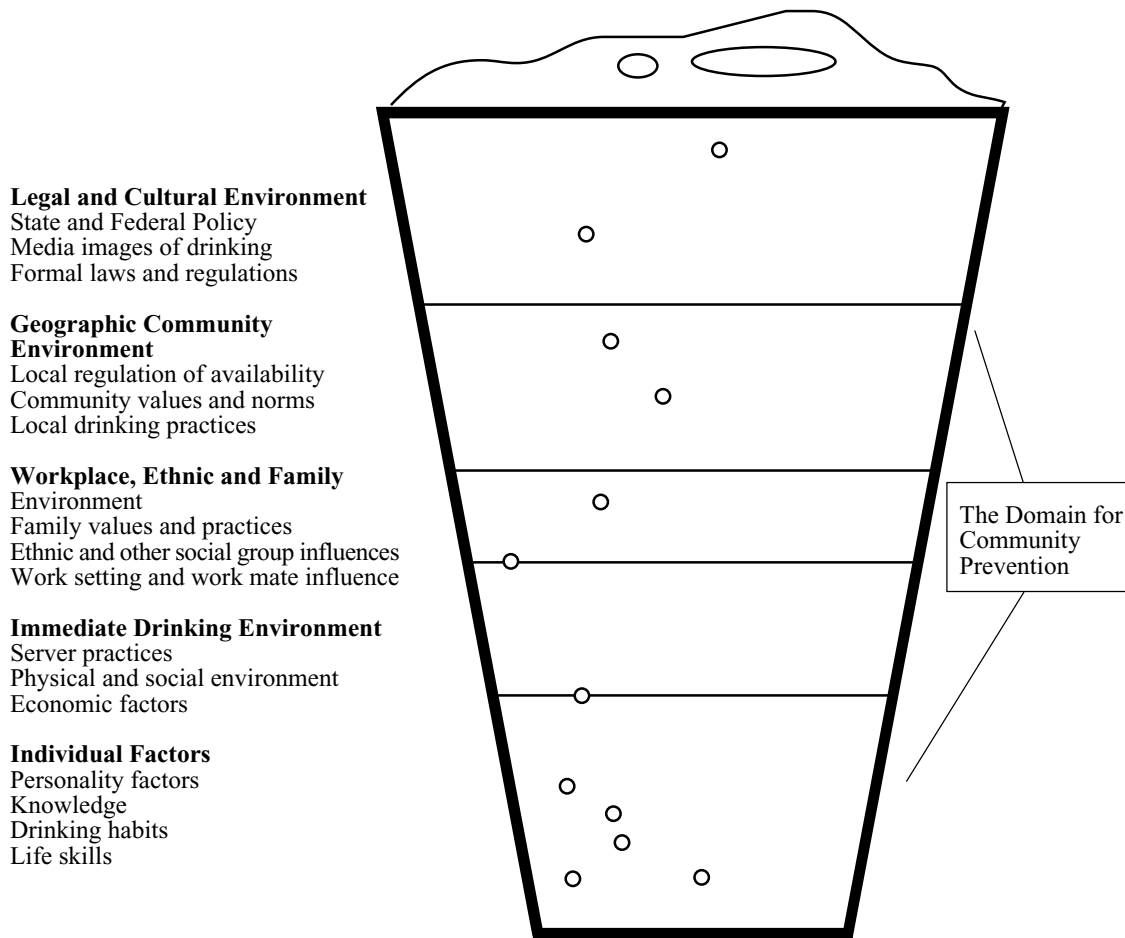
Introduction

Organised community-based prevention of alcohol problems goes back to the American Temperance Movement, which sprung up in the first half of the 19th Century (Cherrington, 1920). However, Holmila (2000) considered that a scientific discourse on the value of community alcohol prevention approaches has only occurred for a little over ten years. Research projects such as the Community Action Project (CAP) in New Zealand pioneered whole of community responses to alcohol problems (Casswell & Gilmore, 1989; Casswell and Stewart, 1990). In turn these initiatives spurred the first Kettil Bruun Society conference on community action as a means of preventing alcohol problems (Elmeland, 2000). This first meeting of researchers and project implementers was held in Scarborough, Canada, in 1989 and has since been followed by three further conferences (Giesbrecht et al, 1990; Greenfield & Zimmerman, 1993; Community Action to Prevent Alcohol Problems, 1995; Casswell et al, 1999). These conferences have served as vehicles for the presentation and publication of community prevention research findings and as Elmeland (2000) noted, they have marked considerable development in the field.

The blossoming of research is part of an increasing recognition that the community is an appropriate setting for preventing alcohol problems. At the community level these problems are personally experienced. If for example a person dies as a result of a drink driver, it is not just a statistic; it is an event, personally experienced by family and friends. The community however, is not just where alcohol problems are experienced. It also produces particular problems, because of the way community life is organised. Problematic drinking by individuals will have an impact, but Holmila (2000) asserts that curing or removing the individual problem drinker will not result in a reduction in alcohol-related harm, because the community dynamics which caused these problems are unchanged. In order to change the aggregate level of alcohol-related harm, environmental changes have to occur.

In one sense the term community indicates geographical proximity of people, as in a town or neighbourhood. In another sense it can refer to social proximity, brought about by shared experience and heritage, as with the Aboriginal community or by a shared purpose such in a workplace or school. Accordingly, this chapter will take a broad view of what comprises a community, and will examine a range of interventions designed to have impact within a particular community. Figure 1 illustrates the five levels at which prevention efforts can operate. Direct prevention at the individual level (the bottom layer of Figure 1) will not be specifically covered, as this in some ways overlaps with treatment and there are very few prevention programs that seek to change individual factors outside a community intervention context. Prevention on the broadest scale (the top layer of Figure 1) generally involves influencing organisations such as government, which have a much broader span than the individual community and prevention issues at this level are being covered in the chapter on public alcohol policy. It is important to note however, that both individuals and community organisations can contribute to state and even federal level decision making on alcohol. Indeed experiences with community intervention, both successes and failures, often suggest the need for improvement in the regulatory and legislative environment around alcohol, which can be brought to the attention of policy makers (Stockwell, 2000).

Figure 1. The different levels for alcohol prevention interventions



Geographic community prevention approaches

Adapted from Holder, 1989

The development of community prevention approaches

Historically there have been two well identified perspectives on alcohol problems and their aetiology (Holder, 1992). The Temperance Movement came to view alcohol as having a degenerative influence on those who consumed it. The substance was the problem and solution was Prohibition. This was tried in America during the 1920s, but repeal of Prohibition in 1933 was a clear signal of failure. The new view was that alcohol problems arose from the genetic and physiological make up of the individual drinker. This notion of individual addiction as the root problem is intertwined with the disease concept of alcoholism. In this model individuals who develop problems with alcohol suffer from a disease process and the appropriate response is treatment.

This ‘medicalisation’ of alcohol and other drug problems has meant that, until relatively recently, the focus of prevention efforts has been on early identification and treatment of addiction (Holder, 1992). In the early 1970s an appreciation emerged in the public health area as to the wider health and social problems created by alcohol and other drugs. This shift in emphasis from individual medical disorder to a broader view of alcohol and other drug problems has been important in recognising the role of the community in both producing and responding to alcohol problems. In recent years there has been increasing interest in community based prevention programs and this has seen the emergence of two complementary prevention approaches, which target geographic communities (National Institute on Alcohol Abuse and Alcoholism, 2000).

In one approach, the community is a catchment area, which can be targeted with health promotion messages designed to directly change individual drinking behaviour. In the other approach, prevention programs aim to achieve policy, legislative and practice change in order to indirectly influence the way alcohol consumed in the community (National Institute on Alcohol Abuse and Alcoholism, 2000). Not surprisingly a number of recent prevention approaches have combined the features of these two approaches in comprehensive community prevention programs

Recent international community-based alcohol programs

The Community Action Project (CAP) was conducted in six New Zealand cities over a two and a half year period, with the objective of reinforcing moderate drinking patterns and influencing local policies on availability and advertising of alcohol (Casswell & Gilmore, 1989). The interventions contained two components. The main component consisted of an emotive multi-media campaign, designed to encourage moderate drinking among males and to stimulate public debate of alcohol policy issues. The second component involved the use of a community organiser to generate local discussion of alcohol policy issues. Overall the CAP had limited impact on the intervention communities (Gorman & Speer, 1996). The media component seemed most important and acted to inhibit an existing trend of greater liberalisation of attitudes towards alcohol. The community organisation component, while only implemented in some 'high intensity' communities, contributed little additional benefit.

The Rhode Island Alcohol Abuse/injury Prevention Project was conducted in three Rhode Island communities (Rhode Island Department of Health, 1989a, 1989b). The three main interventions involved community mobilisation, training in responsible beverage service and enforcement of laws relating to alcohol. These intervention strategies were aimed at changing the knowledge, attitudes and behaviours of two groups in the community, who regulated drinking practices, police and bar staff. Subsequent to the intervention emergency room injury visits decreased. There was a decline in assault and head injury rates. The rate of motor vehicle crash injuries also declined (Putnam et al (1993). Conversely, alcohol-related arrest rates increased in the intervention community following the introduction of the program, but Putnam et al, (1993) suggested this may be due to better recording of the role of alcohol in the offence and an increased level of enforcement. The study did however have a number of methodological limitations, mainly related to insufficient event data in some outcome categories such as alcohol-related crashes involving severe or fatal injury (Stout, 1992). This means that the reported changes need to be interpreted cautiously.

The 'Healthy Bergeyk' community project in the Dutch Municipality of Bergeyk sought to reduce four cancer-related risk behaviours, including excessive alcohol use (van Assema et al, 1994). Interventions included mass media messages, self-help materials, small group activities, and structural change. After one year there was a reduction in one of the cancer-related risk behaviours, but there was no change in either the amount of alcohol consumed or in the percentage of people in the community who drank in a high-risk manner. The authors acknowledged a number of methodological limitations of their study, but the major problem seems to have been time. The actual period during which project activities were conducted was limited to six months, because of financial constraints. Such a period of time is far too short for measurable community change to occur.

Probably the largest and most methodologically rigorous community alcohol prevention program was the Community Trials Project (CTP) conducted by Holder and his colleagues in six locations in California and South Carolina over a five year period (Holder et al, 1997a). This project also differed from many of its predecessors in that it aimed to reduce harms associated with drinking rather than drinking itself. The project consisted of the following five interacting components, each with its own set of actions and goals.

- Community Mobilisation - Develop community coalitions to address local alcohol problems, increase awareness and gain public support for project activities by way of media advocacy.
- Responsible Beverage Service - Reduce the likelihood of customer intoxication on licensed premises by training bar staff in responsible serving practices.

- Drinking and Driving - Reduce drinking and driving by increasing both perceived and actual police enforcement.
- Underage Drinking - Reduce alcohol-involved trauma among underage youth, by curtailing retail sales to this groups and restricting other methods of access.
- Access to Alcohol - Assist communities to increase restrictions on the availability of alcohol.

The report by the National Institute on Alcohol Abuse and Alcoholism (2000) indicated that the CTP was successful on a number of measures. Alcohol-involved traffic crashes decreased by 10% per annum. There was significant community support for the interventions. Media coverage of alcohol-related trauma and prevention policy initiatives increased. Sales of alcoholic beverages to underage decoys were reduced. However this success needs to be measured against the cost of the project, which was considerable. Holder et al (1997b) noted that over a four-year period the cost of local community staff in one intervention community was US\$360,00 and this did not take into account evaluation costs or expenses associated with intervention activities. Such well resourced, long-term community projects have the greatest chance of achieving meaningful change, but it would be difficult to attract such a level of funding support in Australia.

COMPARI: An Australian alcohol prevention program

COMPARI (Community Mobilisation for the Prevention of Alcohol-Related Injury) was a Australian demonstration project, designed to show that alcohol-related injury could be reduced by mobilising a whole community to take an active role in changing individual drinking behaviour and the environmental factors that influence alcohol-related harm (Midford & Boots, 1999). The project operated over a three year period in the Western Australian regional city of Geraldton and during this period undertook twenty-two major component activities, involving community development, local networking and support, provision of alternative activities, health education, health marketing and policy institutionalisation. Many of the individual activities conducted by COMPARI resulted in changes in community knowledge and behaviour (Boots & Midford, 1995; Boots & Midford, 1999). However, it was not possible within the time frame of the project to demonstrate that COMPARI had made beneficial changes in terms of objective serial measures of alcohol harm, such as traffic crashes, hospital morbidity etc.

Four major insights about community prevention approaches emerged from the COMPARI experience. The first concerns the local acceptance and involvement. Externally initiated community alcohol projects need to engage in extensive local consultation and alliance building prior to their public launch. Secondly, pure community mobilisation processes need to be supplemented by a range of practical, high profile prevention activities. This gives the prevention project a positive profile in the community and mobilisation occurs as a by-product. Thirdly, community prevention projects can have an impact on specific measures of alcohol-related knowledge and behaviour in particular populations under particular circumstances, such as picking a non drinking 'Skipper' when going to a nightclub (Boots & Midford, 1999), but demonstrable, community wide change will take a long time to achieve. Finally the evaluation strategy needs to be matched to the aims of the project. Experimental and quasi-experimental designs, while facilitating more rigorous research, can restrict community mobilisation and disempower the host community, because the research imperative emphasises controlling the prevention intervention so as to demonstrate the link between program activity and any subsequent changes. More naturalistic, descriptive evaluation approaches are considered less likely to restrict the scope of community mobilisation activities, but are at a disadvantage in terms of isolating and quantifying the effect of specific activities. Midford & Boots (1999) did conclude that COMPARI achieved a considerable amount of change in the way the local community understood and responded to alcohol harm and the lessons learned about community intervention and evaluation processes can of course inform future such community mobilisation projects. However, in reviewing COMPARI's achievements, perhaps the most telling outcome was that the project was institutionalised within the local community. Management and funding were taken over at the local level and COMPARI developed into the major alcohol and drug service provider for Geraldton and the surrounding region.

Community prevention programs: Achievements and gaps

Casswell (2000) in a recent paper, examined common themes in the last decade of research on community prevention approaches to alcohol. She noted increasing acknowledgment of the strengths of communities and the importance of their knowledge base. The power of community members is important and in this regard projects have emphasised the need to be community driven. The use of more naturalistic approaches to evaluation is a further recognition that traditional experimental designs may limit the community dynamic. Casswell also noted the growing consensus that successful community prevention projects have to incorporate a process of reciprocal and respectful communication between different community sectors and between the community and the researchers.

Community action is resource hungry in a number of ways. Casswell noted that projects have identified the need for considerable investment in social interaction between community stakeholders and the importance of dealing with the complexities created by the different interests, goals, expertise etc of different groups and individuals. Social capital is a resource needed for effective community action. Financial capital is also critically important and the costings provided by the Community Trials Project (CTP) (Holder et al, 1997b) suggest that a large scale, multi site project will cost over 1 million dollars to implement and evaluate.

Casswell (2000) considered that community prevention research to date has shown that community mobilisation can create changes in the norms about alcohol use and alcohol harm and as a result can facilitate structural change within the community that has a direct impact on harm. An Australian example of this is provided by Midford et al (1994). A community development process in Hall's Creek associated with the development of a local sobering up centre led to a broader understanding of alcohol harm and possible community responses. This in turn led to the successful application for selective restrictions on local alcohol sales as a way of curtailing particularly problematic drinking practices. However, few community prevention projects have demonstrated a sustained change in local consumption patterns or harm. Holder (1997a, 1997b) has provided some tantalising glimpses of what is possible with a well-conceptualised and generously funded whole of community approach. If research understanding of community prevention approaches to alcohol is to be meaningfully advanced in Australia, a similar, large scale, research project should be undertaken in this country. In this way prevention approaches that are best suited to the Australian cultural context can be identified.

Prevention in the workplace

Prevalence of alcohol use and harm in the workplace

The prevalence of use data clearly indicate that alcohol is the drug of choice for people in the age range most likely to be in employment and is the drug most likely to have an impact in the workplace (Australian Institute of Health and Welfare, 1999; Normand et al, 1994). Absenteeism, productivity, accidents and injuries, job satisfaction, employee turnover, the social climate of the workplace and the image of the company have been identified as critical factors influenced by the level and pattern of employee alcohol use (Henderson et al, 1996; Normand et al, 1994). Allsop et al's (1997) comprehensive review of Australian research on alcohol and other drugs in the workplace identified 44 papers, which reported prevalence of alcohol and other drug (AOD) consumption, problems or consequences. Most of the studies focused on alcohol. There have been studies of police (McNeil & Wilson, 1993), train drivers (Bush et al, 1992), telecommunication workers (Hocking & Soares, 1993), the mining industry (Midford et al, 1997), the liquor and hospitality industries (Bush & Sirenko, 1993) and workers in manufacturing (Webb et al, 1994). Hagen et al, 1992 also compared alcohol consumption and harm across a range of industry groups. However, Allsop et al (1997) indicated that Australian prevalence studies on AOD issues in the workplace have been unsystematic and there has been little justification of why a particular study population was chosen. This has meant that findings are not readily generalisable to national industry or occupational groups.

The Australian alcohol prevalence literature indicates that use is widespread and that consumption varies considerably between occupations and industries and between male and female employees (Allsop et al, 1997). It would seem that overall, alcohol consumption levels are not significantly associated with work injuries and absenteeism, although problem drinkers are 2.7 times more likely to have injury related absences from work (Webb et al, 1994). A study by Richmond et al (1998) into lifestyle health behaviours of NSW police, indicated that almost half the males and over 40% of the females drank in excess of low risk drinking limits, which these researchers considered must have an impact on the work performance and safety of at least some police. This behaviour did not however occur in isolation. Rather it seemed part of a cluster of unhealthy behaviours, including smoking, being overweight, not exercising and feeling stressed. In turn this pattern of unhealthy behaviour seemed to relate to the nature of police work and the values emphasised in police culture. A study of workers in the mining industry indicated that shiftwork may also influence patterns of alcohol use and increase bingeing (Midford et al, 1997).

Workplace alcohol prevalence research in Australia has generally not been well conducted and what data exists, is sparse and unsystematic. As a consequence little else is known about the impact of alcohol use in the work environment. This problem of poor quality or non-existent, workplace alcohol data is not confined to Australia. Hutcherson et al (1995) in examining the role of alcohol in the UK workplace, noted that estimates of alcohol misuse are both conceptually and empirically, based on shaky foundations. Similarly, Normand et al (1994) in their examination of drugs and the American workforce cautioned that while field studies do link alcohol use to higher absenteeism and increased accidents, the evidence on other negative work behaviours is less clear, partly because of an insufficient research base.

Workplace interventions

Allsop et al (1997) stated that five types of AOD intervention have been employed in the Australian workplace, although in addition, many workplaces have developed and implemented a written policy on how the workplace perceives and will respond to AOD harm. This not only provides a good foundation for other prevention efforts, but should be considered an intervention in its own right. Accordingly, the following six intervention categories are listed.

- Health promotion programs, which involve education, prevention and environmental manipulations
- Employee assistance programs (EAPs), which involve occupational drug and alcohol programs, AOD specific programs that precede EAPs and employee assistance services
- Controls, such as smoking bans
- Drug testing, which involves testing employees at work for the presence of AODs
- Workplace AOD policy, which specifies the course of action to be taken in dealing with AOD use in the workplace
- Other interventions, such as counselling that do not belong in any other category

Allsop et al reviewed a total of 190 Australian papers on workplace interventions, apart from policy. Most of the papers were descriptions of programs, with 90 describing EAPs and 36 describing drug testing. Only a small number (33) were scientific investigations. Interestingly, there was only one scientific paper on drug testing (Mugford, 1990) and this only involved a community opinion survey to explore attitudes to drug testing, prior to its implementation in the Australian Customs Service. Clearly this lack of local investigation as to the empirical validity of drug testing is a cause for concern. It is a prevention measure that a number of companies have enthusiastically introduced into Australia on the strength of its acceptance in the USA. However, the research findings on the measure's prevention merits in the American workplace are equivocal and there is little indication that they are generalisable to the Australian context (Allsop & Phillips, 1997). Allsop et al (1997) considered that overall, the current

state of knowledge on AOD interventions in the Australian workplace is patchy and cannot be relied upon for planning purposes. In fact these authors categorically stated that

there is no reliable evidence to suggest that any intervention minimises or reduces the harms or costs associated with AOD use in the Australian workplace (p 86)

Roman and Blum (1999) consider that while some workplace prevention programs have been implemented because of their intrinsic logic, a sound research foundation is indispensable if innovation is to be maintained. These authors identified several recent American primary prevention workplace programs, which have provided sound evidence of workplace factors that influence alcohol use. Greenberg and Grunberg (1995) in a study of the consequences of worker alienation, found a direct linkage between alienation and the likelihood of problem drinking among blue-collar workers. Howland et al (1996) showed that managerial drinking behaviour is directly tied to the cultural characteristics of the work setting. Roman and Blum (1999) however, make the additional point that investigation of work related drinking, needs to go beyond the workplace for causal factors. Ames and Janes (1992) noted that social and cultural factors strongly influence AOD use. While these factors can be very strongly tied to individual workplaces or industries and result in a drinking or other drug use culture that is unique to that work setting, such behaviour is not solely related to the work environment. Ames and Janes have indicated that a worker's socialisation experiences from family and community interact with socialisation experiences at work. Consequently workers who come from cultural backgrounds, where alcohol is emphasised in social interaction, may extend drinking into the workplace.

In the case of policy, there was considerable diversity of position on both the use of AODs in the workplace and responses to impaired employees. Generally, peak business organisations considered AOD problems to belong to individual employees. In contrast, peak employee organisations considered AOD use in the workplace to be partially a product of the work environment. There have been some documents produced, which provide a detailed blueprint for the development and implementation of workplace AOD policy, eg Nicholas et al (1996). However, Allsop et al (1997) considered that most are not of a high standard and do not further coherent policy development and implementation. Australian policy responses to workplace AOD issues tend to reflect sectional interests and pay insufficient attention to collaborative, developmental processes. As a consequence they tend to lack breadth, coherence and legitimacy. Hutcheson et al (1995) considered that an effective AOD policy must be constructed specifically for each company, with input from all key staff involved. The AOD policy approach of different companies will vary according to the type of work undertaken and the corporate culture of the organisation. However, in Australia there is a clear need for the consultative development of a consistent and empirically justifiable set of criteria on which to base policy.

Recommendations for future research

The issues surrounding alcohol and the workplace are clearly under researched in Australia. The local body of knowledge is limited and fragmentary and as a consequence is of limited value in informing workplace prevention practice. Allsop et al (1997) considered that a way of dealing with this limitation would be to draw on reputable overseas research and test the transportability of well tried interventions. However, if the impact of alcohol use on the Australian workplace is to be truly well understood and culturally appropriate responses developed, then the research has to be done in Australia.

In the first instance, a useful way of gaining an objective sense of the how alcohol impacts on the workplace would be to conduct a series of studies investigating the relationship between patterns of alcohol use and the prevalence of workplace problems. This should be followed by a number of strategic, collaborative demonstration interventions, which investigate how alcohol harm can best be prevented in a range of identified high risk workplaces. Finally a nationwide mechanism for disseminating research findings to relevant workplace decision makers, occupational health and safety practitioners and key industry stakeholders should be established as a way of developing better evidence based practice in responding workplace AOD problems.

Indigenous Australian community interventions

As among other segments of the Australian population, interventions among Indigenous Australians are aimed at reducing excessive consumption and related harm. In order to monitor the effectiveness of such interventions, good quality data on both consumption levels and indicators of harm are necessary. There have been various national and regional or local studies of consumption levels and these have been summarised by Siggers and Gray (1998). Unfortunately, most of these are now considerably out of date. The National Drug Strategy Household Survey provided more recent estimates of Indigenous alcohol and other drug use (Australian Institute of Health and Welfare 1999). However, the size of the sample on which this was based was small and the results need to be regarded with caution. There is a need for more up-to-date data on the consumption of alcohol, but as previous research suggests that many alcohol users are poly drug-users, this needs to be placed in the context of substance misuse generally. Similarly, while there has been some research into indicators of alcohol-related harm, especially health indicators, much of the published material is also now out-of-date. While there is a need to longitudinally monitor consumption patterns, this should be done in conjunction with Indigenous stakeholder organisations (Office for Aboriginal and Torres Strait Islander Health 1999). Such research should also be conducted in conjunction with intervention initiatives. Indigenous concerns about the documentation of problems without attention to their solution has been reported by Nganampa Health Council (Miller and Rainow 1997) and made in pronouncements by prominent Aboriginal leaders such as Puggy Hunter of the National Aboriginal Community Controlled Health Organisation and William Tilmouth of Tangentyere Council. These are best summed up in the phrase 'no surveys without service'.

Among the Indigenous Australian population most interventions aimed at addressing alcohol-related problems are community-based interventions. Nationally, there are over 350 intervention projects conducted by Indigenous community organisations (National Drug Research Institute 2000). These intervention projects fall into four broad categories:

- acute interventions-night patrols, sobering-up shelters;
- treatment-primary medical treatment and both residential and non-residential treatment services;
- support services-accommodation, crisis care, continuing care; and,
- prevention-personal injury prevention, health promotion, alternatives to use, cultural initiatives.

Such intervention projects are conducted by a range of Indigenous community controlled organisations including alcohol and other drug intervention services, health services, and broad-based community development agencies. Most of these projects are funded by the Commonwealth and State/Territory governments. However, it is important to recognise that not all Indigenous interventions are government funded. For example there are a number of remote area night patrols which operate on a voluntary basis, and even those projects which are funded by government agencies often have a significant voluntary component (Gray, Sputore and Walker 1998). In addition to projects per se, a number of Indigenous communities have initiated various interventions aimed at reducing or regulating the supply of alcohol. These include liquor-licensing restrictions and the establishment of dry areas and wet canteens.

Despite the number of Indigenous community interventions few have been formally evaluated and it is in the domain of evaluation that there is the greatest scope for future research. Of the Indigenous community interventions that have been evaluated, liquor-licensing restrictions have been the most fully investigated. d'Abbs and Togni (2000) conducted a systematic review of licensing restrictions in five locations and found that:

- restrictions have a modest but real effect on apparent alcohol consumption;
- restrictions have contributed to a significant reduction in alcohol-related harm; and
- restrictions on availability are supported by a majority of community residents.

d'Abbs also reviewed the operation of wet canteens in eight communities in the Northern Territory

(1988). He found that consumption among drinkers in those communities was considerably higher than elsewhere in the Northern Territory and concluded that:

... while the rights of Aboriginal communities to establish community-controlled clubs should be respected, the notion that they are under some sort of obligation to do so should be exposed as a measure likely to add to the health burdens of people already inadequately served by health education and other services.

Gray *et al.* (2000) conducted a systematic review of 14 studies, which evaluated specific Indigenous alcohol intervention projects. These were identified from a total of 444 items dealing with alcohol on the National Drug Research Institute's Indigenous Australian Alcohol and Other Drugs Databases. These researchers found that few rigorous evaluations have been undertaken and that the methodologies employed have been generally insufficient to allow robust generalisation. The impact of most interventions appeared limited but, in part, this may be a function of inadequate resourcing and program support. Despite the limitations of the evaluation reports, they tentatively concluded that:

- there appears to be a need to employ a broader range of treatment models and complementary intervention strategies;
- interventions are generally inadequately resourced
- supply reduction interventions may be effective; and,
- there is a pressing need for more rigorous evaluation studies in cooperation with Indigenous community organisations.

These findings support earlier calls by Brady (1995) for broadening the base of interventions in Indigenous communities.

Brief interventions have been an important component of mainstream approaches to treatment and they have been advocated by Brady (1995) and recommended by Couzos and Murray (1999). However, as Gray *et al.* (2000) note, the effectiveness of brief interventions has not been evaluated in an Indigenous Australian context. Until this has been demonstrated they should continue to be a part of on-going primary medical care, but should not be relied upon to the exclusion of other treatment options.

Practically oriented evaluation research is the most pressing priority in Indigenous community alcohol intervention research. Given the demographics of the Indigenous population-it is important that this research includes a strong youth and urban component. To be effective, such research needs to be planned and coordinated, and peak Indigenous organisations such as the National Indigenous Drug and Alcohol Network (NIDAN) and the National Aboriginal Community Controlled Health Organisation (NACCHO) should be involved in all stages of the process. Evaluation research is not cheap and should not be done on an ad hoc basis. Part of the planning process should include the development of a strategy for the systematic identification of effective interventions.

The intervention evaluations that have been conducted suggest that under-resourcing is an impediment to the achievement of the objectives of specific projects. Research into this aspect of community interventions is also important and should include research into funding arrangements and the training needs of community organisations.

Importantly, any evaluation research that is undertaken must be culturally appropriate (Gray and Sputore 1998). Again this requires the involvement of Indigenous stakeholders at all stages of the research process, and the development of an Indigenous research capacity. Without this, research will be largely peripheral to, rather than enhancing, the effectiveness of community-based interventions.

Finally, research into the effectiveness of community interventions is of little use if the results are not adequately disseminated. To this end it is important that a National Clearing House for Indigenous Substance Misuse Issues be established-as recommended in the Review of the Commonwealth's Aboriginal and Torres Strait Islander Substance Misuse Program (Office for Aboriginal and Torres Strait Islander Health 1999).

Prevention through school-based alcohol education

The development of school-based alcohol and other drug education

Early school drug education programs in the main focused on alcohol use and were based on the premise that fear arousal and/or information dissemination on the negative effects of drug use would reduce use. Reviews of these studies indicated that none were successful in this aim (Dielman, 1994). The next generation of drug education programs, developed in the 1980s, were based on the social influence model, developed from Bandura's (1977) social modelling theory and McGuire's (1964) work on social inoculation/resistance training. The approach derives from the belief that young people begin to smoke, drink and use other drugs, because of social pressure to do so from a variety of sources, such as the mass media and their peers. In order to successfully resist drug use, young people need to be inoculated by prior exposure to counter arguments and the opportunity to practice the desired coping strategies.

Social influence programs were initially used to prevent young people taking up smoking and their success in this area lead to the approach being used to reduce the uptake of other drugs, including alcohol (Perry and Kelder, 1992). Hansen et al (1988), for example, compared the impact of a social influence program (Project SMART) on drug use by 7th grade students with change achieved by an affective program, designed to increase self-esteem. These researchers found the social influence approach was effective in delaying the uptake of smoking, drinking and cannabis use. Those students, who received the affective program, increased their use of all three drugs, over both the social influence students and the no intervention controls.

Effective drug education programs and critical program elements

In a review of 45 drug education studies, Hansen (1992) found that social influence and multiple component programs, which typically featured social influence strategies, demonstrated more success than either information-based or affective education approaches. Hansen's findings are supported and extended by a number of other researchers in the area. Eggert et al (1994) and O'Donnell et al (1995), among others, have reported that drug education programs based on social learning principles have reduced student drug use. Such programs have also demonstrated broader prevention benefits. Programs have reduced anti-social behaviour and school behaviour problems; increased academic performance and commitment to schooling and reduced affiliation with deviant peers (O'Donnell et al, 1995; Spoth et al, 1995). The effects appear to be stronger if booster sessions are added at critical points of developmental transition (Bell, et al, 1993; White & Pitts, 1998); if school based activity is complemented by a parenting component (Rohrbach et al, 1994) and if the social messages are reinforced at the broader community level (Perry and Kelder, 1992; Perry et al, 1996).

The use of peer leaders to provide drug education has been identified by a number of researchers as a strategy for which there is considerable supportive evidence (Botvin, 1990; Coggans and Watson, 1995). Carr et al (1994) considered this approach is based on the view that young people can more usefully explore controversial issues with others of the same age and social background. Klepp et al (1986) have supported this perspective with a range of evidence as to the credibility of peer educators in terms of social information. They argued that the role of peer educators extends beyond the provision of information. Peer educators can serve as "potent role models, by demonstrating non use, by creating a norm that drug use is deviant rather than acceptable, and by providing alternatives to drug use" (p. 407).

Hansen and Graham (1991) have identified normative beliefs about drug use and drug related behaviour as having a crucial role in effective school-based drug education programs. They found that students over estimated the proportion of their age group that drank alcohol. This erroneous belief, that more of their peers drank than was actually the case, acted to increase the likelihood that they themselves would drink. In their study, Hansen and Graham compared alcohol use among students who had received one of four curricula: information only; information plus resistance skills training; information plus normative beliefs; or information plus resistance skills training plus normative beliefs.

They found that after one year, alcohol use was significantly reduced among students, who received any of the programs that included a normative beliefs component.

According to a number of researchers the timing of drug education is likely to be critical (Dielman, 1994; Duncan et al, 1994). Kelder et al (1994) commented that primary prevention is most effective if instituted before behavioural patterns are established and more resistant to change. The general consensus in the literature (Johnston et al, 1989; Dielman, 1994; Duncan et al, 1994) is that the optimal time for initiating youth drug interventions is during the late primary/early high school years, as this is when experimentation starts. However, onset of use can vary in different populations and with different types of drugs. Accordingly, timing of programs should be optimised for a particular population and for particular drugs such as alcohol, by reference to the appropriate prevalence data.

In a meta-analysis of 120 school-based drug education programs, Tobler and Stratton (1997) found that the most important factor was interactive process, whereby students were actively engaged in discussions, role-plays and games. In a comparison of those programs that measured knowledge, attitudes and use behaviour, only the interactive programs produced significant change in attitude and drug use. The interactive programs were equally successful with cigarettes, alcohol and cannabis. However, Tobler and Stratton acknowledged that the ideal group process cannot stand alone. Table 1 summarises Tobler and Stratton's (1997) findings as to the content of effective drug education programs.

Table 1: Summary of content of effective drug education programs based on the meta-analysis conducted by Tobler and Stratton, 1997

Knowledge	Short-term effects such as car accidents Long-term health consequences of drug use
Drug refusal-based interpersonal skills	Drug refusal skills Assertiveness skills Communication skills Safety skills
Intrapersonal skills	Coping skills Stress reduction techniques Goal setting Decision-making/problem solving

The recent growth in drug education has meant that there is now a considerable amount known about the components and methodology of successful drug programs. In an attempt to systematise this knowledge, Dusenbury and Falco (1995) sought to summarise the key elements of effective drug education. They reviewed school-based programs conducted between 1989 and 1994 and interviewed 15 leading researchers in the area. From this they identified 11 critical components for an effective program. Ballard et al (1994) undertook a very similar process of consultation and review within Australia in developing their 15 principles for drug education in schools, which are remarkably similar to Dusenbury and Falco's key elements. The critical components of effective drug education, identified by these two studies, are listed below with four additional features consistently identified in other research (Dielman, 1994; Kelder et al, 1994; Coggans and Watson, 1995; McBride et al 2000):

- Research-based/Theory-driven
- Coherent and consistent messages
- Developmentally appropriate information
- Resistance skills training
- Normative education
- Utility knowledge
- Educate before behavioural patterns get established

- Relate strategies to objectives
- Address values, attitudes and behaviours of individual and community
- Interrelationship between individual, social context and drug
- Focus on prevalent and harmful drug use
- Peer leadership
- Overall goal of harm reduction
- Broader social skills training and comprehensive health education
- Interactive teaching approaches
- Role of teacher is pivotal
- Training and support for teachers
- Adequate initial coverage and continued follow up
- Cultural sensitivity
- Additional family, community, media and special population components
- Fidelity of implementation
- Evaluation

Effective Australian alcohol education programs

Two Australian model drug education programs, the Illawarra Program (Wragg, 1990) and the School Health and Alcohol Harm Reduction Program (SHAHRP) (McBride et al, 2000) provide examples of sound practice in this country. The Illawarra Program, which targeted students in year six, began with a parent familiarisation evening. The classroom component of six units was introduced to students by peers, who had completed the program the previous year. The curriculum covered decision-making strategies, information on drug problems, alternatives to drugs misuse, pressures to take drugs, and resistance skills. Over this period, there was a second parent evening. After the teaching phase, students worked in groups to produce various drug-related materials and put together a short piece of drama. This culminated in a third parent evening, where the materials and dramas were presented. Wragg (1990) followed up students to year ten and found that a significantly lower proportions of the program group had used tobacco or cannabis, compared to controls, but that there was no impact on the proportion that had ever used alcohol.

These results suggest that the increase in alcohol use that normally occurs during the early to middle teenage years is very difficult to curb. Perry et al (1993) attributed this to society not providing consistent, clear, and compelling messages about adolescent alcohol use. However the relevance, for older adolescents, of an abstinence focussed alcohol education approach, also seems a factor, whether such a goal is reinforced at the local community level or not. Education programs, no matter how comprehensive or well resourced, cannot control all messages on alcohol. The perception gained by many young people, via media images and personal experience is that alcohol is an integral part of adult life and learning how to drink is a part of becoming an adult (Petosa, 1992). It seems logical therefore to assume that as young people approach adulthood, an increasing number will drink alcohol.

In these circumstances, where use of alcohol is associated with a rite of passage, abstinence is clearly unrealistic as the only program goal. In addition, prevalence data clearly indicates adult abstinence is not the norm, either in this country or overseas (Grytten, 1997; Jones, 1993; Miller and Plant, 1996; Substance Abuse and Mental Health Services Administration, 1997). As a consequence, not only is the legitimacy of such a goal questionable, but programs based on such a goal may actually be counterproductive. They provide the appearance that prevention education is being undertaken, while offering little to the large proportion of young people who are already drinking, or who may be experiencing consequences from drinking by others.

A recent Australian study by McBride et al (2000) explored the prevention benefits of a classroom based, alcohol education program for junior high school students (Years 8-10). This study was fundamentally different to most large scale American research program, because it sought to enhance students' abilities to identify and deal with high risk drinking situations and had harm reduction as its primary goal. In the first phase, reported in McBride et al's study, a sequenced program of 17 interactive, skills based activities was conducted over eight to ten lessons. The activities encompassed understanding and applying utility information on alcohol; skills rehearsal; individual and small group decision making and discussion of typical student drinking scenarios, with an emphasis on recognising and identifying ways to reduce harm. Preliminary results reported by McBride et al indicated that intervention students' utility knowledge about alcohol increased; their attitudes were more knowledge based and reflected increased support for harm reduction and their consumption did not increase to same extent as that of control students. The level of harm experienced by the two groups from their own drinking and drinking by others was not different in the full intervention sample. However, those intervention students who reported drinking with adult supervision prior to the intervention, experienced nearly three times less harm associated with their own drinking subsequent to the intervention than their counterparts in the control group. McBride et al (2000) suggested these findings indicate that supervised young drinkers particularly benefit from a well-conceptualised education program, possibly because they have already come to terms with their drinking being governed by rules.

Developing effective Australian alcohol education programs

Australian drug policy is based on the principle of harm reduction (Ministerial Council on Drug Strategy, 1998). This is quite different to American drug policy, which focuses on abstinence. In the drug education area this is relevant, because the great majority of drug education studies have been conducted in America and have abstentionist aims (Foxcroft et al, 1997; Office for Substance Use Prevention, Alcohol, Drug Abuse and Mental Health Administration, 1989). Accordingly, the 'successful' programs tend to be judged as such in terms of achieving abstinence or delaying onset. Other beneficial program effects are generally not investigated. However, alcohol is a drug with unique status and cultural associations. It is legal and associated with membership of the adult world. Given these parameters, abstinence by young people is unlikely and greater benefit should accrue from universal education to give young people the skills to adopt safe drinking patterns when they start to drink and to protect themselves in situations where drinking is taking place. Small scale alcohol education programs with harm reduction goals have been successfully implemented in Australia over the past few years (McBride et al, 2000; McLeod, 1997). However, more extensive model program research and dissemination of findings should be undertaken to refine and institutionalise approaches that confer broad harm reduction benefits. This should be complemented by evaluation of mass, alcohol harm reduction education programs, in order to determine if the good programs remain effective when implemented routinely, across the range of everyday school settings.

Building a comprehensive body of knowledge on what alcohol education strategies are most effective in reducing harm will be of major benefit in the development of sound institutional programs, as such evidence will indicate what actually works, under what circumstances and for what reasons. In more strategic terms, the development of contextual Australian approaches means there is less need to draw on drug education approaches, which have been developed in other countries to suit other cultures, goals and contexts.

Intervention in the licensed drinking environment

What opportunities exist?

The licensed drinking environment has been a major focus of research over the past decade, with Australia making significant contributions and innovations. Although approximately two-thirds of alcohol consumed is sold from liquor stores, in many communities there is a significant problem with violence and drink driving associated with on-premise consumption (Ireland and Thommeny, 1993, Homel et al., In press, Stockwell et al., 1992, Lang et al., 1993). This is not to underestimate alcohol's

contribution to domestic violence or other problems associated with off-premise sales. However, the combination of regulatory powers within Australian liquor legislation for minimising harm on licensed premises and the evidence of significant harm with some premises has encouraged prevention activity in this area, some of which has been evaluated. Such harm tends to be concentrated in a small number of nightclubs and hotels, which can be readily identified (Stockwell, 1997). The impact of controls over the physical availability of alcohol in Aboriginal communities has already been discussed in a previous section of this chapter and also in the chapter on public alcohol policy (Roche and Stockwell, 2000).

Server liability and responsibility

Legal action against the owners of licensed drinking venues in North America was a significant factor in the emergence of the Responsible Beverage Service (RBS) movement in the 1980s (Saltz, 1997). The implications of this issue for Australia have been thoroughly reviewed by Solomon and Prout (1996). The training of bar staff in RBS was formally established in some US jurisdictions as a defence against civil lawsuits whereby licensees could be sued for damages caused by the actions of persons served to intoxication on their premises (Mosher, 1984). Such lawsuits have run into several million dollars for example when a young person has been severely injured by a drunk driver. Wagenaar and Holder (1991) have demonstrated that publicity surrounding such lawsuits can temporarily reduce alcohol-related road crashes.

The Solomon and Prout (1996) review identified a trend in the early 1990s for civil action against licensees in Australia for much smaller amounts. Most were concerned with the violent actions of customers who were not dealt effectively by staff with resultant injuries to third parties. The authors found that larger lawsuits are less likely in Australia due to victim compensation schemes that operate here which usually remove the necessity for damages to be sought from licensees in many instances. Furthermore, research by Lang et al (1993) found negative public attitudes in Australia to the concept of legal liability of licensees for the actions of their customers. While Australians are less likely to pursue civil action than North Americans, Solomon and Prout (1996) have demonstrated that the potential exists for such action to occur.

Future research might focus on (i) reviewing more recent cases of civil action against licensees in Australia (ii) investigating the current exposure of licensees to litigation (iii) drafting of model legislation defining responsible actions eg. training that would constitute a defence against such action.

Server training

A number of studies have been conducted, which evaluate the effectiveness of server training or RBS programs. These have been reviewed by Saltz (1987) and Stockwell (2000). Early studies in the US demonstrated the potential of this approach. Where full cooperation from management was obtained these studies found that training management and staff to discourage drinking to intoxication on their premises was effective, as measured by observing changes in staff behaviours to customers and in terms of reducing BAC levels of customers (eg. Russ and Gelled, 1987). Later studies, which applied the approach to substantially larger numbers of licensed premises, had disappointing results with minimal or no impact on service to 'drunk' pseudo-patrons, ie. persons feigning extreme intoxication when purchasing a drink (Mosher et al., 1989). In these studies, typically only 5% of pseudo-patrons are refused service, a finding replicated in Australia (Lang et al., 1998) and Scandinavia (Andréasson et al., 2000).

The one controlled Australian evaluation of server training (Lang et al., 1998) found mixed evidence for the effectiveness of RBS training. Despite support from the local industry association, police and the liquor licensing authority, only one out of eight participating premises showed significant improvements in house policies as well as on a range of objective outcome measures, which included patron BACs and responses to 'underage' and 'drunk' pseudo patrons. There was evidence of a significant decline in patron BACs among patrons from intervention versus control sites immediately after training, though this was not maintained at three month follow-up.

More encouraging evidence has emerged from two international studies. One was a sophisticated analysis of the impact of mandatory server training in Oregon, USA, which found a significant reduction occurred in alcohol-related crashes (Wagenaar and Holder, 1991). Another forthcoming Swedish study has found significant improvements in responses to drunk pseudo-patrons in controlled research involving a large number of premises in the city of Stockholm (Andréasson et al., 2000).

Two US studies indicate that server training adds little to the effectiveness of well-publicised law enforcement approaches to enforcing laws regarding service to intoxicated customers (McKnight and Streff, 1994) and to underage customers (Grube, 1997). In the first, refusal rates to 'drunk' pseudo-patrons increased to 54.3% of purchase attempts compared to only 16% following the earlier RBS training program. It was also estimated that for every dollar spent on this particular enforcement program, between US\$90 and US\$280 was saved on the costs of road crashes. In the second study, a particularly well-controlled multi-site community study found that a well-publicised police enforcement strategy significantly increased refusal of service to underage pseudo-patrons, while server training added little if any additional benefit.

It is recommended that future research in this area is made a priority and that it should a) utilise objective outcome measures with the use of pseudo patrons essential b) that it should focus on ways of motivating licensees to fully cooperate with RBS programs.

Law enforcement approaches

A classic study on policing pubs was conducted by Jeffs and Saunders (1983) at an English resort. Uniformed officers on regular patrols would make friendly contact with management and thoroughly check for underage and/or drunk customers. There was a 20% reduction in public order offences, which reverted to baseline when the intervention was discontinued.

In an Australian partial replication of this last study, police patrols visited licensed premises at high risk times on over 1200 occasions in an entertainment area (Burns, 1995). Unlike the English study, no specific instructions were given to check for underage or intoxicated customers and no records of any such offences were reported. At face value the results were disappointing. There was actually a significant increase in reported violent incidents, although a slight decrease in local emergency department admissions in the intervention area also occurred. No measures of server behaviour or patron intoxication were employed.

As has been reported earlier, findings from the Rhode Island Alcohol Abuse/injury Prevention Project suggest an explanation for the above finding. This broad-spectrum community intervention project to reduce alcohol-related injuries included a liquor law enforcement component. While assault arrests increased 20%, presentations of assault injuries to the local emergency room decreased by 25% (Putnam et al., 1993). These results are not as paradoxical as might first appear, since only a small proportion of pub fights are reported to the police (Homel et al., 1992) and an increased police presence inevitably creates more opportunities for such assaults to be observed and reported in official statistics. This is not inconsistent with an actual decline in alcohol-related violence as a consequence of the policing intervention.

Alcohol accords

In the 1990s a new model of regulating licensed premises emerged from the pioneering work of Ross Homel and colleagues (Homel et al., In press). The Surfer's Safety Action Project was established in response to local concern over public drunkenness and violence. A partnership was established between licensees, police, council officers and the community, in which licensees agreed to a Code of Practice to limit high-risk promotional and serving practices. Staff and management were trained to handle conflict by non-violent means and to serve alcohol responsibly. An energetic evaluation team also closely monitored compliance and gave ongoing feedback to the project's steering committee. Within the first six months of the project there were significant improvements measured in house policies, serving practices and a halving of violent incidents. Unfortunately, at a two year follow-up these gains had all been lost.

The above approach has applied to innumerable localities across Australia under the name of “Accords”. Two other evaluations have been conducted, which have shown variously mixed and weak outcomes. The evaluation of the Fremantle Accord found an increase in assault offences occurring in public places which, again, is likely to reflect an increased police presence (Hawks et al., 1999). The evaluation of the Geelong Accord in Victoria found evidence of some improved house policies and a halving of the rate of local assaults but no control area was utilised and nor was any differentiation presented between assaults in public and private places, at day-time and night-time, in and around licensed premises or elsewhere. Accordingly it is difficult to assess the claimed outcome (Rumbold et al., 1998).

It appears that the Accord approach can be an effective harm reduction strategy, at least in the short-term and when there is an energetic monitoring presence. However, questions remain about the sustainability of these measures in the longer term.

Institutionalising responsible beverage service through improved information systems

A recent Perth study (Brinkman et al., 2000) examined the viability of improving the effectiveness of liquor law enforcement and regulation by the provision of locally specific data down to the individual premise level to relevant police, public health and liquor licensing authorities. Information on patterns of alcohol sales, data on the last place of drinking of drink-driving offenders and the precise location of violent incidents in and around licensed premises were collected. Legal difficulties in exchanging these data between the various government departments were identified and overcome. It was found that the authorities involved were keen to cooperate and a range of different harm indicators were identified.

In a similar vein, Cairns et al (2000) also established a system of collecting information on the last place of drinking of drink driving offenders in Victoria. These data are currently being used to assist with the targeting of licensed premises that generate many drink drivers.

Future research needs to be conducted with examines the effectiveness and cost-effectiveness of different styles of policing licensed premises. Controlled studies are required which employ validated and objective outcome measures. Research should also identify the information and other systems, which can assist in sustaining such efforts in the longer term.

Conclusion

There are a number of benefits in seeking to tackle alcohol problems at the community level, which include engaging the community in action, developing a better informed community, increasing community control over decision making and developing a community culture of involvement. This can create new power relationships, such as in Hall’s Creek, where the community was able to restrict alcohol sales (Midford et al, 1994). It can produce tangible outcomes such as a reduction in alcohol-related crashes (Wagenaar and Holder, 1991) or new prevention services as in the COMPARI Community Drug Service Team for the Central West region of Western Australia (Midford & Boots, 1999). Fundamentally, involving the community in decision making is empowering and this builds prevention capacity over the long term. This chapter has identified a number of specific areas of community-based prevention where further research is needed, but in global terms any research in the area should always investigate how to best generate and then maintain community involvement.

Recommendations for further research

Geographic community

- Conduct a large scale, controlled, whole of community invention research project over a period of five years. The project should be undertaken with the active collaboration of a geographically distinct community with its own media outlets. It should comprise a range of harm reduction

component interventions, which mobilise the community and address identified local alcohol concerns. Evaluation should include measurement of change in alcohol harm outcomes, such as traffic crashes, violence, acute hospital morbidity etc. in both the intervention and control communities.

Workplace

- Conduct a series of studies investigating the relationship between patterns of alcohol use and the prevalence of workplace problems.
- This should be followed by a number of strategic, collaborative demonstration interventions, which investigate how alcohol harm can best be prevented in a range of identified high risk workplaces.
- Finally, establish a nationwide mechanism for disseminating research findings to relevant workplace decision-makers, occupational health and safety practitioners and key industry stakeholders and evaluate its impact on practice.

Indigenous Australian community

- Longitudinally monitor consumption patterns and indicators of harm in a way that is directly linked to the provision of community-based intervention projects.
- Develop a program-which includes a strong youth and urban component-to systematically evaluate community-based interventions.
- Conduct research into the funding arrangements and training needs of Indigenous community organisations.
- Proceed immediately with plans to establish a clearing house to widely disseminate the results of research.
- Ensure that Indigenous stakeholders are involved at all stages of the research process, and that an Indigenous research capacity is developed.

School-based education

- Undertake further model alcohol harm reduction program research in a range of urban and rural settings.
- Disseminate research findings and effective intervention program material to state level providers of drug education
- This should be complemented by evaluation of current, best practice, mass, alcohol harm reduction education programs.

Licensed drinking environment

- Evaluate the effectiveness and cost-effectiveness of different styles of policing licensed premises. Controlled studies are required, which employ validated and objective outcome measures. Comparisons could usefully be made between (i) uniformed and plain clothes policing (ii) Accords with and without significant law enforcement (iii) server training with and without significant law enforcement.
- Research should also identify the information and other systems, which can assist in sustaining such efforts in the longer term.

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Interventions for alcohol dependence, abuse and excessive drinking

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Introduction

Nearly half a million Australian adults met ICD-10 criteria for alcohol dependence in the last 12 months. Only a minority (one-third) sought professional help. When it was sought, help was most likely to be sought from general practitioners (Teesson, Hall, Lynskey, & Degenhardt, 2000a).

Not all 3.5% of Australian adults with alcohol dependence need specialist treatment. Specialist treatment is one response that should form part of a general public health approach to reducing alcohol and other drug use disorders. Public health policies that reduce the availability and increase the price of alcohol may also reduce the prevalence of alcohol use disorders (Walsh & Hingson, 1987). Public education about the risks of alcohol use may help to prevent some alcohol use disorders, while advice on self-help strategies may obviate the need for professional assistance in a substantial proportion of younger cases of abuse or excessive drinking (Hall & Teesson, 2000).

The following summary of research findings is based largely on a review carried out at the National Drug and Alcohol Research Centre in 1988 and 1999 (Proudfoot & Teesson, 2000). Searches of PsychInfo, and the Medline and Embase databases were conducted. These searches were supplemented by scanning the reference lists of review articles and treatment outcome studies for further treatment outcome studies.

Major reviews of treatment outcome research were identified, as were large treatment outcome studies. A study was included in the review if:

- it was a randomised controlled trial involving a clinically relevant intervention group (e.g. brief advice) and a comparison group (e.g. no treatment, minimal treatment); or
- it used a quasi-experimental design and there were few randomised controlled studies in the area.

Brief interventions

Persons who present for medical treatment can be screened for excessive alcohol use and alcohol-related problems. Those identified as drinking at excessive levels can be advised to reduce or stop consumption, and given simple ways to achieve these goals (Heather & Tebbutt, 1989). Babor (1994) described a typical brief intervention as consisting of structured therapy of short duration (5-30 minutes), which is offered to help the individual to cease or reduce drinking or drug taking. Research has shown that screening and brief advice for excessive alcohol consumption in general practice and hospital settings reduces consumption and the problems caused by alcohol (Chick, Lloyd, & Crombie, 1985; Elvy, Wells, & Baird, 1988; Fleming, 1993; WHO Brief Intervention Study Group, 1996; Wilk, Jensen, & Havighurst, 1997). Given that there are considerable costs involved in providing conventional alcohol treatment (Holder & Blose, 1986; Holder & Schachman, 1987), there is also a good economic argument for brief intervention (see also Table 1).

The WHO Brief Intervention Study Group (1996) conducted a cross-national, randomised clinical trial comparing a no-treatment control condition with two treatment conditions: 5 minutes advice or 20 minutes brief counselling. The initial sample consisted of 1260 men and 399 women with no history of alcohol dependence who were identified as being at risk of alcohol-related problems. The sample was taken from Australia, Bulgaria, Kenya, Mexico, Norway, and the USA. Subjects were followed up nine months later. Seventy-five percent of the sample was interviewed at follow-up and it was assumed for analysis purposes that there was no change in the drinking behaviour of those not available to follow-up.

Significant improvements were found for males for both treatment groups compared with the control group, but there was no difference between the two treatments. Overall, treatment led to a 17% reduction in average daily consumption and a 10% reduction in intensity of drinking and this was consistent across the eight countries. These findings were not due to a few patients achieving abstinence but were distributed across many patients who reduced their drinking by small but meaningful amounts. This indicates that moderate drinking can be achieved by a substantial proportion of heavy drinkers and that minimal intervention (5 minutes advice) may be sufficient to encourage moderate drinking in some. This study reinforces the notion that screening and brief interventions can be conducted in primary health care settings as an efficient way of reducing the negative impact of excessive alcohol use.

Project TrEAT (Trial for Early Alcohol Treatment, (Fleming, Barry, Manwell, Johnson, & London, 1997)) was the first large-scale brief intervention conducted in community-based primary care practices in the US. 17,695 patients were screened at 17 intervention clinics. Screening took about 30 minutes and was done by a trained researcher. 2925 screened positive and 1705 (58%) of these completed a further interview to assess eligibility for the study. 774 of the 852 deemed eligible were randomly assigned to treatment and control conditions and 723 of these were followed up at 12 months. Those lost to follow-up were considered to have not altered their drinking behaviour over the period of the study.

The treatment group was given a workbook which contained feedback about current health behaviours, a review of the prevalence of problem drinking, associated risks, list of drinking cues, drinking agreement in the form of a prescription, and diary cards. Brief intervention and reinforcement consisted of two 15-minute sessions 1 month apart with the physician; then a follow-up call from the nurse 2 weeks after each meeting. The control group was given a booklet on general health issues and followed up at 6 and 12 months. Both groups showed improvement and there were greater improvements in the experimental condition than the controls for both sexes when measured by consumption in the past 7 days, episodes of binge drinking during past month, and frequency of excessive drinking. There was no clear evidence of decreased use of health care services for either group.

The research on brief interventions has found that they are more effective than no treatment, and they are often as effective as more intensive interventions (Mattick & Jarvis, 1993). However, experts in the field emphasize that the value of intensive interventions for particular patients in specific contexts should not be dismissed out of hand. Mattick and Jarvis (1994) present compelling arguments that research which has shown no difference between brief interventions and intensive treatment has been generally flawed and they provide evidence from studies which demonstrates the value of intensive interventions for the more severely affected. More research is needed which takes adequate account of the factors confounding the research to date. For instance, results are restricted by a lack of generalisability to the broad drinking population (Drummond, 1997; Heather, 1995). Subjects treated with brief interventions in studies of their effectiveness tend to have a good prognosis, that is, they are older and more moderate drinkers with no comorbid conditions. Furthermore, findings of effectiveness have not been consistently replicated in female drinkers.

Apart from these specific criticisms of the research on brief interventions, more general issues have also been raised by expert reviewers. Throughout the literature, brief interventions are referred to as one intervention, when in fact they represent a range of treatments varying in length and content. According to Heather (1995), it is not known which brief interventions are effective for which types of patients and in which circumstances. Hence it is misleading to refer to the effectiveness of brief interventions as such, unless these variables are more clearly specified.

Despite these criticisms, the positive findings from the research to date have encouraged the experts to be optimistic that further research is likely to lead to more appropriate and cost-effective applications of brief interventions in treating alcohol abuse problems in the community (Rollnick, Butler, & Hodgson, 1997). Furthermore very recent controlled research using brief interventions with emergency room patients has found support for the use of such interventions with individuals involved in accidents where alcohol has been a contributing factor (Gentilello et al., 1999; Monti et al., 1999).

Detoxification

Detoxification is the removal of a drug from the body. It involves assisting the individual to recover from the effects of chronic intoxication so that withdrawal symptoms are minimised. The severity of alcohol and drug withdrawal depends on such factors as level and duration of use, accompanying drug use, the general health and nutritional state of the person and the detoxification setting (Mattick & Jarvis, 1993).

Detoxification can be medicated or unmedicated. Unmedicated withdrawal involves withdrawing from alcohol or drug use without drugs to assist the process. Medicated withdrawal involves substitution for uncontrolled drug use by a controlled drug which has a similar action to the abused drug. In the case of alcohol, benzodiazepines such as diazepam, chlordiazepoxide and chlormethiazole may be used (Mayo-Smith, 1997).

Detoxification can be home-based or inpatient. Where a person is considered likely to suffer mild to moderate withdrawal, is not in need of sedative medication and has no medical or psychiatric history which may complicate the process, then withdrawal at home may be appropriate (Hayashida et al., 1989). Even in cases of severe and medicated withdrawal, medication may be administered at home where conditions permit (Stockwell, Bolt, Milner, Pugh, & Young, 1990).

Where inpatient detoxification is warranted i.e. where the severity of dependence (and thus complications) is likely to be high, or where there are no supportive relatives or friends to assist with home monitoring, purpose-built detoxification units rather than acute medical wards provide the best conditions for inpatient withdrawal (Alterman, Hayashida, & O'Brien, 1988; Pedersen, 1986).

Detoxification is often confused with treatment. Mattick and Hall (1996) point out that, although detoxification is an important component of treatment for those addicted and is a first step, especially where the degree of dependence is great, it is not appropriate to consider detoxification as a treatment in its own right. This is because people who have undergone detoxification programs are equally as likely to relapse as those who have not. They note that the benefits of detoxification in general arise because of (1) the opportunity it provides for a change in lifestyle with the help of other interventions and (2) harm reduction effects where continued heavy drug-usage could lead to serious complications including death.

Treatment goal: Abstinence or moderation

Research suggests that less dependent drinkers may achieve controlled drinking, whereas severely dependent drinkers should aim at abstinence (Mattick & Jarvis, 1993). Sobell and Sobell (1995b) argue similarly that from the available research, irrespective of stated treatment goals or amount of drinking skills training, the most likely positive outcome of treatment for low dependence drinkers is controlled drinking while, for high dependence drinkers, it is abstinence. However, they point out that background factors, such as lack of social support and poor vocational history, may be more important in deciding treatment aims than level of dependence.

There has been much interest and controversy about moderation as a legitimate treatment goal for alcohol dependence, especially as it is in direct conflict with the tenets of Alcoholics Anonymous (AA) which holds that no "alcoholic" is able to moderate their consumption of alcohol for any length of time. Abstinence, according to AA, is the only defensible and achievable goal for persons who are alcohol dependent.

The earliest work in this area was conducted by Davies (1962), working with hospitalised patients in the UK. He found in a 10-year follow-up that a substantial proportion of the cohort had returned to drinking moderately. Sobell & Sobell (1995a) followed this preliminary research with one of the first randomised, controlled trials in the alcohol treatment literature. They found that problem drinkers were just as likely to master controlled drinking as those who were trained in abstinence techniques. However, a backlash occurred against the Sobells when a television program ran a story suggesting that several members of the controlled drinking group had died, presumably from the effects of drinking. While four members of the moderate drinking group had indeed died, five of the abstinence-treated group had died, and these were more likely to have died of the effects of harmful drinking.

More recent research suggests that those whose dependence on alcohol is mild to moderate, who have good means of social support and a stable psychosocial profile, are more likely to succeed with controlled drinking (Heather & Robertson, 1983). Indeed, this is true also for those who receive abstinence-oriented treatment. Perhaps the foremost indicator of outcome of a controlled drinking intervention is the individual's desire to become a safe drinker.

Alcoholics Anonymous (AA)

AA is the oldest and the most well known and utilised treatment intervention for alcohol dependence. Despite its longevity and public profile there is little research on its efficacy. This arises in part from one of the tenets of the organisation, which holds that all members shall remain anonymous, and research or collection of any personal details is discouraged. Tonigan et al (1996) reviewed a broad variety of studies which incorporated AA as a component of treatment. This review was intended to determine which variables moderate research findings. The quality of research of the 74 studies they located was not of a sufficient standard to draw any conclusions into the effectiveness of AA. Mattick & Jarvis (1993) concluded that AA provides an accessible avenue for self-help and on-going social support for those who choose abstinence as their goal, but there was no convincing evidence that AA alone is effective.

Since then, Project MATCH (see below) has provided some evidence that a treatment program aimed to introduce alcohol dependent patients to the teachings of AA (Twelve Step Facilitation therapy) produced equivalent drinking outcomes at 12 months to cognitive-behavioural therapy and motivational enhancement treatment (Project MATCH, 1997). However, Kownacki & Standish (1999) have recently reviewed the state of research on AA and again concluded that the quality of the research in this area remains scant and of poor quality; which is important because it is a widespread form of treatment and, in the US at least, many individuals are legally mandated to join AA. Results from the few randomised trials suggest that AA is no better than, and may be inferior to alternative therapies. However this research tended to use coerced subjects and the authors point out that coercion does not fit with AA principles, and coerced individuals are not respected by fellow AA members. So, the results of these studies are confounded. They argue forcefully for more controlled research and counter many of the arguments against such research with practical research solutions. It is important that such research is carried out.

Pharmacotherapies

There is a limited number of drugs that can be used to assist people with alcohol problems to become and remain abstinent. One of the first pharmacotherapies was disulfiram, marketed as Antabuse. This medicine is classed as an "antidipsotropic". It inhibits the enzyme which catalyses the breakdown of acetaldehyde in the blood. Ingestion of alcohol raises the acetaldehyde levels which causes nausea, vomiting and shortness of breath. It has proven useful for problem drinkers who are highly motivated towards abstinence but has had limited success because of low rates of compliance, with many drinkers either discontinuing their medication, or deliberately missing doses in order to drink.

Schuckit (1996), in his review of recent developments in this area, concluded that evidence for the clinical effectiveness of disulfiram is modest at best; and that the use of this treatment needs to be carefully considered in view of the risks of side-effects such as peripheral neuropathy and hepatitis.

Newer antidipsotropics have included citrated calcium carbonate, which causes severe illness in patients who consume alcohol via a different mechanism to disulfiram. Similar problems with compliance have been observed. Heather (1992) concluded that antidipsotropics have an important place in the treatment of clients who are well motivated and have supplementary psychotherapy or counselling for their problem.

More recently an improved understanding of brain neurobiology has led to new pharmacological treatments to assist in relapse prevention. Approximately 50% of people who are alcohol dependent relapse within 3 months of treatment. The efficacy of the new drugs acamprosate and naltrexone in preventing relapse in people with alcohol dependence has been demonstrated in randomised controlled trials (Volpicelli, 1992; Whitworth et al., 1996). As with disulfiram, a limitation on efficacy is patient

compliance. Naltrexone is superior to placebo only in compliant subjects. There is general agreement that pharmacological treatments need to be supported by psychosocial interventions in order to be successful eg Anton et al (1999). Such support may be needed to obtain satisfactory levels of compliance as well as to assist with coping and adjustment to a lifestyle which promotes safe levels of drinking. Further research could identify the best combinations of psychosocial and pharmacological interventions and the groups for whom these are most effective.

Psychological interventions

Psychological interventions which have had some success in treating alcohol use disorders have evolved from social learning theory. Whereas approaches based on 12-step philosophy and used in AA believe that alcoholism is an incurable disease for which abstinence is the only answer, social learning theory holds that alcohol abuse is at least in part learned and so is modifiable and can be replaced by more adaptive behaviours. As with all addictions, individuals treated for alcohol problems are prone to relapse, but social learning theory suggests that despite lapses and relapses there can be a positive progress to good control of drinking behaviours over time with the use of therapies which affect learning.

Cognitive behavioural therapy

Cognitive behavioural therapy (CBT) aims to teach the individual how to control their responses to their environment through improving social, coping and problem-solving skills. CBT is an important and effective treatment for abuse of alcohol (Hester, 1995). It appears to be most effective for individuals with less severe alcohol-related problems and who have had a shorter duration of drinking problems (Hester & Delaney, 1997). In their 1993 review, Mattick and Jarvis (1993) found that social skills approaches were appropriate interventions for individuals with varying severity of alcohol problems. They concluded from their review of the nine randomised controlled trials in the area, that there was consistent evidence that social skills training reduced alcohol consumption in the short-term and long-term among those dependent on alcohol.

There are few recent controlled studies which specifically address the efficacy of CBT in the treatment of alcohol abuse. Sitharthan et al (1996) used CBT for both the treatment and minimal intervention groups in their study of treatment by correspondence, showing significant improvements in self-efficacy and drinking behaviour post-treatment and some evidence of greater decline in alcohol consumption for the full CBT treatment group. Again, the lack of an untreated control group meant that the effectiveness of either CBT program was not directly assessed.

Hester & Delaney (1997) completed a controlled study of the effectiveness of CBT for controlled drinking, using a computer program to teach behavioural self-control. The study included 40 volunteers who scored at least 8 on the AUDIT (Saunders, Aasland, Babor, delaFuente, & Grant, 1993) but who scored below 20 on the MAST (Selzer, 1971). Those who scored 20 or more were considered more suitable for a program with an abstinence goal. Twenty subjects were randomly assigned to immediate treatment and 20 to 10 weeks delayed treatment. Follow-ups were scheduled at 10 weeks, 20 weeks and 12 months. There were no significant pre-treatment differences between the two groups. At the 10 week mark, the immediately-treated group showed significant improvement in drinking outcomes on baseline, and compared with the (then untreated) delayed group. The delayed group then received the CBT and improved significantly over the next 10 weeks at which time the two groups no longer differed. Gains were maintained at 12 months for the whole sample. This study supports CBT as an effective therapy. However, there is clearly a need for further research which allows a more direct assessment of the effectiveness of CBT over an extended period.

One important area where CBT has been found to have potential to indirectly influence alcohol intake is in the treatment of alcoholics with comorbid depression. Brown et al (1997) quote prior research evidence which suggests that as many as 65-85% of patients entering alcohol treatment have clinically significant levels of depressive symptoms. Depression has been associated with poorer outcomes from alcohol treatment probably because depressed mood can trigger alcohol relapse. CBT has been shown

to be effective in treating unipolar depression so it is not surprising perhaps that they found CBT for depression improved the achievement and maintenance of alcohol treatment goals.

CBT is an effective treatment procedure which appears to work best with nondependent problem drinkers. One important CBT approach has been social skills training, which has some of the strongest evidence of outcome efficacy (Monti, Rosenow, Colby, & Abrams, 1995). This intervention assists the client to learn effective coping skills to manage problems with personal (thoughts, emotions) and social (interpersonal communication, stress, conflict) situations. For many problem drinkers, alcohol is the preferred means of coping with many difficult or threatening situation. Thus, training in social skills should help problem drinkers to overcome many of the major triggers for relapse. The evidence for this approach has been consistently strong (Miller et al., 1995). It has also proved to be a popular form of intervention with both therapists and clients. This style of intervention, like all CBT approaches, has the advantage of being deliverable in either group or individual format.

Project MATCH (1997) was one of the largest treatment outcome studies in alcohol research. It examined the matching hypothesis, that individuals will have a better outcome if they are matched to treatment on the basis of a set of characteristics. Two parallel randomised clinical trials were undertaken. One trial used clients enrolled for outpatient therapy (N=952), while the other involved clients who had undergone residential treatment for at least 1 month prior to the study and were classified as being in aftercare (N=774). Treatment strategies, client matching variables and the specific hypotheses for the study were based on theoretical considerations and prior empirical findings.

Three treatment strategies were compared. Cognitive Behavioural Coping Skills Therapy (CBT) was based on social learning theory which assumes that alcohol abuse stems from negative life experiences and thus treatment addressed skills deficits and coping with situations where relapse was likely to occur. Motivational Enhancement Therapy (MET) focussed on motivational strategies which are aimed to mobilize the individual's own resources rather than specifying a particular path to recovery. Twelve-Step Facilitation Therapy (TSF) was based on the concept of alcoholism as a spiritual and medical disease and aimed to foster participation in fellowship activities of AA. Each therapy was individually administered and protocols were specified in detailed therapy manuals.

Irrespective of treatment strategy, there were substantial positive changes in percent days abstinent and average number of drinks per drinking day in both aftercare and outpatient subjects at the 12 month follow-up. For example, prior to treatment, after-care patients were abstinent approximately 20% of days per month, while at post-treatment and at 15 months they were abstinent for 90% of the days in the last month. The equivalent figures for the outpatient were 23% pre- and 80% post-treatment days abstinent in the past month. There were no consistent and clinically meaningful differences between the three treatments in outcome at 12 months in either the aftercare or outpatient groups. This failure to detect any differences in the effectiveness of the three treatments and the fact that there was no control used in this study means that no conclusions can be drawn regarding effectiveness of each of these treatments (including CBT) compared with no treatment. However, as mentioned above, Mattick and Jarvis (1993) found CBT in the form of social skills training to be effective after reviewing nine randomised controlled trials. Similarly, CBT-based therapies ranked amongst the most effective in the review by Finney and Moos (1998). Table 1 below is taken from this latter review.

The study also found little support for the matching hypothesis. Only one attribute showed a significant interaction with treatment type: the outpatient group with low psychiatric severity showed more abstinent days in the 12-step treatment than they did in the CBT approach. As the authors note, the general lack of support for the matching hypothesis from this study does not mean that matching is never of value. The sample specifically excluded subjects with multiple forms of drug dependence and the homeless who would be regarded as at greater than average risk on a variety of measures (Teesson, Hodder, & N, 2000b). It is also possible that treatments for illicit drug abuse may fit the matching hypothesis and also that matching may work with pharmacological treatments.

Family/marital therapy and similar approaches

The purpose of family and marital therapy is to engage significant others in the rehabilitation of individuals who abuse alcohol. There are various types of family therapy which have been trialled: systems, interactional, behavioural and spouse-directed. (Mattick & Jarvis, 1993). The contingency-based community reinforcement approach (CRA) developed by Azrin (1996) also aims to engage those close to the affected person in a behaviourally-oriented approach to treatment. CRA was developed as a more intensive and broad-ranging approach which addresses community reinforcers both within and outside the family in an effort to encourage interests and activities which lead to abstinence. CRA tends to involve close family members and is thus incorporated with behavioural family and marital approaches for the purposes of this review.

In a comprehensive review of the alcohol treatment outcome literature, Mattick and Jarvis (1993) found that behavioural marital therapy was more effective than no treatment at all, but was no more effective than individual alcohol counselling or brief advice and follow-up. In their analysis of CRA, they found good support for its use in the short-term, but concluded that more research was required to ascertain long-term effects as well as the specific effects of supervised disulfiram on CRA outcomes.

A recent study (Smith, Meyers, & Delaney, 1998) considered the relative advantages of the CRA approach compared with standard treatment (STD) given at a large day shelter for homeless alcohol-dependent individuals. They found that both groups improved significantly following treatment and that those engaged in CRA treatment had significantly superior outcomes to the STD group. However, there were problems in the design of the study in that those engaged in CRA were required to show greater discipline in participation than the STD group, in order to retain the significant benefits of being on the programs (including housing). There were also greater checks and punishments for the CRA group for lapses in drinking whilst participating. Thus, as the authors point out, the study did not adequately compare the two specified treatments, and so does not provide conclusive evidence of the superiority of the CRA approach compared with usual care.

Evidence for the efficacy of the CRA approach is based on a very small number of controlled outcome studies. As summarised by Baucom et al (1998) most recent research on behavioural marital therapy (BMT) includes the use of partner-assistance in maintaining disulfiram contracts as well as motivational pre sessions as part of the therapy which may confound the effects of the behavioural therapy alone. Similarly, CRA can be considered as a bundle of treatments of varying effectiveness. More evidence on the total package as well as the components, and more replication by other research groups is required, before the effectiveness of BMT alone, or CRA, can be clarified.

Miller et al (1999) have recently completed a randomised controlled trial with families of patients reluctant to enter treatment. It compared 12 hours of manual-guided therapy using three different therapies: one based on 12-step principles; another using the Johnson confrontational style (where the family is instructed on how to approach a confrontation with the patient and ultimately confronts them); and the third using a CRA approach (CRAFT). They found that the use of family members in the CRAFT model was most effective in engaging the initially unmotivated into treatment. Although this does not directly bear on the efficacy of CRA as a treatment, it is a very important finding, given the reluctance of many individuals with alcohol problems to seek treatment, and also given the tendency of treatment providers to favour the 12-step and confrontational methods of intervention (Miller et al., 1995).

Overall, given the lack of good clinical trials with sufficient power, which directly assess the effectiveness of family interventions, there is little evidence that inclusion of the spouse or significant others in treatment is any more effective than individual treatment.

Costs of psychological interventions

In their review of effective treatments for alcohol use disorders, Finney and Moos (1998) provide a table of the rankings of effectiveness and costs (in 1995 dollars) of treatments (see Table 1 below). These data were based on 15 psychosocial treatment modalities each having three or more studies in the three articles referenced.

Table 1: Rankings by effectiveness indices of psychosocial treatment modalities

Modality	Holder et al (1991)	Miller et al (1995)	Finney & Monahan (1996)	Cost (1995 dollars)
Social skills training	1	1	2	362
Self-control training	2	8	10	141
Brief motivational counselling	3	2	7	62
Marital therapy, behavioural	4	7	3	688
Community reinforcement	5.5	3	1	660
Stress management training	5.5	12	5	161
Aversion, covert sensitisation	7	6	8.5	440
Marital therapy, other	8	9	4	688
Cognitive therapy	9.5	5	11	433
Hypnosis	9.5	11	15	738
Aversion, electric shock	11	10	8.5	410
Aversion, nausea	12	4	6	1380
Confrontational interventions	13	13	13	375
Educational lectures/films	14	15	12	135
General Counselling	15	14	14	738

Conclusion

Assessment is an important first step in the treatment of alcohol problems. There is a range of standardised measures of alcohol dependence and abuse and screening instruments, such as AUDIT, that can be used to decide upon the severity of a client's alcohol-related problems. Given the high prevalence of depression among heavy drinkers, assessment of the severity of dependence may be useful.

One-to-one intensive interventions are not required for everyone who has a problem with alcohol use. Public health interventions to advise drinkers of safe levels of drinking have a role to play. So too does screening for hazardous alcohol use in primary health care and other settings where adults who drink hazardously and harmfully are to be found. Persons who are drinking hazardously can be given simple advice on how to cut down or moderate their alcohol consumption. Moderation rather than abstinence is an appropriate therapeutic goal for patients with mild to moderate levels of alcohol dependence. Patients with more severe forms of dependence should be encouraged to become abstinent.

A range of treatment approaches is available for patients or clients whose alcohol problems have resisted self-help efforts to cut down or quit. One of the oldest is the self-help fellowship of AA. It may be of assistance in helping some alcohol dependent people to remain abstinent but it is not attractive to all patients and should not be mandated. Pharmacotherapies such as disulfiram, naltrexone and acamprosate, may assist some patients to remain abstinent and avert relapse to drinking. Ensuring adequate compliance with the drugs is a major issue and it appears that they may be most effective when accompanied by psychological counselling.

A number of psychological interventions are of value in treatments for alcohol. These include Cognitive Behaviour Therapy, Motivational Enhancement Treatment, Twelve Step Facilitation treatment, and Family and Marital Therapy. In studies to date these treatments seem to be of equivalent efficacy in unselected patients and there does not appear to be any particular value in attempting to match patients to treatment on any basis other than patient choice.

Recommendations

- Brief interventions in primary care through both check-ups by GPs and accident trauma units in hospitals have been found to be effective in reducing alcohol misuse and are recommended treatments.
- However brief interventions need to be more precisely specified and their effectiveness with younger people (perhaps through the internet), with women and with heavier drinkers needs to be clarified. Thus further research is necessary.
- Although of treatment value, detoxification should not be regarded as a treatment in its own right. Home detoxification is as effective as inpatient detoxification for most patients and is recommended where home conditions permit. Specialised detoxification units tend to promote smoother withdrawal than acute medical wards and are recommended where home detoxification is not feasible.
- Best treatment outcomes are likely where less dependent drinkers are encouraged to achieve a controlled drinking goal; while heavier drinkers without good social support and a stable psychosocial profile are more likely to benefit from abstinence-oriented treatments.
- Although widely recommended (and often mandated by courts in the US), there is no good research evidence regarding the efficacy of Alcoholics Anonymous. Although often argued to the contrary, this research is feasible and should be done. In the meantime, mandated treatment with AA is not recommended.
- Pharmacotherapies are more likely to be effective when administered conjointly with effective psychotherapies. Such treatments have had some positive outcomes, but there is a shortage of good controlled research. In particular the issue of compliance with pharmacotherapy, as well as trials of new drugs are important future research areas.
- Individual cognitive-behavioural therapy (CBT) to assist with coping/resistance, social skills, relapse prevention and comorbid depression has been found to be effective, but there is a need for further research comparing CBT with other interventions and no CBT controls.
- To date there is little evidence that patients should be matched to treatment but further research is required including the more severely affected drinkers.
- Family therapy in the form of the community reinforcement approach has some support from the research and may prove helpful in actually getting problem drinkers to treatment. Again more research is required.

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Assessment of the cost effectiveness of research or intervention recommendations from papers commissioned for the National Alcohol Research Agenda Workshop

David Collins and Helen Lapsley

Introduction

The Commonwealth Department of Health and Aged Care (DHAC) is currently developing a strategic agenda for alcohol research in Australia. The development of a research agenda simultaneously with the National Alcohol Strategy is intended to guide the commissioning of formative research to inform the selection of best practice strategies under the Strategy in its implementation phase. The project comprises two components:

- the production of papers on the current state of alcohol research in Australia; and
- the coordination of a multi-disciplinary workshop to bring key stakeholders together to develop an agenda and generate the final report

The Steering Committee for this project agreed that the research recommendations in the commissioned papers should be analysed using different methodologies, in order to present workshop participants with some systematic bases on which to discuss, debate and determine research priorities. This paper represents an attempt to develop and apply one type of analytical methodology from an economic perspective.

Methodology

DHAC commissioned papers on the following topics:

- Acute alcohol-related harm in Australia;
- Long-term consequences of alcohol consumption;
- Interventions for alcohol dependence, abuse and excessive drinking;
- Early childhood and adolescent risk factors;
- Community-based prevention of alcohol-related harm;
- Patterns of alcohol use in Australia; and
- Prevention of alcohol-related harm - public policy and health.

In ideal circumstances (which, as economists, we are aware virtually never occur) the research recommendations for each suggested topic would be developed to include the following information:

- a description of the proposed methodology;
- the anticipated duration of project;
- the health service implications of research process;
- any intersectoral collaboration requirements; and
- some indication of the costs and expected benefits of the project.

In practice, for completely understandable reasons, it did not prove possible for the writers of the commissioned papers to provide this level of detail. Without such information being available to us, the evaluation of relative cost-effectiveness required a significant degree of judgment, in which it was possible for us to provide only general conclusions as to the cost effectiveness of the proposed research projects.

After reading the seven research papers, a range of issues were considered from an economic perspective. It was necessary to make assumptions relating to the intention of some of the proposals, as they were not written for the purpose of economic evaluation, and therefore did not address resource requirements. We apologise to authors if some of the proposals have been misinterpreted due to different disciplinary perspectives.

Our first task was to develop a list of research proposals from each of the commissioned papers. In some cases this was a straightforward process. For others the actual topics being proposed were less clear to us and we had to undertake some interpretation of the commissioned papers. In order to make it easier for participants at the workshop to assess the accuracy of our list of topics, we provide, in a supporting document, quotations of the relevant text from the commissioned papers. Naturally there is some degree of overlap between research proposals emanating from different authors. We have not attempted, in our topic listing, to eliminate any such overlap.

The next task was to classify each project according to the type of research. All projects were classified on the following basis:

Type 1, Data development

This level of research involves the collection and collation of basic data. Where expert opinion considers that there is already available sufficient high quality research evidence (including that from comparable countries) interventions can be designed, funded, undertaken, and evaluated without need to replicate the original basic research. Where expert opinion questions the adequacy of the existing basic data, there is a need to clarify whether data from existing research are insufficient because of study flaws, e.g.

- not well designed
- too small
- not generalisable
- inconclusive

From these expert opinions, it can then be determined where further basic Australian research is required, and where it can be most effective. These identified gaps in data can be considered as basic requirements needed to inform future Type 3 research, i.e. evaluation of interventions. Type 1 research was further classified into prospective, where new data were needed, and retrospective, where basic data existed but still required disaggregation and analysis.

Type 2, Identification of causal relationships and development of methodology

The attribution and quantification of causal relationships between alcohol consumption, on the one hand, and mortality and morbidity, on the other, is a fundamental component of alcohol research. This level of research is a sub-set of basic research, in that it expands or draws on basic research which has been considered sufficient or acceptable, including development of methodology to interpret data.

Type 3, Evaluation of interventions

This classification addresses interventions for the prevention or minimisation of harm from alcohol abuse. Prevention strategies can be classified from the type of intervention required, which sometimes may be in combination.

Three categories are suggested:

- Clinical prevention - delivered by a health care provider to a patient e.g. immunisation, screening;
- Behavioural prevention - requiring individual action e.g. dieting, stopping smoking, moderation of drinking;
- Environmental - imposed by society and enforced by law :- e.g. seat-belts, lead-free petrol, driver alcohol limits.

These categories clarify the domains in which the recommended interventions take place.

Evaluation of interventions should be explicit about the category (or categories in combination) to which they belong, as this categorisation reflects both the resource requirements of the intervention itself and the resource implications of the results of the intervention. Where we considered that we had insufficient information to judge the cost-effectiveness of the proposed research project, we felt that we could make no judgment about the category of intervention.

Type 4, Dissemination of research results

From the research recommendations, we identified a fourth category which we considered did not constitute actual research, but rather represented the dissemination of research findings. While this category does not lend itself to cost-effectiveness classification, we recognise that it is important and has resource implications.

The next task in the development of the methodology was to provide an indication of the cost-effectiveness of each research proposal. Given that neither cost nor benefit information was provided in the commissioned papers, we developed a broad cost-effectiveness grading scale as follows:

- | | | |
|---|---|---|
| A | = | high cost-effectiveness |
| B | = | positive cost-effectiveness |
| C | = | debatable cost-effectiveness |
| D | = | difficult to interpret usefully without additional information on methodology and/or outcomes |

Considerations in this categorisation process included estimates of project costs, ease of implementation, time required for positive demonstrable benefit, and likely size of benefit. Without actual data on benefits and costs, we considered that any further prioritising would be meaningless. We also felt that, since projects of the different types (Types 1, 2, 3 and 4), were likely to be so disparate in nature, the classification which we developed could only provide useful comparisons within each type, rather than between types. We stress that our research categorisation reflects our, necessarily partially subjective, judgments as to cost-effectiveness.

The next method of classification is our estimation of the duration of each research project. The categories here are:

Short term - less than one year

Medium term - one to three years

Long term - more than three years

Ongoing - continuing research on an ongoing basis

The final classification relates to where the funding costs of the research projects should be borne. It should be stressed that this relates to the source of the funding, not the type or level of organisation which should actually conduct the research. To assist in our categorisation under this heading it was necessary to develop certain allocative principles. The three which we developed were as follows:

- The level of government funding the research expenditure should represent the level at which the benefits of the expenditure would be felt. (Thus, as an example from another policy area, inter-State highways should be funded by the Federal Government while local roads should be funded by local councils).
- Where the responsibility for service delivery or policy implementation is at the State level, the research should be funded by the States.
- Funding responsibility should be related to the level of government at which the relevant data are held.

It is recognised that these principles could, in some cases, be in conflict.

The three funding sources considered were the Commonwealth Government, State and Territory Governments, and non-government organisations (NGO). However, in practice, while NGOs may well be appropriate bodies to conduct certain research studies, it did not appear to us to be appropriate that they should be original sources of research funding.

Assumptions underlying the analysis

In undertaking this exercise, we made a number of assumptions regarding the nature of the research projects being proposed.

Firstly, we assumed that all projects were able to be done i.e. that knowledge, resources and structure could be provided.

Secondly, we assumed that the research had not already been undertaken (see qualifications relating to Type 1 classification), even though in some cases we were not totally satisfied that such an assumption was realistic. However, we accepted the judgment of the authors of the commissioned papers in this matter.

Thirdly, we assumed that all of the research objectives of the proposals in the commissioned papers were consistent with alcohol public policy objectives, and that our task was confined to the classification and grading of projects.

The results

Table 1 summarises the interpretation of the classifications set out above, and the results of our evaluation are presented in Table 2.

Table 1: Basis for Classification of Proposed Research Projects

Heading	Meaning	Categorisation
Res. Type into:	Type of research	1 = data development, disaggregated 1P = prospective 1R = retrospective 2 = identification of causal relationships and methodology 3 = evaluation of interventions 4 = dissemination of research results
C/E	Cost effectiveness	A = high B = positive C = debatable D = difficult to interpret without additional information
Type 3 Cat.	Sub-categorisation of Type 3 projects	Beh = behavioural Clin = clinical Env = environmental
Duration	Estimated duration of research project	S = short term (less than 1 year) M = medium term (1 to 3 years) L = long term (more than 3 years) O = ongoing
Costs borne by	Where the research funding should be borne	Cwlth = Commonwealth Govt. State = State or Territory Govts.

Table 2: Summary and Brief Evaluation of Proposed Alcohol Research Projects

1. Acute Alcohol-Related Harm

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Further research on the risk factors underlying the general increase in suicide rates	2	B		M	Cwlth
Alcohol-attributable injuries in Australian workplaces	1P & 2	A		M	State
Prevalence and risk of alcohol-caused overdose (with or without other drugs)	1R & 2	B-C		S	Cwlth
Improving the methodology for calculating aetiologic fractions for acute alcohol-related conditions	2	B		S	Cwlth
Update of Australian aetiologic fractions for acute alcohol-related conditions	2	B		M	Cwlth
Regular monitoring of national alcohol production and of per capita alcohol consumption in each Australian jurisdiction on a consistent basis	1P & 1R	A		O	State
Monitoring geographical locations where high BACs are obtained in order to direct drink driving deterrence strategies more efficiently	1R	A		O	State
Evaluation of the effects on women of alternative drink driving enforcement practices	3	D	---	M	State
Annual monitoring of deaths, PYLLs, DALYs and hospital bed days resulting from alcohol-related chronic and acute harms	1R	B		O	Cwlth
Annual or three yearly estimation of the economic costs of chronic and acute harms	1R	A		O	Cwlth
Three yearly estimation of rates of alcohol dependence using SADQ-C or CIDI-C and of alcohol problems by WHO problem scale	1P	B		O	Cwlth
Monitoring of rates of fatal and serious road crashes with BACs > 0.05/0.10%	1R	A		O	State
Three yearly national survey of self-reported rates of personal and social problems	1P	C		O	Cwlth

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Examination of the reliability and validity of measures of Australian alcohol-attributable morbidity and mortality in order to identify an optimal set of annual indicators for Australia	2	B		S	Cwlth
Development of a nationally agreed standard method for estimating alcohol-caused acute harm which makes allowance for changing patterns of risky drinking behaviour	2	B		S	Cwlth
Development of guidelines for best practice in the local monitoring of alcohol-related harm and consumption	2	C		S	Cwlth
More basic research on prevalence and risk of alcohol-caused overdose, drowning,	1P	B		M	C/State

2. Long Term Consequences of Alcohol Consumption

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
The relationship between alcohol consumption and mental health	2	B		M	Cwlth
The overall health burden of alcohol-attributable mental health problems in Australia	1R	B		M	Cwlth
The nature and magnitude of the effects of alcohol consumption on personal relationships with spouse, children and friends	2	D		---	---
The definition of long term alcohol consumption	2	C		S	Cwlth
The relationship between rates of alcohol consumption and the risk of dependence, and the nature of the progression from non-dependent drinking patterns to dependence	2	B		M	Cwlth
The effects of heavy drinking in pregnancy in Aboriginal and Torres Strait Islander communities	2	B		M	State
Do lower alcohol content drinks and the consumption of alcohol with food buffer the effects of carcinogenesis?	2	A		L	Cwlth
Research on alcohol and cancer (e.g. alcohol as an initiator, promoter or late promoter of cancer; evidence of a threshold effect for specific types of cancer; other risk factors in combination with alcohol)	2	A		L	Cwlth

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
The impact of alcohol consumption patterns on negative and positive health outcomes	2	A		L	Cwlth
The impact of alcohol consumption patterns on cognitive impairment	2	B		L	Cwlth
The relationship between alcohol consumption and employment	2	B		M	Cwlth/State

3. Interventions for Alcohol Dependence, Abuse and Excessive Drinking

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Comparative effectiveness of brief and more intensive interventions for alcohol dependence, abuse and excessive drinking	3	A	Clin	M	Cwlth/State
The effectiveness of Alcoholics Anonymous as a treatment intervention	3	A	Clin	M	Cwlth
Identification of the best combinations of psychosocial and pharmacological interventions in the treatment of alcohol-attributable problems, and identification of the groups for whom these are most effective	3	B	Clin & Beh	M/L	Cwlth
Evaluation of Cognitive Behavioural Therapy (CBT) in the treatment of alcohol-attributable problems	3	A	Beh	M	Cwlth
Evaluation of Community Reinforcement Approach (CRA) in the treatment of alcohol-attributable problems	3	A	Beh	M	Cwlth
The effectiveness of pharmacotherapies when administered conjointly with effective psychotherapies	3	A	Clin	L	Cwlth
The matching of patients (including the more severely affected drinkers) to treatment	3	A	Clin	M	State

4. Childhood and adolescent Alcohol Use

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
The effectiveness of interventions targeting emotional problems in reducing adolescent substance use disorders	3	B	Beh	M/L	State
Nationwide extension of data on the impact of risk and protective factors on the early uptake and misuse of alcohol by adolescents (currently available only for Victoria)	1P	B	M	Cwlth	
Australian early childhood intervention/prevention studies of risk and protective factors specifically designed to reduce, or delay the initiation of, alcohol use and subsequent misuse	3	B	Beh&Env	M	Cwlth
Examination of the extent to which booster courses enhance interventions that develop parenting skills, particularly during transition stages in a child's development	3	B-C	Beh	M	State
Further research on risk and protective factors in Aboriginal people	2	A		M	Cwlth

5. Community-Based Prevention of Alcohol-Related Harm

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Large scale, controlled, whole of community intervention project, conducted over five years, comprising a range of harm reduction component interventions which mobilise the community and address identified local concerns	3	B	Beh&Env	L	State
Investigation of the relationship between patterns of alcohol use and the prevalence of workplace problems	2	A		M	State
Strategic, collaborative demonstration interventions investigating how alcohol harm can best be prevented in a range of identified high risk workplaces	3	A	Beh&Env	M	State
Establishment of a nationwide mechanism for the dissemination of workplace research findings to relevant workplace decision-makers, occupational health and safety practitioners and key industry stakeholders and evaluation of its impact on practice	4	B		S	Cwlth

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Longitudinal monitoring of consumption patterns and indicators of harm in the Indigenous community, in a way that is directly linked to provision of community-based intervention projects	1P&3	A	Beh&Env	O	Cwth/State
Development of a program (including a strong youth and urban component) for the systematic evaluation of community-based interventions in the Indigenous Community	3	D	---	M	Cwth
Research into funding arrangements and training needs of Indigenous Community organisations	2	C		S	Cwth
Immediate establishment of a clearing house for the dissemination of the results of research into the Indigenous Community	4	B		O	Cwth
Undertake further model, alcohol harm reduction, school-based, education program research in a range of urban and rural settings	3	D	---	L	State
Dissemination of research findings and effective intervention program material to State-level providers of school-based education	4	B		O	Cwth/State
Evaluation of current, best-practice, mass, school-based programs for reduction of alcohol harm	3	B	Beh	M	State
Evaluation of the effectiveness and cost effectiveness of different styles of policing (by law enforcement or other means) licensed premises	3	B	Env	M	State
Identification of the information and other systems which can assist in sustaining the policing (by law enforcement or other means) of licensed premises in the longer term	2	B		M	State

6. Patterns of Alcohol Use

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Estimation of the prevalence of low, medium and high risk drinking levels in the general population in relation to both acute and chronic harm	1P	A		M	Cwlth
Research to reduce the current large discrepancy between estimates of total alcohol consumption based on sales data as opposed to survey data, including commissioning of research to identify best practice to achieve maximum coverage by means of adequate sampling strategies, appropriate weightings of data and conversion factors for alcohol content of reported drinks	2	B		S	Cwlth
Regular collection of regional data on per capita alcohol consumption, with the provision of breakdowns by State and Territory, by country versus urban regions and by beverage type	1P	B		O	State
Nationally coordinated collection of wholesale alcohol sales by a statutory body such as the Australian Bureau of Statistics	1R	B		O	Cwlth
Regular calculation of the volume or proportion of drinking that can be classified as “Medium” or “High” Risk, for entire populations from community-wide surveys (including studies to ascertain the likely degree of underestimation caused by drinkers in different settings pouring larger measures than commonly assumed to be the standard	1P	B		O	Cwlth
Conducting field work (ideally regionally) to generate more accurate empirically-based estimates of the alcohol content of different alcoholic beverages and typical serve sizes, applying the resulting information to develop more precise estimates of drinking patterns and drinking levels from both sales and survey data	1P	B-C		M	Cwlth
Identification of the settings in which low and high risk alcohol consumption tends to occur	2	B		S	State
Incorporation in drinking surveys of information on the speed of drinking	1P	B		S	Cwlth

7. Prevention of Alcohol-related Harm - Public Policy and Health

Topic	Res. Type	C/E	Type 3 Cat.	Duration	Cost borne by
Examination of the impact of regulatory policy changes on drinking patterns, levels of consumption and levels of harm, with particular reference to specific sub groups	3	B	Env	M	State
Development of more precise and rigorous definitions of patterns of alcohol consumption	2	B		S	Cwlth
Development and implementation of a data collection and monitoring system for youth alcohol consumption	1P	B		O	Cwlth/State
Further development of local, state and national indicators of high risk consumption and alcohol-related harm in order to facilitate rigorous evaluation of policy changes	2	B		S	Cwlth/State
Development of a practical scale for identification of high risk licensed premises	2	B		S	State
Examination of strategies to modify relevant activities of high-risk licensed premises (e.g. sales to minors, sales to intoxicated patrons, overcrowding)	3	A	Env	S	State
Studies to examine ways to foster safer drinking practices among young people	3	D	---	M	Cwlth
Collaborative investigations with indigenous communities on ways to reduce alcohol-related harm, particularly as pertaining to urban indigenous people	3	D	---	M	State
Process and outcome evaluation of the alcohol industry's self monitoring system with regard to advertising and other forms of marketing	3	B	Env	M	Cwlth
Development of a nationally consistent and coordinated data set (including with access to data held by the alcohol industry) on alcohol sales, such that regional breakdowns of sales patterns by beverage type and alcoholic strength can be made	1P	A		O	Cwlth

Conclusion

Table 2 has presented our evaluation of the research project recommendations identified from the seven commissioned papers. A more rigorous evaluation would require greater specificity about intended outcomes of the proposed research, how these outcomes would be measured, and details of the expected time frame and the required resource commitments.

In undertaking this task we became aware of the issue of the resource implications of some of the research proposals. We believe that, when the research topics have been clarified and their priorities agreed by the meeting, it would be useful to further consider resource issues. For example, some of the suggested interventions are appropriate for “action research”, with a simultaneous evaluation being funded within the strategy. Another example of resource issues relates to those strategies where implementation requires funding for and cooperation from other domains such as police and education authorities. To enable collaboration and ensure positive research outcomes will require analysis of the resource implications within those sectors.

We acknowledge that our judgments as to the categorisation of research projects may not, in all cases, meet with the universal approval of the experts convened to discuss the DHAC’s strategic alcohol research agenda. We hope, at least, that our work will assist in developing a systematic framework for evaluation of the many research projects under review. The meeting might find our classification a useful starting point for the evaluation process.

Finally, we believe that this exercise has identified a significant number of important and worthwhile research possibilities, and we hope to see their eventual implementation and evaluation.

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Epidemiological considerations relevant to the appraisal of recommendations arising from papers commissioned for the National Alcohol Research Agenda Workshop, March 2001

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I. Introduction

This is a companion document to the cost-effectiveness estimates prepared by Professors Collins and Lapsley (2001) for each of the recommendations identified in the papers commissioned for Workshop. The aim of this paper is to provide comparative estimates of the amount of alcohol-caused harm addressed by (i) each of the 7 general areas covered by the commissioned papers and (ii) each of the recommendations provided in those papers. Recent estimates of this will be used variously from the Australian Institute of Health and Welfare (Mathers et al, 1999) and the National Alcohol Indicators Project (Chikritzhs et al, 1999, 2000). The same classification and description of recommendations used by Collins and Lapsley will be employed as a starting point for ease of cross-referencing.

There are many ways in which the relative merits of different research topics in this area can be evaluated. This paper focuses on only one: the prevalence of the underlying harm. This is not intended as a competing assessment to that by Collins and Lapsley but as additional information for consideration by participants. Clearly an assessment of underlying prevalence of harm is inherent in an assessment of cost-effectiveness, as Collins and Lapsley themselves observe, along with other considerations such as the extent of the existing knowledge base, the potential of proposed interventions to reduce harm and the ease with which they can be implemented. This paper will merely attempt to specify relevant and recent prevalence data for consideration alongside Collins and Lapsley's cost-effectiveness estimates. These will be used as the basis for global ratings of 'prevalence' for the underlying target conditions and groups in relation to the recommendations. Hopefully the summaries of prevalence data will also assist in the evaluation of other areas of research need that the workshop may identify.

II. The epidemiology of alcohol-related harm in Australia: preliminary comments

Epidemiology is the study of ill-health, its prevalence and causation in human populations. The most significant epidemiological study of alcohol-related health consequences in Australia is without doubt that conducted by English et al (1995) which conservatively estimated there to be 38 diagnostic conditions with a proven causal association with high-risk (hazardous/harmful, NHMRC, 1992) drinking when compared to low risk drinking. However, when drinkers are compared to abstainers, many more conditions have been shown to have a significant causal relationship with any alcohol use or low level use – one of which, ischaemic heart disease, is known to have a protective effect. Their work was based on a comprehensive review of all published studies up to March 1994. Subsequent research has largely confirmed these results (e.g. Single et al, 1999) though English et al's estimates for female breast cancer, stroke, road trauma and fall injuries have recently been updated (Ridolfo and Stevenson, 2001).

The health benefits of alcohol consumption are mainly restricted to older adults drinking within levels of consumption currently defined by NHMRC (1992) as 'low risk'. Maximum protection against heart disease is obtained at levels well within these limits – at 1 to 2 drinks per day for men and up to 1 drink per day for women (Corrao et al, 2000). The harms from drinking are mainly associated with drinking in excess of these limits though there are exceptions, such as breast cancer, where there is an increased risk at even 'low risk' drinking levels (Single et al, 1999).

Estimates of the numbers of lives saved from low risk drinking often put this in excess of numbers of lives lost from drinking above these limits (e.g. Mathers et al, 1999). However, several points need to be borne in mind in relation to this point:

- i. The lives saved are mainly among the elderly. In fact almost half of all deaths from ischaemic heart disease occur among people aged over 75 years of age (Holman et al, 1988).
- ii. The lives lost mostly involve people under 35 years of age. In addition survivors of alcohol-related injuries often bear considerable disability. As a consequence, taking account of years of life lost and disability among survivors the Australian Institute of Health and Welfare estimated that for men the burden of disease in Australia caused by alcohol use was two and a half times that saved by moderate alcohol use (Mathers et al, 1999), though for women it was the same.
- iii. A standard epidemiological approach to deal with these divergent health effects of alcohol is to estimate the number of lives that would be saved if all drinkers reduced their drinking to low risk levels. Arguably the most recent and reliable estimate of this was by Chikritzhs et al (1999, 2000) at 3,290 deaths, 62,914 years of life lost and 72,302 hospital episodes.

To put these figures in further context, English et al (1995) estimated that alcohol caused more than three times the number of years of life lost in 1992 than illicit drugs while the AIHW estimated that alcohol was second only to tobacco as a preventable risk factor for death and disability for males in Australia (Mathers et al, 1999). These estimates take no account of the substantial contribution made by alcohol to some mental health problems (Mueser and Kavanagh, 2001) or indeed the direct contribution excess alcohol intake makes towards heroin overdose deaths (Darke and Zador, 1996).

III. Choice of epidemiological estimates of alcohol-caused harm

In recent years several different estimates have been made of the extent of alcohol-caused harm in Australia as a consequence of differing methodologies. To improve future consistency in methods a working meeting between members of some of the main research groups involved was arranged by the Alcohol and Tobacco Section of the National Drug Strategy and Social Marketing Branch of Commonwealth Health in February 2001. Some general principles were agreed for future work which will be the subject of a forthcoming paper, some of which are outlined below.

- i. The underlying assumptions regarding the extent of alcohol's involvement in alcohol-related conditions need to be regularly reviewed and updated in light of new and, particularly for acute alcohol conditions, local Australian data. A handful of these have just been (Ridolfo and Stevenson, 2001) but this process needs to be completed for many others.
- ii. For public health purposes clear distinctions need to be made between the benefits and costs of alcohol use, on the one hand, and different levels and patterns of alcohol use on the other (ie low risk versus risky or high risk drinking). There are several different ways of achieving this and a forthcoming joint publication will illustrate these and discuss their appropriateness for different purposes (Chikritzhs et al, in preparation).
- iii. When trends in alcohol-caused harm are being expressed it is important to adjust for changes in the underlying prevalence of risky and high risk drinking. While it is impractical and expensive to survey the Australian population annually with sufficient sample size to make reliable estimates for each state and territory, it is certainly possible (and has been done) to adjust estimates by changes in adult per capita alcohol consumption both over time and across geographic regions.

At the time of writing the estimates employing the new empirically based assumptions regarding alcohol's role in acute harm in Australia just published by the Ridolfo and Stevenson (2001) were unavailable. It is worth noting that this important new publication also relies on estimates of the prevalence of hazardous/harmful drinking from the 1995 National Health Survey which only asked what respondents had drunk in the last 3 days. Furthermore, a fundamentally different method of estimation is used to that of English et al (1995). A forthcoming joint publication will explore and

discuss these differences. The National Alcohol Indicators Project (Chikritzhs et al, 1999, 2000) has produced the only estimates to date that a) allow for the drop in per capita alcohol consumption in Australia this decade and b) do not overestimate the alcohol's contribution to the substantial problem of falls in the elderly c) also employ the English et al (1995) method of estimating the saving of life if all drinkers drank at low risk levels rather than were abstinent. As the most conservative available for these various reasons, these will be applied in the following analyses. Consideration will be given to both data on numbers of deaths and estimates of potential years of life lost. In addition studies which attempt to estimate the proportion of the population which is comprised of persons in need of treatment of different intensities, of early intervention and of primary prevention will be discussed.

IV. Data on prevalence of alcohol-related harm and risk

In this section recent epidemiological data will be summarised for two diagnostic categories of 'alcohol-related disorders' (dependence and abuse) and also for two broad patterns of risky alcohol use (for acute and chronic alcohol-related harm). These data allow crude comparisons to be made regarding the underlying prevalence of alcohol-related harm that is the main subject of each of the background papers for this workshop. More specific data are also available for particular conditions (see Chikritzhs et al, 1999 and 2001) which will be drawn on later when relevant to specific recommendations. Also more detailed discussions of these data are contained in some of the papers themselves.

Table 1 provides basic background data from most recent available national surveys on the prevalence of drinking patterns that can be classified variously as meeting diagnostic criteria for alcohol-related disorders (dependence and abuse) and/or posing short or long-term risks to health. In the latter case definitions of levels and patterns of drinking recently classified by the National Medical and Health Research Council in their new draft guidelines are used as the yardstick (NHMRC, 2000). It is clear that a pattern of drinking that puts the drinker at risk of acute harm (ie injuries, poisoning) is the most prevalent at 31.2% while only 7.1% of the total adult population (ie including abstainers) consistently drink at a level that puts them at risk of chronic harm. (ie cirrhosis, cancer). Smaller proportions still were found to meet diagnostic criteria for alcohol dependence and alcohol abuse in the 1997 National Survey of Mental Health and Well-being

Table 1: Estimated prevalence of alcohol dependence and risky drinking patterns in Australia

Disorder/Pattern	Males	Female	Total
Alcohol Dependence ¹	5.2%	1.8%	3.5%
Alcohol Abuse ¹	4.3%	1.8%	3.0%
Risk of chronic harm ²	7.4%	6.7%	7.1%
Risk of acute harm ²	38.8%	24.7%	31.2%

¹ 1997 National Survey of Mental Health and Well-being (Hall et al,1999)

² 1998 National Drug Strategy Household Survey (Heale et al, 2000)

Table 2 presents comparative data on hospital morbidity data attributable to different patterns of alcohol use and related diagnostic categories for Australia in 1997 (Chikritzhs et al, 1999). While data for alcohol dependence and 'abuse' (as it is termed by international diagnostic manuals) are presented separately from the broader categories of hospital episodes attributable to acute and/or chronic risky drinking patterns, these data still underestimate the true contribution of alcohol-related disorders to morbidity. It is unclear to what extent alcohol dependence or abuse will be used as the primary diagnosis when another injury or illness caused by alcohol is present. In relation to acute alcohol-related problems in particular, however, it is known through work on what is known as the Prevention Paradox that most cases of such harm are generated by occasional excessive ('binge') drinkers rather than 'problem drinkers' (e.g Gmel, 2001). Kreitman (1986) also presented data to suggest that for some types of chronic alcohol-related harm the large number of moderate drinkers in the population collectively contribute the bulk of this harm. These data do, however, clearly demonstrate the substantially larger burden of disease and injury associated with risky drinking for acute harm – it comprises 56% of all alcohol-related hospital episodes.

Table 2: Hospital episodes attributed to alcohol disorders and risky patterns of use, 1997

Disorder/Pattern	Males	Females	Total
Alcohol dependence	9,054	3,989	13,043
Alcohol abuse	2,596	1,576	4,172
Risk – other chronic	5,616	2,176	7,792
Risk – other acute	28,770	11,941	40,711
Risk – mixed acute/chronic	3,463	3,122	6,585
Total	49,499	22,803	72,302

Source: Chikritzhs et al (1999)

NB Rounding errors in these data

Similar considerations apply to the data in Table 3 which displays data (also from Chikritzhs et al, 1999, 2001) on person years of life lost (PYLLs) associated with the same set of risk patterns and disorders. These data are based on coroners records collated by the ABS, the application of the aetiologic fraction method and also life expectancy tables. It is not at all clear what is intended when a medical practitioner identifies alcohol dependence or abuse as the primary cause of death as opposed to a more biological cause e.g. alcoholic liver cirrhosis. Again, the prevalence for harms attributed to these disorders is probably greatly underestimated since the direct cause of death will be given even if alcohol dependence or abuse is also present – not the least because of a desire to protect family members from the stigma of an alcohol-related problem in the family. Nonetheless, the same considerations regarding the Prevention Paradox apply as mentioned above and again the single largest contributor to alcohol-related harm is from occasional episodes of intoxication alone (ie patterns of drinking for acute harm).

Table 3: Person Years of Life Lost attributed to alcohol disorders and risky patterns of use, 1997.

Disorder/Pattern	Males	Females	Total ¹
Alcohol dependence	3,300	1,035	4,335
Alcohol abuse	309	96	405
Risk – other chronic	12,375	4,274	16,615
Risk – other acute	22,434	6,150	28,555
Risk – other mixed ²	10,076	2,933	13,004

Source: Chikritzhs et al (2001)

¹ Estimates of PYLLs for sex specific totals are calculated separately and not numerically equivalent to the sum of individual conditions/categories.

² Stroke and suicide

V. Assumptions underlying guiding global prevalence ratings

In addition to noting some of the important limitations in the above data for present purposes, a number of other assumptions were used to guide the making of global ratings of problem prevalence provided in the next section. The first set of assumptions was the extent to which the major domains of harm and risk identified above are those which the topic of each paper primarily addresses. These are laid out in Table 4. These should be mainly straightforward, uncontroversial assumptions e.g. the study of ‘drinking patterns’ is concerned with all varieties of alcohol-related harm, the study of acute harm is mainly concerned with acute, acute/chronic harm and alcohol abuse.

Table 4: Primary target of each background paper in terms of type of alcohol-related harm

Paper	Dependence	Abuse	Chronic	Acute	Mixed Acute & Chronic
Acute		√		√	√
Chronic	√		√	√	
Patterns	√	√	√	√	√
Early childhood factors	√	√	√	√	√
Treatment	√		√		√
Brief Interventions		√	√		√
Community		√		√	√
Public policy	√	√	√	√	√

Any set of ratings of this nature is fraught with difficulty. In the first instance it must be stressed that these are not intended to be final *priority* ratings but as part of the information provided to assist workshop delegates make their own judgement. A problem may have low prevalence but nonetheless huge health, social and political significance. Alcohol issues in relation to Indigenous peoples are a case in point. Social equity and humanitarian issues clearly need to be considered in addition to problem prevalence in evaluating overall priority in this instance. Equally a problem may have very large prevalence but be considered too hard to research, already well-researched or of a relatively trivial nature. The authors must also acknowledge a conflict of interest – if we do not then others will! Our work has contributed directly to some of the background papers and is mainly concerned with population level rather than individual intervention studies or clinical trials. Strict comparisons between the relative importance of population monitoring, prevention, treatment and dissemination are invidious. The global ratings provided here are intended to be as an objective as possible assessment of the size of the target problem and NOT a recommended overall priority rating. In addition to the sheer prevalence of the target problem, consideration has also been given to relative problem severity. Thus treatment programs for severely alcohol dependent drinkers must be weighted upwards in comparison with brief interventions, though the latter in turn weighted upwards as they can be applied to a much larger population of drinkers. Other issues to bear in mind are the likely coverage of target populations by different types of interventions. As reported by Maree Teesson in her paper for this meeting, if you define intervention broadly to cover advice from a GP then about one in three people with an identifiable alcohol-related disorder will receive some form of intervention over a 12 month period. If one defines treatment for drinking problems more stringently, then even fewer of the target population will be in contact with a treatment agency. By contrast public policy concerning physical and economic availability of alcohol will at least impact on the majority of, if not all, drinkers. An attempt has been made to fairly consider these various issues of problem severity, coverage of target population and estimated prevalence in making the following ratings.

VI. Global Ratings of Prevalence

Table 5: Prevalence Ratings of Proposed Alcohol Research Projects

1. Acute Alcohol-Related	Harm Prevalence (not priority) Rating	Comment
1.1 Further research on the risk factors underlying the general increase in suicide rates	B	
1.2 Alcohol-attributable injuries in Australian workplaces	D?	Needs further investigation
1.3 Prevalence and risk of alcohol-caused overdose (with or without other drugs)	B	
1.4 Improving the methodology for calculating aetiologic fractions for acute alcohol-related conditions	A	Would require new items in national surveys
1.5 Update of Australian aetiologic fractions for acute alcohol-related conditions	A	Has been done for four conditions by AIHW (2001)
1.6 Regular monitoring of national alcohol production and of per capita alcohol consumption in each Australian jurisdiction on a consistent basis	A	Valuable for monitoring acute and chronic harm
1.7 Monitoring geographical locations where high BACs are obtained in order to direct drink driving deterrence strategies more efficiently	B	
1.8 Evaluation of the effects on women of alternative drink driving enforcement practices	C	Not specifically recommended in paper
1.9 Annual monitoring of deaths, PYLLs, DALYs and hospital bed days resulting from alcohol-related chronic and acute harms	A	Recommended by WHO as optimal level of monitoring
1.10 Annual or three yearly estimation of the economic costs of chronic and acute harms	A	ditto
1.11 Three yearly estimation of rates of alcohol dependence using SADQ-C or CIDI-C	B	2nd part repeated below
1.12 Monitoring of rates of fatal and serious road crashes with BACs>0.05/0.10%	B	Improvement and standardisation of existing data collection
1.13 Three yearly national survey of self-reported rates of personal and social problems	B	WHO recommendation
1.14 Examination of the reliability and validity of measures of Australian alcohol-attributable morbidity and mortality in order to identify an optimal set of annual indicators for Australia	A	Same as 1.5

1.15 Development of a nationally agreed standard method for estimating alcohol-caused acute harm which makes allowance for changing patterns of risky drinking behaviour	A	Same as 1.4 – partly completed
1.16 Development of guidelines for best practice in the local monitoring of alcohol-related harm and consumption	A	
1.17 More basic research on prevalence and risk of alcohol-caused overdose, drowning, suicide and work-related injuries in Australia	A	Overlaps with 1.1. 1.2 and 1.3 – combined prevalence merits 'A'

2. Long-term consequences of alcohol consumption	Prevalence (not priority) Rating	Comment
2.1 The relationship between alcohol consumption and mental health	B	Need more basic research to quantify prevalence
2.2 The overall health burden of alcohol-attributable mental health problems in Australia	B	Its likely to be large
2.3 The nature and magnitude of the effects of alcohol consumption on personal relationships with spouse, children and friends	B?	Needs more work to quantify
2.4 The definition of long term alcohol consumption (This is about need to take lifetime patterns into account as predictors of later health outcomes)	A	Work has started in other countries
2.5 The relationship between rates of alcohol consumption and the risk of dependence, and the nature of the progression from non-dependent drinking patterns to dependence	C	Dependence a small risk
2.6 The effects of heavy drinking in pregnancy in Aboriginal and Torres Strait Islander communities	C?	May be a major issue for this population
2.7 Do lower alcohol content drinks and the consumption of alcohol with food buffer the effects of carcinogenesis?	C	Cancers are 8% of all alcohol-caused mortality
2.8 Research on alcohol and cancer (e.g alcohol as an initiator, promoter or late promoter of cancer; evidence of a threshold effect for specific types of cancer; other risk factors in combination with alcohol)	C	ditto
2.9 The impact of alcohol consumption patterns on negative and positive health outcomes	A	
2.10 The impact of alcohol consumption patterns on cognitive impairment	C?	Weak evidence for moderate patterns
2.11 The relationship between alcohol consumption and employment	B?	Very little data

3. Interventions for Alcohol Dependence, Abuse and Excessive Drinking	Prevalence (not priority) Rating	Comment
3.1 Comparative effectiveness of brief and more intensive interventions for alcohol dependence, abuse and excessive drinking	B	Major studies conducted in other countries
3.2 The effectiveness of Alcoholics Anonymous as a treatment intervention	C	Most widely used treatment but still small no. people
3.3 Identification of the best combinations of psychosocial and pharmacological interventions in the treatment of alcohol-attributable problems, and identification of the groups for whom these are most effective	C	Apply mainly to dependent drinkers
3.4 Evaluation of Cognitive Behavioural Therapy (CBT) in the treatment of alcohol-attributable problems	C	ditto
3.5 Evaluation of Community Reinforcement Approach (CRA) in the treatment of alcohol-attributable problems	C	ditto
3.6 The effectiveness of pharmacotherapies when administered conjointly with effective psychotherapies	C	ditto
3.7 The matching of patients (including the more severely affected drinkers) to treatment	B	Applies to various high risk as well as dependent drinkers

4. Adolescent Alcohol Use	Prevalence (not priority) Rating	Comment
4.1 The effectiveness of interventions targeting emotional problems in reducing adolescent substance use disorders	C	A hard-to-reach subset of alcohol problem population
4.2 Nationwide extension of data on the impact of risk and protective factors on the early uptake and misuse of alcohol by adolescents (currently available only for Victoria)	A	
4.3 Australian early childhood intervention/prevention studies of risk and protective factors specifically designed to reduce, or delay the initiation of, alcohol use and subsequent misuse	A	ditto
4.4 Examination of the extent to which booster courses enhance interventions that develop parenting skills, particularly during transition stages in a child's development	A	ditto
4.5 Further research on risk and protective factors in adolescent Aboriginal people	B	

5. Community-Based Prevention	Prevalence (not priority) Rating	Comment
5.1 Large scale, controlled, whole of community intervention project, conducted over five years, comprising a range of harm reduction component interventions which mobilise the community and address identified local concerns (ie a demonstration project)	A?	?Relative impact on chronic / acute / dependence issues
5.2 Investigation of the relationship between patterns of alcohol use and the prevalence of workplace problems	B?	Recorded prevalence is tiny – could be larger
5.3 Strategic, collaborative demonstration interventions investigating how alcohol harm can best be prevented in a range of identified high risk workplaces	B?	ditto
5.4 Establishment of a nationwide mechanism for the dissemination of workplace research findings to relevant workplace decision-makers, occupational health and safety practitioners and key industry stakeholders and evaluation of its impact on practice	B?	Ditto – NB a dissemination issue
5.5 Longitudinal monitoring of consumption patterns and indicators of harm in the Indigenous Community in a way that is directly linked to the provision of community-based intervention projects	B	
5.6 Development of a program (including a strong youth and urban component) for the systematic evaluation of community-based interventions in the Indigenous Community	B	
5.7 Research into the funding arrangements and training needs of Indigenous Community organisations	B	
5.8 Immediate establishment of a clearing house for the dissemination of the results of research into the Indigenous Community	B	Dissemination issue
5.9 Undertake further model, alcohol harm reduction, school-based, education program research in a range of urban and rural settings	A	
5.10 Dissemination of research findings and effective intervention program material to State-level providers of school-based education	A	Dissemination issue
5.11 Evaluation of current, best practice, mass, school-based programs for the reduction of alcohol harm	A	Seems same as 5.9
5.12 Evaluation of the effectiveness and cost effectiveness of different styles of policing (by law enforcement or other means) licensed premises	B	Addresses major component of acute harm
5.13 Identification of the information and other systems which can assist in sustaining the policing (by law enforcement or other means) of licensed premises in the longer term	B	Overlap with 7.5

6. Patterns of alcohol use	Prevalence Rating	Comment
6.1 Estimation of the prevalence of low, medium and high risk drinking levels in the general population in relation to both acute and chronic harm	A	Essential monitoring
6.2 Research to reduce the current large discrepancy between estimates of total alcohol consumption based on sales data as opposed to survey data, including commissioning of research to identify best practice to achieve maximum coverage by means of adequate sampling strategies, appropriate weightings of data and conversion factors for alcohol content of reported drinks	A	Relevant to 6.1 but also monitoring morbidity and mortality
6.3 Regular collection of regional data on per capita alcohol consumption, with the provision of breakdowns by State and Territory, by country versus urban regions and by beverage type	A	Only national estimates available otherwise
6.4 Nationally coordinated collection of wholesale alcohol sales by a statutory body such as the Australian Bureau of Statistics	A	Same as 6.3
6.5 Regular calculation of the volume or proportion of drinking that can be classified as "Medium" or "High" Risk, for entire populations from community-wide surveys (including studies to ascertain the likely degree of underestimation caused by drinkers in different settings pouring larger measures than commonly assumed to be the standard	A	Recommended by WHO and NEACA
6.6 Conducting field work (ideally regionally) to generate more accurate empirically-based estimates of the alcohol content of different alcoholic beverages and typical serve sizes, applying the resulting information to develop more precise estimates of drinking patterns and drinking levels from both sales and survey data	A	Typical alcohol content already completed – will need updating
6.7 Identification of the settings in which low and high risk alcohol consumption tends to occur	A	
6.8 Incorporation in drinking surveys of information on the speed of drinking	B?	Not clear how to do this

7. Prevention through public policy	Prevalence Rating	Comment
7.1 Examination of the impact of regulatory policy changes on drinking patterns, levels of consumption and levels of harm, with particular reference to specific sub groups	A	
7.2 Development of more precise and rigorous definitions of patterns of alcohol consumption	A	?NHMRC has just done this
7.3 Development and implementation of a data collection and monitoring system for youth alcohol consumption	B	A rapid response type monitoring system
7.4 Further development of local, state and national indicators of high risk consumption and alcohol-related harm in order to facilitate rigorous evaluation of policy changes	A	
7.5 Development of a practical scale for identification of high risk licensed premises	B	Relevant to much acute harm
7.6 Examination of strategies to modify relevant activities of high-risk licensed premises (e.g. sales to minors, sales to intoxicated patrons, overcrowding)	B	Same as 5.12
7.7 Studies to examine ways to foster safer drinking practices among young people	B	Overlap with 5.9 and 5.11
7.8 Collaborative investigations with indigenous communities on ways to reduce alcohol-related harm, particularly as pertaining to urban indigenous people	B	Overlap with 5.6
7.9 Process and outcome evaluation of the alcohol industry's self monitoring system with regard to advertising and other forms of marketing	A	
7.10 Development of a nationally consistent and coordinated data set (including with access to data held by the alcohol industry) on alcohol sales, such that regional breakdowns of sales patterns by beverage type and alcoholic strength can be made	A	Same as 6.3 and 6.4

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Appendices

Appendix 1: Summary of workshop presentations

Research, public health and policy making

This section presents a summary of the paper “Bringing alcohol research, public health and policy making together to define a rational set of priorities”, presented at the March workshop by Associate Professor Sally Casswell, Alcohol and Public Health Research Unit, University of Auckland, New Zealand.

The relationship between research and policy is complex and indeterminate. Research is, on occasion, used to validate, justify or even distract from political action or policy shifts. Occasionally it can be instrumental in helping to decide between alternatives. At its best, however, if research questions are chosen and framed appropriately, research has the potential to enlighten, and to challenge and change the paradigms within which people view the issues, problems and potential solutions. At the same time, the dominant paradigms of the day determine the kinds of research questions that are asked. It may well be that end users or funders within our society are more constrained by the dominant paradigms than are researchers, whose milieu is those institutions that are meant to be the critical conscience of society. There is, therefore, an argument for having some level of investigator-initiated research.

If research is to inform policy, it must be timely. This can be problematic. Much research is conducted over a prolonged period, yet the results are needed before the policy question is posed. Research must also be relevant to the questions and concerns that policy is attempting to address. It must be robust, and credible both to policy makers and fellow researchers; and it must be actively disseminated, in a way that makes clear its policy implications.

Both researchers and policy makers in the field of alcohol must remain open to the issues and methodologies in the broader policy arena. It is of critical importance that we do not create “silos” that restrict and limit thinking.

In framing research questions, researchers need to consider how their research can be translated into policy and intervention that will make a difference. Descriptive research for its own sake is not sufficient. Nevertheless, while researchers can and should be held accountable for the quality and the dissemination of their research, they cannot be held accountable for policy outcomes. Policy is the result of an interplay between research findings and a host of other political, social and economic variables. It is a social construction that articulates how we view alcohol and the way we will treat it in our community. As such, it is also shaped and influenced by the dominant ideology, the dominant ways of viewing alcohol within our society - something that research, in the longer term, can help to focus, shape and/or change.

Over recent years, for example, alcohol research, policy and intervention have broadened from a focus on the individual drinker - paramount in the “disease” concept - to encompass a greater emphasis on the environment. It can be argued, nevertheless, that the balance is still skewed towards the individual; that policy making needs to take place within a much broader awareness, not only of the actual drinking environment, but of the broader symbolic environment within which alcohol policy is framed, and which involves aspects such as media, and marketing and promotional strategies.

Recent years have also seen a growing unwillingness to accept universal solutions to public health, or to accept that the State has a major role in interfering in the lives of citizens. There is greater respect for diversity, and greater awareness of power relations. This has implications for the kinds of research that

will make a difference. For example, research needs to focus increasingly on bringing forward the voices of the diverse sectors within the community.

If research is to inform policy, and help to make it more effective, researchers and policy makers must communicate with each other. This involves far more than a dry process of dissemination from researchers to policy makers. It requires an active engagement between the two, with ongoing debate and discussion about the framing of research questions, setting priorities, and about why particular approaches might be worthwhile funding.

There has been recognition within the alcohol field, over recent years, of the need to link alcohol policy to society's broader social and economic goals, and to draw attention to the impact of alcohol on these goals; for example, on educational achievement in our "knowledge economy", on mental health, on crime and violence. This entails linking with a wide range of communities of interest: non-government organisations, community sectors, police etc.

Neither research nor policy is the end point: both must be linked to service and consumer outcomes, and almost all effective, environmentally focussed alcohol policy needs to be implemented at the local level. We must, therefore, look for research that not only informs government and policy makers, but informs them in areas where there is a likelihood of broad implementation. Furthermore, research has a key role, through evaluation and active dissemination, in ensuring that policy is implemented and therefore effective.

Australia also needs to assume its role as part of a global network of policy makers, vested interest groups, and researchers. The World Health Organization has recognised the importance of the symbolic environment as an influence on alcohol issues, and has highlighted the need to consider alcohol marketing and sponsorship aimed at young people, with a direct call from Dr Gro Harlem Brundtland, Director-General, for "a concerted review by international experts of this issue of marketing and promotion of alcohol to young people".¹

The World Health Organization has also recently emphasised the importance of framing alcohol policies from a public health perspective. There are, and will continue to be, a range of different interests and priorities within the alcohol field. It is crucial that alcohol policies and priorities are expressed within a public health framework, and that we promote a strong public health voice, as a basis for engaging in debate.

Aboriginal and Torres Strait Islander perspective

This section presents a summary of issues raised by Mr Ted Wilkes in his presentation to the March workshop entitled "Aboriginal and Torres Strait Islander issues we have to consider today when thinking about priorities". Ted Wilkes is Chair of the National Drug Strategy Aboriginal and Torres Strait Island Peoples' Reference Group, Derbarl Yerrigan Health Service, Perth WA.

The impact of alcohol on Indigenous peoples - death, domestic violence, road trauma, and the terrible impact on people's health - is a concern of national importance. Furthermore, alcohol is a stepping stone to multi-drug use in these communities.

These problems will continue unless their social context is addressed.

The pressing priority within these communities is for practical solutions to improve quality of life. Aboriginal and Torres Strait Islander communities have been much researched, but in general, this research has not led to improvements in Aboriginal health. If a community lacks proper housing for its members, it is not possible to defend any argument for research into alcohol.

To be seen as relevant, researchers need to help Aboriginal people to repossess some of those things that have been taken away - language, law, culture, historical context - and to help restore the self-esteem of communities and of the men in those communities. This includes the roles of the elders in

¹ see: http://www.who.int/directorgeneral/speeches/20.../20010219_youngpeoplealcohol.en.htm

providing and maintaining Aboriginal legal systems. Until these things are restored, youth will want to escape from the weakness they see.

Research in Aboriginal and Torres Strait Islander communities will be successful only if it is undertaken in consultation with the community involved, with a strong partnership between researchers and the community. Good consultation is needed before research starts, and community can participate actively in the research. There also needs to be a clear benefit for the community, and commitment (including funding) to implementing the outcomes of the research.

Appendix 2: Workshop participants

Professor Fran Baum, President, Public Health Association of Australia

Ms Marilyn Beaumont, Executive Director, Women's Health Victoria

Ms Anne Broadbent, Director, Research and Data, Office of Aboriginal and Torres Strait Islander Health

Professor Colin Binns, Head, School of Public Health, Curtin University of Technology

Mr Simon Birmingham, National Manager - Public Affairs, Australian Hotels Association.

Dr Yvonne Bonomo, Centre for Adolescent Health, The University of Melbourne

Mr Warren Bovis, Australian Liquor Stores Association.

Dr Maggie Brady, Fellow, Centre for Aboriginal Economic Policy Research, Australian National University

Ms Joanne Brown, University of Queensland

Mr Ross Burns, Liquor Merchants Association of Australia

Mr Les Bursill, President, Professional Drug and Alcohol Workers' Association, NSW; and Drug and Alcohol Coordinator for Corrective Services, NSW

Ms Yvonne Cadet-James, Department of Social and Preventive Medicine, The University of Queensland

Dr Tom Carroll, Consultant, Research and Marketing Group, Department of Health and Aged Care

Professor Sally Casswell, Alcohol and Public Health Research Unit, University of Auckland, New Zealand

Ms Helen Catchatoor, Assistant Director, Evaluation and Research, Population Health Division, Department of Health and Aged Care

Ms Tanya Chikitzhs, National Drug Research Institute, Curtin University of Technology, Perth WA

Mr Mark Cooper-Stanbury, Head, Data and Information Services Unit, Department of Health and Aged Care

Ms Margaret Cox, Tobacco and Alcohol Strategies Section, Department of Health and Aged Care

Mr David Crosbie, Chief Executive Officer, Odyssey House, VIC

Dr Peter d'Abbs, Unit Head, Health Social Sciences, Menzies School of Health Research, NT

Dr Charlotte de Crespigny, Professor of Nursing (Alcohol and Other Drugs) School of Nursing, Flinders University

Sergeant Samantha Doherty, Drug & Alcohol Policy Section, South Australia Police

Dr Susan Donath, Senior Research Fellow Turning Point Alcohol & Drug Centre Inc.

Ms Donisha Duff, Senior Policy Officer Substance Misuse Section, Department of Health and Aged Care

Dr Dallas English, Anti Cancer Council of Victoria

Mr Keith Evans, Deputy Chair, Intergovernmental Committee on Drugs

Mr Paul Finlay, State Coordinator, Alcohol and Other Drugs and HHPV, NSW Dept of Corrective Services

Ms Caroline Fitzwarryne, Chief Executive Officer, Alcohol and other Drugs Council of Australia

Ms Trish Frake, Mental Health and Special Programs Branch, Department of Health and Aged Care

Dr Dennis Gray, National Drug Research Institute, Curtin University of Technology

Inspector Felix Grayson, Director, Drug and Alcohol Coordination, Queensland Police Service

Professor Janet Greeley, Executive Dean, Department of Arts, Education and Social Sciences, James Cook University; and Deputy Chair, Strategic Research Development Committee, NHMRC

Senior Sergeant Steve Guest, Officer in Charge, Alcohol and Drug Coordination Unit, Police Department of Western Australia

Dr Paul Haber, Medical Head, Drug and Alcohol Department Interdepartmental Committee on Drugs and Alcohol, University of Sydney

Dr Michael Lynskey, National Drug and Alcohol Research Centre, University of NSW

Mr John Halmarick, President, Liquor Merchants Assoc of Australia; and External Affairs Director, Guinness United Distillers and Vintners.

Professor Margaret Hamilton, Director, Turning Point Alcohol & Drug Centre Inc., Melbourne VIC

Professor Peter Hoj, Director, Australian Wine Research Institute

Dr Gary Hulse, Department of Psychiatry, University of Western Australia

Professor Ernest Hunter, Department of Social and Preventive Medicine, The University of Queensland

Professor Ross Kalucy, Clinical Director, Division of Mental Health, Flinders Medical Centre

Professor Olga Kanitsaki, Head, Department of Nursing and Public Health, Royal Melbourne Institute of Technology

Ms Helen Lapsley, School of Health Services Management, University of NSW

Ms Anne Marie Laslett, Turning Point Alcohol and Drug Centre Inc.

Mr Michael Lynskey, National Drug and Alcohol Research Centre, University of NSW

Ms Katherine Mann, Senior Project Officer, Drug and Alcohol Coordination, Queensland Police Service

Professor John Mathews, Head, National Centre for Disease Control, Department of Health and Aged Care

Mr David McDonald, National Centre of Epidemiology and Population Health, Australian National University; and member, Alcohol and Other Drugs Council

Dr Richard Midford, National Drug Research Institute, Curtin University of Technology

Mr David Morton, Director, Alcohol and Related Substance-use Management Project, Department of Veterans' Affairs

Mr Terry Mott, Convenor, National Alcohol Beverages Industry Council

Mr Roger Nicholas, Senior Policy Officer, Australasian Centre for Policing Research

Mr Dominic Nolan, Executive Officer, Australian Regional Winemakers' Forum, Winemakers Federation of Australia

Ms Colleen O'Leary, NEACA Project Officer, Curtin Institute of Technology

Associate Professor Robyn Richmond, School of Community Medicine, University of NSW

Dr Ann Roche, Director, National Centre for Education and Training on Addiction

Ms Alison Salmon, Coordinator of Addiction Studies, School of Nursing and Public Health, Edith Cowan University

Professor John Saunders, Psychiatry Department, University of Queensland; Mental Health Centre, Royal Brisbane Hospital

Mr Max Simmons, Alcohol and Related Substance-use Management Project, Department of Veterans' Affairs

Mr Wayne Smith, Alcohol and other Drugs Council of Australia

Dr Rosemary Stanton, Nutritionist

Ms Creina Stockley, Health and Regulatory Information Manager, Australian Wine Research Institute

Professor Tim Stockwell, Director, National Drug Research Institute, Curtin University of Technology

Mr Stephen Strachan, Policy Director, Winemakers Federation of Australia

Mr Graham Strathearn, Drug and Alcohol Services

Mr Ian Sutton, CEO, Winemakers Federation of Australia.

Ms Jenny Taylor, Director, Research and Marketing Group, Department of Health and Aged Care

Dr Maree Teesson, Senior Lecturer, National Drug and Alcohol Research Centre, University of NSW

Assistant Professor John Tombourou, Centre for Adolescent Health, The University of Melbourne

Professor Thomas Triggs, Interim Director, Accident Research Centre, Monash University

Ms Tanya McGrane, NSW Police

Dr Carol Watson, Planning and Evaluation Services, Northern Territory Health

Major Brian Watters, Chair, Australian National Council on Drugs

Dr Don Weatherburn, Bureau of Crime Statistics and Research, NSW

Ms Leanne Wells, Director, Tobacco and Alcohol Strategies Section, Department of Health and Aged Care

Dr John Wiggers, Acting Director, Faculty of Medicine and Health Sciences, Hunter Centre for Health Advancement

Mr Ted Wilkes, Chair, National Drug Strategy Indigenous Australians Reference Group, Derbarl Yerrigan Health Service

Mr Paul Williams, Director, Illicit Drugs Evaluation Program, Australian Institute of Criminology

Mr Andrew Wilsmore, National Manager - Special Projects, Australian Hotels Association

Mr Bradley Woods, Executive Director, Australian Hotels Association (WA Branch)

Appendix 3: Forum participants

Mr Neil Donnelly, Bureau of Crime Statistics and Research

Ms Sue Gordon, Director, Alcohol Strategy and Illicit Drug Interventions Group, Department of Health and Aged Care

Mr David Kavanagh, University of Queensland and Royal Brisbane Hospital

Ms Sue Kerr, Assistant Secretary, Drug Strategy and Population Health Social Marketing Branch, Department of Health and Aged Care

Professor Brian McAvoy, Royal Australian College of General Practitioners

Mr David McDonald, National Centre of Epidemiology and Population Health, Australian National University; and member, Alcohol and Other Drugs Council

Dr Richard Midford, National Drug Research Institute, Curtin University of Technology

Ms Katherine Mills, National Drug and Alcohol Research Centre

Mr Roger Nicholas, Australasian Centre for Policing Research

Dr Alison Ritter, Turning Point Alcohol & Drug Centre Inc., Victoria

Dr Ann Roche, Director, National Centre for Education and Training on Addiction

Ms Creina Stockley, Health and Regulatory Information Manager, Australian Wine Research Institute

Professor Tim Stockwell, Director, National Drug Research Institute, Curtin University of Technology

Ms Angela Taft, VicHealth

Dr Carol Watson, Planning and Evaluation Services, Northern Territory Health