

Submission To House Of Representatives Standing Committee

On Family And Community Affairs:

Inquiry On Substance Abuse In Australian Communities

National Drug and Alcohol Research Centre

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KEY POINTS

PRINCIPLES OF GOOD DRUG POLICY

- Good drug policies require a community consensus on what should be done to reduce drug use and the harms that it causes to people who use drugs, their families and the broader community.
- We need combinations of different strategies to reduce drug use and harm: programs that prevent young people from using drugs; programs that treat problem drug users; and law enforcement strategies that disrupt drug markets and encourage problem drug users to seek help.
- Good drug policy also includes educational, employment and welfare policies that reduce the social conditions that make drug use an attractive option to some young people, such as, family conflict, early school leaving, educational underachievement and youth unemployment.
- We need different combinations of strategies for different drugs that reflect how widely used the drugs are and how serious the harms are that they cause to users, their families and the wider community.
- Our strategies should be based upon evidence about which preventive, treatment, law enforcement and social policies are most likely to work, and the relative costs of these strategies compared with their effectiveness.
- Research evidence has an important role to play in helping the community to decide upon the most appropriate drug policies. It provides information on: the extent to which different drugs are used in the community and by whom; the harms caused by different types of drug use; and the intended and unintended positive and negative consequences of different policy approaches.
- Drug policies are not wholly decided by research evidence. The evidence has to be appraised in the light of competing social values, including individual liberty, public health, political will and social order. In Australia the political process and the legislature perform the task of weighing competing values to arrive at a set of drug policies.

PREVALENCE OF DRUG USE IN AUSTRALIA

- Alcohol and tobacco are the most widely used psychoactive substances in Australia, with more than three quarters of Australian adults (78%) reporting alcohol use within the past year, and one-quarter reporting tobacco use (26%).
- Cannabis is the most commonly used illicit drug, with over one third (39%) of adults reporting lifetime use, and one fifth (18%) reporting use within the past year. Much

smaller proportions report the use of amphetamines, ecstasy, cocaine and heroin.

- Males are more likely to use psychoactive substances than females, and those aged 20-29 years are the most likely to have used illicit drugs in the past year.
- Over the past decade, the use of cannabis in the past year has particularly increased among those in the 14-19 year age group, whose rates of use are becoming similar to those aged 20-29 years (35% vs. 37% in the 1998 NDS survey).
- It appears that cocaine may be becoming more readily available in Sydney, especially among injecting drug users. It is unclear whether cocaine use will become more common among users of other “party drugs”.
- Heroin has become purer and cheaper over the past decade. There are indications that heroin use is becoming more common among younger persons.

HARMS OF DRUG USE IN AUSTRALIA

- The principle harms of alcohol use are cirrhosis of the liver, strokes and motor vehicle accidents; around 3% of the adult population in Australia meet criteria for alcohol abuse, and a further 3.5% for dependence.
- Tobacco is a major cause of drug-related harm in Australia (3 in 5 drug-related hospital episodes). The major conditions resulting from long term tobacco use are cancers, ischaemic heart disease and chronic obstructive pulmonary disease.
- The risks of cannabis use are less well established compared to alcohol and tobacco. Long-term increases the risks of respiratory disease. Around 2% of the population are estimated to meet criteria for cannabis abuse or dependence within the past year. Regular cannabis use by adolescents may adversely affect school performance, particularly since adolescents who were experiencing difficulties with schoolwork are more likely to begin cannabis use. Cannabis use may also worsen symptoms of schizophrenia among regular users.
- The so-called “party drugs” – amphetamines, ecstasy and cocaine – can cause fatal toxic reactions in rare cases. The more likely harms of the regular use of these drugs are risks of blood-borne viruses (HIV, HBV, and HCV) if the drugs are injected, dependence, and psychotic symptoms in the case of amphetamines. Depression and anxiety have also been reported as the after-effects of amphetamine and ecstasy use. There is evidence that MDMA may be “neurotoxic”, although the functional effects of this are unclear.
- Heroin use has a public health and public order effect that is out of proportion to the small prevalence of its use. Its major risks are overdose, blood-borne infections if the drug is injected (as it usually is in Australia), dependence, and imprisonment.

POLICY RESPONSES TO DRUG USE IN AUSTRALIA

- Screening and brief interventions for persons drinking alcohol at hazardous levels has been shown to reduce alcohol consumption. Specialist treatment is effective in reducing alcohol use and harm in dependent drinkers. Better management is need for co-occurring mental health problems among persons with alcohol use disorders.
- Tobacco control policies have reduced rates of tobacco smoking over the past 20 years. Those from less socially advantaged backgrounds have been less likely to give up smoking, with the result that smokers nowadays are more likely to come from more socially disadvantaged backgrounds. Future campaigns need to address this issue.
- Young people in particular, and the community in general, need to be better informed about the likely health risks of regular cannabis smoking. Credible information needs to be given to young persons about the health risks of cannabis use. Furthermore, efforts need to be made to: assist young persons with problematic cannabis use to cease such use; develop school policies that balance the interests of students who do not use cannabis with those who are found to be users; and to divert apprehended cannabis users into treatment rather than the legal system.
- Credible information also needs to be provided to “party drug” users about the risks of such drug use. Emphasis should be placed upon the risks of regular use and the possible side effects of use.
- School or media campaigns will probably have only a small role in deterring heroin use, since very few persons in these populations try it. It may be more appropriate to target high-risk populations.
- There is no one treatment for heroin dependence. Research suggests a range of options should be on offer to enhance treatment’s effectiveness for those who take part. Diversion of first offenders into treatment may be a cost-effective method of addressing substance use problems of offenders and reducing the burden upon the legal system. More resources need to be provided for treatment of drug dependent prisoners.

1 PRINCIPLES OF GOOD DRUG POLICY

Good drug policies require a community consensus on what should be done to reduce drug use and the harms that it causes to people who use drugs, their families and the broader community. Community dissension and intolerance of different opinions undermine good policy. So does advocacy of policies that are not based on an understanding of how many people use which licit and illicit drugs, what harms such use causes, and what type of policy responses are most likely to reduce drug use and the harm that it causes.

We need combinations of different strategies to reduce drug use and harm. These include programs that prevent young people from using drugs in the first place, programs that treat problem drug users, and law enforcement strategies that disrupt drug markets and encourage problem drug users to seek help. Good drug policy also requires attention to broader social policies. These include educational, employment and welfare policies that reduce the social conditions that make drug use an attractive option to some young people, such as, family conflict, early school leaving, educational underachievement and youth unemployment.

We need different combinations of strategies for different drugs. These should reflect how widely used the drugs are and how serious the harms are that they cause to users, their families and the wider community. They should be based upon evidence about which preventive, treatment, law enforcement and social policies are most likely to work, and the relative costs of these strategies compared with their effectiveness.

Research evidence has an important role to play in helping the community to decide upon the most appropriate policies towards different types of psychoactive drug use. It assists in providing information on the extent to which different drugs are used in the community and by whom; it provides important information on the harms caused by different types of drug use; and it can evaluate the intended and unintended positive and negative consequences of different policy approaches, and the effects of treatment.

Drug policies are not wholly decided by research evidence. The evidence has to be appraised in the light of competing social values, including individual liberty, public health, political will and social order. In Australia and other democratic societies the political process and the legislature perform the task of weighing these competing values to arrive at a set of drug policies. Ideally, the political process of formulating drug policy should be based upon the best possible research evidence on patterns of use, drug-related harm and the effects of social policy. Good drug policies require a community consensus on what should be done to reduce drug use and the harms that it causes to people who use drugs, their families and the broader community. Community dissension and intolerance of different opinions undermine good policy. So does advocacy of policies that are not based on an understanding of how many people use which licit and illicit drugs, what harms such use causes, and what type of policy responses are most likely to reduce drug use and the harm that it causes.

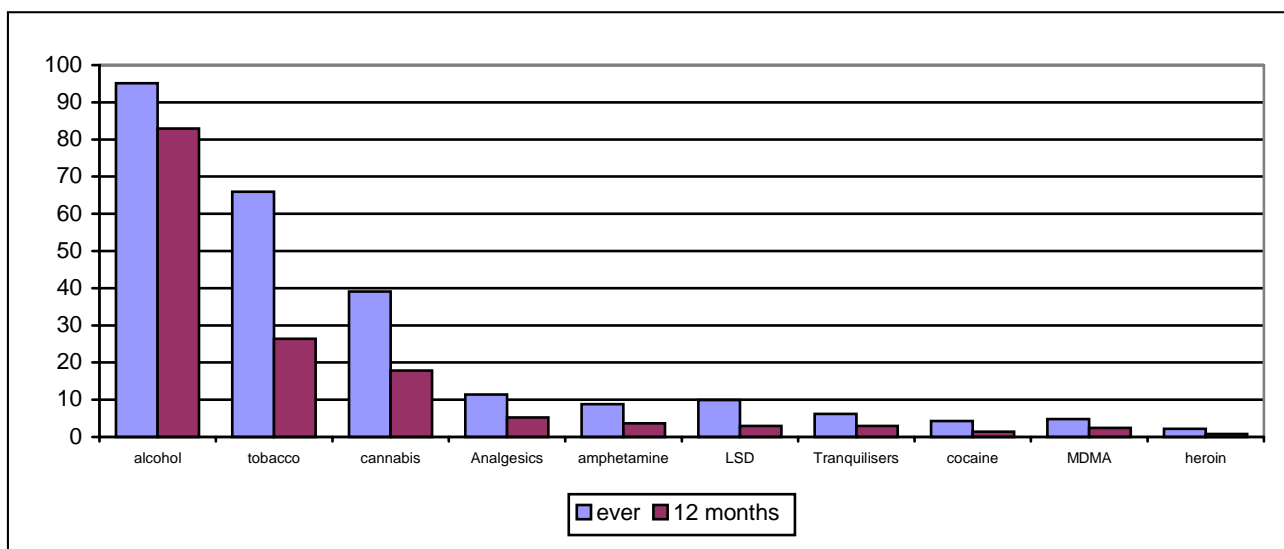
2 WHAT DO WE KNOW ABOUT DRUG USE IN AUSTRALIA?

Rates of use of licit and illicit drugs in Australia are best estimated by household surveys of representative samples of Australians. Such surveys ask respondents about their use of drugs at any point in their lives ("lifetime use") and within the past year ("recent use"). Research suggests that survey respondents are honest about their drug use if they are assured that their anonymity will be ensured (Hall, Johnston & Donnelly, 1999a).

However, household surveys have their limitations in estimating the rate of use of some drugs, especially heroin because its use is socially stigmatised and very few users are identified in most surveys (Hall et al, 2000). Surveys provide good estimates of trends in rates of use of alcohol, tobacco, and the more widely used illicit drugs in Australia, such as cannabis, amphetamines and hallucinogens (Makkai and McAllister, 1998). Special purpose surveys of heroin and cocaine users are needed to provide better information on the use of these drugs and problems experienced by their users. Surveys such as the Inmate Health Survey conducted in 1997 in NSW prisons provided important information on the prevalence of drug use and associated problems among prison populations (Butler, 1997).

The most recent household survey data from Australians in 1998 (Australian Institute of Health and Welfare, 1999) tells us the following about illicit drug use (see Figure 1).

Figure 1: Prevalence of illicit drug use among Australian adults

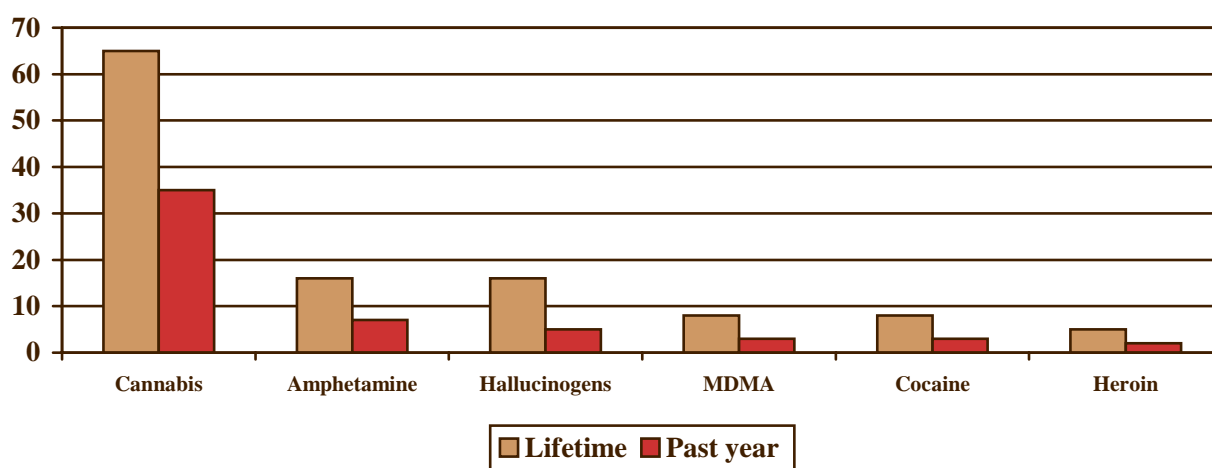


The major features of this pattern of use can be summarised as follows:

- Alcohol and tobacco are the most widely used psychoactive substances in Australia. Two thirds of adults have used tobacco at some time in their lives, 26% in the past year; these proportions were 90% and 78% for alcohol.

- Cannabis (or marijuana) is the most commonly used illicit drug. Over a third of adults (39%) have used it at some time in their lives and 18% have done so in the past year.
- Apart from cannabis, few adults have used other illicit drugs, and even fewer use them regularly. Only a very small proportion of adults used heroin in the past year.
- Rates of illicit drug use are highest among young adults aged 20-29 years in Australia, as they are in the USA and other countries (Hall et al, 1999a). The majority of young Australians have used cannabis at some time in their lives and a third have used it in the past year. But very few young adults in this age group have used illicit drugs other than cannabis in their lifetime or in the past year (see Figure 2 from 1998 NDS Survey).

Figure 2: Prevalence of illicit drug use among adults aged 20 to 29 years



2.1 PATTERNS OF ALCOHOL USE

Alcohol is the most widely used psychoactive drug in Australia, with 91% of the population using it at some point in their lives, and 81% having done so recently (within the past year). Males have slightly higher rates of alcohol use than females, and those who are younger (14-19) and older (60+) have slightly lower rates of recent use than those of other ages. Males are more likely to drink greater amounts of alcohol on a typical drinking session than females, and they do so more often than females. Australians consume 7.6 litres of pure alcohol per person per year, equivalent to 19 litres of wine, 95 litres of beer and 1.3 litres of spirits per capita (Higgins et al, 2000).

The NH&MRC defines low risk drinking as not more than 4 standard drinks per day for males, and 2 for females (NH&MRC, 1992). Tertiary educated persons are more likely to drink alcohol, but less likely to drink above recommended levels, than less educated persons (Makkai & McAllister, 1998). Unemployed persons report the highest levels of

hazardous alcohol use (Makkai & McAllister, 1998).

2.1.1 TRENDS IN ALCOHOL USE

In Australia, the lifetime prevalence of alcohol use has been relatively stable over the past decade (1985-1998), with more than 90% of persons reporting the use of alcohol at some point in their lives (AIHW, 1999; Makkai & McAllister, 1998). Similarly, there has been little change over the past decade in rates of alcohol use within the past year, with around 80% of adults reporting alcohol use (AIHW, 1999; Makkai & McAllister, 1998). There has been a change in the type of beverage consumed. The per capita consumption of full strength beer has declined and the consumption of low alcohol beer has increased. The age at which young adults begin to consume alcohol has declined during the past half century (Degenhardt, Lynskey & Hall, 1999).

2.1.2 HARMS OF ALCOHOL USE

Alcohol consumption is the second largest cause of drug-related mortality in Australia after tobacco (AIHW, 1999). In 1997 there were almost 4,000 deaths and just under 100,000 hospital episodes attributed to alcohol (AIHW, 1999). The main causes of alcohol-related deaths and hospital episodes were cirrhosis of the liver, strokes and motor vehicle accidents (AIHW, 1999). The National Survey of Mental Health and Well-Being (NSMHWB, 1997) estimated that 6.5% of the Australian population met criteria for an alcohol use disorder (3% with harmful use and 3.5% with dependence) (Hall et al, 1999b).

2.1.3 POLICY RESPONSES TO ALCOHOL USE

Public health measures for reducing alcohol-related harm include: reducing the availability of alcohol (e.g. restricting trading hours, enforcing laws on underage drinking, and responsible server training); increasing the price of high alcohol content beverages (e.g. by taxes levied on the alcohol content of beverages); and responsible promotion of alcohol (Walsh & Hingson, 1987; Edwards et al, 1994).

Drinkers need to be educated about the risks of alcohol use. In Australia, guidelines about the maximum number of standard drinks that can be legally consumed before driving and random breath testing have reduced road fatalities (Homel, 1989). The NH&MRC has also issued guidelines for "responsible" and "safe" levels of alcohol use, in the form of the number of standard drinks that can be consumed per day and per week with minimum risk to health (e.g. NH&MRC, 1992). Public understanding of "safe" levels of consumption has been complicated by widely publicised evidence that moderate alcohol consumption is of benefit to cardiovascular health (Hall, 1996).

Persons who present for medical treatment in general practice and hospital settings can be screened for hazardous alcohol use and alcohol-related problems. Those who are identified as drinking at hazardous levels can be advised to reduce or stop consumption and given simple steps to achieve these goals (Heather & Tebbut, 1989). Such screening and brief advice for excessive alcohol consumption reduces consumption and the problems caused by alcohol (e.g. Chick et al, 1985; Wallace et al, 1988).

Specialist treatment for alcohol dependence disorders is needed for patients in whom self-help and brief interventions do not work. Treatment for alcohol dependence has a net economic benefit (Holder & Blose, 1986; Holder & Schachman, 1987; Walsh et al, 1991). Detoxification is an important public health response to alcohol-related problems. It benefits the health of the drinker and the community by postponing the emergency presentation of more severe health problems, and it provides an opportunity for intervention and referral to other treatment services (Hall & Zador, 1997).

Persons with alcohol dependence often have “comorbid” (co-occurring) mental disorders, which results in a poorer prognosis and make treatment more difficult (Drake et al, 1993; McLellan et al, 1983). We need to improve the treatment of persons with comorbid mental and alcohol use disorders. Specialist mental health services need to better recognise and treat alcohol dependence in their clients. Specialist drug and alcohol services need to better recognise the anxiety and affective disorders that afflict many of their clients (Hall & Farrell, 1997).

2.2 PATTERNS OF TOBACCO USE

Around two thirds of Australians aged 14 years and older have used tobacco at some time in their lives (AIHW, 1999). One quarter (26%) used it within the past year, with 22% reporting regular use. Males were slightly more likely to smoke tobacco than females (25% vs. 20%). Young persons aged 14-19 years appear to be using tobacco in greater numbers: rates among males increased from 19% to 25% between 1995 and 1998, while females increased from 20% to 26% over the same period. Smokers are more likely to be younger, to come from a less educated background, and have higher rates of unemployment than non-smokers (Degenhardt & Hall, 1999). In 1996, it was estimated that Australians smoked 2,017 cigarettes per capita (Higgins et al, 2000).

2.2.1 TRENDS IN TOBACCO USE

Over the past fifty years, there has been there has been a marked decrease in the prevalence of smoking among men (Higgins et al, 2000). In 1945, almost three in four men smoked (72%), compared with only 29% of men in 1998. In contrast, there has been little change in the prevalence of tobacco smoking among women in Australia. In 1945, 26% of women were smokers, compared to 24% in 1998. This sex difference in smoking trends has meant that there is now little difference between men and women in the

proportion who smoke tobacco (Higgins et al, 2000).

2.2.2 HARMS OF TOBACCO USE

Despite the reductions in tobacco use over recent decades, tobacco smoking remains a major preventable cause of premature death in all advanced industrial societies (Makkai & McAllister, 1998). Tobacco contributes to four in every five drug-related deaths and almost three in every five drug-related hospital episodes in Australia (AIHW, 1999). It contributed to over 18,000 deaths in 1997 and almost 150,000 hospitalisations. The most frequently occurring tobacco-related conditions were cancers (e.g. lung, oesophageal), ischaemic heart disease and chronic obstructive pulmonary disease (AIHW, 1999). Males were more than twice as likely as females to be hospitalised, and to die from, tobacco-related causes.

2.2.3 POLICY RESPONSES TO TOBACCO USE

In the past 20 years, Australia has had substantial success in reducing the rate of smoking prevalence in the population. This has been achieved by a combination of tobacco control policies (World Health Organization, 1996; World Bank, 1999). These have included: increased taxation on tobacco to increase its price; community education about the health risks of tobacco smoking; educational campaigns in schools and the mass media to discourage the initiation of smoking; bans on tobacco advertising and promotion; restrictions on opportunities to smoke in the workplace; and increased availability of more effective methods of helping smokers to cease their use, such as, nicotine replacement (Henningfield et al, 1998).

It is difficult to assign responsibility for the reduction in rates of smoking to any of these specific policies. All have probably made some contribution to reducing smoking and to reducing the social tolerance of smoking. One unintended consequence of these policies has been that there are now marked social class differences in rates of smoking, with less well educated persons having higher rates of tobacco use (Degenhardt & Hall, 1999; Makkai & McAllister, 1998; World Bank, 1999). This is because better-educated people respond sooner to education campaigns about the risks of smoking. We need to ensure equality of access to information about the risks of smoking and to effective methods of smoking cessation across demographic groups in the population.

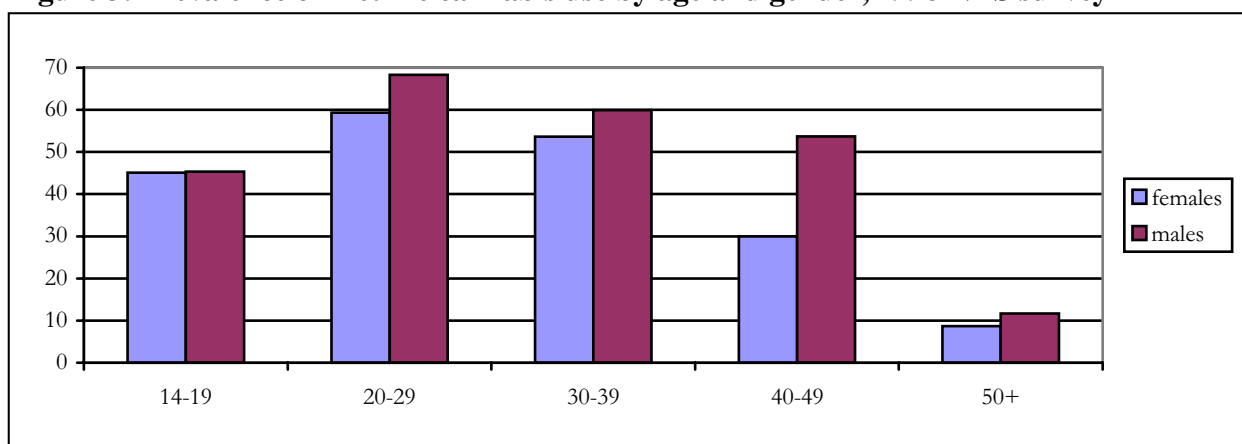
As the World Bank (1999) recently argued, strategies to reduce tobacco consumption need to be multi-targeted, aimed at deterring young people from smoking, protecting the interests of non-smokers, and providing information and resources to smokers. Such goals may be achieved through raising taxes on tobacco products; disseminating research and materials on tobacco's health effects, restricting smoking areas and banning advertising; and ensuring there is adequate access to cessation treatment for those smokers who seek it (World Bank, 1999).

2.3 PATTERNS OF CANNABIS USE

Cannabis remains the most commonly used illicit drug in Australia, with 39% of the population having tried cannabis at some time in their lives, and 18% having used it in the preceding 12 months (AIHW, 1999). Population based surveys indicate that among 14-19 year olds the lifetime use of cannabis is as high as 45%.

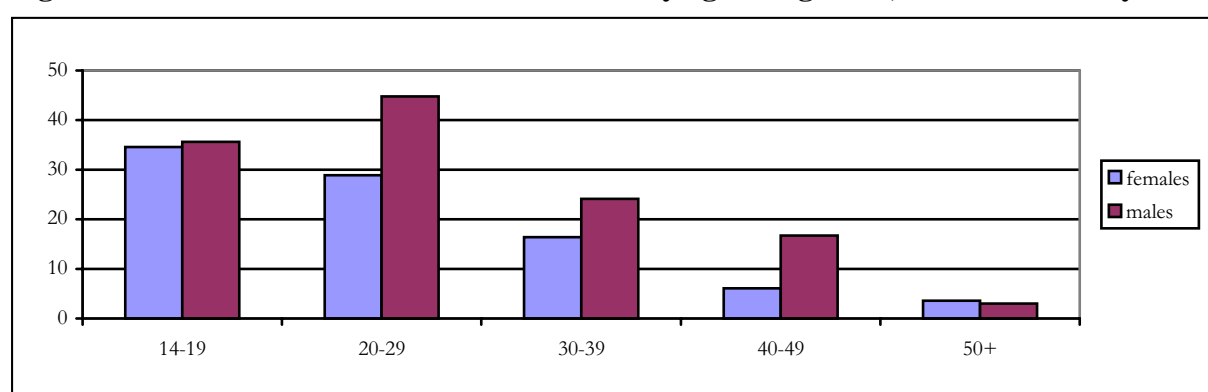
The lifetime use of cannabis is strongly related to age and gender (Figure 3; see also Donnelly & Hall, 1994). Men are more likely to have used cannabis than women, with 44% of males versus 35% of females reporting lifetime use in the 1998 survey. As evident in Figure 3, cannabis use is strongly related to age, with older adults much less likely to have used cannabis than younger adults (see also Makkai & McAllister, 1998).

Figure 3: Prevalence of lifetime cannabis use by age and gender, 1998 NDS survey



The rate of cannabis use in the past 12 months was 18% in the 1998 NDS. This was a slight increase on rates of use previous household surveys, which found rates of 12-13% (Makkai & McAllister, 1997). Recent use of cannabis was more common among males (21%) than females (15%) (Figure 4) but there were no such gender differences among the youngest age group. The prevalence of recent cannabis use was higher among 14-19 year olds (35%) and 20-29 year olds (37%) than among the overall 1998 sample (Figure 4). This is consistent with previous NDS surveys.

Figure 4: Prevalence of 12-month cannabis use by age and gender, 1998 NDS survey



The 1996 Australian School Students' Alcohol and Drugs Survey found that 36% of students aged 12-17 had used cannabis (Lynskey et al, 1999). Earlier studies of drug use among school-aged youth in various Australian states conducted in the early 1990's reported rates of cannabis use between 25-30% (Donnelly and Hall, 1994; Odgers et al, 1997; Makkai and McAllister, 1998). The 1996 school survey results suggest that there has been an increase in the use of cannabis use among youth during the 1990s, a finding that is supported by the NDS household surveys (Makkai & McAllister, 1998). The 1996 TAFE student survey found that regular cannabis use was common (aged 16-25), with 24% having used at least 3-5 times a month preceding interview (AGB McNair, 1996).

Cannabis users are most often males, who are under 35 years of age and more likely to be unemployed than non-users (Swift, Teesson, & Hall, 1999). While persons with higher education levels are more likely to have tried cannabis at some time in their lives, persons with lower levels of education are more likely to be regular users (Makkai & McAllister, 1997). Current cigarette smokers and regular drinkers are more likely than non-smokers and occasional/non-drinkers to be regular cannabis users (Commonwealth Department of Health and Family Services, 1996).

Cannabis is most typically smoked, and the types of cannabis most commonly used are heads and leaf (AIHW, 1999). The preferred mode of administration among younger users is a bong or pipe; older users are more likely to smoke joints (Hall and Swift, 1999). In Australia, about 10% of people who have ever used cannabis become daily users, and another 20-30% use weekly (Hall & Solowij, 1998).

2.3.1 TRENDS IN CANNABIS USE

Over the past decade there seems to have been a small increase in the lifetime use of cannabis among young people. While the price of cannabis over recent years appears to have remained stable, there is evidence of an increase in the use of hydroponically grown cannabis (McKetin et al, 1999). The health implications of any increase in potency are unclear, but if the prevalence of use continues to rise and the THC content remains high, it is likely that there will be an increase in the number of people seeking treatment for cannabis-related problems (Hall & Swift, 1999).

The rate of lifetime cannabis use has increased from 28% in 1985 to 39% in 1998 (AIHW, 1999; Makkai & McAllister, 1998). The rate of lifetime use of cannabis has been increasing since 1973 for all age groups, with the 20-29 year age group persistently reporting the highest rate of lifetime use.

Recent use of cannabis has also increased since 1988. The highest rate of past year use was again reported by the 20-29 year age group. Nevertheless, rates of use have increased among the 14-19 year age group, whose rates are becoming increasingly similar to those in the 20-29 year age group.

2.3.2 HARMS OF CANNABIS USE

There may be a risk of accidental injury if young adults drive a motor vehicle or operate machinery while intoxicated by cannabis (Hall, Solowij & Lemon, 1994). Cannabis use impairs performance on complex tasks requiring attention and coordination in laboratory settings but it is unclear whether it impairs driving on the road in the way alcohol does. Persons who have used cannabis may be more aware of their impairment and less inclined to take risks than intoxicated drinkers (Hall et al, 1994). Further research on the effects of cannabis use upon driving performance on the road is needed.

The clearest health risk of chronic or long-term regular cannabis use is respiratory disease such as chronic bronchitis (Hall & Solowij, 1998). This risk is shared with tobacco because most cannabis users also smoke tobacco.

An under-appreciated risk of regular cannabis use is becoming dependent on it (Hall & Solowij, 1998; Swift et al, 1997, 1998a, 1998c). This involves the user losing control over their consumption, finding it hard to control how often and how much cannabis they use, finding it difficult to stop using, and continuing to use despite health, social and legal problems that are caused by their use. About 10% of those who use cannabis, and 33% to 50% of those who have used cannabis daily will become dependent.

Given that many school-aged young people use cannabis, their parents are understandably concerned about its effects on their children's' school performance and their chances of using other illicit drugs. The difficulty in assessing the seriousness of these risks is that the young people who are most likely to regularly use cannabis are those whose school performance and personal and social adjustment is poorer to begin with (Lynskey and Hall, in press). But regular cannabis use, as with regular alcohol use by young people, does not improve school performance or mental health (Lynskey & Hall, in press).

There are also reasonable concerns about the effects that regular cannabis use has on the serious mental illnesses, such as, schizophrenia. There is some evidence that it can produce psychotic symptoms in high doses in the short term, which abate with abstinence; and stronger evidence that it worsens schizophrenic illnesses in persons who use cannabis daily (Hall, 1998). There is still uncertainty about its role in bringing on schizophrenic illnesses (Hall, 1998).

2.3.3 POLICY RESPONSES TO CANNABIS USE

The community generally and young people in particular are not as well informed about the health risks of cannabis as they are of those of alcohol, tobacco and other illicit drugs (Hall and Nelson, 1995). Part of the problem is that the media present two polarised and

implausible views about its risks, e.g. that cannabis is a toxic drug (Nahas and Latour, 1992), or that its use poses no risk to health (e.g. Zimmer and Morgan, 1997).

Young people need credible information about the health risks of cannabis use. The challenge is in providing this information in a way that is acceptable to parents and yet is not seen by young people as exaggerating risks. This could be done by stressing the problems that are likely to be common among their cannabis using peers, namely, cannabis dependence in daily or near daily cannabis users, and impaired school performance.

We also need to provide better help to adolescent problem cannabis users and their families. This includes interventions to assist cannabis dependent person to cease their use. A special challenge for the education system is developing school policies towards cannabis use that balance the interests of students who do and do not use cannabis. More effort needs to be made to divert problem cannabis users arrested by the police into treatment.

2.4 “PARTY DRUGS”: AMPHETAMINES, MDMA, AND COCAINE

The "party drugs" (amphetamines, LSD, MDMA and cocaine) have a much lower rate of use than cannabis but are more often used than injectable drugs like heroin (AIHW, 1999). People largely use these drugs in their late teens and early 20s in the course of attending pubs, clubs and dance parties (e.g. Topp et al., 1998). Some amphetamine users inject the drug and polydrug use is common in combination with each other and to deal with the after-effects of use (Topp et al, 1998). Cocaine is also used by party drug users, although less often than amphetamines. Until recently, there has been very little regular cocaine use, with most users snorting and using infrequently (Hando et al, 1997a).

2.4.1 TRENDS IN “PARTY DRUG” USE

Recently there are indications that cocaine is more readily available, and purer and cheaper than before. Its use has increased among injecting drug users; it remains to be seen if it becomes more widely used by party drug users (McKetin et al, 1998, 1999).

2.4.2 HARMS OF “PARTY DRUG” USE

Amphetamines, cocaine and MDMA can produce toxic reactions that can be fatal in rare cases (4 deaths in Australia in 1997). However, the risk of fatal overdose is low compared to the risks of opioid overdose. When used regularly, by injection, amphetamine can produce dependence and psychotic symptoms. Injection also carries the

risks of blood-borne virus transmission if users share injecting equipment. In particular, cocaine injectors may be at higher risk of doing so because they inject up to 30 times in 24-hour binges. In Canada, the cocaine epidemic in Vancouver is thought to be the cause of the outbreak of HIV among injecting drug users there.

Heavy users of amphetamines and MDMA report high rates of depression and anxiety as after-effects of use (Hall et al, 1996; McKetin and Mattick, 1997, 1998; Topp et al, 1998). Animal research suggests that in large doses amphetamines, MDMA and cocaine deplete levels of key brain chemicals involved in nerve transmission; the human significance of these findings remains uncertain in the case of MDMA (Boot et al, 2000).

2.4.3 POLICY RESPONSES TO “PARTY DRUG” USE

Credible health education about the risks of party drug use needs to be targeted at current users and those at highest risk of using (e.g. regular cannabis users). This should stress the problems encountered by heavier users, such as, side effects and after-effects of use (Boot et al, 2000). There does not appear to be any great demand for treatment of problems caused by these drugs, other than the after-effects of use. This may change if more regular use of cocaine increases.

2.5 PATTERNS OF HEROIN USE

Heroin adversely affects public health and order out of all proportion to the number of people who are dependent on it (Hall, Lynskey & Degenhardt, 1999c). Among 20 to 29 year olds, 5% report that they have used heroin at some time in their lives and 2% have done so in the past year. A recent study of the number of *dependent* heroin users in Australia estimated that there were between 67,000 and 92,000 (a median of 74,000) in Australia in 1997-1998. This comprised around 0.7% of adults aged between 15 and 54 years, a rate that was comparable to rates in Britain and elsewhere in Europe (Hall et al, 2000).

In Australia, heroin is usually injected, male users outnumbered females by 2 to 1, and most users seeking treatment and dying of overdoses were in their early 30s. Treatment seekers typically first used heroin in the early and mid 1980s. Polydrug use is common, with benzodiazepines, alcohol, and amphetamines the most commonly used drugs (Hall et al, 1999c).

2.5.1 TRENDS IN HEROIN USE

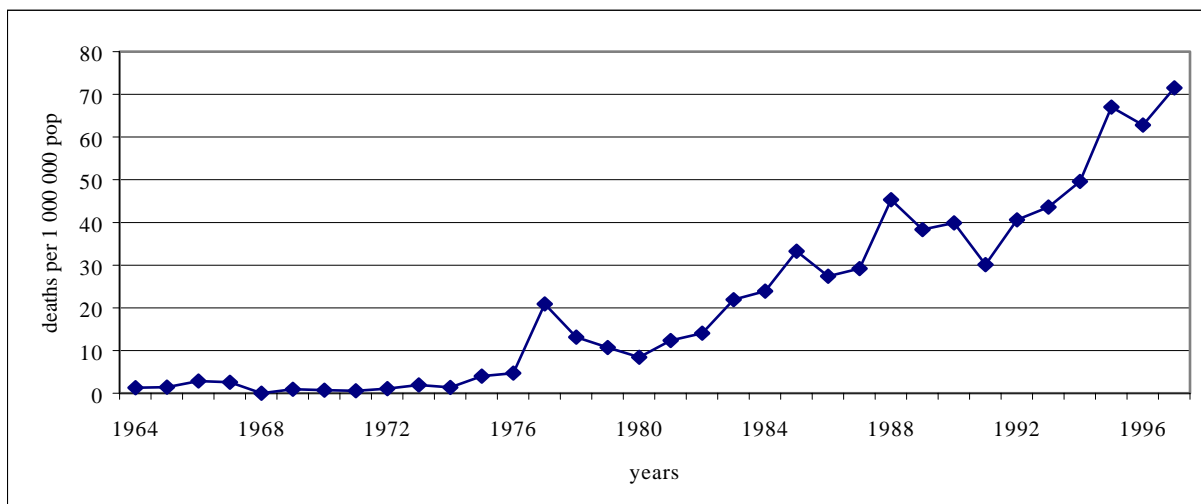
Some patterns of heroin use have changed over the past three years or so, largely because of the increased availability of cheap and pure heroin (Hall et al, 2000). Increased heroin

use among young Australians is suggested by earlier age of first heroin use (Hall et al, 1999c; Lynskey & Hall, 1998), more initiation of heroin use by smoking rather than injecting (Maher et al, 1998; Swift et al, 1999), more younger users seeking treatment (Hall et al, 2000), and an increasing rate of heroin overdose deaths among younger users (Hall et al, 1999d). In some areas of Sydney, some heroin injecting drug users have started injecting cocaine, increasing risks of infectious disease transmission, psychosis and violence around drug markets (McKetin et al, 1999).

2.5.2 HARMS OF HEROIN USE

US research suggests that around 1 in 4 people who ever use heroin become dependent on it (Anthony et al, 1994). Once established, heroin dependence can persist over decades, killing users into their 40s and 50s (Hall et al, 1999c). The major cause of death among heroin users in Australia is fatal overdose (Hall et al, 1999c). The number of opioid overdoses has grown steadily from 6 in 1964 to 700 among those aged 15 to 44 years in 1998, with a 55-fold increase in the rate among persons in this age group over the period (Figure 5; Hall et al, 1999d). Opioid overdoses are now an important cause of premature death among young Australian adults (see Figure 6). The chaotic lifestyle of illicit heroin users also makes them vulnerable to depression and suicide. The major impact that heroin users have on non-users (apart from the effects on their families and friends) is by housebreaking, burglary, robbery and drug dealing.

Figure 5: Rate of deaths attributed to opioid overdose per million adults aged 15 to 44 years, 1964 to 1997



Users who share injection equipment may become infected with HIV and HCV. The early introduction of NSP in the mid-1980s averted a major HIV epidemic among Australian injecting drug users (Feachem, 1995). NSP has been slower to reduce transmission of HCV, which was more common, and more readily transmitted than HIV but it has begun to do so.

Figure 6: Number of deaths attributed to alcohol and illicit drugs among Australian adults aged 15 to 44 years, 1997



2.5.3 POLICY RESPONSES TO HEROIN USE

There is probably a limited role for either mass media or school based education in deterring heroin use because most young people have been deterred from trying it and the risk is that media attention to heroin may encourage more curiosity in a minority of vulnerable youth than it does discourage use (Hall et al, 1999c). More focused education may be more appropriate in high-risk populations.

Contrary to the media, there are no “miracle” cures for heroin dependence. Treatment nonetheless has a major role to play in reducing the adverse effects of heroin use on users, their families, public health and public order (Hall et al, 1999c). Treatment has been shown to reduce heroin use and crime, improve health, and reduce overdose and blood borne virus transmission (Hall et al, 1999c). It also is a good investment of public funds (Proudfoot & Teesson, 2000).

Dependent heroin users need better access to a range of treatment options, including both abstinence-oriented and maintenance approaches like methadone, LAAM, naltrexone and buprenorphine (Gerstein & Harwood, 1990). Treatment should be available on demand because outcomes are better if users are offered treatment when they request it. The treatment options on offer need to be varied to allow users a choice (Hall et al, 1999c).

Legal coercion into treatment has a role but it is not a panacea (Hall, 1997). We need to distinguish between diversion of first offenders into treatment and the more resource intensive “drug courts”. The former may be cost-effective and is being widely implemented under the COAG diversion initiative. Drug courts need to be reserved for

the more serious, recidivist drug dependent offenders. More treatment also needs to be provided to heroin using prisoners (Gerstein & Harwood, 1990), who account for about one fifth of all prisoners. Provision of drug treatment to prisoners is likely to be very cost effective.

3 THE ROLE OF RESEARCH IN DRUG POLICY

By international standards Australian drug policy over the past two decades has been well informed by research evidence. The following is a brief overview of the major areas in which Australian research has made a contribution to drug policy formulation.

3.1 PATTERNS OF USE

There has been a sensible public investment in research on patterns of use of the more common types of licit and illicit drugs in the form of household and school surveys of drug use (Makkai & McAllister, 1998; AIHW, 1999; Hill et al, 1999). The data are poorer for technical and logistical reasons on the prevalence of injecting opioid and stimulant drug use and dependence. These data have been supplemented by detailed studies of patterns of drug use in convenience samples of regular illicit drug users (e.g. Hando and Hall, 1997), including injecting drug users, and by the development and trial of the Illicit Drug Reporting System (Hando et al, 1997; McKetin et al, 1998, 1999).

3.2 RISK FACTORS

Research into biological, social and contextual risk factors for drug use initiation, persistence and development of dependence is becoming a major area of research in Australia. The NH&MRC has funded behavioural genetic research on alcohol use but less has been done on illicit drug use because of its lower prevalence in the community and twin samples. There has been an increased investment in research on psychosocial risk factors for drug use, though until recently much less than in the US and New Zealand. The NH & MRC recently funded the secondary analysis of data on drug use collected in longitudinal studies of adolescents that have been conducted in Melbourne by the Centre for Adolescent Health at the University of Melbourne.

3.3 HARMS

In the past decade Australia has developed a strong tradition of high quality epidemiological research on mortality and morbidity attributable to alcohol, tobacco and illicit drug use (English et al, 1995). This has included meta-analyses of the international literature to identify causal relationships between different types of drug use and harms, and to quantify the amount of mortality and morbidity in Australia attributable to

different types of drug use (English et al, 1995). This work has been internationally recognised and its results have informed the work undertaken by WHO and the World Bank on the Global Burden of Disease (Murray & Lopez, 1997).

There has also been a strong tradition of epidemiological research on injecting drug use in Australia (e.g. NCHECR, 1997, 1998). Most of this work was prompted by concerns about infectious disease transmission by needle and injection equipment sharing, initially on HIV/AIDS, and more recently HCV. Although much more remains to be done, in this field Australia is well ahead of many comparable European countries in its understanding of the prevalence and incidence of these infections and in the effectiveness of interventions used to prevent infectious disease transmission by injecting drug use (Feachem, 1995).

More recently, Australian research on fatal and non-fatal opioid overdose (including methadone overdose) has attracted international interest (e.g. Darke et al, 1996a, b, c; Hall et al, 1999b). Australian work on non-fatal overdoses has been replicated internationally, and it has prompted work on the prevention of opioid overdoses in Europe. There has been similar interest on a smaller scale in Australian research on the prevalence and correlates of injecting amphetamine use (Hando et al, 1997) and long-term cannabis use (Swift et al, 1998a, 1998b, 1999).

3.4 INTERVENTIONS

There has been a preponderance of Australian research on the effectiveness and safety of pharmacological interventions for opioid dependence (Ward et al, 1992, 1998). This has been prompted by the continuing demand for these types of treatments over the past decade (Hall et al, 2000), the magnitude of the public health threat posed by opioid dependence as a risk factor for premature death from overdose and infectious disease (Hall et al, 1999c), the scale of public investment in providing this type of treatment, and continuing controversy about the legitimacy, effectiveness and safety of maintenance treatment (Ward et al, 1998). The scale and coherence of research on methadone maintenance has attracted international interest, as has research into the feasibility of heroin prescribing (Bammer, 1995).

There has been much less research on interventions for persons experiencing problems with other types of illicit drug use, such as, the amphetamines, benzodiazepines and cannabis. This reflects the lower demand for treatment from persons with these problems by comparison with opioid dependence. Many people with these problems are also dependent on opioids, which are understandably given a higher treatment priority.

There has been less research on psychological interventions for illicit drug dependence, whether this includes more traditional 12-step based self-help approaches, residential and therapeutic communities, or the newer forms of behavioural and cognitive behavioural treatments. This is being remedied as part of NH & MRC special funding for the Australian Treatment Outcome Study (ATOS), a major national project that will evaluate

the outcome of treatment of approximately 1000 opioid dependent persons in Australia.

3.5 INTERNATIONAL IMPACT OF AUSTRALIAN RESEARCH

Australia cannot hope to match the level of investment in research on illicit drug research in the US, which accounts for most of the research on this topic in the international literature. Nevertheless, Australia has been an over-achiever in the field of drug research, as measured by rate of publication in the leading journal *Addiction*, and by the involvement of Australian researchers in World Health Organization committees on drug epidemiology, treatment and policy.

Australian research has not covered all fields of illicit drug research but Australian researchers have achieved a high profile in those fields that reflect Australian community concerns about illicit drug use. As indicated above, these include research in: the epidemiology of injecting drug use and illicit drug use more generally; epidemiological analyses of mortality and morbidity attributable to illicit drug use; studies of specific harms related to illicit drug use, such as, opioid overdose death; the role of injecting drug use in transmission of infectious diseases; and the evaluation of methadone maintenance and newer pharmacotherapies in the treatment of opioid dependence.

3.6 THE ROLE OF THE NATIONAL RESEARCH CENTRES

The National Drug Strategy (and its predecessor the National Campaign Against Drug Abuse) has sponsored a wide range of research activities that have informed public policy on alcohol and other drugs. The National Centres were funded as Centres of excellence to undertake research on, respectively, the prevention of drug abuse (formerly NCPDA now NDRI) and the treatment and rehabilitation of alcohol and drug dependent persons (NDARC). Their continued funding for over a decade, and the availability of funds for investigator-initiated research, have produced a substantial amount of high-quality research on alcohol and drug use and drug-related problems in Australia.

The Centres have provided a sustained capacity for research and allowed a critical mass of expertise in alcohol and drug research to develop. The maintenance and further development of this expertise requires continuing investment and a clearer process for reviewing and deciding upon the level of continued funding. This is especially the case in research on alcohol and illicit drug use, which unlike research on tobacco use, was not well developed before the establishment of the NCADA.

3.7 COMMISSIONED AND INVESTIGATOR-INITIATED RESEARCH

The NDS has commissioned important research, such as the epidemiologically-based estimates of drug-caused morbidity and mortality in Australia (English et al., 1995) and economic estimates of the costs of drug use to the community (Collins & Lapsley, 1991, 1996). These have reinforced the emphasis given to alcohol and tobacco as well as illicit drugs in the NDS.

The successful completion of commissioned work has depended upon the capacity of existing organisations and individuals to undertake research. This capacity, in turn, has depended upon prior investments in the academic infrastructure necessary to undertake commissioned work (e.g. NH & MRC funding of the Public Health Research Unit at the University of Western Australia).

Some of NDARC's most important investigator-initiated research has been prompted by commissioned work. For example, a review of the research literature on methadone maintenance treatment (Ward et al, 1992, 1998) was commissioned by the NSW Drug and Alcohol Directorate. It prompted investigator-initiated research on public and private methadone programs (Bell et al, 1995), the effectiveness of methadone delivery in primary health care (Ward et al, 1997), research on the cost and cost-effectiveness of methadone maintenance treatment (Ward et al, 1999), and a multicentre randomised controlled trial of buprenorphine and methadone (Mattick et al, 1999).

A review of the literature on the health and psychological consequences of cannabis use (Hall et al, 1994) that was commissioned by the National Cannabis Task Force prompted studies of long-term cannabis users on the NSW North Coast (Swift et al, 1998) and Sydney (Swift et al, 1999) and studies of methods to assist cannabis-dependent persons to cease their cannabis use (Copeland et al, in preparation). It also led to involvement in a review of the health effects of cannabis undertaken by the World Health Organization (1997), subsequent publication of a major review by the Addiction Research Foundation (1999), and evidence being given to a House of Lords Inquiry into medical uses of cannabis.

Investigator-initiated research has also made an important contribution to the NDS, as the following examples of NDARC research show. The Quality Assurance Project (Mattick et al, 1992, 1993, 1994) was an investigator-initiated project that examined evidence for the effectiveness of treatments for alcohol, nicotine and opioid dependence. Foremost among the recent examples of successful investigator-initiated research is the Centre's work on opioid overdose (Darke et al, 1996; Hall & Darke, 1998; Hall et al, 1999c). This work anticipated the emerging public concern about increasing numbers of opioid overdose deaths, and its findings informed the development of peer-based education in South Australia to reduce the incidence of overdoses and the number of overdoses that are fatal (McGregor et al, 1998). Finally, the survey methods developed by Dr Julie Hando on patterns of illicit amphetamine use (Hando & Hall, 1993; Hando et al, 1997) were successfully adapted for use in surveillance of trends in illicit drug use as part of the Illicit Drug Reporting System (Hando et al, 1998).

Continued support for investigator-initiated research on alcohol and drug issues is essential to develop and maintain the expertise required to undertake commissioned research. Investigators are also able to anticipate issues before they become political and policy imperatives. Investigator-initiated research is also essential to sustain the interest and enthusiasm of researchers in the alcohol and drug field, and to attract new researchers into the field.

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