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An environmental scan on alcohol and other drug issues facing law enforcement in Australia 2010

Funded by the National Drug Law Enforcement Research Fund
An Initiative of the National Drug Strategy

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Chapter one: Introduction, aims and methodology

1.1 Introduction

This is the second alcohol and other drug environmental scan undertaken for the law enforcement sector in Australia. The first (Nicholas and Shoobridge, 2005) was conducted under the auspices of the Commissioners' Drugs Committee of the Conference of Commissioners of Police of Australasia and the South West Pacific Region. The current scan was funded by the National Drug Law Enforcement Research Fund (NDLERF).

Environmental scanning, as with any form of predicting the future, is not a purely scientific endeavour. It involves drawing together data from a large range of sources, ranging from refereed journals to the opinions of experts in a given field, in order to try and better understand current and future trends. This becomes even more difficult when the subject of study involves complex phenomena such as alcohol and other drug problems. Indeed, it is a difficult task to construct a comprehensive view of alcohol and other drug problems in Australia at present, let alone attempting to predict those that will arise in the future.

Consequently, this environmental scan represents the author's attempt to make sense of a vast amount of data and, as such, the views and opinions expressed here are those of the author and not those of the NDLERF Board of Management or the Australian law enforcement sector more broadly.

Three versions of the final report on the environmental scan have been produced. The first of these is a shorter, strategic version for law enforcement agencies only. The second is a comprehensive version, also for law enforcement agencies, that contains information that is of a sensitive nature.

The current document is the publicly released version of the environmental scan. This contains the key findings of the scan as they impact on the law enforcement environment. Sensitive information and the recommendations to the law enforcement sector and to the NDLERF Board of Management have been removed from this version. An electronic version of this report is available on the NDLERF website (www.ndlerf.gov.au).

1.2 Aims

The aims of this environmental scan were to:

- identify the key alcohol and other drug issues impacting on the law enforcement sector at present and into the future;
- identify ways in which the law enforcement sector might best position itself to meet future challenges and to maximise its contribution to Australia's National Drug Strategy;
- provide a 'one stop shop' for operational and policy law enforcement staff to source the most up to date information available on a range of alcohol and other drug issues; and
- provide some guidance to the NDLERF Board of Management in relation to its future general funding priority areas and to make some specific recommendations concerning potential future projects.

1.3 Methodology

1.3.1 Literature review

An extensive literature review was undertaken focussing predominantly on the post-2004 period. The following databases were accessed:

- AGIS Plus Text;
- Australian Federal Police Digest;
- Blackwell Synergy;
- British Library;
- CINCH: Australian Criminology Database;
- Informit Search;
- Journals@Ovid;
- Lexis.com;
- Science Direct;
- Sage Journals;
- Springerlink;
- Web of Knowledge/Science; and
- Google Scholar.

In addition to this, a number of websites were reviewed. These included:

- Australian and New Zealand Policing Advisory Agency;
- Australasian Centre for Policing Research;
- Australian Institute of Criminology (including the Drug Use Monitoring in Australia website);
- South Australian Office of Crime Statistics and Research;
- NSW Bureau of Crime Statistics and Research;
- National Drug Law Enforcement Research Fund;
- National Drug and Alcohol Research Centre;
- National Drug Research Institute;
- National Centre for Education and Training on Addiction;
- United Kingdom Home Office;
- United Kingdom Home Office Crime Reduction;
- United Kingdom Drug Policy Commission;
- United States Department of Justice Website; and
- Drug Policy Modelling Program Online Bibliography.

1.3.2 Written submissions

The (then) Chairman of the NDLERF Board of Management wrote to a range of law enforcement/regulatory, health, research and advocacy agencies with an interest in alcohol and other drug issues, inviting them to make written submissions to the environmental scan. Twenty-one such submissions were received. Twelve were from law enforcement/regulatory agencies, one was from a health agency, four were from research agencies and four were from advocacy agencies. These submissions were subsequently thematically examined and the results synthesised.

1.3.3 Key expert consultant interviews

The above agencies were also invited to make key personnel available for interview. Eighty-eight such personnel were interviewed. Forty-eight were from the law enforcement/regulatory sector, 19 were from the health sector, 17 were from the research sector and two were from advocacy agencies. In most cases the interviews were held face to face, but on some occasions the interviews were held over the phone. With the permission of interviewees, most interviews were digitally recorded, before being transcribed by the author. They were subsequently thematically examined.

1.4 Report structure

All of the above information was then synthesised into the chapters that follow. The majority of the report from the environmental scan is structured along individual drug-based themes. Chapter 2 contains a distillation of some of the key strategic issues to the law enforcement sector that arose while conducting this environmental scan. It is essentially an Executive Summary of the whole report.

Chapter two: Executive summary: Key findings and strategic issues for the law enforcement sector

2.1 Introduction

What follows is a distillation of the major strategic illicit drug and alcohol related issues which emanate from this report. The references to which these findings and issues refer appear within the body of the document.

2.2 Key strategic issues and considerations in Chapter three: Illicit drug law enforcement in Australia

Chapter three discusses eight key issues which are likely to shape illicit drug law enforcement in the future. A brief outline of each issue is given here to provide some context.

- *The continued switch from naturally produced drugs to synthetic drugs.*
  It is highly likely that countries such as Australia, which have comparatively non-porous borders, will continue to see a proliferation of synthetically produced illicit drugs, in preference to naturally produced drugs. The one exception to this is cannabis (which, in reality, is increasingly being grown under laboratory-like hydroponic conditions). There two are aspects to the change towards synthetically produced illicit drugs. The first is the local and overseas production of illicit synthetic drugs for use in Australia. While this is almost exclusively currently an issue involving psycho-stimulants, there is no particular reason to believe that this will remain the case. Ketamine, a powerful anaesthetic drug, is for example, being produced illicitly in large quantities in China and has now largely displaced ecstasy as a drug of misuse in Hong Kong SAR. Also fentanyl, a powerful opioid analgesic drug, is being produced illicitly in Eastern Europe and Mexico.

  The second way in which illicit synthetic drug use is likely to proliferate is via diversion from pharmaceutical sources. This is a major emerging problem in Australia and is discussed in detail in the chapter of this scan that deals with pharmaceuticals.
- *The problem of evaluating drug law enforcement and other supply reduction activities only against drug-related outcomes.*
  At present in Australia, there is a tendency among many of those sitting outside of the law enforcement sector to view illicit drug law enforcement exclusively as a strategy aimed at reducing the harm associated with illicit drug use by reducing the supply. This is clearly a major aim of illicit drug law enforcement, but it also needs to be seen in the context of a much broader part of the struggle against organised criminality and evaluated accordingly. In addition there is a tendency to not recognise the contribution that the law enforcement sector makes to demand and harm reduction outcomes.
- *Is the current balance of measures utilised by the law enforcement sector maximising its impact on illicit drug markets?*
  The law enforcement sector reduces the supply of illicit drugs in Australia by two major means. The first of these is the enforcement of drug-related laws. The second is by the enforcement of a range of other laws that harden Australia as a target for drug trafficking (such as anti-money laundering, asset confiscation, and targeting other vulnerabilities in drug trafficking organisations). While the use of drug-related laws will continue to be an important facet of law enforcement activities in this area, many key police expert consultants suggested that there is potential for substantial expansion in the non-drug law enforcement area. Particularly important in this regard is asset forfeiture.

- *The increasing importance of partnerships to drug law enforcement.*
  While it is self-evident that partnerships are an important aspect of almost all facets of law enforcement, they are likely to become increasingly so in the context of the need to control an ever expanding number of drug precursors and proto-precursors. These partnerships need not necessarily be voluntary or unlegislated.
- *Can the law enforcement sector and its partners be more systematic in responding to the peaks and troughs in the use of different illicit drugs?*
  There is an increasingly sophisticated understanding of the relative predictability of the peaks and troughs that occur in patterns of the use of specific drugs in communities. So, too, there is an increasing understanding of the various roles that different sectors can most effectively play in responding to different stages of drug use epidemics. This understanding provides the opportunity for drug law enforcement and its partners to be more systematic in responding to cycles of illicit drug use.
- *The amateurisation of illicit drug production and retailing.*
  Historically, illicit drugs were manufactured by a relatively small number of 'cooks' who had the requisite skills to do so. Increasingly, however, information about illicit drug manufacture and the availability of precursors is available on the Internet. This means that many more individuals are becoming involved in illicit manufacture. In addition, there is a trend in most illicit drug markets towards social, or not for profit (or very low profit) drug dealing at the lowest retail level. This means that drug markets have become much flatter and more diverse than was previously the case. These markets increasingly involve individuals with no criminal background and, at the lowest level at least, involve individuals who are often not motivated by financial profit. This is likely to become an increasing challenge for law enforcement.
- *The increasing importance of technology.*
  The rapid development of information and communications technology will continue to provide challenges to drug law enforcement. The encryption of files, emails and phone calls, the use of Voice Over Internet Protocols, and 'massively multiplayer online games' all serve to enhance the anonymity of criminals. There will be an ongoing need for law enforcement to invest in software and other tools to enable the targeting of drug crime committed via complex communications technologies.
- *Jurisdictional differences in restrictions on the availability of precursor chemicals for illicit drug production.*
  The control of precursor chemicals is a fundamental strategy in stemming the tide of illicit drug production worldwide. There are some concerning anomalies between Australian jurisdictions as far as the restrictions on the availability of precursor chemicals for ATS production are concerned. There is a lack of uniformity in the availability of pseudoephedrine and in the scheduling of controlled precursor chemicals between jurisdictions. Both of these issues are enhancing the opportunities for the cross-border trade of precursors.

2.3 Key findings and strategic issues in Chapter four: The strengths and weaknesses of Australia's data sources concerning alcohol and other illicit drugs: A law enforcement perspective.

There are at least three groups of potential problems that warrant consideration when drawing implications for law enforcement utilising existing alcohol and other drug-related data.

1. Data collections may simply not accurately reflect the reality of the extent and nature of alcohol and other problems being experienced in the country at any point in time.
2. Data obtained from a specific population cannot be always be generalised beyond the sample of individuals that were involved in a given piece of research.

3. It cannot be assumed that a given trend, even if correctly identified, will impact on the law enforcement sector in a way that is consistent with other sectors.

For these reasons, great caution is necessary when developing policy based upon drug research.

It is clearly important for the law enforcement sector to have data on alcohol and other illicit drug issues but just as important, however, is to ask 'So what?'. That is, there is a need for the law enforcement sector nationally to have the capacity to be constantly examining alcohol and other drug-related data from a range of sources, in the contexts of its strengths and limitations, and ascertaining the policy implications.

The ability to ask 'So what?' offers the law enforcement sector a great deal of opportunity to add value to the existing sources of information concerning alcohol and other drug use in Australia. Related to this is the need for a clearing house mechanism for alcohol and other drug-related information that is of relevance to law enforcement.

2.4 Key findings and strategic issues in Chapter five: Alcohol

Arguably, over the past decade and a half, Australia has 'dropped the ball' in terms of the level of attention given to alcohol-related issues. Police have the opportunity to adopt an important leadership role in redressing this imbalance. The major manifestation of 'dropping the ball' on alcohol has been the proliferation of opportunities for Australians to purchase alcohol. This proliferation has occurred across several axes. These include:

- an increased number of licensed premises;
- an increased number of different types of licensed premises;
- increased hours of availability;
- an increased number of beverage types; and
- an increased number of special events licenses.

There is a range of factors which are supportive of the introduction of measures to reduce the social harms associated with alcohol consumption. These include: increased community support for these measures and decreased community tolerance for alcohol-related harms; increased media interest in, and concern about, the impact of alcohol misuse on crime and amenity; the aims of the National Alcohol Strategy (2006–2009); the National Binge Drinking Strategy; the Council of Australian Governments (COAG) Binge Drinking Agreement; the report of the National Health Preventative Taskforce Alcohol Working Group; and the maturation of the body of evidence concerning good practice in this area.

There is also a range of factors which are acting as impediments to the introduction of measures to reduce the social harms associated with alcohol consumption. These include: inadequate liquor licensing legislation; National Competition Policy; the complex nature of alcohol problems; the unclear delineation of responsibilities and allegiances among those charged with responding to these problems; the economic and political importance of the alcohol industry; and difficulties associated with 'turning back the clock' in relation to the availability of alcohol.

A key 'red flag' for the broader community appears to have been the increasing involvement of younger people in general, and younger women in particular, in alcohol-related anti-social behaviour. This appears to have 'tipped the balance' regarding the perceived importance of this issue.

By world standards, Australia has a high per-capita consumption of alcohol. In 2003 Australians ranked 30th in the world in terms of per-capita consumption. This world ranking is likely to now be higher.

Younger Australians are particularly vulnerable to alcohol-related social harms and as such were a major focus of this environmental scan. Important changes have occurred in the patterns of their consumption in recent decades. Over the past 50 years, initiation into drinking has occurred at an earlier age. The proportion of younger Australians who consume alcohol at risky levels and the average number of standard drinks they consume have both increased in Australia in recent years. Between 2000 and 2004 there was a three and a half fold increase in the preference for spirits among young female risky drinkers aged 15–17 years. Particularly important in this regard has been the emergence of ready to drink products.

An important trend that was widely described by key expert consultants who contributed to this scan was towards 'determined', 'wilful' or 'vehement' drunkenness among many younger Australians. A related trend described was a developing dichotomy between drinking occasions (that is, getting drunk) and non-drinking occasions. In this way, the occasions on which drinking in moderation occurs are becoming less frequent than either abstaining from alcohol or becoming grossly intoxicated. This trend is towards not merely wanting to have a good time, but an extreme, intense and time-effective experience from their use of alcohol.

A further important trend regarding young peoples' drinking is that of pre-drinking or pre-loading. This involves planned heavy drinking, prior to going to a social event, typically at a bar or nightclub. While pre-drinking has probably always occurred to some extent, the increasing trend towards this practice is very significant for policing because there is early evidence that pre-drinking is associated with increased levels of violence.

It is very difficult for measures that focus on licensed premises to curb the problems that emanate from pre-drinking. This is because policies which focus on reducing problematic drinking in licensed premises alone may have the unintended consequence of displacing drinking to pre-drinking environments.

A number of cultural factors are impacting adversely on the drinking behaviour of younger Australians. These include:

- consumerism, in which drinking is used as part of the process of forming an identity and as part of a right of passage;
- changes in social trends and interpersonal factors (such as leaving the parental home later) mean that younger people have longer periods of freedom from financial commitments;
- an increased emphasis among younger Australians achieving a work/life balance, which in turn means that more emphasis is placed on leisure, which provides more opportunities for drinking (particularly as far as unstructured leisure activities are concerned);
- the increased availability of alcohol; and
- the strategies used to market alcohol to younger people.

There is some evidence that the reach and visibility of random breath testing (RBT) is declining in Australia and this was the clear perception of several key expert consultants from the health sector. So too there is evidence that Australian's attitudes about the dangers of drink driving may be weakening. In addition, while RBT, licence sanctions and fines are effective for the majority of road users, they are far less effective against recalcitrant or repeat drink driving offenders. It is these individuals who are responsible for a sizeable proportion of alcohol-related accidents. Unlicensed driving also undermines other drink drive countermeasures. This is an issue that requires close monitoring.

There is a risk that policing is defining the supply-side causes of alcohol-related social harms in Australia in overly narrow terms. That is, perceiving the problems as primarily concerning individual problematic licensed premises. These premises should more accurately be viewed as a

subset of the supply-side causal factors associated with alcohol-related social harms in Australia. If policing is to make a more substantial and sustained regulatory contribution to these harms, then the totality of alcohol supply-side issues needs to be considered.

The overall proliferation of alcohol availability makes an equal if not larger contribution to alcohol-related social harms in Australia than do sales from a relatively small number of problematic licensed premises. Particularly important in this regard are packaged sales from liquor stores and supermarkets. Perceiving alcohol-related problems predominantly in terms of problematic licensed premises risks the development of a relatively narrow set of policing tools largely related to the identification and investigation of licensed premises.

Addressing issues related to the overall proliferation of the availability of alcohol, including liquor stores, is a more complex task than identifying and responding to errant licensed premises. In a sense, this is the second generation of thinking in this area.

There are three potential paths forward if police are to reduce the social harms from alcohol in Australia by focussing more broadly on patterns of consumption. Namely: changing the focus of law enforcement-related alcohol research; enhancing the capability to model the impacts of changes to alcohol provision arrangements at the local level so as to better inform decision making; and the development of liquor licensing legislation that is more sensitive to the outputs of this modelling.

As time goes on it will also become important for police to develop increasingly sophisticated ways to gather evidence on the harms accruing from particular patterns of alcohol sales. Critically important in this regard is the availability of wholesale alcohol sales data. Without a precise understanding of the extent and type of alcohol that is being supplied in a given geographical area, it is impossible to develop the kinds of models that are required to move this issue forward. So, too, without this data it is extremely difficult to develop evidence-based law enforcement strategies or submissions to liquor licensing authorities about the ways in which alcohol-related harms can be minimised.

It will also be important for policing in the future to work more effectively and harness the powers present in local government legislation to reduce the alcohol-related social harms in the community.

2.5 Key findings and strategic issues in Chapter six: Pharmaceutical drugs

Changes in patterns of the misuse of pharmaceutical drugs represent one of the most significant issues documented in this environmental scan. This diversion and misuse represents a complex series of issues for policing. Pharmaceutical drugs have historically not featured prominently on the ‘policing radar’ of illicit drug problems. This is, however, changing and is likely to become increasingly problematic in coming years. For a variety of reasons the extent and nature of pharmaceutical misuse is poorly understood and quantified in Australia.

Globally, the misuse and trafficking of prescription drugs is set to exceed that of illicit drugs. Particularly important in this regard is an apparent move away from heroin use towards pharmaceutical opioids in many developed countries. Global consumption of pharmaceutical opioid analgesics has increased by more than two and a half times during the past decade.

The United States and Canada in particular have seen a very substantial increase in the misuse of pharmaceuticals in recent years. This is indicated by increases in usage data (particularly among younger people), a substantial increase in Internet pharmacies selling these drugs, and increased related emergency department visits and deaths.

There is currently a window of opportunity in Australia to introduce measures to prevent the level of use and harms that are currently associated with the use of these substances in these countries.

Between 1995 and 2003 there was an 89% increase in the average number of milligrams of morphine prescribed per person aged 15–54 years in Australia. There has also been a very substantial increase in oxycodone prescriptions in recent years along with increases in methadone, codeine, fentanyl and morphine.

Little is known about the impact of chronic non-malignant pain and its management on markets for illicit pharmaceutical and non-pharmaceutical opioids.

In recent years in Australia there has been a dramatic increase in the number of poisonings (essentially overdoses) as a result of the misuse of pharmaceutical opioids. The increase has been most dramatic since the year 2005–06. In the past decade there has been a concomitant dramatic decline in the number of poisonings as a result of heroin use. The most dramatic period of this decline was between 1999–2000 and 2001–02.

PBS prescriptions for benzodiazepine declined between 1999 and 2003. The number of prescriptions for all benzodiazepines has decreased with the exception of alprazolam which increased.

There has been a substantial increase in the prescription of psycho-stimulants in Australia over the past decade. Australia ranks equal third with New Zealand (behind the United States and Canada) in the per-capita prescription of these drugs. Between 1984 and 2000 the rate of consumption of these drugs increased 26% per year with an 8.46-fold increase from 1994–2000. In 2000, Western Australia had twice the annual rate of consumption of these drugs compared with New South Wales which rated second. Between 1984 and 2000, consumption of dexamphetamine in Western Australia increased by an average of 43% per year.

Pharmaceutical misuse is also very common among users of illicit drugs, a significant proportion of whom have comorbidities, in particular chronic non-malignant pain and psychiatric problems.

The illicit sale of pharmaceutical drugs in Australia can be very lucrative. Considering the relative ease with which these drugs can be obtained, and the massive profits which are available, it is not difficult to see how the illicit sale of pharmaceutical drugs could be seen as a highly desirable business enterprise. This presents far less legal and logistical difficulties than does obtaining and selling non-pharmaceutical illicit drugs.

Illicit markets for pharmaceutical drugs are probably predominantly driven by large numbers of small-scale diversions (from a number of sources, including legitimate prescriptions, prescription shopping and forged prescriptions).

The extent of theft of pharmaceuticals from the supply chain is largely unknown in Australia. There is some evidence that this is an emerging problem.

The Internet is an emerging potential source of supply for pharmaceutical drugs. The disincentives associated with obtaining pharmaceuticals on the Internet, when added to the cost incentives associated with obtaining them in Australia from the PBS, are probably ‘keeping a lid’ on the

Internet-based trade in these drugs at present in Australia. This could, however, change rapidly and requires close monitoring.

Fentanyl is an opioid analgesic that is 50–100 times more potent than morphine and 30–50 times more potent than heroin. There is little evidence that fentanyl misuse is a major emerging drug issue in Australia at present. Fentanyl is, however, a drug that is relatively easily manufactured clandestinely. The drug has been manufactured in Mexico for US markets and has been associated with a spate of fatal overdoses in recent years. Fentanyl production and misuse is also becoming an increasingly significant issue in Eastern Europe where it has also been associated with fatal overdoses. The potential for clandestine manufacture (and diversion) of fentanyl is clearly an issue that warrants monitoring in the Australian context.

Little is known about the impact of pharmaceutical misuse on the road toll, but the use of benzodiazepines in particular is known to reduce driving performance.

The current level of pharmaceutical misuse in Australia gives rise to several important questions. These include:

- Given that pharmaceutical drugs are cheaper and more readily available than illicit-non-pharmaceutical drugs, could this be having the effect of reducing acquisitive drug-related crime and reducing the demand for illicit non-pharmaceutical drugs among those who enjoy the effects of the drugs, or who use the drugs to assist with the management of their chronic, non-malignant pain or nervous conditions?
- Could the misuse of pharmaceuticals be associated with lower levels of health-related harms (such as overdoses, blood-borne diseases) compared with the misuse of non-pharmaceutical illicit drugs?

The answers to these questions are not clear.

The critical issue in this regard is that there is a need to better understand these dynamics so that strategies can be developed to avoid unintended, undesirable consequences such as health- and crime-related harms. Not the least of these potential harms is the risk of reducing access to medications to those who have a legitimate need for them. This is not only a health issue, but risks criminalising individuals who either have a legitimate need for pain and other medication, or who are currently misusing these drugs in a non-criminal manner.

Australia's ability to address this problem is at present, however, limited by the extent of our understanding of it and having the necessary infrastructure to do so.

Five key issues arise for law enforcement so far as the future directions of the impact of the misuse of pharmaceuticals is Australia is concerned. These are: the need to better understand the interaction between pharmaceutical drug misuse and illicit drug markets (including markets for the pharmaceuticals themselves); the impact of pharmaceutical misuse on crime committed while under the influence of, or in order to obtain, pharmaceutical drugs; the impact of pharmaceutical misuse on road trauma; emerging sources for illicit pharmaceutical drugs; and the importance of developing partnerships between health and law enforcement agencies to address this problem.

2.6 Key findings and strategic issues in Chapter seven: Amphetamine type stimulants

The synthetic drugs trade is amongst the most lucrative businesses for organised crime. Globally there is trend towards the production of amphetamine type stimulants (ATS) in more organised, industrial scale, clandestine laboratories involving more sophisticated, often international groups. In 2008, methamphetamine in most Australian jurisdictions cost approximately $50 per point (0.1 gram), regardless of type. Methamphetamine costs approximately $8.60 per gram to produce. If sold in single point lots, before any cutting, a gram of methamphetamine would reap $500. This provides an indication of the potential profitability of the methamphetamine market.

The global market for ATS is reasonably stable. Following the dramatic increase in global production seen in the late 1990s, the estimated global production level of ATS has remained largely unchanged since the year 2000. An increasing proportion of global ATS production is made up of the amphetamine group compared with the ecstasy group. So, too, there has been an increase in the proportion of ATS of the amphetamine group that is made up of amphetamine versus methamphetamine. This is probably as a result of a reduction in the supply of pseudoephedrine, a key precursor for methamphetamine production. Illicit manufacturers are increasingly circumventing these controls by substituting controlled precursors with those which are outside international controls. While methamphetamine production is centred in East and South-East Asia, North America, and Oceania, amphetamine production is concentrated in Europe.

In recent years there has been an important shift away from Europe being the exclusive region of manufacture of ecstasy. Increasing amounts of ecstasy are now being produced in large-scale laboratories within North America for the domestic market and beyond. In particular, Canadian organised criminal groups have become active in the manufacture of ecstasy and are increasingly supplying the US and Australian markets. In recent years there has been a major increase in the number of Australian border detections of ATS emanating from Canada. This country accounted for 77% of the total number of Australian border detections of methamphetamine in 2007–08, and 50% of all MDMA border detections. Canada is now a very significant exporter of ATS.

Population surveys in Australia indicate that there has been a decline in the use of methamphetamine in Australia in recent years. There are, however, three reasons why this may not be perceived by those in the law enforcement sector. First, it seems probable that there has been a shift from the importation of methamphetamine to the importation of precursors for local production. As such, even if there was an overall reduction in demand, local production could have remained stable or have even increased. Second, even if a significant proportion of infrequent users of the drug have fallen away, then this may not lead to a large drop in overall demand and production, because the infrequent users were only responsible for a small proportion of overall consumption. Third, police may not be seeing a substantial reduction in methamphetamine-fuelled behavioural problems because the infrequent users who have fallen away were not the primary source of these problems anyway.

While the proportion of Australians who have ever or recently used/tried meth/amphetamine has increased since the mid 1990s, a further reason why the use of the drug has become more problematic is as a result of its increased potency. Smoking methamphetamine has emerged as a trend in Australia since the increased availability of crystalline methamphetamine in the late 1990s. The number of ATS seizures nationally in 2007–08 declined slightly from 2006–07 but was the second highest on record. The number of seizures nationally has been generally trending upwards since the beginning of the decade.

By far the majority of methamphetamine used in Australia is in the powder form and probably in the vicinity of 10% purity. Ice is not as freely available as media reports would suggest. Several key experts consulted during this environmental scan indicated that the proportion of ice being produced locally is probably increasing, given that ice is simply a more refined form of methamphetamine. It is far more common for law enforcement agencies to seize 'pseudo ice' compared with 'real ice'.

There is mounting evidence that the health problems associated with methamphetamine use extend well beyond problems such as psychosis. These include cardiovascular effects, dependency, contracting blood-borne diseases, depression, suicide, anxiety disorders and violence. There is also emerging evidence from animal and human studies of the neurotoxic effects associated with methamphetamine use.

The number of inpatient hospital admissions with a principal diagnosis relating to amphetamines has steadily increased in Australia in recent years. In 2006, there were 66 'drug induced' deaths in Australia among those aged 15–54 years in which methamphetamine was mentioned. Methamphetamine was determined to be the underlying cause of death in 27% (n=18) of these deaths in 2006. This is probably a substantial underestimation of the actual mortality associated with methamphetamine use.

Regular methamphetamine use is associated with an increased likelihood of offending in general and in violent offending in particular. So, too, a significant proportion of offenders are also users of methamphetamine. The nexus between criminality and ecstasy use is far less strong compared with other illicit drugs.

Almost a quarter of Australians in the 20–29 age group claimed to have used ecstasy. Most key consultants from the health and law enforcement sectors could see no end in sight to the burgeoning of ecstasy markets in Australia. Several indicated that ecstasy use has increasingly become normalised among many groups of younger Australians and the fact that the drug is generally swallowed (rather than being injected or smoked) has contributed significantly to its normalisation. It is also cheap (even when compared with alcohol) and has a reputation as a clean drug.

Ecstasy use is concentrated in the younger age demographic with males being more likely to use the drug than females. Ecstasy consumers tend to be young, white, well educated and middle class. Deaths as a result of ecstasy use (or indeed MDMA use) on its own are comparatively rare in Australia. The overwhelming majority of ecstasy-related deaths involve the use of other drugs as well. Almost a third of ecstasy-related deaths occur as a result of a motor vehicle crash.

There is a solid body of evidence that points to a clear association between ecstasy use and short-term mood changes and to the development of more significant psychiatric problems in vulnerable individuals. There is an emerging body of evidence that points to links between longer-term ecstasy use and lasting cognitive deficits.

The lowest level of the retail market for ecstasy in Australia is dominated by sales among friends and social groups, much of which is on a not for profit (or very low profit) basis. This presents major difficulties for law enforcement in its efforts to reduce the supply of these drugs.

Although in Australia ecstasy is cheap in comparison to alcohol, it is still expensive when compared to some other countries. If local production of ecstasy were to gain a foothold, it could be imagined that this cost would decrease dramatically and local demand would grow further.

There is a remarkable lack of awareness among many ecstasy users and dealers of the potential legal consequences of being in possession of trafficable quantities of the drug. There are two implications of this. First, there is an obligation on the law enforcement sector to enhance the understanding of ecstasy users concerning the potential legal implications, particularly of offences related to the possession of ecstasy in trafficable quantities. Second, an education initiative focussed on this issue (perhaps conducted in concert with a health-related campaign) could represent one of the few points of leverage that the law enforcement sector has in relation to socially-based ecstasy markets.

ATS production in Australia involves a large number and a changing mix of criminal elements. This ranges from highly sophisticated criminal organisations to small-scale entrepreneurs who operate within small, local markets or within social circles. The larger clandestine laboratories are generally associated with more sophisticated criminal organisations, often with overseas links. On the other hand, the smaller 'boxed labs' are often run by smaller, relatively independent manufacturers.

The number of clandestine laboratory detections is still higher in Australia compared with a decade ago, but the numbers appear to have stabilised or are only increasing slightly.

Key law enforcement consultants indicated that they had not experienced any increase in the size of clandestine laboratories being discovered in Australia. If there was to be a greater level of importation of precursors, this situation could change, however.

An important change that has occurred in methamphetamine production over the past 10–15 years is the extent to which it has become 'amateurised'. With the advent of the Internet, there is almost universal access to methamphetamine production recipes. Police are increasingly uncovering methamphetamine laboratories run by individuals with no criminal history who often have limited expertise in methamphetamine production.

The illicit production of ATS remains highly problematic from a range of perspectives. It is a process that is highly dangerous for the criminals involved, for investigating police and for uninvolved members of the public. These clandestine laboratories are not only prone to fire and explosion, but every kilogram of methamphetamine produced results in 5–6 kg of toxic by-products. The cost of the remediation of these sites to make them habitable again can also be enormous.

There are two trends which are likely to make this even more dangerous. The first of these is the trend towards amateurisation described above. The second is that as the precursors become more difficult to obtain, this is likely to lead to more experimentation with alternate processes. One of these is the increased use of proto-precursors[1] which adds a further step to the production process. This, in turn, increases the likelihood of mistakes being made. This could be expected to result in more hazardous clandestine laboratories as well as an increase in the likelihood of toxic materials finding their way into the finished product.

The majority of detected amphetamine-group clandestine laboratories in Australia still utilise the hypophosphorous acid method of production, which requires pseudoephedrine as a precursor.

There are some concerning anomalies between jurisdictions as far as the availability of precursor chemicals for ATS production is concerned. There has been unequal rollout of Project Stop, which means that pseudoephedrine is controlled more tightly in some jurisdictions than others. So, too, there is a lack of uniformity between jurisdictions in the scheduling of controlled precursor

[1] Proto-precursors are those substances which are used to make precursors (precursors to precursors).

chemicals. Both of these issues enhance the opportunities for the trade of precursors between jurisdictions.

Considerable quantities of ATS precursors such as ephedrine are also being detected at the border.

A further very important issue raised by many law enforcement key experts is the importation of pill presses. The ability to import pill presses into Australia (and in some jurisdictions to possess them without good reason) was seen as a major impediment to the reduction of supply of ATS drugs. These presses are apparently being imported into the country and being declared to Customs as being generic machinery. This issue is currently being addressed at the Commonwealth level.

The future trends in production of ATS drugs need to be seen in the broader context of a global swing away (at least in developed countries) from the use of naturally produced psychoactive drugs towards synthetically produced drugs of the pharmaceutical or illicit variety.

There are a number of emerging ATS and other stimulant drugs that are being detected in Australia. These include fluoro amphetamines, methcathinone, BZP/TFMPP, and DOI (2,5-dimethoxy-4-iodoamphetamine). A further important issue is the increasing seizure of pills containing a variety of active ingredients.

The number of chemicals that it will be necessary to control in order to limit ATS and other synthetic drug production in the future could be expected to grow exponentially. This will not only require responsive legislation, but the ability to enlist the co-operation of a wide variety of organisations. The work of Cherney, O'Rielly and Grabosky (2005) would provide a suitable series of frameworks from which to launch this endeavour. In this regard, the policing of ATS production is likely to involve a range of more or less coercive partnerships with a range of organisations.

2.7 Key findings and strategic issues in Chapter eight: Heroin

Heroin was a topic of considerable focus in this environmental scan. Although it is a very low prevalence use drug in Australia, it is associated with a disproportionately large range of health and social harms. Any resurgence of heroin use in Australia is likely to have major consequences, particularly as far as the mortality of users is concerned. Overall, an examination of a range of law enforcement and health data give rise to an impression of relative stability in the Australian heroin market.

In 2008 the total global opium cultivation was approximately 8,180 tonnes, down from the record level of 8,890 in 2007. This is approximately double the average production levels for much of the past two decades. Global consumption has, however, remained relatively stable leading to a global excess of supply of the drug.

Afghanistan and Myanmar are the largest opium producers in the world. Opium poppy cultivation in Afghanistan increased over the six years to 2007. This growth accelerated after the fall of the Taliban government and reached an all time high in 2007. Cultivation declined in 2008 and opium production was 7,700 tonnes, down from 8,200 tonnes in 2007. Production in Myanmar had been decreasing in recent years but 2007 saw a reversal of this trend. Production in that country decreased slightly between 2007 and 2008 from 460 tonnes to 410 tonnes, despite an increase in cultivation.

The three distinct production centres for opioids still largely supply three distinct markets. The main trafficking flows continue to be:

- from Afghanistan to neighbouring countries, the Middle East, Africa and Europe;
- from Myanmar/Laos to neighbouring countries of South-East Asia (notably China) and to the Oceania region (mainly Australia); and
- from Latin America (Mexico, Colombia, Guatemala and Peru) to North America (notably the USA).

There is some evidence that trafficking activities have started to diversify from these established market connections. There is increased heroin trafficking from Pakistan into Malaysia. Given that Malaysia is a key embarkation point for heroin shipments into Australia, this new trafficking route could expose Australia, as a destination for Afghan opioids.

A trend of particular concern is that of opium stockpiling. The year 2008 represented the third year in a row in which production of opium particularly in Afghanistan far exceeded the world demand for the drug. Thousands of tonnes of opium, heroin and morphine are thought to have been withheld from the market. Little is known about these stockpiles other than that they are not in the hands of farmers. This has been described as a 'time bomb' for public health and global security.

The size of the Australia heroin market is dwarfed by the size of international production. This, theoretically at least, leaves this country highly vulnerable to a resurgence in heroin supply. Australia represents such a small proportion of global heroin consumption that even minor changes in world markets (such as, for example, the addition or subtraction of 1,000 kg, or 0.1% of world production, to the Australian market) could be expected to have profound impacts in Australia.

Australia has amongst the most expensive heroin in the world. Even if the retail price of heroin were to be halved, it could be anticipated that there would still be a great deal of incentive for criminal enterprises to import heroin into Australia. This is another factor that adds to Australia's vulnerability.

The extent to which Australia is now the recipient of Afghan heroin is unclear. Most of the key experts consulted for this environmental scan indicated that most heroin in Australia still emanates from South East Asia (essentially Myanmar), but there was not universal agreement on this. It is important to note, however, that the only legitimate way to determine the source of heroin is through chemical profiling, which in Australia is currently only undertaken on a sample of border seizures. This may not be representative of heroin available inside the border.

There are approximately 41,400 daily or almost daily heroin users in Australia. The 'typical' Australian heroin user is an unemployed male in his twenties or thirties, who injects heroin and uses a variety of drugs in addition to heroin. Australia currently has an ageing cohort of heroin users with little evidence of large-scale recruitment of younger users to the drug.

In 2007 approximately 1.6% of (or 300,000) Australians aged 14 years and over claimed to have ever used heroin. Less than 1% of Australians claimed to have used heroin in the preceding year. Heroin remains the drug of choice for just over half of the Illicit Drug Reporting System's (IDRS) sentinel group of injecting drug users (IDU).

The number of heroin detections at the Australian border decreased from 389 in 2006–07 to 283 detections in 2007–08. The weight of detections increased from 75.3 kg to 99.3 kg over this period. Included in the 2007-08 data, however, was a sizeable seizure of 24.9 kg. Despite the gradual increase in recent years, overall seizure weight levels remain at approximately one-eighth of those that occurred 10 years ago.

The key question addressed in this environmental scan in relation to heroin is why, in the context of a world glut of heroin, isn't Australia being flooded with heroin in the way that it was in the late 1990s?

This environmental scan attempts to map a range of factors that could increase and decrease the likelihood of a resurgence of heroin use in Australia.

Factors which could be protective against a resurgence of heroin use in Australia

1. The law enforcement sector's supply reduction efforts are keeping heroin out or making Australia an undesirable destination for the drug.
2. There has been a major shift in the preferences of criminal groups to produce and import methamphetamine into Australia, rather than heroin.
3. Global heroin supplies are being 'soaked up' by expanding markets elsewhere.
4. Overall demand for heroin has declined as a result of the needs of opioid users being met from licit and illicit pharmaceutical sources.
5. There has been a significant increase in opioid substitution treatment places available in Australia since the late 1990s which could be reducing the demand for heroin.
6. The heroin shortage of 2001 and the passage of time have removed many heroin users from the market and they have simply not returned.
7. Demand for heroin has declined as a result of heroin's reputation as a dangerous and unfashionable drug.
8. The cost of heroin and its current levels of purity make it unattractive to pre-existing and potential new users.
9. Heroin users are predominantly polydrug users, which reduces the overall demand for heroin.
10. The pharmacology of heroin has been incompatible with the 'up beat' socio-economic environment of the early 2000s, which has decreased demand.
11. Currently, heroin use and actual and potential demand is at a level which is not conducive to rapid expansion of the markets in Australia. That is, it is currently well below a critical point at which market dynamics allow a rapid expansion of supply and demand.

Factors which could lead to an increase the demand for and supply of heroin

1. A dramatic reduction in the availability of pharmaceutical opioids could lead to a resurgence of demand for heroin.
2. There is still a latent demand for heroin among injecting drug users (that is, there is a significant number of IDUs who would prefer to use heroin but at the moment are not using it).
3. There is a cohort of younger Australians who are too young to remember the 'bad times' that were associated with the misuse of heroin in the late 1990s.
4. A change in the economic environment could lead to resurgence in demand for depressant drugs such as heroin.
5. Periods of peak demand for illicit stimulants and depressants are cyclical and Australia is 'due' for a peak in demand for depressant drugs such as heroin.
6. The transition between methamphetamine use and heroin use could be made via smoking.
7. The increased availability of much cheaper, high purity heroin in Australia could lead to a spike in use.

In summary, when considering the level of threat posed by heroin, it is necessary to focus on factors other than just the level of potential supply. There have been a number of significant changes in the demand-side dynamics for heroin within Australia which would tend to mitigate the threat posed by the increased global availability of heroin.

While there is currently little evidence that indicates that the use of heroin is returning to anything like the levels of the late 1990s, there is every reason for law enforcement in Australia to remain vigilant in this regard.

Should more solid indications of an increase in the use of, and the harm associated with, heroin arise, then this would warrant a prompt and historically disproportionately strong response from law enforcement. There are two reasons for this. First, as has been discussed, even a small increase in heroin use has the potential to create great harm in the Australian community. Second, it is likely that law enforcement's effectiveness at suppressing drug use declines markedly as the size of a drug market grows. There is increasing evidence that supply control programmes have a unique capacity to disrupt the early contagious spread of drug use, but limited capacity to eradicate established markets.

There is every reason to continue law enforcement efforts to maintain the high cost of heroin in Australia. This is not only likely to be an important factor affecting overall demand, but is an important factor in reducing overdoses.

In continuing to monitor the potential expansion of heroin markets, it is important that this process does not unduly draw resources away from monitoring and responding to drug problems that clearly are getting worse, such as ecstasy or pharmaceutical drugs.

2.8 Key findings and strategic issues in Chapter nine: Cannabis

Cannabis remains the most widely used illicit drug in Australia.

There is significant evidence that the number of recent cannabis users has declined in Australia over the past decade. Key expert consultants gave a number of reasons for this decline including:

- cannabis is simply no longer fashionable;
- the drug has been caught up in anti-smoking campaigns and is therefore regarded as an unhealthy drug;
- there has been an apparent increase in the number of older, heavier cannabis users seeking treatment;
- the public health campaigns have increased community awareness of the physical and mental health problems associated with the use of the drug and have encouraged the less heavy users, at least, to reduce or cease their use.

There was, however, an almost universal view among law enforcement key expert consultants that the size of the cannabis market in Australia has not decreased substantially in recent years. While this represents somewhat of a paradox, it is important to be mindful that the population prevalence of use and the size of the market are different measures. There are a number of potential (non-mutually exclusive) explanations for these differing perceptions.

- First, the number of cannabis consumers may have simply not declined to the extent suggested by the National Drug Strategy Household Survey and similar data collections.
- Second, in recent years it has become more common for cannabis users in Australia to smoke the more potent parts of the plant, namely the flowering tops or buds. This could result in an increasing proportion of the plant being discarded (the leaves), which in turn leads to a requirement for increased production to make up for this.
- Third, while there has probably been an overall decline in the number of cannabis users in Australia, this decline may have been most prominent among infrequent users. Cannabis market modelling suggests that heavy users are responsible for the consumption of a much greater proportion of overall production than the larger number of infrequent users. Thus, it is

entirely possible that there has been a decline in the population-wide prevalence of cannabis use, without there being a resultant decrease in the overall size of the market.

- Fourth, instead of growing cannabis for personal use, there could be an increasing trend towards outsourcing the production. This would result in a relative increase in the proportion of cannabis supplied by commercial producers versus home production.

There is mounting evidence concerning links between the use of cannabis and mental health problems. While the development of major mental health problems such as schizophrenia (among vulnerable individuals) and acute psychosis are relatively well known, there is increased research focus on whether the use of cannabis can lead to more common psychiatric disorders such as depression and anxiety.

There is clear evidence that suggests that recent cannabis use increases the risk of motor vehicle crashes. Cannabis is commonly used in conjunction with other drugs such as alcohol, and psycho-stimulants. Much less is known about the effects of cannabis in combination with other drugs on driving.

Those who start smoking cannabis earlier (for example, in early adolescence) and smoke heavily are very much more likely to experience negative consequences such as mental health problems, conflict at home or school/work, financial problems and memory problems and the risk of using 'harder' drugs. Law enforcement efforts to limit the exposure of younger people to cannabis are likely to have disproportionately large effects in terms of reducing the associated harms, including criminal justice problems.

There has probably been a modest increase in the THC potency of cannabis available in Australia over the past two decades. There has not been a massive increase in potency and it is unclear what is contributing to any increase that has occurred. The implications of any increase in potency on the harms associated with cannabis are also unclear.

In 2007–08, 67% of national drug arrests (including expiation notices) were for cannabis offences. Overall, the number of cannabis arrests declined by 7.7% in that year. The number of cannabis seizures also declined by 5% but the weight seized increased by 13%. The number of consumer and provider arrests has remained relatively consistent over the past decade. This, too, is not entirely consistent with the picture of a dramatically contracting cannabis market in Australia.

The production of cannabis is a massive industry in Australia. In the late 1990s, it was estimated that the annual expenditure on cannabis in Australia was almost twice that of expenditure on wine, approximately equal to the expenditure on wine plus spirits, and it was about three-quarters of the total expenditure on beer.

Cannabis is produced in most parts of Australia and in recent years there has been a trend towards hydroponic cultivation, as growers believe that this produces a better yield, reduces the chance of detection, mitigates seasonal climate changes and may result in a higher THC content.

There is also an elaborate series of businesses which support these syndicates, including cannabis plant nurseries, product suppliers, facilitators (who collect cannabis from a large number of small growers and on-sell it), hydroponic equipment suppliers, packagers and transporters.

There is a close association between hydroponic cannabis production and electricity theft. This has two implications. First, in order to achieve this theft of electricity, electrical meter boards are often tampered with or circumvented in a manner that is unsafe. This, and the amount of heat generated by hydroponic lighting, can lead to fires. This presents considerable risks to growers,

to investigating police and to the broader community. Second, this means that all purchasers of electricity are forced to subsidise the considerable cost of this theft.

Cannabis production in South Australia (SA) was almost universally regarded as 'booming' by key expert consultants from around Australia. It was suggested that SA has become a major focus of cannabis production because the history of cannabis decriminalisation in that state in the 1980s led to a culture of 'cottage industry' production. Predictably, SA also has a very large hydroponics industry which is now being subject to legislative reform and control.

Cannabis is the most commonly detected illicit drug among police detainees. The recent use of cannabis is almost universal among juveniles who spend time in detention.

Overall, the information gained from the literature and from key expert consultants from the law enforcement and health sectors painted a confusing picture of the patterns and extent of current cannabis use and the markets for the drug in Australia

2.9 Key findings and strategic issues in Chapter ten: Cocaine.

The overwhelming majority of the world's cocaine is produced in Bolivia, Peru and Colombia. In 2008, global potential cocaine production decreased by 15%. This is the lowest amount in the period 2004–2008 and is largely as a result of the significant reduction in Colombian production.

America has historically had the world's largest market for cocaine. While this is still the case, the use of cocaine in that country has fallen sharply in recent years. Following strong increases in recent years, Western European cocaine markets are now showing signs of stabilisation. Decreased demand from North America has been largely offset by increased demand in South America, and Western and Southern Africa.

The major cocaine markets in Australia are in New South Wales, Queensland and Victoria.

Australian research on cocaine markets has identified two distinct groups of Australian cocaine users. The first are employed, well educated, socially and economically integrated users who occasionally snort cocaine, typically with a range of other licit and illicit drugs. Their cocaine use is funded through paid employment (or 'shouting' by friends). This group report very few cocaine-related problems, largely because they use cocaine irregularly and at a low level.

The second group of users identified are socially and economically marginalised users predominantly from Sydney who typically inject cocaine, often in conjunction with heroin. They experience a much higher level of cocaine-related harms including financial, relationship and legal problems, and have high levels of cocaine dependence. They also spend substantially more on cocaine than the better integrated group of users.

Between 2004 and 2007, the proportion of Australians who recently used cocaine increased from 1.3% to 2.2% for males and 0.8% to 1.0% for females. There was a significant increase in recent use among 20–29 year old males between 2004 and 2007 from 3.7% to 7.0%. There was also a small increase in the number of Australians who had the opportunity to use cocaine in the past year between 2004 (3.1%) and 2007 (3.9%).

In recent years there has been an increase in the number of regular ecstasy users in several jurisdictions who reported recent use of cocaine. The frequency of use by recent users has, however, remained consistently low.

Consignments of cocaine rapidly diffuse into the Australian market through short supply chains characterised by low levels of cutting and relatively low mark-ups. Cocaine primarily enters Australia via Sydney and rapidly reaches users through these short supply chains which are often tightly socially-based.

Cocaine detections at the Australian border increased slightly in weight and significantly in number in 2007–08 compared with 2006–07. In total, 649.3 kilograms of cocaine was seized in 627 detections. This represents a 6% increase in weight and a 71% increase by number. The increase in number is largely attributable to importations by parcel post and air cargo using the 'scatter methodology'. The weight of national cocaine seizures increased by 2.8% in 2007–08 and the number of seizures increased by 7.3%, to the highest level on record. New South Wales accounted for approximately 80% of cocaine seizures by number and weight. The number of national cocaine arrests decreased by 4% in 2007–08; nevertheless, it was still the second highest reported in the last decade.

The median purity of cocaine seizures in NSW has gradually increased in recent years.

The total annual cocaine consumption in Sydney and Melbourne is approximately 2,916 kilograms. This would require the importation of 1,458 kilograms of high grade cocaine per annum for these two cities. These estimates indicate that the seizures of hundreds of kilograms of cocaine in recent years at the Australian border were not aberrations, but are consistent with the quantities needed to satisfy current levels of demand.

The trafficking and subsequent transhipment of cocaine from Canada continues to pose a significant threat to the Australian border. Similarly, the growth in cocaine trafficking through China and the Hong Kong SAR of China continues to be a significant issue.

Cocaine is an expensive drug. In 2008 the price of a gram and a cap of cocaine in NSW remained largely stable from the preceding year at $300 and $50 respectively.

Many key expert consultants suggested that the fact that cocaine is so expensive (especially when compared to methamphetamine) severely limits the market for the drug.

Cocaine is not a drug which features strongly in the drug use of police detainees.

There were 20 accidental drug induced deaths in Australia in 2004 which were associated with cocaine use. Deaths due to cocaine toxicity typically occur among male, experienced drug users who are, on average, in their mid-30s. Cocaine-related fatalities often involve multiple drugs, most commonly heroin and alcohol.

Cocaine is rarely a principal drug of concern for which government funded treatment is sought in Australia and is also rarely a cause of hospitalisation.

Overall the size and nature of cocaine markets in Australia are difficult to establish. Of concern is the range of measures which point to an increase in activity in the cocaine market in Australia, predominantly on the east coast in recent years.

Most of the key expert consultants were of the view that cocaine represented little risk to Australia in the future, largely as a result of its high cost (particularly relative to methamphetamine). From this perspective, cocaine is a niche drug, predominantly used by a few affluent Australians and is attractive only to those who can afford it.

Several key consultants suggested that the global financial crisis could significantly reduce the demand for this drug in Australia. While the use of cocaine has been traditionally associated with more affluent Australians, it is also important to be mindful that there is a second group of lower socio-economic group users.

It is probable, however, that cocaine has a niche position among both market groups, and any sustained expansion in the size of the markets is likely to come from those who can most afford it. This is reinforced by the fact that, for those seeking the effects of stimulant drugs, methamphetamine is a far more cost effective and longer lasting drug. Nevertheless, there is a risk that cocaine could become a more widespread 'fashion accessory' or status symbol which could increase demand.

Given the distances involved between Australia and the source countries for cocaine, the process of getting large quantities of the drug into Australia is a complex and risky one which necessitates the involvement of well organised criminal groups. The increasing use of scatter importations is evidence of the problems and risk associated with large importations.

Overall, the impression gained about cocaine markets in Australia is that they are relatively small, but that they were increasing at least in 2007, and potentially increasing still, particularly on the east coast. For this reason, there is a need for the law enforcement sector to continue to monitor cocaine markets.

2.10 Key findings and strategic issues Chapter eleven: Other drugs

2.10.1 Ketamine

Ketamine is a dissociative anaesthetic drug with pain killing and amnesic qualities. It is more commonly used in veterinary rather than human surgical settings. Ketamine has a wide margin of safety and few cases of ketamine overdoses have been recorded.

Most police key consultants reported that the use of ketamine was low and generally stable in their jurisdiction. The spread of use of the drug is probably being limited by the extent of its unpleasant side effects and, as such, it is a 'niche' drug.

Nevertheless, ketamine is a drug that warrants close monitoring. It has become a major drug of misuse in the Hong Kong SAR, for example, where it has largely replaced ecstasy as a drug of misuse. Major illicit manufacturing operations and seizures have occurred in China, Indonesia and Hong Kong SAR.

The threat posed by ketamine ought not to be seen as one that is confined to the diversion of the drug from pharmaceutical sources. Clearly, large-scale illicit production of ketamine is feasible and this could occur both onshore and offshore. Offshore production could relatively easily be diverted to Australia via established trafficking routes as occurred in Hong Kong SAR.

2.10.2 Gamma-hydroxybutyrate (GHB)

GHB is a naturally occurring fatty acid that occurs in the human body. GHB is a depressant drug and was originally developed as an anaesthetic, but was not widely used due to the incidence of unwanted side effects, including vomiting and seizures. Its use is relatively rare in Australia.

GHB is easily produced from a common ingredient in paint thinners and varnishes, gamma-butyrolactone (GBL). GBL and a similar chemical, 1,4-butanediol (1,4-B), are metabolised into GHB in the body when consumed. It is entirely possible that much of what is being sold as GBH is actually GBL (or potentially 1,4-B) because the effects are similar.

The effects of GHB are very dose-dependent, which means that there is an extremely small difference between the 'desired' dose and one that induces unconsciousness or death. Overdoses are very common, and fatal overdoses have occurred in Australia. It is also unfortunately common for multiple overdoses to occur simultaneously at the one event, which can severely stretch emergency services.

Overall, however, it appears that the use of GHB is stable in Australia.

2.10.3 Khat

The use of khat was raised during consultations for this environmental scan in the context of potential links between its use and incidents of family violence. Khat is a herbal product consisting of the leaves and shoots of the shrub *Catha edulis* which is chewed to obtain a mild stimulant effect. The importation of khat into Australia is prohibited unless the importer holds a licence and a permit. In Western Australia, South Australia, Queensland, the Australian Capital Territory and the Northern Territory it is an offence to possess and/or sell and/or cultivate khat.

Over the past decade, Australia has experienced a substantial increase in the proportion of the resident population which emanates from sub-Saharan Africa which has a long cultural history of khat production and consumption.

One of the difficulties associated with assessing the law enforcement impacts of the use of khat, is that its use is most prevalent in Australia among groups of people who often have a history of highly traumatic experiences, such as torture, war and the difficulties associated with shifting to a new country. It could well be the case that problems attributed to the use of khat could actually stem from these experiences, rather than from the use of the substance itself.

The issue of increasing khat use among immigrants from sub-Saharan Africa is clearly an issue that warrants monitoring. Nevertheless it is important to be mindful that khat is a relatively mild stimulant and, as such, it is possible to over-emphasise the role of khat in any problems that manifest themselves among khat users.

2.10.4 Kava

Kava is a psychoactive drink prepared from the root of the plant *Piper methysticum* and has been used for millennia in the Pacific islands. Kava use can be associated with a range of health harms. These include skin rashes, liver function abnormalities, and decreased level of specific white blood cells, lymphocytes. There is a large illegal market supplying kava in northern Australia and this is likely to remain a problem into the future.

2.10.5 Performance and image enhancing drugs

Performance and image enhancing drugs (PIEDS) are typically misused with a view to enhance muscle growth or reduce body fat. Overall it appears that the PIED market in Australia is relatively stable and not particularly dynamic. There is no evidence that it is an increasing problem.

2.10.6 Hallucinogens

The most common form of hallucinogens misused in Australia are magic mushrooms and lysergic acid diethylamide (LSD). Overall the market for hallucinogens in Australia appears stable and low.

2.10.7 Volatile substances

Volatile substances (also known as inhalants) are usually classified into four groups:

- solvents – liquids or semi-liquids that vaporise at room temperature, such as glues and petrol;
- gases – medical anaesthetics and fuel gases, such as lighter fuels;

- aerosols – sprays containing propellants and solvents, such as aerosol paints; and
- nitrites – amyl nitrite or cyclohexyl nitrite found in room deodorizers.

Data on volatile substance misuse (VSM) are generally of poor quality.

It is likely that poverty and marginalisation, rather than cultural attributes of particular groups, account for most VSM.

In remote Indigenous communities in Australia, petrol sniffing is the most common form of VSM, whereas in urban and regional centres sniffing aerosol paints ('chroming') is the preferred form of VSM among both Indigenous and non-Indigenous youths.

In Australia since 1994 the prevalence of petrol sniffing in some Indigenous communities, where it has been present for a long time (especially in Central Australia), appears to have declined. This has occurred alongside reports of increasing VSM in regional and urban centres.

Overall, it appears that the use of volatile substances is concentrated among younger particularly Indigenous Australians, and levels of use are stable.

2.11 Key findings and strategic issues in Chapter twelve: Vulnerable Australians

2.11.1 Indigenous Australians

It is very difficult to construct a coherent picture of alcohol and other drug problems experienced by some Indigenous Australians from the available research. This gap in the knowledge is particularly stark in relation to the misuse of alcohol and other drugs among some urban Indigenous Australians. Overall, the problems are simply not well understood.

This chapter paints a particularly bleak picture of the overall progress in addressing the alcohol and other drug problems experienced by some Indigenous Australians. It is important to note, however, that not all Indigenous communities are experiencing the kinds of issues described in this chapter. It is also important to be mindful that painting a broad brush picture of Indigenous alcohol and other drug problems misses many 'good news stories'. The overall tone of this chapter is in no way intended to reflect on the positive work that is being undertaken in some jurisdictions. Rather, the intention is to highlight that Indigenous Australians still represent a particularly vulnerable group.

There has been a slow rate of progress in addressing Indigenous alcohol and other drug problems. The exception to this is the improvements that have been made in reducing petrol sniffing in central parts of Australia, largely as a result of the introduction of Opal fuel. Most indices of alcohol and other drug-related harms among Indigenous Australians are, however, simply not improving.

The alcohol and other drug misuse problems experienced by some Indigenous Australians occur in the context of dispossession, alienation, and broadly-based deprivation.

Indigenous Australians, even those living within a single jurisdiction or region, cannot be regarded as a single homogenous (or harmonious) group, for whom 'one size fits all' responses can be applied to alcohol and other drug problems.

Alcohol remains the major drug problem impacting upon Indigenous Australians. The proportion of Indigenous Australians who drink alcohol is lower than that of non-Indigenous Australians, however; those who do drink are more likely to do so at hazardous or harmful levels. This alcohol-attributable death rate is three to five times higher among Indigenous Australians compared with the general Australian population. Young Indigenous Australians are particularly at risk of death,

injury or illness from an alcohol-attributable cause. The average age of death from alcohol-attributable causes among Indigenous people is about 35 years.

In the Northern Territory in 2007-08, there were 48,718 admissions to either sobering-up shelters or to police protective custody as a result of intoxication. Approximately 45,000 of these occasions involved Indigenous people. This does not include intoxicated offenders taken into custody. This is among an Indigenous population of approximately 73,000 and a total population of 220,000 in the NT.

Indigenous Australians are almost twice as likely as other Australians to be recent users of illicit drugs and to be injecting drug users. Indigenous Australians are much more likely to have used an illicit drug other than cannabis (12.1%) compared with non-Indigenous Australians (7.6%). Indigenous illicit drug users generally begin their use at an earlier age compared with their non-Indigenous counterparts.

Indigenous Australians are hospitalised as a result of mental/behavioural disorders stemming from the use of:

- multiple drug and psychoactive substances at 3.5 times the rate of non-Indigenous Australians;
- stimulant drugs and opioids at 2.9 times and 2.3 times the rate of non-Indigenous Australians respectively;
- cannabis at 4.6 times the rate of non-Indigenous Australians;
- volatile solvents at 32.3 times the rate of non-Indigenous Australians and, as a result of the toxic effects of organic solvents, at 3.6 times the rate of non-Indigenous Australians.

There is a great need for caution in applying frameworks developed to address alcohol and other drug problems among less disenfranchised people to highly disenfranchised groups of Indigenous Australians. In particular, there are risks associated with having unrealistic expectations about what alcohol and other drug supply reduction strategies can achieve. These risks become particularly acute when alcohol restrictions are introduced without the support of the communities concerned. There is a very high probability that externally-imposed alcohol restrictions further contribute to the sense of powerlessness, dispossession and alienation experienced by many Indigenous communities. Excessive reliance on supply reduction strategies can also lead to substance substitution; consuming alcohol in increasingly dangerous environments in order to comply with the law; travelling further to obtain alcohol (this is particularly problematic in the context of driving while intoxicated and using unsafe vehicles); and ‘humbugging’, (the practice of demanding money from relatives, often with threats of violence).

There appears to be a dichotomy of perceptions concerning the causes of the alcohol-related problems experienced by some Indigenous Australians compared with their non-Indigenous counterparts. The alcohol-related problems experienced by some Indigenous Australians (particularly in remote regions) are far more likely to be seen as resulting from supply-side problems. That is, the excessive availability of alcohol. On the other hand, the causal factors of alcohol problems among ‘mainstream’ Australians are far more likely to be attributed to demand-side issues with the appropriate responses being more heavily weighted towards demand-side responses (such as binge drinking campaigns, and the need for cultural change).

It is not difficult to come to the conclusion that approaches to the alcohol (and other drug) problems experienced by some Indigenous Australians could benefit from approaches which rely more heavily upon addressing the social determinants of their demand for alcohol, rather than relying so heavily on strategies that address supply.

Of central importance to this chapter are the particularly close links between Indigenous offending and substance misuse. Indigenous offenders are generally more likely to report being under the

influence of alcohol at the time of the offence or arrest, and are more likely to attribute their offending to substance use than are non-Indigenous offenders.

The rates of incarceration of Indigenous Australians have increased dramatically in recent years. Indigenous offenders are also more likely than non-Indigenous offenders to receive a prison sentence if convicted. Indigenous offenders are more likely to have subsequent contact with the criminal justice system, once they first come into contact with it, compared with their non-Indigenous counterparts.

In the majority of diversion programs which have been evaluated, and for which the evaluations are available, Indigenous people are less likely than their non-Indigenous counterparts to be referred and accepted into the programs.

Indigenous offenders who have participated in various forms of diversion are also more likely to re-offend following a diversion episode than are non-Indigenous offenders who have been diverted.

There is a need to better tailor diversion programs to the drug use problems specific to Indigenous offenders and to consider the expansion of programs to cover substances such as alcohol and inhalants, which generally fall outside the scope of many of these initiatives. In addition, it is often very difficult to access diversion programs from remote communities. A further issue that warrants consideration is the extent to which those who provide diversion programs to Indigenous Australians are adequately equipped to respond to the complex needs of many in this group.

The high rate of incarceration of Indigenous Australians ought not to be regarded as exclusively a failure of the criminal justice system. Rather, it is symptomatic of a very long-term failure to address the underlying social determinants of offending and alcohol and other drug misuse among some Indigenous Australians. This could be viewed as a form of cost shifting, in which the ultimate cost of problems is shifted from the health, welfare and education sectors to the criminal justice sector. In other words, while there is clear scope for improvement in criminal justice approaches to Indigenous Australians, there are also limitations concerning what these approaches can realistically be expected to achieve, given the current paucity of approaches that address the fundamental structural determinants of these problems.

There appears to be a particularly strong association between substance misuse, particularly alcohol, and the sexual abuse of children in some Indigenous communities.

There is an increasing body of evidence that suggests that cannabis use is having a substantially detrimental effect on some Aboriginal and Torres Strait Islander communities. Nineteen percent of Indigenous Australians claimed to have used cannabis in the preceding 12 months, compared with 11% of other Australians.

The overwhelming proportion of police officers serving Indigenous communities in the Northern Territory, Queensland, South Australia and Western Australia reported that cannabis was easily available in their area and one third reported that this use had increased or greatly increased in the past three years.

Up to two-thirds of males and one in five female Indigenous Australians in some remote areas regularly use cannabis, and the age of initiation into cannabis use is falling, with children as young as 10 or 11 years old now smoking it.

There is now a thriving trade in cannabis in many Aboriginal and Torres Strait Islander settlements, even in Australia's most isolated regions. Disturbingly, this new wave of cannabis use appears to be in addition to, not instead of, the use of alcohol and other substances. In some communities it

appears that cannabis has become the 'new currency' and there are increasing concerns about the level of associated mental health problems.

There is anecdotal evidence that the alcohol restrictions which resulted from the introduction of the Northern Territory Emergency Response intervention have been associated with an increase in cannabis consumption in some Indigenous communities.

A strong association has been found between heavy cannabis use and moderate to severe depressive symptoms in Indigenous communities in Arnhem Land. Any factor, such as heavy cannabis use, which is associated with increased rates of depression, should be seen in the context of the threat that it could pose to the already alarming rates of suicide among Indigenous Australians.

There is a very concerning potential for the drug networks that currently supply cannabis to outlying areas to be used to channel amphetamines and other injectable drugs in the future. Police officers serving communities with Indigenous populations commonly report increasing evidence of methamphetamine use in the communities.

If the use of psycho-stimulants in Indigenous communities continues to increase, it will have major ramifications for the individuals and communities involved, many of whom are already experiencing substantial harm as a result of alcohol and other drug use. It will also have major impacts in terms of the provision of policing services to these communities, as it could be expected to lead to increases in violence and methamphetamine-induced psychosis.

The introduction of Opal (non-sniffable) petrol has resulted in a significant reduction in petrol sniffing in Indigenous rural and remote Indigenous communities. Central Australia and the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands had reductions of 94% and 93% respectively.

Although the introduction of Opal fuel does appear to have had a substantially positive impact upon petrol sniffing, there is a great risk of displacement to other volatile substances such as paints and methylated spirits and to other drugs such as cannabis.

Several key expert consultants expressed major concerns about burgeoning problems of pharmaceutical misuse within some Indigenous communities. Typically, this involves the misuse of benzodiazepines and pharmaceutical opioids by friends and relatives of those to whom the drugs are prescribed. The perceptions of the key expert consultants rely on anecdotal evidence as no research has been conducted into the issue.

2.11.2 Younger Australians

Younger Australians represent a particularly vulnerable group so far as experiencing alcohol and other drug related harm is concerned. There is emerging evidence of increases in levels of acute alcohol-related harms accruing among younger Australians, especially in terms of increased intoxication-related hospital admissions.

Australians aged 20–29 years remain more likely than those in the other age groups to have used an illicit drug in the previous 12 months.

A key issue that arose in this environmental scan was that of the pivotal role of police intervention in child abuse and neglect, particularly but not exclusively in Indigenous communities. Parental alcohol and other drug misuse is a common feature of this neglect. Approximately 10% of children live in households where there is parental substance misuse or dependence.

A critically important issue that arose during consultations for this environmental scan was the potential for strategies (such as diversion programs) that are intended to keep younger people out of the criminal justice system, and legal frameworks which prevent community agencies from sharing information about troubled young people, to obscure the fact that their offending essentially stems from family neglect. In other words, by focussing on the legal rights of children (by the use of mechanisms to divert them from the criminal justice system and to protect their privacy) this can lead to a situation which over-rides the rights of the children to be physically and emotionally cared for.

Some key expert consultants argued that, in the past, court process provided a 'circuit breaker' in which a child's overall situation could be assessed and, where that situation was found wanting, relevant community resources could be focussed on, ensuring that the child's overall needs were being met. So, too, it was argued, these court processes were often a means through which community agencies could be held accountable for their inaction in relation to the welfare needs of specific children.

2.11.3 Australians experiencing comorbidity

In this context comorbidity refers to the co-existence in individuals of a mental health and substance misuse disorder. Several key expert policing consultants indicated that this has become an increasing problem. Important in this regard are attendances at violent incidents, public nuisance and street offences, as well as the resultant need to transport the affected individuals to appropriate health facilities. A factor that complicates this transportation is the difficulty that is associated with locating facilities that accept patients with comorbid conditions. This is an issue that warrants closer research examination

Chapter three: Illicit drug law enforcement in Australia – some strategic issues and considerations

3.1 Introduction

This chapter consists of a distillation of strategic issues concerning illicit drug law enforcement that arose during this environmental scan. Some of these issues are simply challenges that will arise over the next few years. Others offer some promise to enhancing the law enforcement sector's strategic responses to illicit drug problems.

3.2 The continued switch from naturally produced drugs to synthetic drugs

Historically, many of the problems faced by drug law enforcement have involved drugs which are derived from natural sources, such as cannabis, heroin and cocaine. In recent years there has been a major shift towards the manufacture and misuse of synthetically derived drugs. There are two aspects to this. First, and most obvious, is the increase in the clandestine production of amphetamine type stimulants and other drugs such as gamma-hydroxybutyrate (GHB). Second is the shift, in developed countries at least, from the misuse of naturally produced illicit drugs (in particular heroin) to the misuse of pharmaceuticals.

There is every reason to believe that the clandestine production of synthetic illicit drugs will continue to grow. It is likely to be far easier for criminal groups to synthesise drugs compared with growing and importing them. This is because synthetic drug production:

- can occur anywhere that has access to precursors;
- is not dependent on having access to land to produce the raw product;
- is not dependent on climatic conditions;
- can be relatively easily scaled up to mega-lab production to increase output; and
- has a substantially greater opportunity for profit.

Cherney, O'Reilly and Grabosky (2005) citing Dirección Nacional De Estupefacientes and Wilkins (2003) explained:

To produce one kilo of cocaine, one has to cultivate nearly one hectare of coca, and use nearly 200 kilograms of inputs which include acids, solvents, bases and salts. To produce one kilogram of synthetic drugs requires only five kilograms of inputs, an amount that can vary depending on the precursors used and the method of manufacture. The production of synthetic drugs can be completed in a matter of days and is a relatively non-labour intensive procedure compared to cultivating cannabis or heroin. Profitability and mark-ups are huge (p 7).

A further complicating issue is that synthetic drugs have a double supply-side system. That is, the drugs or their precursors can be diverted from licit pharmaceutical and chemical trades, as well as from illicit supplies and manufacturing (Chawla, 1998, as cited in Cherney et al., 2005).

It is important to emphasise that the future direction of clandestine production of synthetic drugs is unlikely to be confined to psycho-stimulants. It could be anticipated that the clandestine production of depressant drugs will become an emerging problem (as is the local production

of GBH). International drug traffickers have, for example, been involved in the clandestine manufacture of fentanyl[2], in Mexico for markets in Canada and the United States (for example, see Ault, 2008). This has also occurred in Eastern Europe (for example, see European Centre for Monitoring Drugs and Drug Addiction, 2008). The manufacture of fentanyl requires minimal technical knowledge (probably less than for methamphetamine production), and recipes for making it are available on the Internet (Centers for Disease Control and Prevention, 2008). The local production of fentanyl (or a drug much like it) is likely to be far easier and cheaper than the importation of heroin. In other words, in the future, drugs such as fentanyl could become to heroin what methamphetamine is to cocaine. Likewise, ketamine, a powerful anaesthetic drug, is being produced illicitly in large quantities in China and has now largely displaced ecstasy as a drug of misuse in Hong Kong SAR.

The increasing shift towards illicit synthetic drug production is likely to represent a major challenge for law enforcement because of the use of often readily available precursors. Criminal organisations have already shown that they can adapt to restrictions placed upon these precursors, for example by using proto-precursors.[3] If each precursor requires two or three proto-precursors, then the number of chemicals which the law enforcement sector will be required to control will grow exponentially. So, too, it is likely that as yet unheard of illicit drugs will be invented, all of which will have precursors which are little understood and have proto-precursors which are even more difficult to identify and control.

The second important trend is the increasing role of psychoactive pharmaceutical drugs in illicit drug markets. In recent years, many developed countries have seen a massive increase in the prescription and misuse of these drugs. There has clearly been a substantial increase in the prescription of pharmaceutical opioids and stimulants in Australia in the past decade and there are increasing indications of their misuse. The increasing prescription and diversion of pharmaceuticals represents a series of difficult problems for policing including:

- providing an additional dynamic to the already complex illicit drug market;
- the behavioural problems associated with intoxication from pharmaceutical drugs;
- crime committed while under the influence of pharmaceutical drugs or in order to obtain them; and
- driving while under the influence of pharmaceutical drugs (Nicholas, 2002).

Little is currently known about the ways in which the use, misuse and illicit sale of pharmaceutical drugs are impacting on illicit drug markets and drug harm in Australia. This is an important area of future research. It will also be an important area for the development of partnerships between the law enforcement sector and health colleagues. This is a sensitive and complex issue and is explored in detail in the chapter of this scan that deals with pharmaceutical drugs.

In summary, in general terms, psychoactive drugs can be produced substantially easier and cheaper via illicit or pharmaceutical means compared with via traditional naturally-based illicit methods. The exception to this trend is likely to be cannabis which will continue to be produced in large quantities under laboratory-like hydroponic conditions. New illicit substances will continue to be developed, new production methods will arise and pharmaceutical drugs will continue to leak, at least to some extent, from licit markets. This is, however, likely to be the future of drug law enforcement.

[2] Fentanyl is a synthetic opioid that is 30–50 times more potent than heroin (Ault, 2008). It is also a drug prescribed in Australia for the management of pain.
[3] Proto-precursors are chemicals which can be used to make up precursors.

3.3 The problem of evaluating drug law enforcement and other supply reduction activities only against supply reduction and other drug-related outcomes

Several commentators have sought to delineate the way in which the resources applied to Australia's national illicit drug effort are apportioned. Moore (2005), for example, reported that in 2002–03 in Australia, spending on illicit drug policies amounted to $3.2 billion with $1.3 billion spent on proactive policies and $1.9 billion spent reactively, dealing with the consequences of illicit drug use. Moore (2005) suggested that proactive spending was apportioned as follows:

- 42% to law enforcement;
- 14% to interdiction;
- 3% to harm reduction;
- 17% to treatment;
- 23% to prevention; and
- other 1%.

As is evident, Moore (2005) is suggesting that 56% of Australia's national drug budget is directed towards law enforcement and interdiction. Leaving aside for one moment concerns which might arise in relation to the methodology used to calculate law enforcement costs[4], there are a number of issues with these kinds of assertions that warrant closer examination.

First, there is a tendency to minimise the impact that law enforcement activities have on demand reduction and harm reduction outcomes. The law enforcement sector, for example, is pivotal to the operation of diversion programs and to demand reduction via drug use deterrence effects. It is also important to be mindful of the contribution that supply reduction activities make to demand and harm reduction outcomes. Moore et al. (2005), for example, reported on the close inverse relationship between heroin price and the frequency of overdoses. That is, as heroin price increases, overdoses decrease. They found that 87% of the variation in overdoses in Melbourne from mid-1999 through to early 2004 could be explained by price changes alone. From this perspective, supply reduction activities which inflate the price of illicit drugs have a very major impact upon harm reduction outcomes.

Equally, even in the absence of a significant impact on the total supply of drugs, drug law enforcement activities have the capacity to shape illicit drug markets so that they manifest themselves in less harmful ways. These activities can, for example, force visible street dealers to convert their activities into more discreet meetings arranged by mobile phone, thereby enhancing public amenity (Caulkins, 2007).

Second, there is also a tendency to downplay the influence that the perspective of the broader community has in shaping law enforcement responses to illicit drug use and related criminality. The community demands that policing activities are directed towards illicit drug supply and use and the myriad of ways in which illicit drug use can impact on the lives of those who choose not to use illicit drugs.

The third, and perhaps most significant issue is the misapprehension that all the measures carried out to reduce the supply of illicit drugs in Australia (including drug law enforcement activities and other measures to harden Australia as a target for the illicit drug trade) are carried out solely for the purpose of reducing the supply of illicit drugs to the Australian community.

[4] As a basis for calculating the cost to policing services, for example, Moore used the proportion of police detainee hours in Australian police stations that were associated with illicit drug offences and multiplied this proportion by the total policing budget with a 10% reduction for activities not related to crime prevention of law enforcement.

Before expanding on this point, it is important to emphasise that supply reduction efforts applied with the aim of illicit drug harm minimisation will remain a central plank of law enforcement's efforts in this area. Nevertheless, this is a very drug-centric way of viewing this area of law enforcement activity. This is because it fails to locate illicit drug law enforcement in the broader context of a fight against organised criminality. In this way, illicit drug law enforcement, particularly at the higher levels, should be seen not only as a way of reducing the supply of illicit drugs to the community, but as one facet of a much larger struggle against organised criminality.

While most successful organised crime groups in Australia are involved in the illicit drug market, they also have a presence across many sectors and crime types. They are also generally involved in some form of financial crime or money laundering and have the ability to move between several illicit markets or criminal activities. While illicit drugs are likely to remain the primary source of criminal proceeds for organised crime groups, these groups pursue new sectors and activities as they become appealing or profitable (ACC, 2009b).

From this perspective, illicit drugs are merely one among a range of commodities and activities in which criminal groups are involved which have the purpose of generating wealth and potentially influence. Organised crime groups are fluid operations which can move between illicit drugs, fraud, financial sector crimes, environmental crime, firearms trafficking, intellectual property crime and people smuggling.

So, too, the harm to the Australian community associated with illicit drug markets extends well beyond the direct harm to users or the indirect harm caused by users to other members of the community. As the (United Kingdom) National Criminal Intelligence Service (2002) found, the illicit drug trade itself has the potential to exploit and subvert individuals, businesses, communities and institutions through corruption, coercion, violence and other criminal means. Indeed it is hard to imagine the illicit drugs trade functioning without these activities occurring to some extent.

The example of money laundering is relevant here. Most organised crime groups are generally involved in some form of money laundering. This involves complex criminal activities that are used to disguise the origin of criminal profits. This affects the Australian community in many ways. This includes the 'crowding out' of legitimate businesses in the market place by money laundering front businesses. Money laundering also increases the tax burden on Australians by evading tax payments. In addition, large-scale unanticipated international funds transfers influence the volatility of exchange rates and interest rates (ACC, 2009b).

Money laundering is just one facet of the hidden deleterious effects that the illicit drug trade has on Australia, but it highlights that the benefits that accrue to the community that are associated with illicit drug law enforcement activities extend well beyond a reduction in illicit drug supply.

While conducting this environmental scan, it became clear that there is currently a fundamental disconnect in the discourse concerning illicit drug law enforcement activities between those who are involved in drug law enforcement and those who look at drug law enforcement from the outside. Those looking at drug law enforcement activities from the 'outside' see (at best) a group of activities aimed at minimising the harm associated with the use of illicit drugs by reducing their supply. The law enforcement sector 'looking out' also sees drug law enforcement in this way, but also sees it in a much broader context of a fight against criminality.

It will therefore be important for the law enforcement sector to ensure that, in the future, illicit drug law enforcement activities are considered in this broader context by our colleagues from other sectors.

3.4 Is the current balance of measures utilised by the law enforcement sector maximising its impact on illicit drug markets?

At a general level, the law enforcement sector in Australia impacts upon illicit drug markets in Australia in two ways. The first and most obvious of these is by the enforcement of illicit drug laws at, or within, the border. At one level, this involves the prosecution of those involved in the supply of illicit drugs with the resultant judicial sanctions. This provides punishment and some direct disincentive for repeat offending, or for others to become involved in illicit drug-related crime. Diversion and cautioning activities represent another important part of illicit drug law enforcement and police have an important role in this regard. These activities have the ultimate aim of reducing the demand for illicit drugs and the harm associated with their use.

There is, however, a whole range of other law enforcement activities which harden Australia as a target for the illicit drugs trade which do not involve the enforcement of drug-related laws. These are the range of activities which make it more difficult for those involved in criminality to undertake their business activities. As Nicholas (2003) pointed out, the trade in illicit commodities requires a wide range of ancillary activities to support it, many of which are very expensive in one way or another. These activities include the use of violence, money laundering, fraud, the corruption of officials (particularly in less developed countries) and the use of skilled financial and legal facilitators. The law enforcement sector has a major impact on criminality by curtailing these ancillary activities and making them more difficult or expensive. Also important in this regard is exploiting other weaknesses in the functioning of organised crime groups which may or may not be related to illicit drug-related parts of the business.

Critically important to this is confiscating the proceeds of crime. Research conducted by the Matrix Knowledge Group (2007) in the United Kingdom, for example, sought to ascertain which of the outcomes of law enforcement activities were of most concern to high-level illicit drug dealers. Imprisonment, for example, was seen largely as an occupational hazard or an unlikely risk and was of little concern to the dealers. Larger enterprises were generally able to be handed over to employees or colleagues when imprisonment occurred. Imprisonment was, at times, seen as an opportunity to grow drug businesses by making contacts inside prisons. So too fines, or the seizure of drugs were not viewed as major problems. By stark contrast, most dealers were very concerned about asset confiscation. The risks associated with asset confiscation were regarded by many of the dealers as being the major disincentive to involvement in the drugs trade and a major impediment to their activities.

Over the past decade many law enforcement agencies have been increasingly using these non-drug law enforcement related tools to disrupt criminal organisations. Many of the law enforcement key expert consultants interviewed for this environmental scan perceived that there was substantial scope for increasing the use of these non-drug law enforcement tools to impact on drug markets. Foremost in this regard were ‘following the money trail’ and asset confiscation.

A further factor in this regard is that the enforcement of illicit drug laws is likely to become more difficult over the next decades. This is because, as was discussed above, it is likely that in the future an increasing proportion of illicit drugs will be synthetically-based with multiple possible precursors and production methods.

As is evident, if there were to be an increase in using these non-drug law enforcement related tools, criminal organisations will seek to harden themselves against these tactics. Some law enforcement key experts, for example, reported on the increased use of skilled financial and legal facilitators to establish legal structures that make asset confiscation more difficult.

There is no suggestion that drug interdiction in all its forms should become less of a priority. Nevertheless many of those consulted were of the view that tactics that exploit other areas of vulnerability in criminal organisations provided more opportunity for an *expansion* in law enforcement activities than did approaches that focus on the substances themselves.

3.5 The increasing importance of partnerships to drug law enforcement

A critical issue that arose during consultations with key law enforcement experts was the increasing importance of partnerships with outside agencies. This is particularly significant in the context of the trend towards synthetic drugs. As Cherney et al. (2005) reported, in the future, law enforcement is likely to have a diminished capacity to control the supply of synthetically produced drugs through 'traditional' means such as interdiction and criminal investigation. They recommended that supply reduction activities should be more focussed on strategies of engagement with other agencies. The aim of this is to impact on significant 'factors of production' such as precursor chemicals, and the necessary equipment, environments and infrastructure that facilitate the manufacture of illicit synthetic drugs.

Cherney et al. (2005) argued that such outcomes can only be achieved through strategies that enlist the capacities of external institutions within the private and public sectors. This can be achieved through a variety of mechanisms that compel and persuade interested parties to take some level of preventative action. They listed several mechanisms through which this could be achieved. In descending order, based on their level of coerciveness, these included:

- Conscription: involves mandating third parties, through such mechanisms as legislative provisions to carry out certain functions.
- Required record keeping and disclosure, which involves the recording and disclosure of relevant transactions by private sector bodies.
- Conferring entitlements. This is similar to 'third party policing' which involves police efforts to persuade or coerce third parties, such as landlords, parents, local governments and other regulators, and business owners, to take some responsibility for preventing the factors of production of synthetic drugs.
- Required private interface: enlisting particular professions to prevent, detect and disclose illegality on the part of their clients.
- Co-optation of external interests (private and public sector), which involves forging cooperation with the public and private sectors through formal or informal agreements.
- Incentives involving facilitating cooperation and compliance through rewards. These can include financial and reputational rewards as well as reduced regulatory burdens and commercial benefits.
- Contracting out. Given the increasing sophistication of illicit drug production and distribution, relevant knowledge about manufacture and supply will not always lie within public police agencies themselves, but may also reside within private arenas and networks.
- Delegation or deference to private parties. In some regulatory settings, the task of developing rules and codes of practice can be formally or informally delegated to private interests.

In their examination of the effectiveness of various drug law enforcement strategies, Mazerolle, Soole and Rombouts (2007) highlighted the empirical evidence that supports the effectiveness of partnership-based drug law enforcement. They found that proactive interventions involving partnerships between the police and third parties and/or community entities appear to be more effective at reducing both drug and non-drug problems in drug problem places than are reactive or directed approaches.[5]

[5] In making this observation, the authors also pointed to the fact that quality of evaluation in this area is generally poor.

The ongoing development of partnerships with other overseas law enforcement agencies in the region and beyond is likely to become an increasingly important strategy as time goes on. The AFP already has 87 officers in 34 posts in 28 countries and Customs also has representatives stationed overseas. The development of partnerships in the Asia Pacific region is likely to be most important in this regard, given the extent to which this is a source of illicit opioids and ATS and their precursors. The Law Enforcement Cooperation Program has already assisted in the development of substantial capacity within the region. It has led to joint investigations into major drug trafficking syndicates operating across multiple jurisdictions. Likewise, the Pacific Trans-national Crime Network which includes police, customs and immigration officials from Fiji, Samoa, Tonga, Papua New Guinea, Vanuatu and Micronesia. This network provides a proactive trans-national criminal intelligence and investigative capacity for the region. This is likely to be very much the way of the future.

In summary, law enforcement in Australia has already entered into a number of important partnerships with agencies in the public and private sectors. This is likely to become more important as time goes on and the range of models developed by Cherney et al. (2005) provides a good perspective from which to view the options available.

3.6 Can the law enforcement sector and its partners be more systematic in responding to the peaks and troughs in the use of different illicit drugs?

Australia has experienced a number of peaks and troughs in the use of different illicit drugs in recent decades. At first glance, this may appear to be a fairly random process but there is now a significant knowledge base that that applies dynamic systems methods to model patterns of illicit drug use. In other words, the dynamics that drive drug 'epidemics'[6] and the patterns these epidemics take are now better understood. Consequently, there is scope for much improved responses from law enforcement and its partners based on which stage the drug epidemic is at (Caulkins, 2007).

As Caulkins (2007, citing a range of authors) outlined, the dynamics inherent in drug epidemics, particularly for expensive and dependence-causing drugs, are relatively predictable. First, new drugs spread rapidly via positive feedback loops generated by current users introducing the drug to their non-drug using friends. When use reaches critical levels, the markets supplying that use 'tip' into more efficient and resilient forms. These denser markets achieve economies of scale that reduce prices. This stimulates further initiation into use. Over time, the ratio of longer-term users to recent initiates increases, which can lead the media and potential users to associate the drug with the problems experienced by its chronic users. This acts to stifle initiation, which further skews the distribution of current users towards longer-term users. This in turn triggers a negative feedback loop that substantially reduces drug use.

In other words, drug epidemics follow relatively predictable courses involving rapid growth, overshoot, peak, partial decline and potentially subsequent undershoot and oscillation around a stable level.

The key issue is that systemic responses to drug epidemics can and should be refined according to the stage the drug epidemic is at. Caulkins (2005 & 2007) and Behrens, Caulkins, Tragler & Feichtinger (2002) argued that, at present, responses to illicit drug problems are being hampered because all the agencies responding to these problems respond in the same way regardless of the stage of the epidemic. They argued that every mode of intervention has a valuable role to

[6] Drug use can be usefully modelled as an epidemic inasmuch as one user can 'infect' another.

play at one point or another in the drug use cycle (see Caulkins (2007) for an outline of the most appropriate responses for drug law enforcement, prevention, treatment and harm reduction agencies at each stage of drug epidemics).

A key implication of this modelling is that law enforcement is most effective at suppressing drug use during early stages of a drug epidemic but that this declines markedly as the size of the market grows. In other words, supply control programmes have a unique capacity to disrupt the contagious spread of a new drug (or the return of an old drug such as heroin), but have only limited ability to eradicate established markets. Law enforcement does, however, have the ability to shape and displace established markets into less destructive forms (such as forcing visible street dealing to convert to discreet meetings arranged by mobile phone) (Caulkins, 2007). This emphasises the importance of law enforcement responding promptly and forcefully to the emergence of new illicit drug trends before they become more entrenched.

It is not the intent here to outline (or endorse) all of the implications for the law enforcement sector of this kind of modelling. Indeed there is a great deal more work to be done in better understanding the implications of this work and how they would mesh with the political realities of the law enforcement environment. Also it is less clear whether these kinds of models are equally applicable to drugs such as ecstasy which have less dependence-producing potential. Nevertheless, this represents a potential step forward for the ways in which countries can respond to illicit drug epidemics in more systematic ways.

3.7 The amateurisation of illicit drug production and retailing

An important theme that emerged in this environmental scan, particularly following discussion with key expert consultants from the law enforcement sector, was the amateurisation of illicit drug production and lower-level distribution that has occurred over the past 10–15 years. This trend has been particularly evident in relation to synthetic drugs.

3.7.1 Illicit drug production

Over the past decade there has been a significant increase in the clandestine production of synthetic drugs, especially methamphetamine, in Australia. Historically there were a limited number of individuals with the competence to make these drugs and these 'cooks' were generally well known to police. Now, following the advent of the Internet, there is almost universal access to methamphetamine and other synthetic drug production recipes. Information is also freely available on obtaining precursor chemicals.

Policing key expert consultants reported that they are increasingly uncovering clandestine laboratories run by individuals with no criminal history who often have limited expertise in illicit production.

On the one hand, the involvement of amateurs could be somewhat curtailed by the increased difficulties associated with obtaining the necessary precursor chemicals. On the other hand, the potential profits associated with synthetic drug production are so substantial that this is likely to attract further entrepreneurial individuals who do not necessarily have a criminal past, but who have the requisite knowledge, contacts and skills. Likewise synthetic drug production in small-scale 'addiction' or 'socially-based' laboratories[7] adds another dimension to this problem. In addition, the development of new synthetic drugs and the increasing use of proto-precursors for new and existing drugs (and the rapid spread of this information in the Internet) is likely to provide added impetus to this trend.

[7] This involves the production of synthetic drugs largely to cater for the individual producer's own addiction and/or to provide surplus drugs to those in their social networks on a not-for profit or very low profit basis.

3.7.2 Illicit drug retailing

In recent years there has been a major change in the functioning of the lowest level of illicit drug markets in Australia. A very large proportion of retail-level drug purchases (with the exception of heroin) are now made within social networks, rather than from 'drug dealers' (see Nicholas, 2008b). Many of these transactions are on a not for profit (or very low profit) basis. This represents a fundamental change in the functioning of illicit drug markets and represents a major challenge for policing.

There is also a remarkable lack of awareness among many of these low-level dealers, of the potential legal consequences of being found in possession of trafficable quantities of illicit drugs such as ecstasy. There are two implications of this. First, there is an obligation on the law enforcement sector to enhance their understanding of the potential legal implications, particularly of offences related to the possession of illicit drugs in trafficable quantities. Second, an education initiative focussed on this issue (perhaps conducted in concert with a health-related campaign) could represent one of the few points of leverage that the law enforcement sector has in relation to socially-based drug markets.

Clearly, organised and professional crime groups will continue to have a major role in the production and distribution of drugs. Nevertheless the advent of the Internet with the resultant easy access to illicit drug production recipes and socially-based drug markets have introduced a further dynamic into illicit drug markets. Overall, there is an important need to better understand this phenomenon and as such further research in this area is warranted.

3.8 Technology

The rapid development of information and communications technology will continue to provide challenges to drug law enforcement. The encryption of files, emails and phone calls, the use of Voice Over Internet Protocols, and 'massively multiplayer online games' all serve to enhance the anonymity of criminals. There will be an ongoing need for law enforcement to invest in software and other tools to enable the targeting of drug crime committed via complex communications technologies. As has been discussed, the Internet also facilitates the rapid spread of information about new illicit drugs, their production methods and the ways in which their precursors can be obtained.

3.9 Jurisdictional differences in restrictions on the availability of precursor chemicals for illicit drug production

The control of precursor chemicals is a central strategy in stemming the tide of illicit drug production worldwide. There are some concerning anomalies between jurisdictions as far as the restrictions of the availability of precursor chemicals for ATS production are concerned. There has, for example, been unequal rollout of Project Stop, which means that pseudoephedrine is more tightly controlled in some Australian jurisdictions than others. This is leading to a lucrative trade in pseudoephedrine from jurisdictions with low levels of rollout of the program to those with a high level of rollout, particularly Queensland.

So, too, there is a lack of uniformity in the scheduling of controlled precursor chemicals and drugs between jurisdictions. This means that drugs such as 1-benzylpiperazine (BZP) are able to be imported into Australia but are illegal to possess in states and territories. Both of these factors are enhancing the opportunities for the trade of precursors between jurisdictions. This is also an issue that warrants closer attention.

3.10 Conclusion

As is evident, illicit drug markets in Australia will continue to evolve in response to law enforcement and regulatory pressure, illicit drug demand trends and global political and environmental issues. It will be important for the law enforcement sector to be regularly scanning the environment and detecting emerging trends in patterns of illicit drug production, distribution and related criminality. Particularly important in this regard will be the ability to critically examine available research and intelligence and continually ask 'So what?' about what this actually means for drug law enforcement.

Chapter four: The strengths and weaknesses of Australia's data sources concerning alcohol and illicit drugs – a law enforcement perspective

4.1 Introduction

Australia is among the world's leaders in having available information that can be used for monitoring drug-related issues and trends (Siggins Miller, 2009). This environmental scan uses data from a range of sources to paint a picture of alcohol and other drug problems as they impact on the Australian community in general and on law enforcement in particular. While all of these data sources contribute to the development of this picture, all research has limitations and makes underlying assumptions. It is important for the law enforcement sector to recognise these when using and interpreting the data. These limitations become particularly evident when viewing the results from the data collections in isolation. Relying on trends identified in one source of data is problematic unless they are supported by other sources.

This chapter explores some of these issues from a law enforcement perspective. It was developed in response to a tendency on the behalf of some of those consulted in this environmental scan (from all sectors) to unquestioningly accept the results of research and to develop policy accordingly.

4.2 Assessing the utility of data for drug law enforcement purposes

There are a number of factors that need to be taken into consideration when drawing implications for law enforcement utilising alcohol and other drug-related data.

4.2.1 They could provide an inaccurate picture of alcohol and other drug (AoD) problems

The first, and most obvious, of these factors is the extent to which the data collections accurately reflect the reality of the extent and nature of AoD problems being experienced in the country at any point in time. As Livingston (2008) pointed out, even when comparisons between survey data are restricted to repeated waves of the same survey taken over time, it is possible that the trends detected in the series of surveys do not reflect substantive changes in problems. They could instead result from changes in the sampling frames used (for example, in relation to telephone surveys, the increasing number of households without a landline), changes in response rates, or other unaccounted for changes. It can also result from the exclusion from surveys of certain groups that have higher or lower levels of consumption.

4.2.2 An inability to generalise across populations

The second factor is that it is important to avoid category errors when seeking to generalise trends beyond the sample of individuals that were involved in a given piece of research. The Illicit Drug Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting Systems (EDRS), for example, are sentinel reporting programs. In these programs, research is conducted yearly with similar groups of injecting drug users and regular ecstasy users. This is done in order to detect changes in the illicit drug use of these groups that might be indicative of future trends. The data from these surveys cannot be assumed to be indicative of all illicit drug users or of drug use among the broader community.

4.2.3 Assumptions about law enforcement implications

The third issue is that from a law enforcement perspective, even if a particular AoD-related trend is accurately identified as occurring, it cannot be assumed that the trend will impact on the law enforcement sector in a way that is consistent with other sectors.

If, for example, population surveys indicate a reduction in methamphetamine use, it cannot necessarily be assumed that this reduction would be reflected in less methamphetamine-fuelled crime and disorder offences seen by police. This is because a reduction in methamphetamine use within the broader population might not be reflected in a reduction of use and problems among the more seasoned and heavier methamphetamine users who are more likely to offend.

4.3 An analysis of data sources

What follows is a brief discussion of several of the major AoD data collections which outlines their strengths and limitations. This is not intended to be a comprehensive analysis of all AoD data sources in Australia (for this, in relation to illicit drugs, see Degenhardt and Dietze, 2005). Nor is it intended to criticise the value of these data collections. Rather, the aim is to emphasise the importance of adopting a cautious approach to the interpretation of research in this area.

As Degenhardt and Dietz (2005) reported, drug data can be categorised into two types, direct and indirect. Direct data sources refer to those in which a group of participants is asked about their use of drugs and/or their experiences of the consequences of that use. Indirect data sources are those which measure indicators of drug use or drug use problems. This examination of drug data sets focusses primarily on direct data sources with one indirect data source also considered.

4.3.1 Population surveys

Household-based surveys are normally the 'gold standard' for systematic data collection (Moore, 2006). They can, however, be problematic, particularly as far as measuring the levels of consumption of illicit drugs that are less frequently consumed. This can result in substantial underestimates of actual usage of these drugs and be subject to large errors (Degenhardt & Deitz, 2005). In this regard, it should be noted that it is the less prevalently used illicit drugs (such as heroin), which generate levels of harm that are out of proportion with their actual level of use, which are most likely to be underestimated. In addition, some patterns of AoD use are stigmatised and/or illegal and this can impact on the truthfulness of the responses obtained. A further issue is that the social acceptability of certain patterns of AoD use can change over time. If, for example, a particular pattern of AoD use was to become less socially acceptable, then respondents to surveys may be less willing to admit to engaging in that behaviour. The results of survey data would then suggest a decline in the frequency of the behaviour over time, even though no such substantive trend was occurring.

A further limitation of population surveys is that they tend to assume that alcohol and other drug use is equally geographically distributed throughout a population. For high prevalence drugs such as alcohol, tobacco or cannabis, this is a reasonable assumption. For low prevalence use drugs such as heroin, this is less likely to be the case, as their use is more likely to be more concentrated in some areas compared with others. Therefore, if sampling occurs in areas that have a low or high prevalence of a particular pattern of illicit drug use, then this could skew the overall results. By careful sampling, however, it is possible to overcome this shortcoming.

Large population surveys can also miss important trends that are happening among specific groups. Indeed, as one of the key experts consulted for this environmental scan pointed out, the current population data collections provide little insight into changes in the patterns of alcohol

consumption among young people, at least without considerable additional examination. Alcohol consumption at the population level, for example, may be declining but it may be 'booming' among specific problem groups. In this way, 'big picture' changes (or stability) in consumption patterns can 'wash out' the visibility of important changes among subgroups, making them difficult to detect.

The strengths and limitations of five Australian population surveys are considered here. These are the National Drug Strategy Household Survey, the Australian School Students Alcohol and Drug Survey, the Illicit Drug Reporting System, the Ecstasy and Related Drugs Reporting System, the Survey of Needle and Syringe Program Attendees and Drug Use Monitoring in Australia.

4.3.1.1 National Drug Strategy Household Survey (NDSHS)

The NDSHS has been undertaken on a triennial basis since 1985. In 2007, more than 23,000 people aged 12 years or older participated in the study (Australian Institute of Health and Welfare, AIHW, 2008). Consequently, the large sample size is one of the strengths of the survey.

There are, however, a number of other factors which need to be taken into consideration when interpreting its results. The survey, for example, excludes from sampling those Australians who, at the time of the survey, were in non-private dwellings (hotels, motels, boarding houses) and institutional settings (hospitals, nursing homes and other clinical settings, drug and alcohol rehabilitation centres, prisons, military establishments and university halls of residence). Homeless persons are also excluded from the survey (AIHW, 2008).

The NDSHS uses two methods to collect data – the drop and collect method (in which a random sample of households are provided with a questionnaire to return) and computer assisted telephone interview (CATI, in which computer assisted telephone interviews are conducted with a random national selection of households) (AIHW, 2008). For the questionnaire and CATI processes, the household member chosen to be involved is the person aged 12 years or older whose birthday is to occur next. The sample chosen is designed to provide a random selection of households within each geographic stratum. Respondents within each stratum are then assigned weights to overcome imbalances which arise in developing and conducting the sample (AIHW, 2008).

While CATI can be an important research tool, it is reliant on contacting respondents on landlines. This is problematic in that increasingly, Australians are moving away from landlines for voice communication. This is an important trend among younger Australians in particular, with many not connecting a landline when they move out of the parental home. Indeed, 95% of 24–35 old Australians have mobile phones and many of those in this demographic, who also have landlines, use them primarily for internet rather than voice services. By contrast, older Australians are more likely to use landlines for voice communications (Australian Communications and Media Authority, 2009). As is evident, this trend limits the ability of CATI approaches to reach a representative cross-section of younger Australians in particular.

In 2007, 55,515 questionnaires were provided to potential respondents, of whom 54,386 were eligible to complete them. Of this group, 38,415 were able to be contacted and 19,818 subsequently completed the questionnaire. This is a response rate of 51.6% of those who were contactable and 36% of the eligible group. In the same year there were 28,163 CATI contacts of whom 14,038 were eligible. Of this group, 9,006 were able to be contacted and of whom 3,538 completed the interview. This represents a response rate of 39.3% of the group that was contacted and 25% of the eligible group. Thus, the overall response rate for both methods of the contactable group was 49.3% but the response rate of the eligible group was only 34% (AIHW, 2008). In other words, among those who were eligible to complete the questionnaire/CATI, 66% did not do so. Having such a low response rate among the eligible group also raises questions about the validity of the survey's findings.

It is quite possible that the profile of AoD use amongst the ineligible group (i.e. those who were not residing in private dwellings at the time), those who were eligible but who were not contactable, or those that were eligible and contactable but did not respond to the survey is much higher among this group compared with the responders. It is therefore important to understand more about the ineligible and non-contact non-responder group before drawing robust conclusions from the survey.

A further issue which relates to the measurement of trends in illicit drug use over time in the NDSHS is that, in 2001, there was a change in the wording of the questions that were asked about respondents' illicit drug use. In 1998 and the years prior to this, respondents were asked if they had ever tried illicit drugs. In the years subsequent to this, respondents were asked if they had ever used illicit drugs (Moore, 2006). As Moore pointed out, there should only ever be a slight decrease[8] in the proportion of respondents who claim to have ever used illicit drugs and this should only vary slightly from survey to survey. This is because the composition (and hence drug use history) of the pool of potential participants can only change slightly in a three year period. Yet he noted that the estimate of the population who had ever used illicit drugs in Australia increased from 39% in 1995 to 46% in 1998 and then decreased to 38% in 2001 – which is an implausibly large drop in lifetime usage in a three year period. Either the change from the use of the word 'used' to 'tried' had a large effect on the way people responded between 1998 and 2001, or the 1998 survey was based on a different sample to earlier and later surveys.

Consequently, great caution should be adopted in making comparisons based on illicit drug-related data from the NDSHS from before and including/after 2001. In a sense the surveys before 2001 were measuring different things from those in 2001 and thereafter. So, too, the 2007 NDSHS reported that 6.3% of respondents reported ever having used methamphetamine (AIHW, 2008b), which is also an implausibly large drop from 9.1% in 2004 (AIHW, 2005). It is implausible that the proportion of Australians who have ever used methamphetamine could drop by almost a third over three years. The 2007 NDSHS also showed a significant drop in recent use of methamphetamine from 3.2% in 2004 to 2.3% in 2007 (AIHW, 2008b). If the extent of the lifetime reduction in use is implausible, then this casts doubt on the reliability of the finding concerning the apparent drop in recent use as well.

There are a number of reasons why the NDSHS data could indicate a decline in use which is not reflective of an equivalent substantive drop in methamphetamine consumption. First, there could have been a significant change in the sampling practices of the NDSHS, which essentially means that a different cohort is being examined. This is, however, unlikely. Second, the negative publicity surrounding meth/amphetamine in the period between 2004 and 2007 could have made the drug less socially acceptable, which in turn could make respondents less likely to admit to using it recently, or ever. So, too, those who have ever used methamphetamine could also have directly experienced, or observed in others, the deleterious effects of the drug and therefore be less willing to admit to its use. Third, it could also be the case that in the period 2004-2007 the word 'methamphetamine' became more synonymous with 'ice', whereas in the past it may have been more common to equate 'methamphetamine' with the powder form of the drug. If a greater proportion of the population equated 'methamphetamine' with 'ice', then, in the face of the increasing level of social stigma associated with the use of ice, it is possible that less respondents saw themselves as methamphetamine users.

As the above example concerning methamphetamine demonstrates, there is every reason to be cautious in interpreting changes such as this as being indicative of substantive changes in drug use patterns.

[8] It is possible that the proportion of the population who claimed to have ever used illicit drugs could stay the same or there could be a major increase, but there should not be a major decrease.

Overall in considering the utility of the NDSHS for monitoring illicit drug use, Degenhardt and Dietze (2005) concluded that it is of some value in relation to cannabis, but is of limited value for other drugs.

So, too, as Roche et al. (2008) reported, the NDSHS may underestimate alcohol consumption. Citing Stockwell et al. (2004), Roche et al. (2008) reported that once the reported level of consumption in the 2004 NDSHS is extrapolated to the whole of the adult population, it accounted for only 58% of alcohol sales in Australia. They reported that potential reasons for this under-reporting may be under-representation of high-risk drinkers, respondents' poor recall or inaccurate understanding of what constitutes a standard drink of alcohol.

Despite these potential interpretive considerations, the NDSHS remains a valuable resource to Australia. It provides an important insight into overall trends in the consumption of alcohol and the more commonly used illicit drugs (such as cannabis and ecstasy). It does, however, need to be interpreted in the context of its limitations.

4.3.1.2 The Australian School Students Alcohol and Drug Survey (ASSAD)

The ASSAD is also conducted triennially and was first undertaken in 1996. In 2005, this involved collecting data from 21,805 students aged 12–17 years in 376 government, Catholic or independent schools (White and Hayman, 2006a). Like the NDSHS, ASSAD has a large sample size and this is one of its important strengths. As with the NDSHS, illicit drug use is relatively rare among respondents to the ASSAD, which also makes it difficult to draw estimates of prevalence levels.

As White and Hayman (2006a) highlighted, in this survey, schools are used as the basis of surveying adolescents. This means that those students who do not remain in schools past the age of 15 years are excluded from the study. Further, estimates for 16 to 17 year olds are only generalisable to the population of students rather than to all adolescents aged 16 to 17 years. The authors, citing Bachman et al. (1997), reported that adolescents who do not complete secondary school are more likely to use AoD, and as a result, the study is likely to underestimate the prevalence of substance use among the broader population of 16–17 year olds. So, too, they reported that students with good school attendance records (and potentially lower levels of substance use) were more likely to participate in the survey than were students with poor attendance records. This too could lead to underestimations of drug use.

Siggins-Miller (2009) also reported that, during their consultations for the evaluation of the National Drug Strategy 2004–09, concerns were raised with them about undocumented variations in the survey's methodology on a school-by-school basis. If this is correct, then it could also bring into question the validity of the findings of the survey.

In describing the utility of ASSAD for monitoring trends in illicit drug use consumption, Degenhardt and Dietz (2005) suggested that it was of some use in monitoring trends in cannabis consumption but was of limited value as far as other illicit drugs are concerned.

In sum, the ASSAD also provides some insight into the AoD use among secondary school students in Australia, although it is possible that for the reasons described above, it results in an underestimation of substance misuse among secondary students. Its findings are also not generalisable to all adolescents.

4.3.2 Surveys of particular drug-using populations

4.3.2.1 The Illicit Drug Reporting System (IDRS)

The IDRS surveys injecting drug users (IDU), key experts (professionals who have regular contact with IDU through their work) and analyses other indicators of illicit drug use. This includes the price, purity, availability and patterns of use of heroin, methamphetamine, cocaine and cannabis. The IDRS is also flexible such that, from year to year, brief additional items on emerging areas of interest can be included, which can provide insights into the need for further research (Black et al., 2008). The survey is designed to be sensitive to trends and provide data in a timely manner, rather than seeking to describe issues in detail.

The IDRS is not, and does not seek to be, representative of illicit drug use in the general community, or representative of all illicit drug users. Rather, it is a sentinel monitoring program that seeks to highlight trends that may warrant future monitoring. In its attempts to capture this sentinel group of IDU, the IDRS in all probability captures a relatively extreme or dysfunctional group of opioid-oriented illicit drug users. In 2007, for example, (43%) of the participants were *currently* in some form of drug treatment. Twenty-seven percent reported that their main treatment was methadone, 10% buprenorphine (Subutex®), and 3% buprenorphine-naloxone (Suboxone®) maintenance treatment respectively. These are all treatments given for opioid drug problems. Over the last six months, 54% of the sample had been in some form of drug treatment and 51% percent of the sample had previously been imprisoned (Black et al., 2008).

So, too, over the last eight years of the IDRS, the mean age of the respondents has gradually increased from 28.8 in 2000 to 36.7 in 2008 (Stafford, Sindicich & Burns, 2009). By contrast, the age of the sample of the Ecstasy and Related Drugs Reporting System (EDRS) has remained largely unchanged in recent years.

As is evident, the IDRS samples an ageing, opioid-oriented, probably fairly dysfunctional group of illicit drug users and its results need to be seen in that light and interpreted cautiously. On the one hand, the uniformity of the sampling processes over the years means that trends in illicit drug use among the IDRS sample can be compared year to year. On the other hand, given the ageing and opioid-oriented profile of the IDRS sample, the IDRS may not be as effective as it has been in past years at detecting cutting edge trends in illicit drug use.

The chief limitation of the IDRS is its relatively small sample size (80–153 IDU per jurisdiction) (Black et al., 2008). In addition, as Degenhardt and Dietz (2005) pointed out, the IDRS uses convenience sampling[9], which means that trends observed from year to year may represent changes in the sample characteristics, rather than changes in underlying drug use/market patterns. Nevertheless, as they pointed out, to the extent that sampling frames remain constant over time, this limitation can be constrained. This limitation also needs to be seen in the context of the triangulation of data sources that comes from the involvement of key experts, and other drug data sources.

As with the other data collections, the IDRS remains a valuable resource, but it needs to be remembered that it is sampling a particular profile of illicit drug user.

4.3.2.2 Ecstasy and Related Drugs Reporting System (EDRS)

Like the IDRS, the EDRS samples regular ecstasy users (REUs), interviews key experts, and examines and interprets relevant indicators of the use of ecstasy and related drugs. As with the IDRS, the EDRS is a sentinel programme and is not representative of regular ecstasy users or the use of this and similar drugs in the general population. As the EDRS is based on IDRS

[9] Essentially this means that the sample is selected at the convenience of the researchers (whoever they can contact within a target group) and not necessarily with a view to obtain a representative sample of the target group.

methodologies, it has similar limitations, although as noted above the mean age of the EDRS sample is not increasing significantly from year to year. This means that it is still capturing information from a younger group of REUs who are better placed to provide information on current trends.

4.3.2.3 The Survey of Needle and Syringe Program Attendees (SNSPA)

The SNSPA surveys approximately 1,900 clients attending needle and syringe programs (NSPs) in 53 sites nationally. The primary focus of the survey is on obtaining information concerning the risk of spread of blood-borne viruses. The survey is conducted yearly, and during the designated survey week all clients attending the NSPs are asked to complete a brief, anonymous questionnaire and to provide a capillary blood sample for human immunodeficiency virus and hepatitis C virus antibody testing (Iversen, Deacon & Maher, 2008). As with the IDRS and EDRS, the chief limitation of data from this source is that the researchers use a convenience sampling strategy. In addition, as Degenhardt and Dietz (2005) pointed out, this strategy is not always consistent across the survey years (with changes in the recruitment sites occurring in Victoria, for example). These limitations also need to be taken into consideration when interpreting its data.

4.3.2.4 Drug Use Monitoring in Australia (DUMA)

DUMA is a quarterly collection of information from police detainees in several sites (police stations or watch-houses) across Australia. It is the only nationwide survey of the drug use of detained offenders in Australia that is conducted on a routine basis. One of the advantages of a quarterly collection is that information is provided to the sites and stakeholders in a timely manner (usually 4–6 weeks) to assist in the development of tactical responses to local drug and crime issues. There are two parts to the information collected: a questionnaire, which is conducted with a trained interviewer independent of the police; and a urine sample that is tested for seven different classes of drugs. The collection and analysis of urine permits the self-reported information on recent drug use to be cross-validated and verified with results of urinalysis testing. Urinalysis is a major strength of the program, as it shows objectively whether selected drugs had been used by the detainees within a specified period. It also allows for valid comparisons across time. Detainees are likely to be the first group to begin using a new drug within a particular area, and more likely to be involved in its use than non-detainees. DUMA also provides a national perspective on illicit drug use, and highlights the differences across the jurisdictions in relation to local drug market behaviour (Adams, Sandy, Smith & Triglone, 2008).

There are some limitations associated with the DUMA methodology. Interviewers enter the DUMA sites at times when the number of detainees is expected to be at a maximum. During these times, all eligible detainees are asked to participate in the study. Not all detainees are eligible to be in the sample as they may be violent, intoxicated or represent a risk to the interviewer. It could therefore be imagined that the use of alcohol and other drugs is higher among those excluded compared with the interviewed detainees. In 2007, however, only 10% of potential interviewees were deemed to be ineligible (Adams et al., 2008).

In addition, many offenders are not brought into the police station for processing. They could be sent to diversion programs, given a notice to attend court (or equivalent) or given cautions. The patterns of drug use could vary between those taken to the police station and those who were not. Also, strictly speaking, the DUMA sample is one of detentions rather than detainees because it is highly likely that a small group of detainees are interviewed more than once in the same year (Adams et al., 2008).

Overall, however, these limitations are relatively minor. Remarkably in 2007, 89% of detainees approached agreed, to be interviewed and, of these, 79% agreed to give a urine sample. In this way, the response rates obtained in the DUMA are higher than those normally achieved in social science research in Australia (Adams et al., 2008).

The DUMA survey was generally highly regarded by key experts from the law enforcement and health sectors alike. It is particularly important for the law enforcement sector because it provides a valuable insight into the actual links between illicit drug use and patterns of offending.

4.3.3 Indirect data sources

For a more complete examination of indirect illicit drug data sources, please see Degenhardt and Dietze (2005). One indirect data source, illicit drug purity, is considered here since it is highly relevant to police.

4.3.3.1 Illicit drug purity in Australia

The current level of understanding concerning the purity of illicit drugs in Australia comes from two sources. These are from: the perceptions of illicit drug users involved in the IDRS and EDRS; and from purity data from drug seizures. As is evident, the perceptions of illicit drug users while valuable, are also very subjective.

There is also a wealth of problems associated with the national perspective on the purity of illicit drugs provided from the analysis of drug seizures. As the Australian Crime Commission (2008) pointed out, these problems include that:

- Not all jurisdictions routinely test drug seizures;
- Only a small proportion of drug seizures are analysed and therefore available purity figures do not represent the purity figures for all seizures of that drug type, only those that have been analysed at a forensic laboratory;
- Seizure data from some jurisdictions is based on the purity level of drugs seized by police during a specific period whereas data from other jurisdictions represents the purity level of drugs received at the laboratory during a specific time period[10];
- Some jurisdictions do not analyse any seizures below a specific weight; and
- Some jurisdictions have limitations on the number of samples that are analysed per case.

To this list of problems Fowler (personal communication, 22 August 2008) added:

- inconsistent data definitions and counting processes exist between jurisdictions;
- double counting of seizures by agencies in aggregated national data;
- at times a lack of separation of drugs sold as phenethylamines from other forms of amphetamine type stimulants; and
- different sampling approaches to purity analysis according to seizure type.

As is evident, the quality of information in relation to illicit drug purity at the national level in Australia is poor. This is a major impediment to better understanding drug markets in Australia. It is to be hoped that the project Building Illicit Drug Forensic Capacity Across Australia will address this shortfall.

4.4 Summary and conclusion

Law enforcement agencies in Australia use data from a range of sources to develop responses to alcohol and other drug problems in Australia. As has been discussed, all of these data sources contribute to our understanding of these issues but they all need to be considered in the contexts of their strengths and limitations. In particular it is unfortunately common for results from one data source to be cited as being indicative of a given trend. As was discussed above, this is fraught with risks.

[10] The time between the date of seizure by police and the date of receipt at the laboratories can vary from a few days to several months and, in isolated cases, years.

Population surveys are highly likely to lead to underestimates of alcohol and other drug use. Most important in this regard is that the estimates for the drugs that are less commonly used are likely to be underestimated to a greater extent than are the more commonly used drugs. Finally, great caution should be adopted in making comparisons between surveys over time because of the range of factors which can influence the results in addition to substantive changes in patterns of alcohol and other drug use.

It is clearly important for the law enforcement sector to have data on alcohol and other illicit drug issues. Just as important, however, is to ask 'So what?'. That is, there is a need for the law enforcement sector nationally to have the capacity to be constantly examining alcohol and other drug-related data from a range of sources in the contexts of its strengths and limitations, and ascertaining the policy implications. This does not just apply to data which arises from sources such as those described above, but from a broad range of research findings. The ability to ask 'So what?' offers the law enforcement sector with a great deal of opportunity to add value to the existing sources of information concerning alcohol and other drug use in Australia. In this way it would provide an important link between research and policy.

Chapter five: Alcohol

5.1 Introduction

> *An emerging theme … is that there is currently a unique window of opportunity in Australia for a significant expansion of activity in the prevention of alcohol-related harm. In part, this opportunity grows from increased community concern about the harmful consumption of alcohol (especially focussed on youth drinking) and a heightened willingness from all levels of government to take action in the area. Furthermore, there is an increasingly solid base of evidence upon which policy decisions can be made ...* (National Preventative Health Taskforce, NPHT, 2008, p. 1)

This examination of alcohol misuse in Australia is confined to considering the range of ways in which it impacts on social, rather than health harms, because it is the former that are of most concern to law enforcement. In addition, it is important to note that many agencies across several sectors (as well as alcohol consumers themselves and the broader community) have responsibility for reducing alcohol-related social harms. Changing the Australian culture of binge alcohol consumption requires the effort of many parties. Given the audience for this environmental scan, however, the focus here is primarily on the issues which are within the area of responsibility of law enforcement to address.

It should also be noted that the problems associated with the misuse of alcohol by some Indigenous Australians is explored more fully in the section of the environmental scan that deals with this group.

The misuse of alcohol in Australia represents a series of major problems for policing. Foremost among these are alcohol-related violence and anti-social behaviour (and the resultant impacts on public perceptions of safety) and alcohol-affected driving. Without exception, in their submissions to this environmental scan, every state and territory police jurisdiction expressed their concern about the increasing extent to which alcohol-related problems are impinging on policing. As Fleming (2008) pointed out, these alcohol-related problems are, in policy parlance, 'wicked', in that they span a number of policy arenas, are difficult to resolve, and the responsibility for them stretches across several stakeholders who often have different perspectives on how they should be addressed.

In a sense, police sit on both the 'upstream side' and the 'downstream side' of alcohol- related social problems. Police (in concert with regulatory authorities) sit upstream of these problems because they are empowered to enforce measures that reduce alcohol-related social harms (such as policing activities directed at errant licensed premises). Police sit downstream of the problems because they shoulder a substantial part of the burden of addressing and 'cleaning up' many of the alcohol-related problems (violence, road trauma, crime and loss of public amenity) once they have occurred. There is increasing recognition among police that 'upstream' efforts are likely to lead to 'downstream' positive results, yet the 'wicked' nature of the alcohol problem means that this is easier said than done.

Nevertheless, a key finding of this environmental scan is that there is currently a substantial degree of political support (in some jurisdictions at least) and community will to reduce alcohol-related social problems in Australia. Importantly, this level of support has arisen at a time where there is an increasing body of research that points to effective responses in this area.

5.2 The current alcohol policy environment in Australia: an alignment of the planets?

As with all public policy issues, there are environmental factors which are supportive of the introduction of measures which would reduce the social harms associated with alcohol consumption, while others are not. Several of these environmental 'pushes and pulls' are discussed below.

5.2.1 Factors which are supportive of the introduction of measures to reduce the social harms associated with alcohol consumption

5.2.1.1 Increased community support for measures to reduce alcohol-related social harms and decreased community tolerance for those harms

The profile of alcohol-related social problems has been raised considerably in Australia over the past two years. Indeed, it is probable that these problems have never had a higher public profile in this country. The majority of this attention surrounds the issues associated with acute intoxication, particularly among younger people. This gives rise to the question of whether the problems associated with the misuse of alcohol in this way are getting worse and/or Australians' tolerance for the associated behaviour is declining.

In all probability, both are occurring. While the various population surveys do not point to major recent changes in alcohol consumption among younger Australians, these surveys almost certainly hide the true extent of problematic drinking among this group in particular. There is also direct evidence of a decline in the age of first consumption of alcohol (Roche et al., 2008) and increased health harms being caused to younger Australians associated with alcohol (Livingstone, 2008). There was a clear perception among many of the key expert consultants that those who are engaging in this problematic consumption are doing so in far more overt and harmful ways and at a younger age than was the case in the past. As such, the potential for harm befalling those involved in this pattern of use becomes exponentially larger.

There was also little doubt among the key experts consulted that there has been a decline in Australians' tolerance for alcohol intoxication-related behaviour and the resultant impact on crime and loss of public amenity. In 2006–07, for example, the overwhelming majority (81.4%) of Australians believed that drunken and disorderly behaviour was 'a major problem' or 'somewhat of a problem' in their state or territory (Australian Government Productivity Commission, 2008). A key 'red flag' for the broader community appears to have been the increasing involvement of younger people in general, and younger women in particular, in alcohol-related anti-social behaviour. This appears to have 'tipped the balance' regarding the perceived importance of this issue. Indeed, while it is not a perfect description of the anti-social behavioural problems that can stem from alcohol misuse, some commentators have coined the term 'passive drinking' (akin to passive smoking) to refer to the impact of drunken behaviour on third parties (NPHT, 2008).

This increase in concern about alcohol-related problems has translated into increased community support for measures to reduce the impact of alcohol on the community. As the AIHW (2008a) reported, between 2004 and 2007 community support for:

- increasing the price of alcohol increased from 21% to 24%;
- reducing the number of outlets that sell alcohol increased from 28% to 32%;
- reducing trading hours for pubs and clubs increased from 32% to 39%;
- raising the legal drinking age increased from 41% to 46%;
- banning alcohol sponsorship of sporting events increased from 46% to 48%;
- restricting late night trading of alcohol increased from 52% to 58%;
- strict monitoring of late night licensed premises increased from 72% to 75%;

- increasing the tax on alcohol to pay for health, education and treatment of alcohol-related problems increased from 39% to 41%;
- increasing the number of alcohol-free events and dry zones was steady at 62%;
- more severe penalties for drink driving was steady at 86%; and
- stricter laws against serving drunk customers was steady at 83%.

The AIHW (2008b) reported that, in general, there was greater support for enforcement measures than for total bans or taxation increases. In addition, without exception, females were more likely to support these measures than were males. As is evident, there is no particular lack of public support for measures which are likely to be effective in reducing alcohol-related anti-social behaviour.

This wider community concern about alcohol-related social problems has fed into the political process and it could be anticipated that policing will continue to be under pressure to introduce measures to curb these problems. This is both a problem and an opportunity for policing. On the one hand, this may give rise to unrealistic public expectations of what the police can do, given the 'wicked' nature of the policy problem. On the other hand, it is an opportunity for police to take a leadership role in implementing measures to reduce these problems (such as supply reduction strategies in all their guises) which are likely to be more publicly palatable than they have been at any time in Australia's history.

5.2.1.2 Increased media interest in, and concern about, alcohol-related problems

Several of the key expert consultants expressed surprise about the extent to which the media had become interested in, and sympathetic towards, alcohol-related problems in the past two years. A frequent comment from the key expert consultants was that they had been attempting to place alcohol issues onto the media agenda for years (or decades) but to no avail. Not only has there been an increase in media attention, but there has been an increased recognition by media commentators of the links between alcohol misuse and violence and anti-social behaviour.

5.2.1.3 The National Alcohol Strategy (2006–2009)

The National Alcohol Strategy 2006–2009 (NAS) is the key strategic document that deals with Australia's response to alcohol related problems. The NAS is the result of collaboration between Australian governments, the non-government sector, industry and the broader community. It contains a range of priority areas that support a reduction in alcohol-related harm in Australia and reflects the broader framework provided by the overarching document, the National Drug Strategy: Australia's Integrated Framework 2004–2009. In addition, the NAS supports key result areas of the National Drug Strategy Aboriginal and Torres Strait Islander Peoples Complementary Action Plan 2003–2006 (Ministerial Council on Drug Strategy, 2006).

As Nicholas (2006) noted, the current iteration of the NAS represents a significant departure from previous versions of the strategy insofar as the definition and prioritisation of alcohol problems are concerned. In particular, the current strategy places significant emphasis on the range of alcohol-related problems that are associated with intoxication. By contrast, in previous versions of the strategy, the medical problems (such as liver cirrhosis) associated with longer-term excessive alcohol consumption were most prominently targeted. While this profile of health problems remains a significant burden on the health sector in this country, arguably the majority of alcohol-related problems in Australia stem from acute intoxication which often have their manifestations in social, rather than medical, realms. As Babor et al. (2003) asserted:

Although public discussion has often concentrated on alcohol-related problems connected with disease and medical conditions, alcohol is also linked to consequences in the social realm, which have been called the forgotten dimension (p. 26).

An examination of the aims of the NAS reveals the extent to which the emphasis has changed. The four aims of the strategy are to:

- reduce the incidence of intoxication among drinkers;
- enhance public safety and amenity at times and in places where alcohol is consumed;
- improve health outcomes among all individuals and communities affected by alcohol consumption; and
- facilitate safer and healthier drinking cultures by developing community understanding of the special properties of alcohol and through regulation of its availability.

As is evident, three of the four aims of the strategy focus on addressing the social consequences of alcohol consumption, in particular those which are associated with intoxication. As a result of these changes in the emphasis of the strategy, there has been a significant increase in the extent to which policing agencies have carriage of achieving the outcomes sought by the strategy. This is particularly evident as far as the prevention of intoxication (such as through the regulation of alcohol availability), and the promotion of enhanced public safety and amenity, are concerned.

5.2.1.4 The National Binge Drinking Strategy

In March 2008, the Prime Minister announced a new national strategy to address binge drinking among younger Australians. This strategy represents a major injection of funds to address this issue. It includes:

- $14.4 million to invest in community-level initiatives to confront the culture of binge drinking, particularly in sporting organisations;
- $19.1 million to intervene earlier to assist young people and ensure that they assume personal responsibility for their binge drinking; and
- $20 million to fund advertising that confronts young people with the costs and consequences of binge drinking.

While this represents a significant financial investment, it also signals the degree of political attention at the Australian Government level that is being given to the issue of binge drinking.

5.2.1.5 The Council of Australian Governments (COAG) Binge Drinking Agreement

In March 2008, COAG agreed on the importance of tackling alcohol misuse and binge drinking among young people. COAG agreed to ask the Ministerial Council on Drug Strategy to report back in December 2008 on options to reduce binge drinking, including in relation to closing hours, responsible service of alcohol, reckless secondary supply and the alcohol content in ready to drink beverages. COAG also asked the Australian and New Zealand Food Regulation Ministerial Council to request Food Standards Australia New Zealand to consider mandatory health warnings on packaged alcohol.

5.2.1.6 The National Health Preventative Taskforce (NHPT)

The NHPT was established by the Australian Government in April 2008. The taskforce provides evidence-based advice to governments and health providers on preventative health programs and strategies. It focuses on the burden of chronic disease currently caused by obesity, tobacco and the excessive consumption of alcohol.

In late 2008 the NHPT Alcohol Working Group prepared a technical report on preventing alcohol-related social harm in Australia (NHPT, 2008). Among other priorities the report recommended better managing both the physical availability (access) and economic availability (price) of alcohol. The NHPT is an important mechanism that sits outside the National Drug Strategy governance framework that is raising the profile of the problems associated with alcohol misuse in Australia.

5.2.1.7 Increasing support among senior police for measures to curb alcohol-related antisocial behaviour

In early 2008, the Conference of Commissioners of Police of Australasia and the South West Pacific Region discussed the issue of alcohol-related anti-social behaviour. The conference subsequently asked the National Drug Law Enforcement Research Fund Board to develop a discussion paper for the forthcoming Australian and New Zealand Policing Advisory Agency Board meeting. The Commissioners requested that the paper explore the evidence concerning levels of alcohol-related social harms in Australia, as well as providing a menu of potential options to enhance the capability of police agencies in Australia to reduce these harms. The paper (Nicholas, 2008a) was subsequently endorsed by the ANZPAA Board and the Senior Officers Group of the Ministerial Council on Emergency Management – Police.

5.2.1.8 Maturation of the body of evidence concerning good practice in this area

There is now a solid body of evidence about effective strategies (policing and otherwise) to reduce alcohol-related social problems. While there are still some issues that require further research attention, the major task that lies ahead is to implement what is known to be effective, rather than to develop further effective strategies. An outline of these effective strategies (adapted from Nicholas, 2008a) appears later in this chapter.[11]

5.2.2 Factors which are likely to be impediments to the introduction of measures to reduce the social harms associated with alcohol consumption

While there are many environmental factors which are supportive of the implementation of policy measures which would reduce the social harms stemming from the misuse of alcohol, there are also some impediments to progress in this area.

5.2.2.1 Inadequate liquor licensing legislation

The effective regulation of the supply of alcohol is dependent on having the appropriate regulatory tools. In many cases this legislation is simply not in place. This is discussed in more detail later.

5.2.2.2 National Competition Policy

An important factor that is currently impacting upon the regulation of the alcohol industry in Australia is the National Competition Policy (NCP) arrangements. These arrangements are the Australian manifestation of a worldwide trend towards the liberalisation of international trade, which has been occurring since the end of the Second World War. NCP represents a pressure to liberalise the restrictions on the sale of alcohol. This pressure from NCP can be resisted, however, if evidence-based mechanisms can be developed to show that this liberalisation is not in the public interest. As a result, the ability of police and other agencies to gather this evidence will become more critical as time goes on.

5.2.2.3 The 'wicked' nature of alcohol problems and the unclear delineation of responsibilities and allegiances

As was discussed earlier, alcohol misuse is a 'wicked' problem in policy terms because it involves multiple stakeholders. A further complexity is the lack of clarity concerning the roles of various sectors in responding to this problem. Important in this regard, is that in several Australian jurisdictions, there is a lack of clarity about the relative roles of police versus liquor licensing authorities. Having two agencies address the same issue from different standpoints can not only lead to duplication of effort, but inconsistency. Perceived inconsistencies in approaches to liquor licensing can be a significant barrier to consolidating positive relationships with licensees. While there are some 'good news stories' concerning collaboration between police and liquor licensing agencies in some jurisdictions, there is clearly much work to be done in redressing this problem (Fleming, 2008).

[11] For a more comprehensive and referenced description of these strategies, please see Nicholas (2008a).

There was also a strong perception from police in several jurisdictions that liquor licensing authorities have a greater level of allegiance to protecting the interests of the alcohol industry, as opposed to protecting the public from alcohol-related harm. At one level this is a legislative issue and there is little doubt that there is room for improvement in liquor licensing legislation in several jurisdictions. At another level, this is also an issue concerning what liquor licensing organisations see as being their primary roles. These perceptions are likely to influence, to a large extent, the relative emphasis that liquor licensing agencies put on the enforcement of different aspects of the legislation for which they are responsible. If, for example, liquor licensing authorities see their role as being primarily associated with the protection of a healthy hospitality industry, then they are more likely to allocate their scarce resources to use legislation to achieve this, compared with other outcomes that are sought by legislation.

Overall, the wicked' nature of alcohol problems, the unclear delineation of responsibilities, and torn allegiances were perceived by many police key expert consultants to be major impediments to the reduction of alcohol-related social harms in Australia.

5.2.2.4 The economic and political importance of the alcohol industry.

The alcohol industry is a major employer of Australians and a major contributor to government revenue. This means that the industry is well placed to exert political influence to resist changes aimed at reducing alcohol-related harm which would be inconsistent with profit enhancement.

5.2.2.5 Difficulties associated with turning back the clock.

There is little doubt that the availability of alcohol has been substantially liberalised over the past two decades in Australia. As a result, there is now an expectation among many Australians that alcohol will be available almost anywhere, any time. This will not be an easy situation to reverse.

5.2.3 Summary

In summary, therefore, while there are impediments to change, in Australia at present there is an unusual alignment of policy, political and community factors that are supportive of measures to reduce the social harms associated with alcohol consumption. Several of the key experts consulted pointed out that this presents policing with an opportunity that is almost unique in the history of Australia, to take a leadership role in the implementation of evidence-based measures to reduce alcohol-related harm.

5.3 What works in reducing the social harms associated with the misuse of alcohol?

As has been discussed, there is now a wealth of evidence about effective strategies in reducing alcohol-related social harms. For a full examination of these, please see Nicholas (2008). As the National Drug Research Institute (2007) noted, foremost among strategies to reduce the social harms associated with alcohol consumption are those which restrict access to it. These can be divided into two areas: measures which seek to reduce the physical availability of alcohol; and measures which impact on the economic availability of alcohol.

5.3.1 Measures which seek to reduce social harms by reducing the physical availability of alcohol.

These include:

- Adequate liquor licensing legislation. Arguably some liquor licensing legislation in Australia is hampered by such issues as inadequate definitions of intoxication (which curtail the ability to prosecute licensees for serving intoxicated patrons) and inadequate scope.

- Restrictions on the hours and days of alcohol sales. There is strong Australian evidence that points to links between extending trading days/hours and increasing levels of social harms.
- Increasing the minimum legal drinking age or minimum legal purchase age for alcohol, or at least developing more robust barriers to limit young people's access to alcohol.
- Restricting the sale of specific beverage types. Cask wine and full strength beer sales, for example, are strongly associated with social harms such as assaults, drink driving, road crashes, falls, suicide, and acute alcohol-related hospitalisations.
- Reducing, or at least not increasing, the density of licensed premises. There is clear evidence that as the density of licensed premises increases so too do levels of a range of alcohol-related harms.
- Identifying problematic licensed premises. Most of the alcohol-related harm that is associated with licensed premises stems from a minority of these premises. Identifying these premises is critical to policing efforts to reduce the social harms associated with alcohol consumption. Most important are policing intelligence processes that link alcohol-related incidents with the last place of drinking of those involved. Also critically important is the knowledge concerning the level of alcohol sales to individual premises.
- Ensuring that liquor licensing enforcement activities are focussed on undertaking activities that are most likely to reduce alcohol-related social harms. There is some evidence that liquor law enforcement in Australia has historically been more focussed on the patrons of licensed premises, rather than on the errant licensees. Even when this effort is directed towards licensees, it may not be focussed on breaches of legislation which are most associated with alcohol-related social harms. It is therefore important for policing to better understand whether this is the case and, if so, what the barriers are to better practice.
- Implementing licensing accords. While the evidence concerning the efficacy of licensing accords is not strong, they can serve as a means of promoting communication between licensees and those with a role in reducing alcohol-related harms. The success of these accords appears to be largely dependent on the associated level of enforcement activity.
- Implementing 'dry' Indigenous communities involving a combination of community control and statutory authority. This approach has been shown to reduce alcohol-related harms. Far less promising are local 'dry area' bans which tend to lead to problem displacement.
- Implementing responsible beverage service programs which are intended to minimise problematic serving practices and create safer drinking environments. These can have some impact on reducing social harms, but only in the context of adequate liquor licensing enforcement.

5.3.2 Measures which seek to reduce social harms by reducing the economic availability of alcohol

Foremost among these measures is the imposition of taxes on alcohol. There is a wealth of evidence that suggests that alcohol is a price-sensitive commodity and that, when alcohol taxation increases, rates of drink driving, car crashes, rape, robbery, assaults, motor vehicle thefts, and physical family violence all decline. In the Australian context there are taxation anomalies which result in cask and fortified wine being sold cheaply and low alcohol ready to drink products (RTDs) being taxed at the same rate as high alcohol RTDs. Arguably, these anomalies act to increase the social harms associated with alcohol consumption in Australia. Also worthy of consideration is the imposition of hypothecated tax in which a tax is applied to alcohol and then spent on programs which reduce alcohol-related harms.

5.4 Alcohol-related harms and patterns of consumption in Australia

This section provides a brief overview of some of the indicators of alcohol-related harms in Australia. For a more comprehensive overview, please see Nicholas (2008).

5.4.1 A snapshot of alcohol-related harms

The social costs to the Australian community associated with the misuse of alcohol amounted to $15.3 billion in 2004–05. Foremost among the tangible costs included in this amount were: $3.56 billion associated with a loss of workplace productivity; $2.2 billion for road crashes; and health costs, almost $2 billion. Interestingly, however, alcohol still has a positive net impact on the federal budget with revenues ($3.075 billion) exceeding expenditure ($1.272 billion) by $1.8 billion. The picture is less favourable from a state/territory perspective, where expenditure ($1.363 billion) exceeded revenue ($976 million) by $387 million (Collins & Lapsley, 2008).

Alcohol was the most common principal drug of concern for which treatment was sought in 2006–07 from 633 government-funded alcohol and other drug treatment agencies. Alcohol accounted for 42% of closed treatment episodes provided. When all drugs of concern are considered (that is, the principal drug of concern and all other drugs of concern nominated by the client), 57% of treatment episodes included alcohol as a drug of concern in 2006–07. Alcohol has been the most common principal drug of concern reported in all years of the collection (which started in 2001–02) (AIHW 2008d).

The AIHW (2008b) also examined patterns of alcohol-related harm. The institute reported that in 2007 the proportion of respondents who undertook a potentially harmful activity while under the influence of alcohol was relatively stable since 2004. Specifically in 2007, while under the influence of alcohol:

- 12.1% of Australians (16.2% of males and 8% of females) drove a motor vehicle (down from 13.4% of Australians – 18.6% of males and 8.3% of females – in 2004);
- 7.4% verbally abused someone; and
- 6.7% went to work.

In summary, the misuse of alcohol has a range of pervasive harms on the Australian community, which occur across a number of domains.

5.4.2 Population levels of consumption

Over the past forty years, there has been a proliferation of opportunities for Australians to purchase alcohol. There are many more licensed premises and the hours during which alcohol is available at those premises has gradually grown (Nicholas, 2008). Australia now has approximately 17,000 licensed premises (Australian Bureau of Statistics, as cited in Roche et al., 2008).

By world standards, Australia has a high per-capita consumption of alcohol. In 2003 Australians consumed 9.02 litres of pure alcohol and the country ranked 30th in the world in terms of per-capita consumption. Australia's consumption has since risen to 9.88 litres per-capita and, as such, its world ranking is likely to higher (NHPT, 2008).

Alcohol consumption grew rapidly in the 1970s in Australia before declining in the 1990s and reaching a plateau after that. There have, however, been some significant changes among the different alcoholic beverage categories. Since peaking at over 6.4 litres of alcohol per capita in the mid-1970s, per capita consumption of beer has steadily declined and is now at a level similar to that of the late 1950s. This reduction partly reflects changes in consumer tastes towards wine, and the increase in the availability of relatively low-priced wine. Consumption of wine has increased almost four-fold since the late 1940s, when intake was 0.77 litres of alcohol per capita. In 2005,

wine consumption in Australia reached an all time record of 3.13 litres of alcohol per capita (NHPT, 2008).

The most recent iteration of the National Drug Strategy Household Survey (NDSHS) by the Australian Institute of Health and Welfare (AIHW, 2008b) reported that between the years 1991 and 2007, for Australians aged 14 years or older (hereafter 'Australians'), alcohol consumption patterns remained largely unchanged. In considering the results of the NDSHS, it is important to be mindful of the tendency of survey respondents to substantially underestimate their alcohol consumption (for example, see Stockwell, et al., 2004).

The AIHW reported that in 2007:

- 14.2 million Australians consumed alcohol in the previous 12 months, 1.4 million consumed alcohol daily, 7.1 million weekly and 5.8 million less than weekly.
- 10.3% of Australians consumed alcohol in a way that was considered to be a risk or a high risk to their health in the long term, and those in the 20–29 years age groups were more likely to consume alcohol in this way.
- 7.8% drank alcohol at least once a week in a pattern that is considered at risk or at high risk for harm in the short term.
- 0.1% of the proportion of Australians had never had a full serve of alcohol (up slightly from 2004).
- 8.9% of Australians drink alcohol daily (down from 8.1% in 2004).
- Males (10.8%) were almost twice as likely as females (5.5%) to drink daily.
- 41.3% of Australians drink alcohol weekly.
- 67.5% of 12–15 year olds had never consumed a full serve of alcohol[12], however among 18–19 year olds, 9.2% had never done so.
- Among 12–15 year olds, more females than males consumed alcohol daily and weekly.

Australians living in remote or very remote areas are more likely to drink at risky or high-risk levels than were those living in other areas. Thirty-two percent of people living in remote or very remote areas drink at risky or high-risk levels versus 20% of those living in major cities. Aboriginal or Torres Strait Islander peoples are more likely than other Australians to abstain from alcohol consumption (23.4% versus 16.8%) and also more likely to consume alcohol at risky or high-risk levels for harm in the short term (27.4% versus 20.1%) (AIHW, 2008b).

At all ages, a greater proportion of the Australian population drinks at risky, or high-risk levels for short-term harm, compared with those who drink at levels which risk long-term harm (AIHW, 2008b). In other words, Australians tend towards binge drinking patterns of consumption, rather than high levels of consumption on a daily or almost daily basis.

5.4.3 Alcohol use among younger Australians

Alcohol misuse among younger Australians is of particular concern. Young people are particularly prone to experiencing harms associated with alcohol intoxication. Each year approximately 264 Australians aged 15–24 die as a result of risky alcohol consumption and the most common causes of these are road crash injuries and suicides. This represents approximately 15% of all deaths in this age group. So, too, alcohol is associated with approximately 10,000 alcohol-attributable hospitalisations among this age group annually, the major cause of which is assault (Chikritzhs & Pascal, 2004). As a result, this environmental scan considers the issue of alcohol use among younger Australians in some detail.

[12] The estimates of alcohol use by younger people should be treated with some caution due to the low prevalence and small sample size of this group.

5.4.3.1 What does the research tell us about patterns of alcohol consumption among younger Australians?

Roche et al. (2008) reported that some important changes have occurred in patterns of drinking among younger Australians in recent decades. They found that for each successive ten year generation over the past 50 years, initiation into drinking has occurred at an earlier age. Specifically, over twice as many people in the 20–29 year old cohort had consumed alcohol by the age of 14 years compared with the 40–49 and 50–59 year old cohorts. So, too, less than 20% of today's population aged over 60 years had drunk a full glass of alcohol by the time they were 16 years of age. This contrasts with nearly 70% of the population now aged 20–29 years who had done so. By the age of 18 years, approximately 50% of young people are risky drinkers, however the majority of these still classify themselves as 'social drinkers'. In addition, young Australians aged 18–24 reported the highest level of risky alcohol consumption of all age groups. The authors found that both the proportion of 21-24 year olds who consumed alcohol at risky levels and the average number of standard drinks they consumed both increased in Australia between 2001 and 2004. Of particular concern is that the proportion of 12–15 year olds consuming alcohol at risky levels has doubled from 2.5% in 1990 to 5% in 2004. Similarly, the proportion of 16–17 year olds who were risky drinkers increased from approximately 15% to 20% over this period.

Roche and colleagues (2008) also found that most 12 to 17 year old Australians had no difficulty obtaining alcohol, particularly from their friends or parents. Among 14–24 year olds the most popular beverage types were bottled spirits, liqueurs and pre-mixed drinks. The authors reported that between 2000 and 2004 there has been a three and a half fold increase in the preference for sprits among young female risky drinkers aged 15–17 years.

White and Hayman (2006) reported on the findings of the national Australian Secondary Students Alcohol and Drug Survey (ASSAD) conducted in 2005. They found a high prevalence of alcohol use amongst secondary school students, with use becoming more common as age increased. Key findings of the survey appear below.

Fifty-two percent of all students saw themselves as non-drinkers, 23% thought they were occasional drinkers and 19% said they were party drinkers. Older students were more likely to say they were party drinkers than were younger students.

- By the age of 14, approximately 86% of students had tried alcohol and by the age of 17, 70% of students had consumed alcohol in the month prior to the survey.
- Among those who consumed alcohol in the last week, 30% of 15 year olds and 44% of 17 year olds had drunk at risky levels in the last week (defined as seven or more drinks in one day for males and five or more drinks in one day for females).
- Spirits (e.g. vodka, scotch, rum), in either the premixed ('ready to drink') or non-premixed form, were the most common types of drinks consumed by the students of all ages who had drunk alcohol in the previous week (current drinkers).
- Among all 12 to 17 year olds who had ever tried alcohol, 6% of males and 4% of females bought their last alcoholic drink themselves.
- Parents were the most common source of alcohol among students who drank in the past week, with 37% of males and 38% of females indicating their parents gave them their last drink.
- The proportion of students aged between 12 and 15 drinking in their lifetime and in the month before the survey decreased significantly between 1999 and 2005. In 2005, 82% of 12 to 15 year olds had ever tried alcohol, which was significantly lower than that reported in 2002 (86%) and 1999 (87%). Significantly fewer 12 to 15 year olds had drunk in the past month in 2005 (34%) compared to 2002 (43%) and 1999 (43%).

In all, the 2005 ASSAD survey painted a picture of stable or declining levels of alcohol misuse among high school students. These findings do, however, need to be seen in the context of concerns about the extent to which the ASSAD survey is reflective of actual alcohol and other drug consumption patterns.

The extent to which these population surveys of younger people reflect substantive consumption and problems is an issue that was explored by Livingston (2008). He examined the evidence from population surveys[13] concerning trends in alcohol consumption among younger Victorians. This was compared with data measuring younger Victorians' alcohol-related admissions to hospitals and presentations to emergency departments.[14] On the one hand, the population surveys showed no significant increases in risky drinking among younger Victorians in recent years. On the other hand, over the past 10 years there has been a dramatic increase in the alcohol-related admissions to hospital and emergency department presentations. Important in this regard was an increase in admissions and presentations among those aged between 16 and 24. There was a particularly sharp increase in admissions and presentations among younger women aged 18–24. Although these hospital data included a range of alcohol-related diagnoses, foremost among the contributors to the increase were patients with a diagnosis of alcohol intoxication.

Likewise, nationally for young men, the hospital separation rate for acute alcohol intoxication increased from 66 to 107 per 100,000 between 1998–99 and 2005–06. For young women, the rate doubled over this time from 46 to 99 separations per 100,000 (Australian Bureau of Statistics, 2008d).

Many key consultants from operational policing settings were also of the view that there had been a recent increase in the number of younger women becoming involved in alcohol-related anti-social behaviour. In particular they indicated that it is becoming more common for intoxicated females to assault both other females and males. It is, however, not just younger women who appear to be becoming increasingly violent. Eckersley and Reeder (2008) cited Victorian police officers who reported:

… police officers … who've been around a long time, [are] seeing a level of violence they have never seen before … It wasn't just that [people] punched someone, it was they were punched and kicked and people would come around and they would all be part of it as well. Before, you got called to a pub brawl, and it was just a brawl … The worst thing that might have happened might have been a billiard cue around … now it's gone beyond that. It's the king hit, it's the glassing, the stabbings, the things that you didn't really see in the past. There does seem to have been something that's happened over the last couple of years … whereby we are seeing more young people coming into court for more serious offences of violence, and the age group seems to be dropping … we now seem to be dealing with 14 and 15 year olds for very serious cases of violence (p. 9–10).

Recorded assaults in the public domain in Victoria have increased by over 20% in the past five years to almost 14,000 a year. Most of this increase is in night-time assaults. So, too, Melbourne metropolitan ambulance records show that assault cases have approximately doubled since 1999 to over 600 a month, with cases involving stabbings and gunshots jumping from about 50 to 100 a month. Convictions for 'offences against the person' in the Victorian Children's Court (which adjudicates cases involving those aged 17 and under) have also risen sharply in the past few years (Eckersley & Reeder, 2008).

Nationally, the number of hospitalisations due to assault per 100,000 young people aged between 12 and 24 years increased by 27% between 1996–97 and 2005–06. The increase for males (29%)

[13] Included in this were: the Australian Secondary Students Alcohol and Drug Survey; the Victorian Youth Alcohol and Drug Survey; the Victorian Population Health Survey; and the National Drug Strategy Household Survey.
[14] Included in this were: the Victorian Admitted Episodes Dataset; and the Victorian Emergency Minimum Dataset.

was far greater than that for females (19%). Approximately two-thirds of these hospitalisations were attributed to assault by bodily force, such as an unarmed fight. Assault using a sharp object (such as a knife) accounted for 12% and assault with a blunt object accounted for 11% (AIHW, 2008c). Not all of this increase is directly attributable to alcohol. Nevertheless, it is highly probable that alcohol misuse is a significant contributing factor.

Livingston (2008) speculated as to why there was such a difference between the consumption and harm data. One potential reason is that, while overall consumption remains relatively steady, there is an emerging group of younger people who are drinking very heavily and this group is not being detected in population surveys. As one key expert suggested, it may not be the case that more young people are drinking, rather that some young people are drinking much more.

In summary, while population surveys do not point to increasing levels of alcohol consumption among young people in recent years, these need to be interpreted in the context of the clear evidence that points to increased levels of harm accruing to this group.

5.4.3.2 The trend towards 'determined' drunkenness

Several of the key consultants pointed out that, while binge drinking is becoming an increasing problem among many young people in Australia, the issue is more complex than just this. An important trend that was widely described was towards 'determined', 'wilful' or 'vehement' drunkenness. A related trend described was a developing dichotomy between drinking occasions (that is, getting drunk) and non-drinking occasions. In this way, occasions on which drinking in moderation occurs are becoming less frequent than either abstaining from alcohol or becoming grossly intoxicated.

Clearly there have always been younger (and older) people for whom the sole purpose of drinking was get grossly intoxicated, but many of the key expert consultants described a greater sense of determination among many of the current cohort of younger people to do so. That is, the sole purpose of a night out is to get drunk, and the trend is towards drinking a large amount of alcohol over a small period of time (rather than a large amount of alcohol over a large amount of time as was perhaps more common in the past). This trend is towards not merely wanting to have a good time, but an extreme, intense and time-effective experience from their use of alcohol. As was noted above, it was suggested that the actual number of younger regular binge drinkers may not be dramatically increasing in Australia, but those who are involved in this activity are doing so in a more determined, extreme and harmful fashion.

In describing this trend in the United Kingdom, Parker and Williams (2003, as cited in Wells, Graham & Purcell, 2009) reported that among young adult bar goers in the United Kingdom, regular very heavy drinking has essentially become normal behaviour. It is no longer a marginal phenomenon to be found in subcultures of poor or troubled youth. Instead, determined drunkenness seems to be occurring in all social classes, in larger cities and in the country and among younger women as well as younger men. This was very much the situation that was described by many of the key experts in the Australian context.

5.4.3.3 The trend towards pre-drinking or pre-loading

An important trend regarding young people's drinking that was identified from the consultations and in the literature is that of pre-drinking or pre-loading. Wells et al., (2009) described this emerging international trend as planned heavy drinking, usually at someone's home, prior to going to a social event, typically at a bar or nightclub (although it may occur in preparation for events at which alcohol is not available).

There are a number of reasons why young adults pre-drink. These include:

- to save on the cost of drinks at licensed premises;
- the ability to get rapidly intoxicated;
- the ability to socialise with their friends (which is often not possible in contemporary large crowded bars and clubs); and
- to ease the discomfort associated with meeting new people (Wells et al., 2009).

This is a very significant trend for policing because there is early evidence that pre-drinking is not only harmful to the individuals concerned but is associated with increased levels of violence.

Following their study of 380 young adults in the North West of England, Hughes, Anderson, Morleo and Bellin (2007) reported that individuals who pre-drank were 2.5 times more likely to have been involved in a fight in the city's entertainment precincts in the past 12 months, compared with those who did not do so. The pre-drinkers also reported substantially higher total alcohol consumption over a night out and were four times more likely to drink more than 20 standard drinks compared with their non-pre-drinking counterparts. In their study, pre-drinking did not substitute for later consumption because those who drank before a night out, drank similar amounts while out, to those who did not. Interestingly, total alcohol consumption was not associated with involvement in violence whereas pre-drinking was. This suggests that pre-drinking may be a more important factor in violence than total consumption.

Pedersen and LaBrie (2007) came to similar conclusions from their sample of 227 college students in the United States. Sixty-four percent of participants engaged in pre-drinking (75% of drinkers) and approximately 45% of all drinking events involved pre-drinking. The students consumed more drinks on drinking days when they pre-drank than on drinking days when they did not. The more frequently the students were involved in pre-drinking the more likely they were to have experienced a range of alcohol-related problems.

The critically important point here is that it is very difficult for measures that focus on licensed premises to curb the problems that emanate from pre-drinking. As Hughes et al. (2007) pointed out, measures to tackle drunkenness and alcohol-related violence in nightlife should expand beyond those targeted solely at nightlife environments. This is because policies which focus on reducing problematic drinking in licensed premises alone may have the unintended consequence of displacing drinking to pre-drinking environments.

Consequently, the development of effective policies to prevent violence and other alcohol-related problems on licensed premises requires a comprehensive approach that takes in to account the entire drinking occasion, not just that which occurs on licensed premises (Wells et al., 2009).

Arguably, therefore, if policing is to reduce alcohol-related violence and other crime associated with the night-time economy it is not just factors related to the licensed premises (such as environmental factors or the supply of alcohol to intoxicated patrons) that warrant examination. Among other issues that warrant consideration is the way in which packaged alcohol is supplied to the community. This is discussed in more detail later.

5.4.4 What are some of the factors that are influencing patterns of alcohol consumption among young people?

5.4.4.1 Cultural factors

Roche et al. (2008) highlighted a range of cultural factors that are impacting upon the drinking behaviour of younger Australians. These include:

- consumerism, in which drinking is used as part of the process of forming an identity and as part of a rite of passage;
- changes in social trends and interpersonal factors (such as leaving the parental home later) mean that younger people have longer periods of freedom from financial commitments;
- an increased emphasis among younger Australians achieving a work/life balance, which in turn means that more emphasis is placed on leisure, which provides more opportunities for drinking (particularly as far as unstructured leisure activities are concerned); and
- the increased availability of alcohol.

Please see Roche et al., (2008) for a more detailed explanation of these factors.

Many of the key consultants highlighted that the current cohort of younger Australians is more mobile, affluent and assertive than their forebears. Given the deregulation of the alcohol retailing industry over recent years, many have become accustomed to being able to obtain alcohol through to the early hours of the morning. This represents a major impediment to regulatory authorities attempting to 'turn back the clock'.

There was also a suggestion from one key expert that the current economic downturn could exacerbate binge drinking among younger people as a result of strong patterns of association between drinking patterns and economic/personal adversity.

Two key expert consultants referred to the impact of changes in the (unwritten) rules of social interaction and the importance of this to increasing the harms associated with alcohol intoxication. They argued that, over time, as these rules have become less formal, stringent and courteous, the ability to accurately interpret social cues declines (particularly in the context of intoxication). Consequently, casual accidental interactions such as bumping into a stranger on licensed premises can more easily flow over into violent and offensive behaviour. In other words, the suggestion was that these changes in rules of social engagement have had major adverse outcomes in terms of the interpersonal outcomes of alcohol intoxication.

5.4.4.2 The marketing of alcoholic beverages to younger people

Roche and colleagues (2008) described a range of strategies that are being used to market alcoholic products to younger people. These include:

- the development of 'designer drinks';
- increased alcoholic content in drinks;
- the re-commodification of alcoholic products to mimic psychoactive drugs;
- theme pubs and bars;
- youth-oriented packaging and lifestyle and image advertising; and
- the use of sweetening agents to make alcoholic products more appealing to younger people.

Important in this regard has been the emergence of ready to drink products (RTDs), especially spirit-based drinks that are highly flavoured and sweetened, which means that it is difficult to detect the alcohol in them.

Likewise in the United Kingdom, Measham and Brain (2009) documented the proliferation of marketing encouraging the drinking of 'shots' (of spirits) among younger drinkers. This is highly

problematic because it encourages drinkers to mix their drinks, to speed drink (drinking the shot in bolus) and to drink more, because they are usually consumed in addition to the drinkers' regular drinks.

It was also suggested by one key expert consultant that the alcohol industry has become highly adaptable to trends in the fashion and regulatory environments. Alcohol products can be developed with little lead time and be designed to have short product life cycles. It was suggested by one key expert that there is a stark contrast between the rapid pace with which products can be developed and the slow pace with which Australia's regulatory environment responds. This key expert suggested that it was possible for alcohol producers to develop a product and implement an advertising campaign that does not necessarily comply with the Australian Alcohol Beverages Advertising Code. Given the short product life cycles, by the time a complaint is made to the Advertising Standards Bureau, the campaign may well be over. Then the manufacturer can just move on to develop the next product/advertising campaign. This key expert suggested that the adeptness of the alcohol industry in circumventing the regulatory environment was demonstrated by the release of 'alternative' drinks in response to the taxation increases placed on spirit-based alcopops in 2008. These drinks use alcohol derived from lower-taxed beer, apparently to attract younger drinkers back to sweeter products.

Measham and Brain (2005) also suggested that current trends in alcohol product development were, in part, a reaction to the emergence of the increased use of illicit drugs from the late 1980s onwards. Specifically, they suggested that the alcohol industry needed to reposition alcohol as a consumer product which could compete with illicit drug markets.

An important marketing trend discussed by several key experts is the proliferation of vertical drinking establishments. This refers to licensed premises which have few chairs, shelves or other furniture for the use of patrons. As a result, patrons are forced to stand (vertically drinking) and hold their drink in their hands. Many such premises hold large numbers of patrons in settings that are noisy and large with a predominantly anonymous atmosphere. This not only fosters excessive drinking but encourages far more extreme behaviours than would occur in smaller hotels (for example, see British Broadcasting Corporation, 2006). Roche et al. (2008) asserted that in vertical drinking establishments the relative absence of furniture means that patrons have more direct access to the bar, which in turn facilitates faster bar service. They also suggested that the lack of comfort-enhancing features in these premises encourages faster drinking, so as to anaesthetise the patrons from the effects of their discomfort that occurs as a result of the noise, smoke and lack of seating. This is clearly a trend that warrants close monitoring in the Australian context.

In summary, the evidence obtained from population surveys concerning increasing problems associated with younger Australians binge drinking is patchy. Nevertheless there is mounting evidence of the harms that are accruing to young people as a result of their misuse of alcohol. There is also mounting evidence that certain patterns of consumption are particularly hazardous. Several key experts suggested that, as a result of their vulnerability, policing should consider ways in which it can prioritise its efforts to reduce the harm associated with alcohol consumption among younger people.

A key way of achieving this is via alcohol diversion programs. These are programs which divert alcohol-related offenders away from the criminal justice system. In this regard the trials of the Early Intervention Pilot Programs that will soon commence in all jurisdictions will be of considerable interest.

5.4.4.3 Secondary supply of alcohol to minors

The secondary supply of alcohol refers to the sale or supply of alcohol to people under the age of 18 years (minors) by adults or other minors. Secondary supply is the main way that minors obtain their alcohol. It is illegal in all jurisdictions for licensed premises to serve minors and for adults to purchase alcohol on behalf of minors for on-premise consumption. So, too, it is illegal for adults to purchase alcohol for secondary sale to minors. The legal situation surrounding the supply of alcohol to minors and the secondary sale of alcohol to minors is well defined. The situation in private homes and at private functions is, however, less clear (Australian Drug Foundation, ADF, 2008).

In reporting on the findings of the 2005 Australian Secondary Students Alcohol and Drug Survey, White and Hayman (2006) indicated that parents are the most common source of alcohol for the students. Thirty-seven percent of 12 to 17 year old students reported that their parents gave them their last drink. The proportion of students who indicated that parents were their source of alcohol was significantly greater among the younger students (39%) than the older students (35%). Among 12 to 17 year old drinkers, 6% of males and 4% of females bought their last alcoholic drink themselves. The prevalence of buying alcohol was related to age, and increased from 2% of 12 to 15 year olds to 10% of 16 to 17 year olds. Among younger students, 20% indicated that they obtained their last alcoholic drink from friends, while 16% indicated that someone else bought it for them.

The 'Mediterranean model' of introducing alcohol to young people, in which they are gradually allowed to drink small amounts in the presence of their parents, has been popular with many parents. However, the concerning levels of binge and under-age drinking in Australia suggests that this has not been a successful strategy (ADF, 2008).

Several jurisdictions are currently considering legislative options to reduce the problem of secondary supply and NSW has already introduced relevant amendments to its liquor legislation. The NSW legislation states that a person must not supply alcohol to a minor on unlicensed premises unless the person is the minor's parent or guardian. A person can avoid a penalty if he/she proves that he/she was authorised to supply the alcohol by the minor's parent or guardian (NSW Office of Liquor, Gaming and Racing, 2008). The impacts of these changes remain to be seen.

The secondary supply of alcohol to minors is an important issue which needs to be included in broader examinations of the ways in which alcohol is supplied in Australia.

5.5 Law enforcement and related impacts of the misuse of alcohol.

5.5.1 Financial costs

Collins and Lapsley (2008) conservatively estimated that, in Australia in 2004, alcohol-attributable crime costs amounted to $1.73 billion which included the costs of: policing ($747 million); loss of productivity of prisoners ($368 million); violence ($187 million); and prisons ($141 million). Other crime-related costs include: criminal courts, $85.8 million; property, $67.1 million; and insurance administration, $14.3 million. This does not include the costs that are associated with the concurrent misuse of alcohol and illicit drugs ($1.4 billion). These authors also calculated that police agencies expend approximately $14.8 million as a result of alcohol-related road crashes which have a total cost to the community of $3.12 billion.

So, too, Donnelly et al. (2007) estimated that in 2005 the total cost of NSW police salaries that were associated with dealing with alcohol-related issues was $50 million per annum. This represents the combined annual salaries of 1,000 full-time constables. Reactive policing and the

activities included in it were estimated to cost $32 million per annum and proactive policing activities (including RBT) accounted for $17 million, approximately one-third of total policing activity costs in this area.

5.5.2 Road crashes

There are strong links between the misuse of alcohol and road crashes. The Australian Transport Council (2007) reported that in Australia:

- More than 20% of drivers and riders killed have a blood alcohol level which exceeds the legal limit.
- Approximately 1 in 300 drivers tested at random breath testing stations exceed the legal alcohol limit.
- Casualty crash risk doubles when driving with an alcohol level just in excess of 0.05 mg%.
- A high proportion of recidivist drink drivers have clinical alcohol dependence problems.

Likewise, the AIHW (2008b) reported that approximately one in seven recent drinkers (14.3%) had driven a motor vehicle in the previous 12 months while under the influence of alcohol.

Equally, in their study of attendees at the Royal Adelaide Hospital Trauma Service, Griggs et al. (2007) reported that motor vehicle crashes were the most common cause of injury and 22.6% of injured drivers tested positive to alcohol. Of those trauma patients who were involved in car crashes and who tested positive for alcohol, 65.4% had a blood alcohol level above 0.05 mg%, 50.4% had a blood alcohol level of 0.11 mg% or greater, 30% had a blood alcohol level of 0.16 mg% and 15.4% had a blood alcohol level of greater than 0.2 mg%.

There is evidence that Australians' attitudes about the dangers of drink driving may be weakening. Pennay (2008), for example, reported that the proportion of surveyed Australians who considered that drink-driving was the most important factor associated with road crashes fell from 23% in 1993 to 11% in 2008. So, too, the proportion of Australians who mentioned drink driving as being a factor associated with road crashes fell from 64% in 1993 to 48% in 2008.

One of the most important tools which law enforcement has in relation to drink driving is random breath testing (RBT). In its submission to the environmental scan the National Drug Research Institute indicated that, while there is good evidence that RBT, licence sanctions and fines are effective for the majority of road users, they are far less effective against recalcitrant or repeat drink driving offenders. It is these individuals who are responsible for a sizeable proportion of alcohol-related accidents. Further, NDRI reported that unlicensed driving undermines other drink driving countermeasures because many experienced drink driving offenders learn that the risk of detection is low and choose to drive without a licence. NDRI reported that as many as 75% of suspended drivers continue to drive at some level during their period of licence disqualification.

In its submission, NDRI called for the application of a comprehensive, multifaceted drink driving strategy which targets repeat offenders, includes countermeasures to reduce unlicensed driving and uses driving fines to finance alcohol interlocks.[15]

In addition to the problems associated with recalcitrant drink drivers, there is also some evidence that the reach and visibility of RBT is declining in Australia (but not in all jurisdictions). This could be problematic because it is the perceived risk of apprehension for drink driving, rather than factors such as the severity of penalties, that has substantial and enduring influence on offending rates (Briscoe, 2004). After climbing steadily since the early 1990s, the proportion of Australians who reported that they had been breath tested in the past six months fell from a high of 32% in 2005 to 27% in 2008. The number of Australians who had observed random breath testing occurring also fell from a peak of 78% in 2004 to 75% in 2008 (Pennay, 2008).

[15] An alcohol interlock is a device which prevents the car from being driven if the driver has been drinking.

Several of the key expert consultants from the health sector also indicated that, in their view, random breath testing was losing its impact. A detailed examination of the factors impacting on drink driving in Australia is beyond the scope of this environmental scan. This is an issue that warrants close monitoring and focussed research effort to determine if any softening of community attitudes towards drink driving is occurring, or if there is a perceived reduced likelihood of being apprehended for drink driving. This is the subject of current NDLERF-funded research.

5.5.3 Alcohol, assaults, violence and other offending

Like the links between alcohol and road crashes, the link between alcohol misuse and assaults is well established. Only more recent evidence on the links between the misuse of alcohol and assaults is provided here. For a more comprehensive overview, please see Nicholas (2008).

Australians are almost twice as likely to be physically or verbally abused or intimidated by an alcohol-affected person than by a person affected by other drugs. In 2007 a quarter of Australians aged 14 years or older had been verbally abused, a further 4.5% had been physically abused, and 13% had been put in fear by a person affected by alcohol. Six point eight percent of Australians indicated that they had verbally abused someone, 4.3% had created a disturbance, damaged or stolen goods, and 1.9% had physically abused someone while affected by alcohol (AIHW, 2008b).

Griggs et al. (2007) reported that, among patients attending the Royal Adelaide Hospital Trauma Service or Emergency Department who were affected by interpersonal violence, almost 48% tested positive to alcohol. Of all the assaults, the most common place of assault was at home, followed by on the street, then within a trade or services area (generally a hotel). As the authors noted, the assaults that occurred in street settings may reflect individuals who had just left a trade or service area (such as licensed premises).

Following their examination of those presenting to the Emergency Department of St. Vincent's Hospital in Sydney, Poynton, Donnelly, Weatherburn, Fulde and Scott (2005) reported that 14% of attendances were for injuries that resulted from interpersonal violence. Almost two-thirds of the assault patients interviewed reported drinking alcohol in the six hours preceding the assault incident, and 75% of these reported that they had been drinking at licensed premises. Forty-one percent of those interviewed reported that they thought the other person involved in the incident had also been drinking alcohol. Indeed one-third of *all* injured patients reported consuming alcohol before being injured and almost two-thirds of these stated that they had been drinking at licensed premises.

Further evidence concerning the extent of this problem comes from the Alcohol Education and Research Foundation (AERF, 2008). The AERF commissioned a study to examine the extent to which the misuse of alcohol impacted on Australians over the Christmas/new year holiday period 2007–08. The research was conducted by Quantum Research with 1,000 respondents aged 14 years and above. Extrapolating from this research, AERF asserted that:

- over 2.2 million Australians over the age of 14 experienced physical or verbal abuse during the holiday period from someone under the influence of alcohol;
- almost 700,000 claimed they had initiated verbal or physical abuse towards others after drinking alcohol during this period; and
- over 2.6 million Australians know someone who was injured or harmed as a result of the misuse of alcohol over this period and 45% of 14–17 year old Australians knew someone who had been injured and harmed.

As is evident, one of the ways in which police agencies measure their performance is the perceptions which citizens have in relation to their own safety. Alcohol-related assaults and other behavioural offences are likely to be significantly impacting upon these perceptions of safety, even though they often do not appear in police statistics because of under-reporting (Teece & Williams, 2000).

In summarising the international literature on alcohol and violent offending, Babor et al. (2003) reported that both individual and aggregate-level studies indicate a causal relationship between alcohol consumption and violence. The strength of this relationship does, however, appear to be culturally related. Specifically, for those cultures in which the predominant pattern of alcohol consumption is one of drinking to intoxication (such as that of Australia), they found that there is a much stronger link between alcohol consumption and violence.

Adams, Sandy, Smith and Triglone (2008) considered the relationship between alcohol and broader patterns of offending. In reporting on the 2007 Drug Use Monitoring in Australia (DUMA) program, the authors reported that half of male and one-third of female detainees had drunk heavily in the 48 hours prior to being arrested. Forty percent of detainees believed that their drinking had contributed to them committing the crime for which they had been detained. In addition, half of those detained for disorder and violent offences had consumed alcohol in the 48 hours prior to arrest. Three-quarters of male detainees and two-thirds of female detainees self-reported heavy alcohol use in the past year. Almost a third of the detainees could be considered to be dependent on alcohol. Male detainees were more likely to be deemed dependent on alcohol (33%) than female detainees (26%). While it is not possible to draw causal conclusions from this data about the links between alcohol consumption and crime, it is clear that a substantial proportion of offenders believe that their alcohol consumption had contributed to their offending.

Dearden and Jones (2008) also highlighted the links between alcohol consumption and homicide in Australia. As they pointed out, it is difficult to draw conclusions about offenders' use of alcohol and/or intoxication because of the time lag that often occurs between the homicide offence and the offender being arrested. Nevertheless, there are clear indications that many homicide victims are affected by alcohol at the time of the offence. In 2006–07 67% of victims had alcohol, illicit drugs, or both in their blood system when they died. One-third (35%) had alcohol only and 16% had both alcohol and illicit drugs. Male victims were more likely (39%) than females (24%) to be under the influence of alcohol only, and female victims were more likely (46%) than males (28%) to have no alcohol or illicit drugs in their blood system when killed. This may reflect their greater likelihood of having been killed in the context of a domestic dispute.

As is evident, the misuse of alcohol has a major impact on the activities of policing and the criminal justice system in Australia.

5.6 Summary, conclusions and implications for police

One consistent theme arose in consultations with key experts concerning alcohol-related issues in Australia. Over the past decade and a half, Australia has 'dropped the ball' in terms of the level of attention given to alcohol-related issues. Arguably, over this period, alcohol and other drug policy in Australia has had a major focus on illicit drug problems, while the problems associated with the misuse of alcohol were burgeoning. At the same time there was strong recognition among many of these consultants regarding the important leadership role that policing can play in redressing this imbalance.

The major manifestation of 'dropping the ball' on alcohol has been the proliferation of opportunities for Australians to purchase alcohol. This proliferation has occurred across several axes. This includes:

- an increased number of licensed premises;
- an increased number of different types of licensed premises;
- increased hours of availability;
- an increased number of beverage types; and
- an increased number of special event licenses.

While demand-side issues are important, it is highly likely that a substantial proportion of the alcohol-related social problems faced in Australia at present are actually supply-side driven.

While there are clearly gaps in our knowledge about patterns of alcohol-related social harms in the community, there was a strong sense from many of the key experts consulted that enough data exists to act now. Indeed, there was a perception that there have been few other occasions in Australia's history when there has been a more favourable set of circumstances to effect change to reduce alcohol-related problems. All of these circumstances are occurring at the same time as there is a maturation of the body of evidence concerning effective responses to alcohol-related social problems.

5.6.1 Where to from here regarding policing responses to alcohol-related social harms?

In recent years, policing in Australia has been struggling with how best to respond to the range of alcohol-related social problems. Fleming (2008) documented a series of changes that have occurred in Australian policing responses to licensed premises in recent years. The first of these has been a change in focus from the patrons of licensed premises towards the premises themselves. That is, instead of focussing law enforcement efforts on intoxicated patrons, there is an increasing focus on the environments in which those patrons become intoxicated. The second is a shift in several jurisdictions to centralise the liquor law enforcement functions within police organisations, rather than having several parts of policing organisations having carriage of the issue. This approach has a number of advantages including: enhancing communication with other agencies such as licensing authorities; facilitating more efficient data collection; the development of a body of expertise in the area; and facilitating the provision of support to local area commands. The third change has been increased intelligence-based monitoring and regulation of licensed premises including increased 'walk throughs' of licensed premises. The fourth change has been the development of partnerships with a range of other stakeholders to address alcohol-related problems.

Nicholas (2008) provided a menu of options to assist policing in this regard. These included options for which police have primary responsibility, such as:

- lobbying to ensure that effective legislation is in place to provide police with the tools to achieve the desired outcomes;
- establishing a national mechanism to focus on law enforcement approaches to reducing alcohol-related problems;
- ensuring that alcohol-related issues are included in corporate strategic planning processes;
- encouraging the controlled test-purchasing of alcohol and strategies to address the secondary supply of alcohol to minors;
- ensuring that policing efforts aimed at reducing problems associated with licensed premises are appropriately focussed;
- centralised areas of expertise and better intelligence systems; and
- monitoring the trends in the proliferation of vertical drinking establishments and their impact on alcohol-related crime.

All of these remain important, but, in this environmental scan, three slightly different issues emerged as potential paths forward for policing in addressing the social harms associated with alcohol consumption in Australia. These were: the relative weighting of supply-side approaches to alcohol-related harms that focus on problematic licensed premises versus those that focus on the overall supply of alcohol; the importance of partnerships; and better harnessing the powers of local government. Each of these is discussed in turn.

5.6.1.1 The relative weighting of approaches to alcohol-related harms that focus on problematic licensed premises versus the overall supply of alcohol

As is evident, over the past five years, Australian policing agencies have introduced a range of supply-side measures to reduce alcohol-related social harms. Probably the most important trend in this regard, is the extent to which their targeting of licensed premises is increasingly becoming intelligence-led. This is in recognition of the fact that a minority of licensed premises are associated with the majority of alcohol-related harm that occurs in and around licensed premises (for example, see Briscoe & Donnelly, 2003 and Considine et al., 1998). Police in several jurisdictions have substantially enhanced their intelligence collection processes concerning problematic licensed premises. In the case of New South Wales, police data has been combined with data from the Office of Liquor, Gaming and Racing and from State Revenue to gain a more comprehensive perspective. The provision of wholesale alcohol sales data will be a further important tool for police, in that they will be able to further clarify the extent and patterns of alcohol sales occurring in individual licensed premises. Richer sources of information such as this can only help police to better implement intelligence-based responses.

There is much that can be achieved by more effectively targeting these problematic licensed premises and there is little doubt that these measures will make a significant contribution to reducing the social harms associated with alcohol in Australia. Nevertheless, broader-based approaches are also required.

In focussing on individual licensed premises, however, there is a risk that policing is defining the supply-side causes of alcohol-related social harms in Australia in overly narrow terms. That is, there is a risk of predominantly perceiving alcohol-related social harms as emanating from factors that are related to individual licensed premises and largely related to on-premise consumption of alcohol. The problem with this perception is that it leads to the development of a set of policing tools which focus largely on this aspect of the problem. Essentially these are tools which enable police to better identify errant premises and to gather evidence to bring about change via persuasive or regulatory means.

Individual problematic licensed premises, and the alcohol consumption therein, should more accurately be viewed as a subset of the supply-side causal factors associated with alcohol-related social harms in Australia. If policing is to make a more substantial and sustained regulatory contribution to these harms, then the totality of their causes need to be considered. This perspective needs to encompass an examination of the whole range of ways in which alcohol is supplied to the community and how these mesh together and with other causal factors to contribute to the social harms that policing has to deal with.

There is little doubt, for example, that increasing the physical availability of alcohol leads to higher levels of alcohol-related harms (for example, see NDRI, 2007). One aspect of this is the density of licensed premises. That is, as the density of premises increases, so do the level of social harms.[16] The precise nature of the relationships between the types of licensed premises, levels of alcohol sales and patterns of harm do, however, depend on the characteristics of the locations concerned (Chikritzhs, Catalano, Pascal & Henrickson, 2007). In short, however, the more alcohol that goes into a given area, the more social problems are likely to occur. Consequently, the issue of problematic individual licensed premises needs to be 'teased apart' from the issue of overall alcohol availability. The former issue is related to the management practices of the individual licensed premises. The latter issue is related to the number and type of licensed premises in a given area (including liquor stores) and the hours they are permitted to trade. They are quite distinct issues requiring different responses.

[16] That said, while outlet density is important to predicting the level of alcohol-related social harms that will occur in a given area, a more accurate way of doing so is via an approximation of specific alcoholic beverage sales in that area. A major advantage of measuring wholesale beverage purchases over measures of outlet density is that, unlike other measures based on counts of liquor licences, it does not necessarily assume that all outlets (or types of outlets) are equivalent in terms of sale and supply of alcohol and levels of harm (Chikritzhs et al., 2007).

The overall proliferation of alcohol availability probably makes an equal if not larger contribution to alcohol-related social harms in Australia, than do sales from a relatively small number of problematic licensed premises. Particularly important in this regard are packaged sales from liquor stores. Indeed, key expert consultants from some parts of Australia who were consulted for this environmental scan (such as the Northern Territory) suggested that the majority of the alcohol-related social problems they face relate to alcohol sales which are for off-premises consumption.

Take, for example, a given suburb with a high availability of packaged liquor (high outlet density and extended trading hours) which results in a large amount of alcohol being supplied to that suburb. This would still be associated with a range of social harms, such as assaults, even if each of the bottle shops was well managed and complied entirely with the relevant legislation. If the major focus of police is to identify problem licensed premises, then these bottle shops would not come to police attention, even though the social harms associated with their alcohol sales could be substantial.

The example of alcohol-related assaults illustrates this point. Alcohol-related assaults occurring in and around licensed premises are, quite rightly, a high priority concern for police. Yet, as could be imagined, overall, many more assaults occur on private premises compared with licensed premises. Indeed, increasing regular strength beer sales in a given geographical area is associated with a greater rate of increase in assaults in private premises compared with those on licensed premises (Chikritzhs et al., 2007). As these authors pointed out, the level of regular strength beer purchased (and therefore sold) by packaged liquor stores alone in the Metropolitan Health Region of Perth predicted some 75% of the variance in assaults occurring on private premises. That is, in that region, an increase in the sales of regular strength beer from liquor stores is associated with a substantial increase in assaults in private premises. Increased sales from packaged liquor outlets was also associated with a modest increase in assaults on licensed premises.

Consequently, while alcohol-related assaults that occur in and around licensed premises are the most obvious manifestation of this problem, alcohol-related assaults that occur in private are many times more frequent. This is more closely linked to issues of total alcohol availability than to individual problematic licensed premises. Even when considering the development of effective policies to prevent violence and other alcohol-related problems on licensed premises, it is necessary to adopt a comprehensive approach that takes in to account the entire drinking occasion (including pre-drinking), not just that which occurs on licensed premises (Wells, et al., 2009).

Addressing issues related to the overall proliferation of the availability of alcohol, including liquor stores, is a more complex task than is identifying and responding to errant licensed premises. Nevertheless this should become an important component of policing responses to this problem.

Assuming that it is the total availability of alcohol (which includes the number of errant licensed premises) in a given location which leads to increased alcohol-related social harms, then two distinct groups of responses (and resultant tool kits) are required from policing. The first group of responses revolves around the need to identify and deal with errant licensed premises. As discussed above, many police agencies in Australia have already headed down this path.

The second response concerns the need to understand and better respond to the broader problems of alcohol availability in Australia and how this impacts on policing problems. The most important aspects of this are issues of outlet density, trading hours, venue type, the secondary supply of alcohol to minors and alcohol sales and promotion practices.

There are four potential paths forward if police are to reduce the social harms from alcohol in Australia by focussing more broadly on patterns of consumption. These are: to learn more about

this by changing the focus of law enforcement-related research away from policing responses to problematic premises or precincts, to issues of overall consumption (especially liquor shop sales); to have the capacity to accurately model the public harm implications of different patterns of alcohol availability on specific environments; to have liquor legislation that is sufficiently sensitive to the public harm implications of this modelling; and to create a national focus for regulatory and policing expertise in liquor law enforcement.

5.6.1.1.1 Changing the focus of law enforcement related alcohol research

Over the past decade, a significant amount of research has been funded by NDLERF and other agencies which focusses on the development of better responses to problematic licensed premises and precincts. There is now a strong body of knowledge about effective regulatory and law enforcement responses, particularly to issues of on-premise consumption of alcohol. Clearly, there is much work to be done in implementing what is already known about this and in better aligning legislation and structures to support this process. Nevertheless, future investment in research concerning this aspect of alcohol supply problems is probably not warranted. As has been discussed above, there is a need to better understand the impacts of broader patterns of alcohol supply on the policing environment and levels of crime. Important in this regard are supply from bottle shops, issues of outlet density in non-entertainment precincts, secondary supply of alcohol to minors and alcohol promotion strategies.

5.6.1.1.2 The importance of modelling

If police are to be able to exert a greater influence on issues concerning the broader availability of alcohol, then it is essential that the capacity exists to accurately model, on a local basis (for example 1–2 post code areas), the impact of existing or proposed liquor licensing arrangements on levels of alcohol-related social harm. The work of Chikritzhs et al., (2007) has already indicated that this is achievable. This will involve the formation of closer partnerships between police and researchers and the ability to provide researchers with a range of data to develop robust models. This will include police data such as that which is used for identifying problematic licensed premises.

Critically important in this regard is the availability of wholesale alcohol sales data. Without a precise understanding of the extent and type of alcohol that is being supplied in a given geographical area, it is impossible to develop the kinds of models that are required to move this issue forward.

These models will need to be very sophisticated because not all communities are the same and not all licensed premises are equal in terms of levels of harm. It is, however, highly likely that decisions about the location and number of licensed premises can be guided to good effect by sensitive and reliable analytical models which bear out the variable nature of communities and licensed premises (Chikritzhs et al., 2007). This modelling, once it is sufficiently robust, can then be provided to liquor licensing authorities and local government to guide their decision-making concerning the continuance or variation of liquor licensing conditions.

This modelling is particularly important in the context of the impacts of National Competition Policy (NCP). On the one hand, NCP acts to remove anti-competitive barriers to the entry of more licensed premises into the alcohol market. This has been an important force in increasing the availability of alcohol in recent years. On the other hand, the pressures associated with NCP can be resisted where a more open market can be clearly demonstrated to not be in the public interest. The development of this modelling should be able to demonstrate the impacts of increased alcohol availability in a given area, and provide persuasive arguments to resist further liberalisation of alcohol sales, either in terms of increased licensed premises or increased trading hours.

5.6.1.1.3 The need for more sensitive liquor licensing legislation

The third issue that warrants consideration, if police are to address problems associated with broader patterns of alcohol consumption, is the need for liquor licensing legislation to be sufficiently sensitive and responsive to the findings of such modelling processes. A common theme among those consulted in this environmental scan was that, under current liquor licensing arrangements, the burden of proof for those opposing the liberalisation of alcohol sales was far higher than for those proposing it. This is an entirely unsatisfactory situation.

The Ministerial Council on Drug Strategy has recently funded the National Centre for Education and Training on Addiction (NCETA) to conduct an examination of liquor legislation in Australia. This will be a critically important opportunity for police to indicate the characteristics of legislation which will not only facilitate more effective efforts towards individual premises, but impact more broadly on patterns of alcohol consumption, particularly from liquor stores.

5.6.1.1.4 The need for the creation of a national focus for regulatory and policing expertise in liquor law enforcement

Currently there is no national focus for those who have responsibility for enforcing alcohol-related laws (police, liquor licensing authorities and local government) to share their expertise and experiences, or to develop and interpret the evidence base concerning effective measures. Consequently, there is no repository of knowledge concerning the strategic, operational and legislative measures being implemented in Australia. Nor is there any organisation that acts as a clearing house for information emanating from research and initiatives being implemented in Australia and overseas. In addition, there is currently no law enforcement equivalent of the national alcohol industry-funded bodies or health lobby groups which is able to represent the views of the law enforcement and regulatory sectors. This is a major impediment to progress in this area.

5.6.1.2 The importance of partnerships

An important theme echoed by several of the key expert consultants in this environmental scan was the importance to police of developing partnerships focussed on reducing alcohol-related social harms. Indeed one of the law enforcement consultants indicated that developing strong partnerships and implementing joint initiatives with other agencies offered more promise to reduce alcohol-related social harms than did better enforcement of liquor licensing laws. Policing has a broad range of potential partners to better address alcohol supply, demand and harm issues. As is discussed below, critically important in this regard is local government, but also important are public transport agencies, health and welfare agencies and Indigenous representative groups. Also important is the ability for police to develop mechanisms to better harness broader community concerns about alcohol-related disorder and loss of amenity.

5.6.1.3 Better harnessing the powers of local government

A third issue which was also mentioned by several key expert consultants was that local government represents a significantly untapped resource for police seeking to reduce alcohol-related social harms in Australia. While police in several jurisdictions already work closely with local government agencies, there is a significant capacity to expand this. Indeed some key experts considered that the capacity to expand the use of local government powers to reduce alcohol-related social harms was at least equal to that of liquor licensing legislation.

There are some indications that local government also recognises the role that it can play. The Western Australia Drug and Alcohol Office (DAO, 2006, as cited in DAO, 2007) reported that most (responding) local government representatives from that jurisdiction believed that the sector has a

significant role to play in reducing alcohol-related social problems. The representatives' perception of this role included:

- town planning to create safer environments;
- developing and enforcing alcohol policies;
- involvement in liquor licensing matters, including commenting on liquor licensing applications and monitoring licensed venues;
- supporting local alcohol accords;
- creating local programs as alternatives to alcohol consumption;
- partnerships with local agencies; and
- the enforcement of local laws.

Specifically, local government has a range of powerful tools at its disposal to control the availability of alcohol. These include:

- development approvals for liquor licence venues;
- interventions and objections to license applications;
- amendments to town planning schemes for specific land use and policy considerations;
- event risk-management processes;
- the provision of local government and planning certification to licensing authorities concerning applications; and
- public building approvals and conditions.

Local government takes a key interest in issues which affect local amenity and safety and has strong powers in relation to factors which impact on them. The provision of data from the modelling processes described above has the potential to be a powerful influence on the decision-making processes of local government. In this regard there is scope for NDLERF to fund research that examines the range of ways in which police could more closely work with local government to reduce alcohol-related social harms. Particularly important in this regard is to obtain a better understanding of the kinds of information that is considered by local government in its decision-making processes. This will enable police to make more targeted representations for local government regarding alcohol-related issues.

5.7 Conclusion

In conclusion, policing in Australia has had an increased focus on alcohol-related social problems in recent years. There is now an opportunity to capitalise on favourable social and political conditions to examine the whole range of ways in which alcohol is supplied to the community. The targeting of problematic licensed premises will continue to be important. It is also important for policing and its partner agencies to examine how the current patterns of alcohol availability (including liquor stores) are impacting on policing outcomes. In a sense this is best viewed as a second generation of thinking in this area.

Chapter six: Pharmaceutical drug misuse

6.1 Introduction and terminology

Changes in patterns of the misuse of pharmaceutical drugs represent one of the most significant issues documented in this environmental scan. As Nicholas (2002) pointed out, there are two major issues that warrant consideration as far as the misuse of pharmaceutical drugs is concerned. The first is the direct misuse of these drugs in order to experience their effects. Related to this is the diversion of these substances onto the illicit market for sale, or to barter for other goods including other illicit drugs.

The second issue is the diversion of pharmaceuticals to be used in the manufacture of illicit drugs. The major group of pharmaceuticals diverted to produce illicit drugs is those which contain pseudoephedrine. This chapter of the environmental scan does not deal with this issue as it is dealt with more comprehensively in the chapter on amphetamine-type stimulants. There is some diversion of pharmaceutical opioids that is associated with the production of homebake heroin, and this is touched upon in this chapter.

For the most part, however, this chapter addresses the issue of the direct misuse of pharmaceuticals, and their diversion onto the illicit market. Most prominent in this regard are opioids, benzodiazepines and stimulants.

Below are the definitions for some of the terms used in this chapter:

Pharmaceutical: A drug or medicine that is supplied from or dispensed in pharmacies or other place and used in medical/dental treatment.

Prescription drug: A drug requiring a prescription (issued by a doctor or dentist) to be dispensed from a pharmacy.

Over-the-counter (OTC) pharmaceutical: A drug that can be dispensed at a pharmacy or other place without a prescription.

Non-medical use or misuse (of pharmaceuticals): Use: either alone or with other drugs in order to induce or enhance a drug experience; for performance (e.g. athletic) enhancement; or for cosmetic (e.g. body shaping) purposes.

Illicit use (of pharmaceuticals): Use of illicitly obtained pharmaceuticals, i.e. those obtained from a prescription in another person's name, purchased on the black market or stolen.

Diversion (of pharmaceuticals): The redirection of drugs obtained legally to illicit use. This includes drugs obtained through 'prescription shopping', theft, fraud, as well as prescription pad theft and forgery (after NOUS Group, 2008).

Dobbin (1998) reported that the major groups of drugs that are diverted for direct misuse are:

- opioids such as morphine, oxycodone, hydrocodone, codeine, dextromoramide, methadone, and buprenorphine;
- benzodiazepines including clonazepam (Rivotril®), diazepam (Valium®, Atenax®, Diazemuls®, Ducene®), oxazepam (Serepax®, Alepam®, Murelax®), temazepam (Temaze®, Euhypnos®, Normison®), nitrazepam (Mogadon®), and alprazolam (Xanax®);
- stimulants including dexamphetamine (Dexedrine®) and methylphenidate (Ritalin®);
- anorectic stimulants including phentermine (Duromine®) and diethylpropion (Tenuate®, Tenuate Dospan®); and
- anabolic steroids.

There is a wide range of reasons why some misusers of drugs would prefer to use pharmaceutical drugs rather than illicit 'street' drugs. As the Parliament of Victoria Drugs and Crime Prevention Committee (PVDCPC, 2007) pointed out, pharmaceutical drugs are: pure; in standardised forms; relatively easily obtainable; available from stable supply sources (compared with illicit drugs); have a relatively low pharmacy dispensed cost, particularly for PBS subsidised drugs (which also means a great potential for profit); have relatively low legal risks associated with their supply or possession; and have less stigma associated with their use than do illicit drugs.

6.2 Pharmaceutical drug misuse and policing

As Nicholas (2002) asserted, the diversion of pharmaceuticals represents a complex series of problems for policing, including:

- providing an additional dynamic to the already complex illicit drug markets;
- the behavioural problems associated with intoxication with pharmaceutical drugs;
- crime committed while under the influence of pharmaceutical drugs[17] or in order to obtain them; and
- driving while under the influence of pharmaceutical drugs.

Fry et al. (2007) highlighted a range of other issues that pharmaceutical opioid and benzodiazepine markets pose for police. These include:

- the difficulties associated with distinguishing licitly and illicitly held prescription pharmaceuticals;
- the requirement for police to have knowledge of relevant scheduling and legislative considerations;
- the need for police to have an understanding of psychopharmacology of benzodiazepines and prescribed opioids, their interactions with illicit drugs, and implications for behaviour;
- the apparently weaker relationship between prescription pharmaceutical use and crime compared with illicit drugs; and
- the fact that similar policing responses are required regardless of whether intoxication is due to use of licit or illicit drugs.

A further difficulty is that crimes related to the diversion of pharmaceutical drugs are rarely reported to police and, even when they are, the offences are difficult to prove.

Pharmaceutical drugs have historically not featured prominently on the 'policing radar' of illicit drug problems. This is, however, changing and is likely to become increasingly problematic in coming years.

6.3 Impediments to better understanding problems associated with the misuse of pharmaceutical drugs in Australia

Given the fact that the prescribed pharmaceuticals that are misused in Australia: predominantly ultimately originate from doctors' prescriptions, are supplied by legitimate pharmaceutical companies, are dispensed by registered pharmacists, and are largely tracked by the Pharmaceutical Benefits Scheme or by other means, it is remarkable that so little is known about this phenomenon. In principle at least, our understanding of the dynamics of pharmaceutical misuse should be far

[17] Particularly important in this regard is the commission of crime while under the influence of benzodiazepines. This can lead to a violent 'Rambo' effect and or to feelings of invincibility and invisibility. This can lead to offenders committing offences in the belief that they are invisible or invincible (PVDCPC, 2007).

more thorough than our understanding of a drug such as heroin which is imported illegally into the country and distributed and sold clandestinely. Yet this is not the case. In reality, there are many gaps in our knowledge about the diversion and misuse of pharmaceuticals and the way that this impacts on crime, including illicit drug markets. This is particularly concerning in the context of the evidence that pharmaceutical misuse is a rapidly emerging drug problem in Australia and overseas.

This gives rise to the question of why the 'elephant in the room' of pharmaceutical drug misuse has not received greater attention in Australia. In his submission to the Parliament of Victoria Drugs and Crime Prevention Committee (PVDCPC, 2007) a drug and alcohol clinician, Dr Mike Tedeschi, suggested:

> *I don't think there's any great push from any one area saying do something, this is an urgent problem. If you have on the whole a happy patient, a willing prescriber, a subsidised PBS [Pharmaceutical Benefits Scheme] you haven't got a problem. So we drug and alcohol workers might think there is a problem or say there's a potential problem but if you haven't got a great push from anyone saying there's a problem, it makes it very hard* (p. 9).

In their submission to PVDCPC (2007), Wodak and Obsorn suggested that the historical indifference to this emerging problem and poor outcomes in this area were as a result of:
lack of interest;

- poor data;
- obstruction by the pharmaceutical industry;
- lack of ownership of the problem by the relevant medical professional groups;
- inadequate state and territory guidelines to enable the separation of honourable doctors doing their best under difficult circumstances, from less well motivated doctors; and
- the failure of states and the Commonwealth to provide adequate funding and support for alcohol and drug treatment in Australia.

It should be noted, however, that more recently the Intergovernmental Committee on Drugs has been undertaking a considerable amount of work in the area of examining strategies to address the problems associated with the misuse of pharmaceutical drugs.

As the PVDCPC (2007) pointed out, there are a number of difficulties with obtaining information concerning the misuse of pharmaceuticals in Australia. The key source of information in this area, the Drug Utilisation Committee of the Australian Pharmaceutical Benefits Advisory Committee, does not currently provide data on drugs that are prescribed in public hospitals, for example. In addition, data that is published appears in its raw form. This does not readily permit observations to be made about trends in the prescription of specific drugs and specific drug potencies. Finally, the Committee found that the data is rarely disaggregated to give 'snapshots' of prescription drug misuse among particular groups, such as Indigenous Australians, culturally or linguistically diverse communities, people living in rural and regional regions or prison populations. This represents a major hindrance to better understanding prescription drug misuse in Australia. Given that much of the data is already captured, it would not require a substantial investment to sort the data into a more useable form. This is particularly the case when it is considered that a large proportion of the cost of pharmaceutical misuse is borne by the government-funded Pharmaceutical Benefits Scheme. Therefore, the potential savings are likely to be significant.

Also problematic is the paucity of information available on private prescriptions in Australia. These are non-PBS or non-Repatriation Pharmaceutical Benefits Scheme (RPBS) prescriptions which can be provided by doctors. The patient then pays the full (non-subsidised) price for the drugs and the

prescription does not appear on PBS/RPBS monitoring schemes. The drugs are, however, monitored on an estimation basis by the Drug Monitoring System (DRUMS) conducted by the Australian Government Department of Health and Ageing, but researchers do not have ready access to this and it is not clear how accurate the estimations are.

Bruno (as cited in Topp, 2006) highlighted a range of other problems associated with the monitoring of pharmaceutical diversion, including: problems with timely access to existing databases; inconsistency in the coding of drugs in these data sets (brand names, generic names, or an overall drug class); and privacy concerns related to integrating health and law enforcement data on issues such as the identification of prescription shoppers. In addition, most data about pharmaceutical diversion are drawn from studies of people who inject drugs. As Bruno pointed out, these are likely to be the most chaotic and visible groups who misuse these drugs, but there are many people who use them orally and do not come to the attention of authorities. Very little is known about this group and the ways in which their activities impact upon illicit drug markets. This is a critically important point in terms of the direction of future research in this area.

A key issue which arose in discussions with key expert consultants was that the level of infrastructure that supports the tracking of Schedule 8 medications (drugs of dependence) is highly variable in its effectiveness between jurisdictions. This means that jurisdictions vary in the extent to which they are able reduce the diversion of these drugs. In all jurisdictions other than NSW and Victoria, there are formal monitoring systems which perform this function. In NSW and Victoria, the monitoring is undertaken by individual officers visiting pharmacies and manually inspecting a very limited number of prescriptions. Typically, jurisdictional monitoring systems rely on paper-based processes which are not necessarily linked to other systems. More recently some jurisdictions have developed systems to transmit data electronically, but the data is retrospective. There are also no assurances about the identity of the person named on the prescription. This enables the prescriptions to be obtained using identity fraud (The NOUS Group, 2008).

In summarising its perceptions of the knowledge gaps in this area, the Royal Australasian College of Physicians (RACP, 2009) asserted that there are still considerable gaps in our understanding of the scale of the issues, specifically:

- the extent of inappropriate prescribing and unsanctioned use, including injecting, of pharmaceutical (prescription and over the counter) opioids;
- the extent of black market diversion and illicit use of pharmaceutical opioids, including prescription forgery, internet supplies and theft (from pharmacies or warehouses); and
- the extent of harms associated with pharmaceutical opioid misuse, including the impact upon individuals and communities in terms of health, social and economic costs.

It is currently not possible to accurately quantify the extent of, and to adequately deal with, problematic prescription opioid use in Australia and New Zealand because:

- existing monitoring systems cannot identify and track opioid prescriptions to the individual patient level;
- inadequate monitoring systems make fraudulent presentation for opioid prescriptions difficult to identify and respond to in health settings (e.g. general practice, community pharmacies and emergency departments);
- regulation of pharmaceutical opioids varies among jurisdictions, which impedes implementation of strategies to deal with problematic opioid use, and facilitates individuals seeking these drugs across state/territory borders;
- the Internet is further weakening regulatory controls of prescription opioids and other medications; and
- research into these matters in Australia and New Zealand has been very limited (RACP, 2009, p. 8).

In response to this paucity of information, there have been calls for the introduction in Australia of a real-time prescription monitoring program (PMP) (for example, see National Drug Strategy Committee Working Party on Prescription Drug Abuse (1997), Nicholas, (2002) and PVDCPC, (2007)). Such a program would enable medical practitioners to better understand the drug use behaviour of their patients and to prescribe drugs more appropriately. As the PVDCPC (2007) indicated, the advantages of such a program are that it could:

- identify community-wide patterns of pharmaceutical drug use and misuse;
- assist in ensuring quality prescribing and dispensing practices;
- assist in the implementation of effective compliance measures;
- reduce intentional and inadvertent over-prescription;
- identify people who are prescription shopping;
- assist in patient diagnosis and in the development of individual treatment plans;
- assist in quality patient management (i.e. be used as a therapeutic rather than punitive tool);
- assist in preventing diversion; and
- contribute to the effective monitoring and evaluation of other responses to pharmaceutical misuse.

It is likely that such a PMP would go some way in addressing some of the knowledge gaps and help identify those who are illegitimately obtaining pharmaceutical drugs.

Nevertheless, as is evident, there are many hurdles to be overcome before Australia will have an accurate perception of the extent and nature of pharmaceutical misuse.

6.4 The international perspective on pharmaceutical misuse

The International Narcotics Control Board (INCB, 2006) reported that, worldwide, the misuse and trafficking of prescription drugs is set to exceed that of illicit drugs. The board also reported that in many cases, these drugs had become a drug of first choice and are not misused as a substitute for illicit drugs.

A particularly important global change in relation to the misuse of pharmaceutical drugs, concerns an increase in the use and misuse of opioid pharmaceuticals. Indeed Fischer and Rehm (2007) suggested that the increase in the illicit misuse of pharmaceutical opiates that is being seen in many developed countries represents a fundamental paradigm shift away from the use of heroin as the illicit opioid of choice. They reported:

> *… we see reason to believe that the role of heroin use as the perceived dominant core of the street drug use problem in Australia, Europe and North America may have come to an end or at least become substantially diminished, and that instead the opioid abuse phenomenon may be in the process of shifting into a landscape dominated by the illicit use of a great variety of prescription opioids* (p. 499).

The INCB (2008), for example, reported that global consumption of pharmaceutical opioid analgesics increased by more than two and a half times during the past decade. However, this increase in consumption occurred mainly in countries in Europe and North America. In 2006, for example, countries in those two regions together accounted for almost 96% of global consumption of fentanyl, 89% of global consumption of morphine and 97% of global consumption of oxycodone. Between 2002 and 2006, the use of licit narcotic drugs increased by more than 80% in Canada and by more than 60% in the United States. These two countries were, by 2002, already ranked among the highest consumers of narcotic drugs worldwide. In the same period, the consumption of pharmaceutical amphetamines doubled in Canada and increased by 42% in the United States. Clearly not all of this increase is due to the misuse of the drugs, but nevertheless

the INCB pointed out that there is a strong correlation between the extent of misuse of various pharmaceutical preparations containing narcotic drugs and the availability of those preparations on the licit market.

Ironically, the INCB (2008) is also concerned about the undersupply of opioid analgesics to many developing countries. This is significantly limiting those countries' capacity to effectively manage their citizen's pain-related problems.

In their 2005 study of 679 regular illicit opioid users from seven Canadian cities, Fischer, Rehm, Patra and Cruz (2006) reported that heroin was virtually absent from four of those sites and was the most commonly used opioid in only two of the sites. For the majority of participants in these cities, prescription opioids (e.g. hydromorphone, morphine and oxycodone) were the predominant opioids used, but in locally different patterns. The authors' longitudinal analysis found that heroin use had declined by 24% across all sites since 2001 along with reductions in key risk behaviours such as drug injection, needle sharing and overdoses. Overall, their data suggested that heroin use had become an increasingly marginal form of drug use among opioid users in Canada, particularly outside of Vancouver and Montreal (two port cities that are major heroin importation points). Heroin use had largely been replaced by pharmaceutical opioid use. They also found that, while the heroin users predominantly obtained their heroin from dealers, the majority of the prescription opioid users obtained their drugs directly or indirectly from the medical system.

So, too, in recent years, the United States of America has seen a burgeoning problem with the misuse of prescribed pharmaceuticals. The National Center on Addiction and Substance Abuse (CASA, 2005) described the situation thus:

> *While America has been congratulating itself in recent years on curbing increases in alcohol and illicit drug abuse and in the decline in teen smoking, abuse and addiction of controlled prescription drugs – opioids, central nervous system depressants and stimulants – have been stealthily, but sharply, rising. Between 1992 and 2003, while the U.S. population increased 14 percent, the number of people abusing controlled prescription drugs jumped 94 percent – twice the increase in the number of people abusing marijuana, five times in the number abusing cocaine and 60 times the increase in the number abusing heroin. Controlled prescription drugs like Oxycontin, Ritalin and Valium are now the fourth most abused substances in America behind only marijuana, alcohol and tobacco* (p. i).

CASA (2005) also found that there had been a 212% increase from 1992 to 2003 in the number of 12 to 17 year olds misusing controlled prescription drugs, and that an increasing number of teens were trying these drugs for the first time. The initiation into the misuse of prescription opioids among teens increased 542%, more than four times the rate of increase among adults. In addition, CASA found that teens who misuse controlled prescription drugs are twice as likely to use alcohol, five times more likely to use cannabis, 12 times more likely to use heroin, 15 times more likely to use ecstasy, and 21 times more likely to use cocaine, compared with the teens who do not misuse such drugs.

Key findings from the CASA (2005) study were that:

- Between 1992 and 2002, the U.S. population increased by 13% and prescriptions filled for non-controlled drugs rose 56.6%, but the number of prescriptions filled for controlled drugs climbed 154.3%.
- Between 1992 and 2002, the largest increases in prescriptions filled for controlled drugs were for stimulants (368.5%), followed by opioids (221.9 %) and central nervous system (CNS) depressants (48.2%).

- Between 1992 and 2003, there was a 140.5% increase in the self-reported misuse of prescription opioids, a 44.5% increase in the self-reported abuse of prescription CNS depressants, and 41.5% increase in the self-reported abuse of prescription CNS stimulants.
- The number of people who admitted misusing controlled prescription drugs increased from 7.8 million in 1992 to 15.1 million in 2003, a 94% increase which is seven times faster than the increase in the US population.
- The 15.1 million people who admitted to currently misusing prescription drugs is more than the combined number who admitted abusing cocaine (5.9 million), hallucinogens (4.0 million), inhalants (2.1 million) and heroin (0.3 million).
- In 2003, 2.3 million teens between the ages of 12 and 17 years (9.3%) admitted misusing a prescription drug in the past year; and 83% of these admitted misusing opioids. Younger teens are more likely to misuse only prescription drugs while older teens are more likely to also misuse alcohol or illicit drugs.
- Rates of lifetime steroid abuse among high school students have increased 126% between 1991 and 2003.
- Most people (75%) who admit abusing prescription opioids, CNS depressants and stimulants are poly-substance misusers, in that they also admit to excessive use of illicit drugs and alcohol.

So, too, in 2002, the American National Survey of Drug Use and Health (NSDUH) reported that an estimated 29.6 million Americans had used pain relievers (essentially pharmaceutical opioids) non-medically in their lifetimes, but by 2005 the number had increased to 32.7 million. In 2005, the non-medical use of prescription pain relievers was second only to cannabis use in terms of past-year use. Combined data from the 2002 through 2004 surveys indicated that there were 11.3 million non-medical past-year users of pain relievers compared with 25.5 million past-year users of cannabis. In addition, between 2002 and 2005, more Americans initiated non-medical use of pain relievers than initiated cannabis use. Young people aged 12 to 17 and young adults aged 18 to 25 were the most likely to initiate non-medical use of prescription psychotherapeutic drugs. In 2005, there were 526,000 new non-medical users of OxyContin® alone. Of particular concern is that Americans between the ages of 18 and 25 reported higher lifetime non-medical use of pain relievers, benzodiazepines, and muscle relaxants than did other age groups. Between 2004 and 2005, there was a significant increase in the number of people in this age group who used hydrocodone, oxycodone, methadone, clonazepam, or alprazolam (Substance Abuse and Mental Health Services Administration, SAMHSA, 2008).

The United States Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related emergency department (ED) visits in that country. The DAWN collects data on a range of substances including illicit drugs, prescription drugs, over the counter medications, dietary supplements, psychoactive non-pharmaceutical inhalants, alcohol in combination with other drugs (and alcohol alone in patients less than 21 years of age). In 2005 in the US, there were 1.45 million ED visits that were associated with drug misuse. In that year, ED visits related to the non-medical use of pharmaceuticals only, jumped by 26% and the number of visits that involved pharmaceuticals and other drugs increased by 21%. In 2005, ED visits involving benzodiazepines increased by 19%, opioids increased by 24% and methadone increased by 29%. There was also a 108% increase in ED visits involving central nervous system stimulants (such as pharmaceutical amphetamine/dexamphetamine, caffeine and methylphenidate (which experienced a 108% increase)) and there was a 92% increase in ED presentations involving hydromorphone[18] (DAWN, 2008).

[18] Regarding the significant increases detected, it is important to note that the number of pharmaceuticals dispensed for legitimate therapeutic uses may be increasing over time, and DAWN estimates are not adjusted to take such increases into account. Nor do DAWN estimates take into account the increases in the population or in ED use between 2004 and 2006. Nevertheless, it is unlikely that these factors could account for the majority of the increases described above.

DAWN (2008) reported that ED visits involving:

- pharmaceuticals alone (i.e. with no other type of drug) increased 44% from 2004 to 2006;
- pharmaceuticals used in combination with illicit drug(s) increased 36% from 2004 to 2006; and
- pharmaceuticals used in combination with alcohol increased 22% from 2005 to 2006.

No significant changes in ED visits from 2004 to 2006, or from 2005 to 2006, were detected for any of the major illicit drugs (cocaine, heroin, marijuana and stimulants) or for alcohol. Between 2004 and 2006, visits involving benzodiazepines increased 36%, and visits involving opioid analgesics increased 43%. Among the opioids, visits involving hydrocodone/combinations increased 44%, and visits involving oxycodone/combinations increased 56% (DAWN, 2008).

So, too, Paulozzi (2006) examined the presence of reports of pharmaceutical opioid analgesics in drug misuse-related deaths in America between 1997 and 2002. He reported that there was a 96.6% increase in reports between these years and that methadone, oxycodone, and unspecified opioids accounted for 74.3% of the increase. Over this period: oxycodone reports increased by 728% (from 72 to 596 reports); fentanyl reports increased 678% (18 to 140 reports); methadone increased 184% (from 296 to 843); and hydrocodone increased 175% (from 97 to 568). In addition, reports of unspecified opioid analgesics (where the type of analgesic was not shown) increased 485%. By 2002, opioid analgesics were reported more frequently in deaths than were heroin or cocaine.

Mendelson et al. (2008) reported that prescription opioids now have more street value than cannabis and heroin in America and are second only to cocaine in this regard. They saw this as being indicative of the size of the market that had developed for these drugs. They also reported that there has been a dramatic increase in the number of prescription opioid users seeking treatment. They noted that there are several differences in the profile of heroin misusers and prescription opiate misusers. Prescription drug misusers are more likely to be caucasian, to be younger, have higher incomes, use less opioids per day and not be injecting drug users. Prescription opioid users also tended to seek treatment earlier, and be more likely to have successful treatment. The authors also pointed to large number of those who misuse these medications who started using them to relieve pain. They cited the National Pain Foundation (2007) which estimated that more than 75 million Americans suffer from chronic debilitating pain. As is evident, the population which is at risk of misusing these medications is enormous. They suggested that pain patients may be pseudo-addicted, appearing to abuse opioids secondary to addiction, but in fact are trying to relieve under-treated pain.

The role of chronic, non-malignant pain in the proliferation of heroin and pharmaceutical opioid markets is poorly understood in America as elsewhere. This issue is discussed in more detail later.

According to one key expert consultant, a major factor which has encouraged the global increase in the prescription of pharmaceutical opioids has been the development of slow release opioid formulations (such as Oxycontin®, MS Contin® and Kapanol®). These drugs were developed and marketed on the basis of them being less dangerous and addictive than regular oxycodone and morphine. This was not the case. Indeed, in 2007, the manufacturers of Oxycontin®, Perdue Pharma, was fined $US634 million for misrepresenting the addictive and pleasure-producing qualities of the drug (NPR News, 2007). Unfortunately, drug misusers soon realised that they could bypass the slow release characteristics of these drugs by crushing the tablet and swallowing or injecting them. The key expert consultant reported that pharmaceutical companies are at present trying to develop tamper-proof slow release tablets to circumvent this problem.

The National Drug Intelligence Center (NDIC, 2007) in its National Drug Threat Report for 2008 reported that the growing efforts to control prescription drug misuse in the United States are starting to have an effect. Specifically, prescription drug misusers in a number of states are having greater

difficulty in acquiring drugs through prescription forgery, prescription-shopping or indiscriminate prescribing. The number of states that have implemented prescription monitoring programs (PMP) to track prescriptions through traditional pharmacies has increased sharply, making the illegal acquisition of controlled pharmaceuticals much more difficult. Sixteen states had implemented such programs in 2002 and, by 2007, 24 states had implemented some form of a statewide PMP. The NDIC reported that, in response to this, criminal groups have been targeting courier trucks and to a lesser extent the large transport carriers used to move the drugs between wholesale and retail settings. The NDIC regarded smaller courier trucks as being particularly vulnerable.

A further trend discussed by the NDIC (2007) is an increase in the number of Internet pharmacies selling controlled and non-controlled pharmaceutical drugs. The NDIC reported that the number of Internet site pharmacies offering Schedules II through V controlled prescription drugs increased 70% from 342 in 2006 to 581 in 2007. Thirty-two percent (187 of 581) of the sites were 'anchor sites' (sites at which the customer could place an order and pay for the drugs), and the remaining 394 were simply portal sites that directed customers to the anchor sites. Of the anchor sites, 84% (157 of 187) did not require a prescription to purchase the drugs. Of the 30 sites that required a prescription, 57% (17 of 30) accepted a faxed prescription, increasing the risk of multiple use of one prescription or use of fraudulent prescriptions. The NDIC concluded that law enforcement will most likely be challenged to monitor a growing number of foreign-based Internet pharmacies as Americans become more accustomed to acquiring their drugs from such sources.

In summary, it is clear that the misuse of pharmaceuticals has become a major international issue, particularly in the United States. There have been substantial increases in the levels of misuse, an increase in deaths and increases in emergency department visits. Several key experts suggested that Australia tends to follow American and, in particular, Canadian trends. Australia is therefore well placed to introduce measures to prevent the level of use and harms that are currently associated with the use of these substances in these countries.

Also noteworthy is the quality of the information available about the extent and nature of the misuse of pharmaceuticals in other countries such as the United States. While pharmaceutical misuse probably has a longer history in that country, the quality of information concerning this issue is well ahead of that available in Australia.

6.5 Pharmaceutical misuse in Australia

6.5.1 Information from population surveys

The 2007, the National Drug Strategy Household Survey (AIHW, 2008b) found that 7% of Australians aged 14 years and over had used pain-killers, tranquilisers, barbiturates and/or steroids for non-medical purposes in their lifetime and about half of these had done so in the past 12 months. Two point five percent of Australians used pain killers/analgesics for non-medical purposes in the past 12 months.[19] One point three percent of Australians aged 12 years or older had used tranquillisers or sleeping tablets for non-medical purposes. While males were more likely than females to have used pharmaceuticals for non-medical purposes in their lifetime (7.6% versus 6.4%), equal proportions of males and females (3.6%) had used these drugs in the 12 months before the survey. Australians aged 20–29 years were more likely than those in the other age groups to have used pharmaceuticals for non-medical purposes in their lifetime (10.3%), in the previous 12 months (5.4%) and in the previous month (2.4%).

[19] In considering this figure it is important to be mindful that in providing respondents with examples of pain killers/ analgesics, the NDSHS questionnaire lists aspirin, paracetamol, Mersyndol®, Panadeine Forte®, and Nurofen Plus®. As such, respondents may not have included other drugs such as oxycodone, or fentanyl in their responses.

Recent use of benzodiazepines for non-medical purposes declined between 1998 (3%) and 2004 (1%) (PVDCPC, 2007). There was, however, a slight increase in the incidence of recent use in 2007 to 1.4% (AIHW, 2008b).[20]

The AIHW (2008f) reported that Tasmania and the Northern Territory had the highest rates of non-medical use of pain killers/analgesics. These two jurisdictions have historically had low availability of heroin and there appears to be an inverse relationship between heroin availability and levels of pharmaceutical opioid misuse (Fry et al., 2007).

6.5.2 Who misuses pharmaceutical drugs and how do they get them?

A wide range of individuals misuse pharmaceuticals in a wide range of contexts. As Wodak and Osborn pointed out in their submission to PVDCPC (2007):

> *It is important to separate out the very different problems arising in different age groups and populations in terms of developing effective interventions. Very different problems arise in quite different settings [such as] young polydrug users; middle aged people with severe chronic illnesses; and the elderly* (p. 6).

In his submission to the PVDCPC (2007), the chief pharmacist with the Tasmanian Department of Health, Dr John Galloway, outlined three profiles of patients who may attempt to access prescription drugs illegitimately.

A. **The dependent patient** who may have genuine pain problems. Some patients have come to rely on drugs to improve their mood and how they feel. Others have general diffuculties coping with life's problems. In general, they have become more interested in continuing and increasing their supply of drugs rather than in the resolution of their medical and other problems.

B. **The drug abuser** who has a history of drug abuse but also may have some evidence of pain. They may also have social or drug trading connections with others who abuse drugs. They are likely to be injecting prescribed and other drugs. Since prescription drugs have a high value on the black market, these patients work hard at developing their presentations to doctors and obtaining drugs for personal use or trading, and this is a high priority in their lives.

C. **The drug seller** who attends doctors with the primary aim of obtaining drugs to sell or trade. This group may include some from the second subgroup. They may also be scammers who use stolen or forged ID documents. Some may be apparently ordinary patients who have come to rely on the income that can be made from selling a proportion of their medication (some of these patients may be elderly or even have cancer). They may also be patients who intimidate or threaten doctors and who may have some evidence of a pain condition.

Galloway's typology of prescription drug users and misusers provides an insight into the broad range of people involved in obtaining pharmaceuticals illegitimately. Those who use pharmaceutical drugs simply cannot be divided into two groups – those who have a legitimate need for them and those who do not. As Hurwitz (2005) highlighted, patients cannot be divided into those who have physical and/or psychological pain and are honest and reliable; and those who are without pain who are dishonest and divert and abuse their medication. He went on to point out:

> *The clinical reality presents a more complex picture. Having a painful condition is no guarantee of honesty or reliability in the control of prescribed medications. Nor does a history of addiction or criminality prevent the emergence of painful conditions or mandate non-compliance with medical instructions* (p. 158).

[20] It is, however, unclear whether this is statistically significant.

A significant change in the profile of the misuse of pharmaceutical drugs is the increase in the number of people without a prior history of illicit drug use who are seeking treatment for opioid dependence. It is possible that a large, though currently unquantifiable, number of people without a history of injecting drug use have escalated their use of pharmaceutical drugs beyond recognised therapeutic doses. They may have developed problematic use, including drug-seeking from multiple prescribers and pharmacists. There is little information about this 'hidden' population, because their activity is not described by any current research, unlike the situation with injecting drug users, where information about unsanctioned use of prescription opioids is relatively well described (RACP, 2009).

While prescription misuse is a broadly-based problem, there are a number of groups in the community who are likely to be of particular interest to law enforcement in the context of misusing pharmaceutical drugs. These include injecting drug users, ecstasy users, patients with chronic pain, and people undergoing opiate replacement therapy. So, too, there are those who are involved in the supply of these pharmaceuticals licitly and illicitly including doctors and pharmacists.

The PVDCPC (2007) described a range of ways in which misusers can obtain these pharmaceuticals. These included:

- stealing, forging or altering prescriptions;
- burglaries of surgeries and pharmacies and private homes;
- doctor shopping or, more accurately, prescription shopping (presenting to several doctors and
- obtaining prescriptions for imaginary or exaggerated symptoms);
- the prescription of drugs in larger quantities than are needed for managing a patient's condition, providing an opportunity for the patient to sell the excess to others;
- purchasing on the black market or on the Internet; and
- health workers self-prescribing or otherwise misappropriating the drugs through their work.

In their examination of illicit prescription drug markets in Melbourne, Hobart and Darwin, Fry et al. (2007) found that these markets were predominantly driven by large numbers of small-scale diversions (from a number of sources, including legitimate prescriptions, prescription shopping and forged prescriptions). Organised burglaries/thefts from pharmacies, point of wholesale/ manufacture, or via other sources (such as Internet pharmacies, importation and inter-jurisdictional trafficking) were less important sources of drugs in this study.

At first glance, the Internet is a very appealing way to obtain pharmaceutical drugs. After examining the literature on this issue, Nielsen et al., (2008) reported that the Internet was not currently a major method used by drug misusers to obtain these drugs. This is because obtaining prescription supplies over the Internet has a number of disadvantages, including the potential for: the seizure of the drugs by Customs; the purchaser to be identified as a drug misuser; pharmaceuticals from overseas Internet pharmacy sites to be counterfeit. While these potential disadvantages of Internet supply exist, and while subsidised medicines are relatively easy to acquire from prescribers, Internet derived supplies may remain a small part of the total market (Gijsbers & Whelan, 2004, as cited in Nielsen et al., 2008). Despite these disincentives to obtaining pharmaceutical drugs over the Internet, one key expert consultant from the treatment sector reported that a very small number of clients had recently reported obtaining the drugs in this way. This is clearly a trend that warrants close monitoring in the Australian context.

Prescription shopping accounts for a substantial proportion of PBS prescriptions for the pharmaceutical drugs that are likely to be misused. Medicare Australia has a program which aims to identify these individuals involved in this practice. A prescription shopper is defined by Medicare Australia as a person who, within any three-month period:

- has had supplied to him or her pharmaceutical benefits prescribed by six or more different prescribers; or

- has had supplied to him or her a total of 25 or more target pharmaceutical benefits; or
- has had supplied to him or her a total of 50 or more pharmaceutical benefits.

(Medicare Australia (Functions of Chief Executive Officer) Direction, 2005)

The number of prescription shoppers who are identified by Medicare Australia is highly likely to be a small subset of the total number of prescription shoppers. This is because Medicare does not identify those people who attend fewer than this number of medical practitioners or have fewer than the threshold number of prescriptions. It also does not include those who use a false identity or Medicare card, or obtain private (non PBS or Repatriation Pharmaceutical Benefits Scheme, RPBS, prescriptions) (Turning Point Alcohol and Drug Centre in evidence to PVDCPC, 2007).

In 2005–06, 54,474 unique patients were identified who met the Medicare criteria for prescription shopping. The most commonly prescribed PBS items prescribed in that year to identified prescription shoppers were:

- diazepam tablets 5 mg (227,203 prescriptions);
- codeine phosphate 30 mg with 500 mg paracetamol (224,070 prescriptions);
- temazepam tablets 10 mg (135,176 prescriptions);
- oxazepam tablets 30 mg (120,733 prescriptions);
- nitrazepam tablets 5 mg (79,134 prescriptions) (Wares, 2007).

In the year 2000, prescription shoppers in Australia accounted for 5% of all benzodiazepine prescriptions, 20% of morphine 15 mg injections, nearly 11% of MS Contin® 100 mg tablets, and 14% of Oxycontin (Dobbin, 2008). This is only a small selection of the drugs obtained by prescription shoppers in Australia but it provides an insight into the potential cost of pharmaceutical misuse to the PBS. The proportion of pharmaceuticals used by prescription shoppers is also likely to have grown since the year 2000.

The profile of prescription shoppers identified by the Medicare Australia Prescription Shopping Program is somewhat surprising. Their average age is 56 years and 60% are female. Approximately two-thirds are identified by the program in consecutive calendar quarters (Wares, 2007). This is a critically important point because it means that most prescription shoppers belong to a completely different demographic group to those who are captured by other data collections such as the Illicit Drug Reporting System which, for example, has a mean age of 36 years (Black et al., 2008). Therefore, focussing future research on injecting drug users is most unlikely to shed much light on the broader issue of pharmaceutical misuse.

Little is known about the extent of theft of pharmaceutical drugs in Australia. An exploratory study undertaken in the United States suggested that theft is an important source of prescription opioids diverted into the illicit market in that country. The authors examined the thefts from US states which represented 53% of the country's population. In 2003 alone, 7,652,099 dosage units of controlled substances were stolen/lost from those states (Joranson & Gilson, 2005). A recent media report on the extent of loss or theft of Schedules 4 and 8 drugs from public hospitals in NSW (Bissett, 2009) also suggests that it is an issue that warrants further investigation.

Several of the key expert consultants also pointed to anecdotal evidence about a burgeoning problem of pharmaceutical misuse among Indigenous communities. Little is understood about this phenomenon, but anecdotally younger Indigenous people are gaining access to psychotropic pharmaceutical drugs via prescriptions provided for their parents and older relatives.

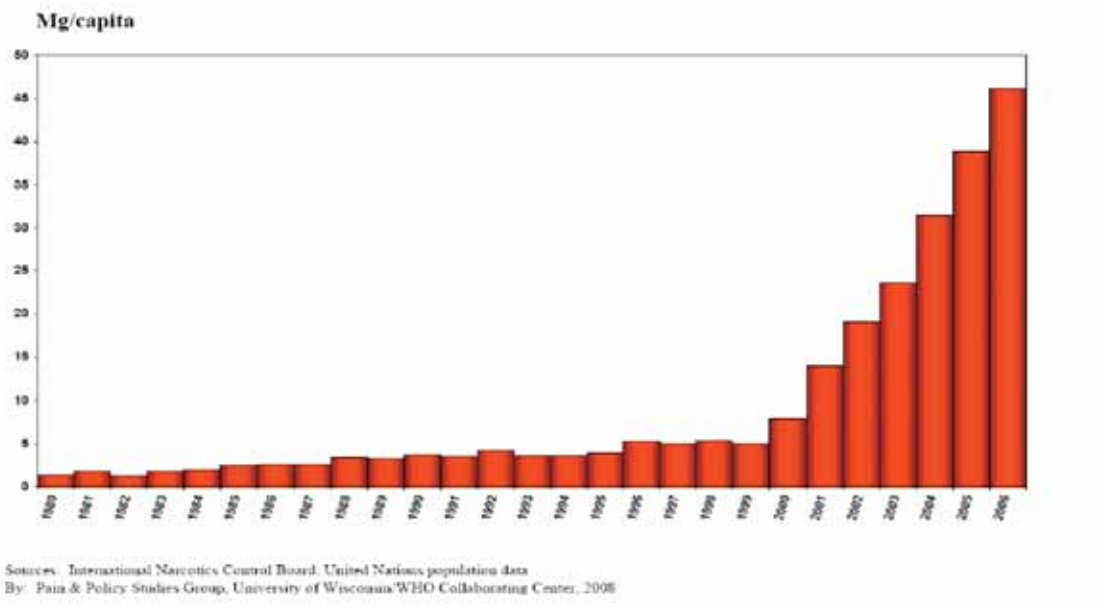
6.5.3 The increased use and misuse of prescribed pharmaceutical opioids in Australia

Regardless of whether Australia is experiencing a paradigm shift away from illicit opioid use as Fischer and Rehm (2007) suggested, there is little doubt that the availability of pharmaceutical opioids and other drugs is impacting upon illicit drug markets, in particular for heroin in Australia. There is also little doubt that this phenomenon is poorly understood.

Degenhardt et al. (2006) reported that between 1995 and 2003 there was an 89% increase in the average number of milligrams of morphine prescribed per person aged 15–54 years in Australia. They reported that the magnitude of the increase differed between jurisdictions. In 1995, the rate of prescriptions was fairly similar across jurisdictions; however, by 2003, there were dramatic differences. The largest of these changes was in the Northern Territory where there was a 507% increase in prescriptions between 1995–2000, which then fell 38% between 2000–2003. The authors suggested that this reduction may have been due to actions taken in the NT to identify and monitor high-prescribing general practitioners. A further potential factor mentioned by the authors was that methadone and buprenorphine maintenance programs were introduced in the NT in September 2002, which may also have contributed to the reduction.

There has also been a very substantial increase in the prescription of oxycodone in Australia in recent years. The Pharmaceutical Benefits Scheme (PBS, n.d.) reported that there was a 20.1% increase in the prescription of oxycodone between 2005–06 and 2006–07, an increase from 1,087,412 to 1,306,152 prescriptions. This compares with 473,292 prescriptions in the year ending December 2002. In Australia the supply of oxycodone increased from 95.1 kg in 1999 to 1270.7 kg in 2008 (Dobbin, 2009). The trends in the level of prescriptions of key pharmaceutical opioids over the past decade and a half appear below.

Figure 1: Mg/capita consumption of oxycodone, Australia, 1980–2006



So, too, prescriptions of fentanyl increased by 71% from 83,857 to 143,355 over the same period. This compares with 10,668 prescriptions of this drug in the year ending December 2002.

Figure 2: Mg/capita consumption of fentanyl, Australia, 1980–2006

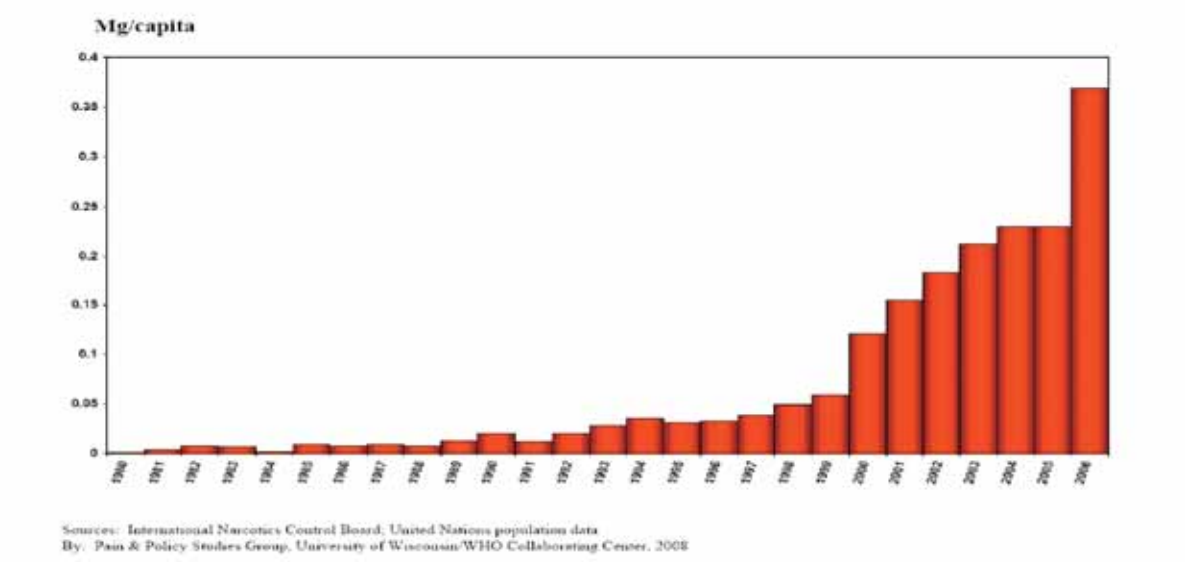


Figure 3: Mg/capita consumption of methadone, Australia, 1980–2006

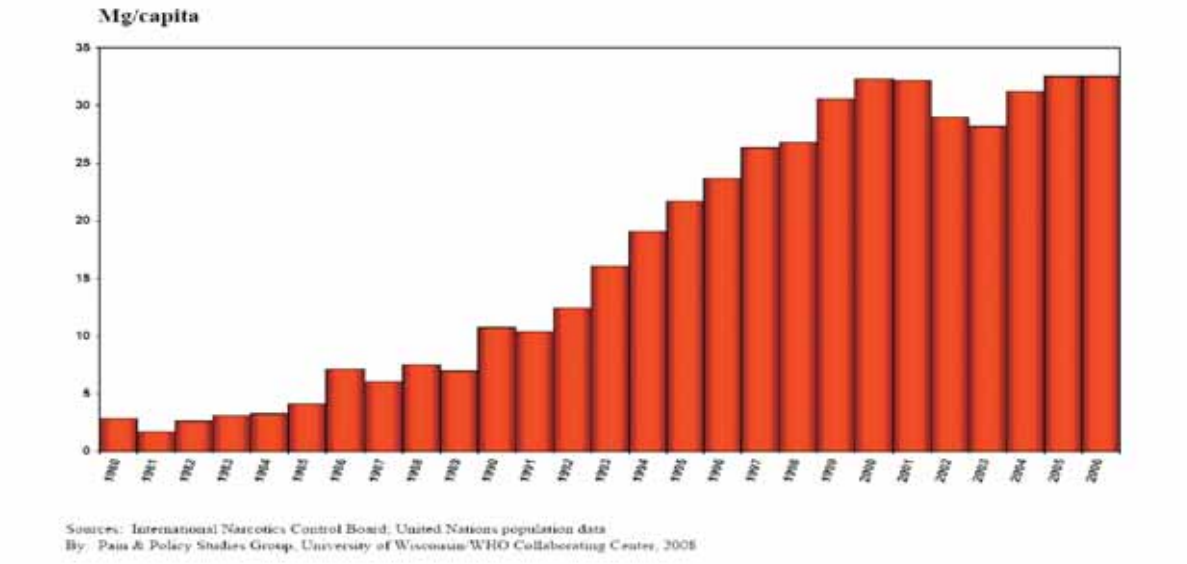


Figure 4: Mg/capita consumption of morphine, Australia, 1980–2006

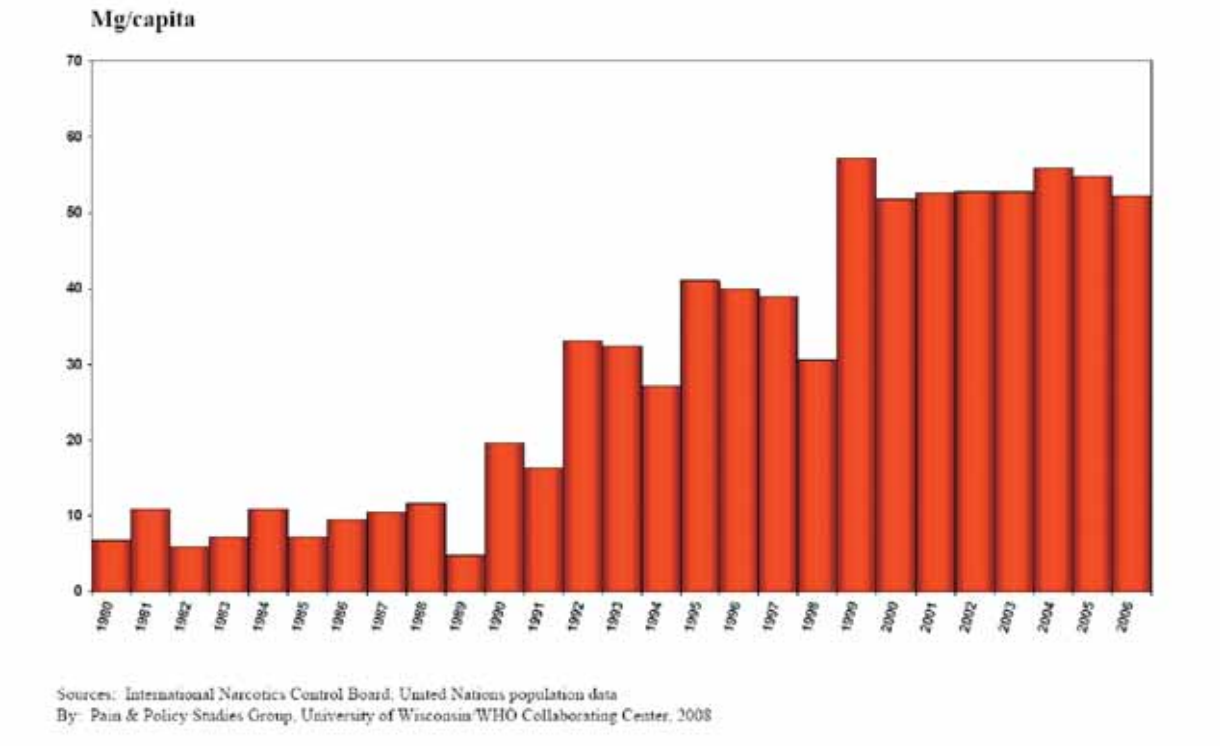
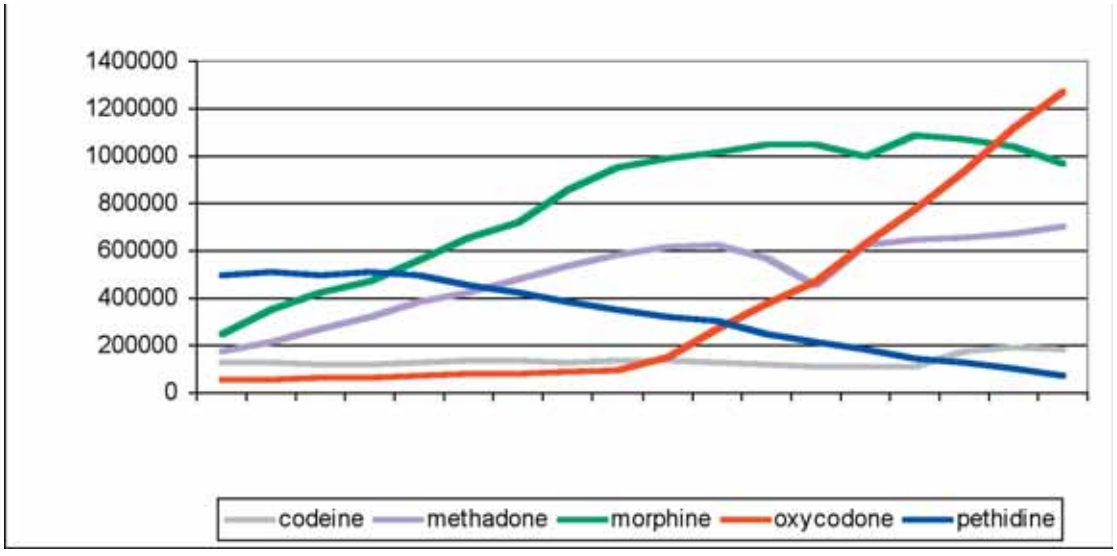


Figure 5: Pharmaceutical base supply: selected opioids, Australia, 1991–2008



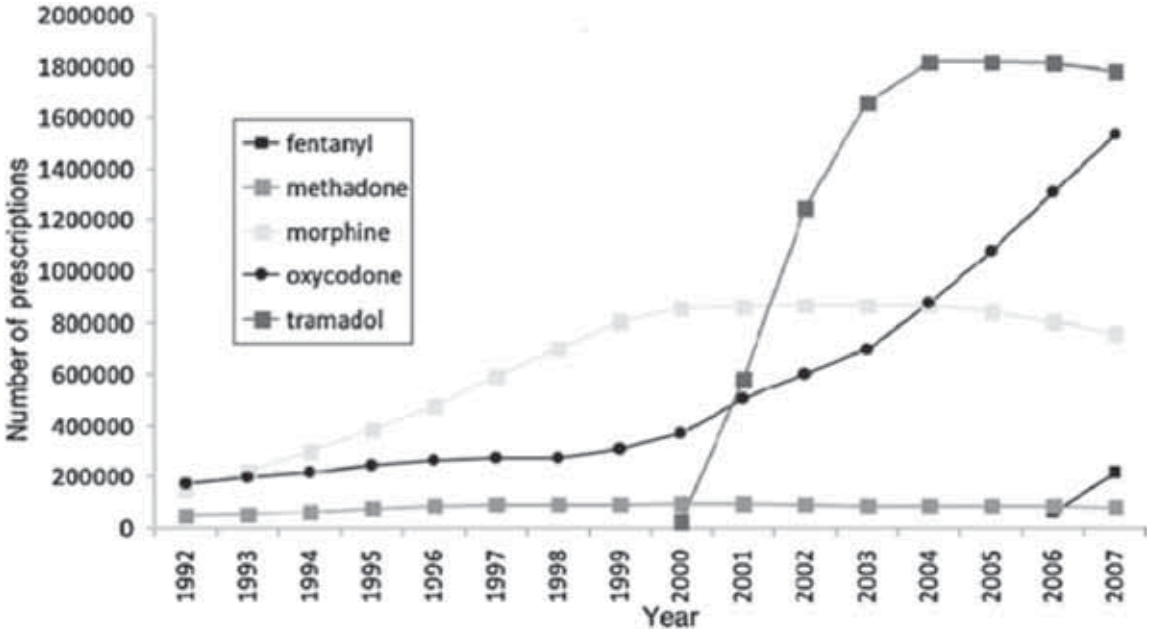
Data provided by Dr Malcolm Dobbin personal communication (9 November 2009).

As is evident, there has been a substantial increase in the per-capita consumption of oxycodone, fentanyl, morphine and methadone in Australia. The decline in the per-capita consumption of pethidine is as a result of a recognition in the mid-1990s that the drug has no therapeutic advantages over other narcotic analgesics and has more toxic side effects (for example, see Clark, Wei & Anderson, 1995).

The graph below shows the PBS prescriptions of various opioids over the past decade and a half. This provides a slightly different perspective because it does not include private prescriptions, government and private hospital prescriptions or prescriptions for which the cost is less than the PBS co-payment (Leong, Murnion & Haber, 2009).

This graph shows a dramatic increase in Tramadol prescription in recent years. Tramadol is a synthetic opioid analgesic used in the treatment of moderate pain. Its effects and addictive properties are not as intense as other drugs such as Oxycontin and, as such, it is not believed that it is being widely misused in Australia at present (Dobbin personal communication, 9 November 2009).

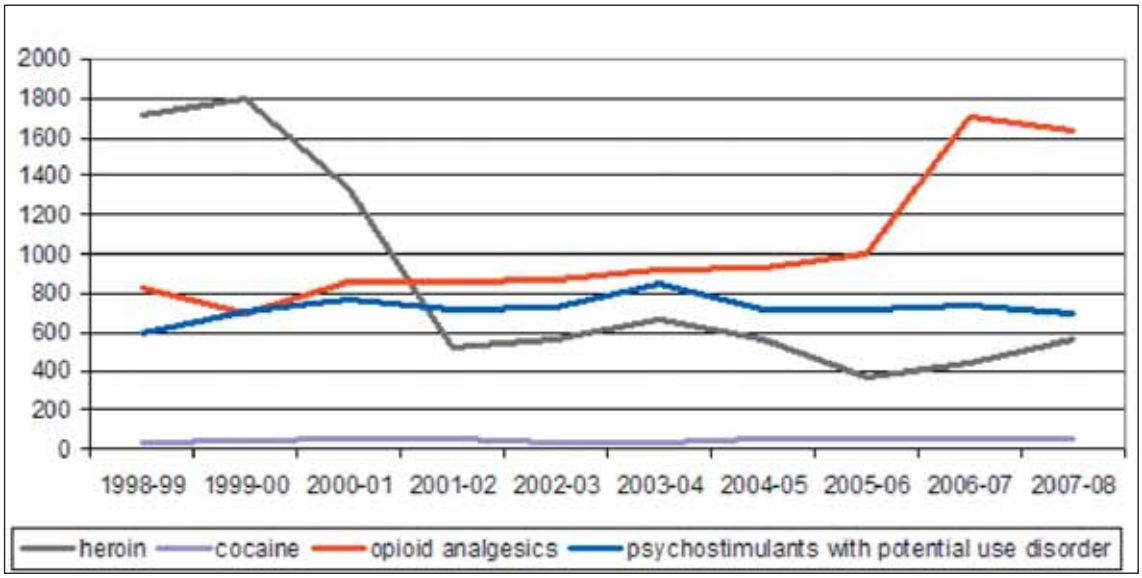
Figure 6: National opiate use, 1992–2007



(From Leong, Murnion & Haber, 2009, p. 678)

Dobbin (2009) examined AIHW (2009) data, on the number of hospital separations associated with poisoning with a range of substances in Australia in recent years. The number of separations for heroin has decreased while those for opioid analgesics has increased, with a substantial acceleration in the rate of increase from 2005–06. As Dobbin (2009) noted, it is not possible from this data to distinguish the proportion of separations for opioid analgesics attributable to problematic use by those seeking intoxication from those arising as an adverse effect from the therapeutic use to treat pain. Nevertheless the increase is very striking.

Figure 7: Poisoning by selected narcotics and psychodysleptics hospital separations, Australia, 98–99 to 07–08.



(From Dobbin, 2009)

After examining the Victorian Coroner's data, Dobbin (2009) reported that the number of deaths involving oxycodone increased from 16 in 2005 to 42 in 2008. Many of these Coroner's cases were indicative of substance abuse. These cases described snorting of powdered tablets; the injection of powdered and dissolved tablet material to seek an intoxicating effect; using oxycodone tablets prescribed for another person; or buying tablets on the black market. In some cases, it was not clear whether death was a result of non-medical use or adverse effects in routine treatment of pain.

Fentanyl is an opioid analgesic that 50–100 times more potent than morphine (Denton, Donoghue, McReynolds & Kalekar, 2008) and 30–50 times more potent than heroin (Ault, 2008). The use of this drug can lead to rapid and sudden respiratory arrest when it is injected or snorted. Key expert consultants from the treatment sector indicated that, at present, they occasionally encounter treatment clients who use fentanyl which is diverted from pharmaceutical sources. There is, however, little evidence that fentanyl is a major emerging drug issue in Australia at present.

Gibson, Larance, Roxburgh, Degenhardt and Black (2007) examined the issue of the extent of diversion of fentanyl for non-medical purposes in Australia. This followed an increase in deaths related to the misuse of fentanyl in the US which was largely associated with the clandestine production of fentanyl. The authors reported that this did not appear to be a significant problem in terms of diversion, misuse and fatalities at the time when the study was undertaken. It is important to note, however, that this work was based on data generated up to the end of 2005. This preceded the spike in fentanyl prescriptions that occurred after 2005. There may well be value in examining this issue further in light of the increased level of prescriptions that have occurred since then.

An issue that warrants close ongoing monitoring is the potential for the clandestine manufacture of fentanyl. This is a very significant issue in the US (or at least so far as the manufacture of this drug in Mexico for US markets is concerned) and there has been a recent increase in the scale of these operations following the involvement of international drug traffickers. Heroin laced with fentanyl was associated with a spate of fatal overdoses in recent years in the US (Boddiger, 2006). In particular, Denton et al. (2008) described a spate of 350 fentanyl-related deaths in Cook County, Illinois, between September 2005 and April 2007. This spate of deaths only ceased when the

source of the drug, a clandestine laboratory in Toluca, Mexico, was shut down in early 2007. Ault (2008) also reported that overall, between April 2005 and March 2007, 1,013 people died in the US as a result of using non-pharmaceutical fentanyl.

Fentanyl production and misuse are also becoming increasingly significant issues in Eastern Europe. In Latvia, Lithuania and Estonia, there are indications of a growing problem caused by the availability of 3-methylfentanyl that is illicitly manufactured outside the EU. There were, for example, over 70 fentanyl-related fatal poisonings reported in Estonia in 2006 (ECMDDA, 2008). The potential for diversion and clandestine manufacture of fentanyl is clearly an issue that warrants monitoring in the Australian context.

Several key expert consultants reported that, anecdotally, a substantial proportion of the pharmaceutical opioids that are available on illicit markets emanate from diversion and sale by pain patients. A major reason for this is that, over time, pain patients may need to increase their dosages due to tolerance to the effects of the opioids. Enterprising pain patients can therefore keep increasing their dose, based on claims of inadequate pain cover and then on-sell their excess medications. This is not to imply that a significant number of legitimate pain patients are engaging in this activity, however. There is little doubt that prescription shopping by those with little or no legitimate requirement for the drugs is also resulting in a considerable level of diversion to the illicit market.

It is important to note that the increase in the prescription of pharmaceutical opioids is not necessarily wholly indicative of an increase in misuse. There are a range of other reasons why the prescription of these drugs could be increasing. These include: the ageing Australian population which requires more of these drugs to manage conditions associated with the ageing process; more aggressive management of chronic non-malignant pain than has been the case in the past; and a switch from the use of illicit opioids to pharmaceutical opioids by people with chronic non-malignant pain.

On the one hand, therefore, it will be critical that any approaches to reduce the problem of the misuse of opioid pharmaceuticals do not inadvertently place obstacles in the way of those with a legitimate need for these drugs. On the other hand, the measures need to be sufficiently rigorous to be effective.

6.5.4 Trends in the prescription of benzodiazepines and psycho-stimulant drugs in Australia

Data extracted from the Australian Statistics on Medicines series indicates that PBS prescriptions for benzodiazepine declined between 1999 to 2003. The number of prescriptions has decreased for all types apart from alprazolam which increased from 353,732 to 449,127 over this period. Temazepam prescriptions, in particular, declined as a proportion of total benzodiazepine prescriptions from 39.26% to 36.59% over that period from 3,395,474 to 2,828,158 prescriptions (PVDCPC, 2007).

There has been a substantial increase in the prescription of psycho-stimulants in Australia over the past decade. In their comparative study of psycho-stimulant (dexamphetamine (Dexedrine®) and methylphenidate (Ritalin®)) prescription trends in Australia and worldwide between 1984 and 2000, Berbatis, Sunderland and Bulsar (2002) reported that Australia ranked equal third with New Zealand (behind the United States and Canada) in the per-capita prescription of these drugs. Dexamphetamine is the most commonly prescribed psycho-stimulant in Australia while methylphenidate is the most commonly prescribed psycho-stimulant drug in Canada and the US. They reported that in Australia between 1984 and 2000 the rate of consumption of these drugs

increased 26% per year with an 8.46-fold increase from 1994–2000. Western Australia had twice the annual rate of consumption of these drugs compared with New South Wales which rated second. Between 1984 and 2000, consumption of dexamphetamine in Western Australia increased by an average of 43% per year. Consistent with this, Western Australian key experts who were consulted in this environmental scan described the misuse of this drug as being particularly widespread and problematic in that jurisdiction.

Buckmaster (2004) also highlighted the major discrepancies between jurisdictions in the prescribing of these drugs for children with Attention Deficit Hyperactivity Disorder (ADHD) in jurisdictions in Australia. Despite having a smaller population than New South Wales, Victoria and Queensland, between 2001–03 Western Australia accounted for the highest number of prescriptions dispensed for dexamphetamine. The number of prescriptions dispensed for this drug in Western Australia was approximately 3 ½ times higher per 1,000 population than the Australian average and more than 12 times higher than the jurisdiction with the lowest number of prescriptions, the Northern Territory. In 2003 there were 8,573 prescriptions for dexamphetamine filled in the Western Australian electorate of Canning, for example, compared with 153 in the Northern Territory electorate of Lingiari. Buckmaster indicated that, while it has been suggested that one of the reasons for this disparity is a better understanding of ADHD among medical practitioners in Western Australia, this is not a view that is universally accepted. Buckmaster concluded that, given these discrepancies in the level of prescription of these drugs, Australia has some way to go before achieving best practice in the prescribing of medication for the treatment of ADHD.

Given the very high levels of prescription of dexamphetamine in Western Australia, Calver, Sanfilippo, Preen and Bulsara (2007) sought to ascertain the extent to which patients with ADHD in Western Australia are prescribed more stimulants than they were authorised to receive. The researchers encountered considerable difficulties in this task but concluded that in 2004 between 5.4% and 19% of patients received excess medication. As is evident, there is a wide variation between the two extreme ends of this estimation and the results could be either ‘good’ or ‘bad’ news. The authors called for improvements to the WA Stimulant Regulatory Guidelines in the interest of patient safety, public transparency and encouraging good prescribing practices. Perhaps the most significant lesson that can be drawn from this research is the paucity of accurate data in this area and the difficulties that are associated with conducting meaningful research into pharmaceutical misuse.

Green and Moore (2009) conducted ethnographic research over 18 months with a group of 60 young adults from Perth who were dexamphetamine users. The users generally regarded the use of dexamphetamine as a benign activity that was so normalised that it hardly warranted discussion. Dexamphetamine use was regarded as far less risky than the use of most other illicit drugs with the exception of cannabis. This perception largely stemmed from the fact that dexamphetamine is a prescribed drug, is available in measured and pharmaceutically pure doses and is often prescribed to children (‘kiddie drugs’). The dexamphetamine tablets were usually obtained by those with legitimate prescriptions and were provided at no or very little cost ($1–2) to friends in their social group. The researchers also found that dexamphetamine was used to facilitate excessive alcohol consumption and to have an intoxicated experience (from the dexamphetamine alone or in combination with alcohol) without losing control. The researchers referred to this as ‘controlled pleasure’.

One of the key expert consultants made some important observations about the misuse of dexamphetamine. Historically, ADHD has been thought of as exclusively a problem experienced by younger children or adolescents. There is, however, an increasing (although by no means universal) acceptance that ADHD can be a problem for adults. It was suggested that if dexamphetamine becomes more widely prescribed for adults, then the problem of

dexamphetamine diversion is likely to increase exponentially. This could be expected to lead to increases in the profile of law enforcement problems (such as violence) that are currently associated with methamphetamine.

In some ways, the prescription of dexamphetamine for ADHD is analogous to the prescription of pharmaceutical opioids for pain. Essentially, as the level of prescription increases, so does the level of diversion. A key difference between the prescription of opioids for pain and the prescription of dexamphetamine for ADHD, however, is that the dose range for dexamphetamine is relatively narrow. This contrasts with prescription opioids where patients develop tolerance and require increasing doses to manage their pain. As was discussed above, enterprising prescription opioid users can request increases to their doses based on claims of inadequate pain cover and then on-sell their excess medications. The fact that doses of dexamphetamine do not increase in this way may mitigate the diversion occurring to the extent that it does with prescription opioids. Nevertheless, the diversion of dexamphetamine is an issue that warrants close monitoring.

6.5.5 Pharmaceutical misuse among illicit drug users

The use and misuse of pharmaceutical drugs is also very common among injecting drug users in Australia. Stafford, Sindicich and Burns (2009), reporting on the findings of the 2008 Illicit Drug Reporting System (IDRS), noted that:

- 25% of the national sample reported using illicitly obtained methadone liquid and 5% reported obtaining illicitly obtained methadone tablets in the past six months;
- 18% of the national sample reported use of illicit buprenorphine in the past six months;
- 47% of the national sample reported using illicit morphine in the past six months;
- the extent and frequency of use of morphine was far higher in Tasmania and the Northern Territory (which are jurisdictions in which heroin has traditionally not been available) compared with other jurisdictions;
- 28% of the national sample reported illicit use of oxycodone in the past six months with the highest level of use being 44% in Western Australia;
- 66% had used benzodiazepines in the past six months at a median frequency of twice per week;
- 45% of the national sample reported having used licitly obtained benzodiazepines and 46% had used illicitly obtained benzodiazepines in the six months preceding interview;
- diazepam (Valium®) was the most commonly used benzodiazepine; and
- 14% of the national sample had used illicit pharmaceutical stimulants such as dexamphetamine and methylphenidate in the past six months, with 35%, 22% and 28% reporting having done so in Tasmania, WA and the ACT respectively.

There is evidence that the use and injection of pharmaceutical opioids is more common among injecting drug users (IDU) in rural areas compared with metropolitan areas. Day et al. (2005) reported that:

- 80% of rural IDUs had ever used morphine compared with 66% of metropolitan IDUs;
- 77% of rural IDUs had ever injected morphine compared with 52% of metropolitan IDUs; and
- 50% of rural IDUs had injected morphine in the past six months compared with 21% of metropolitan IDUs.

This could well be linked to the point made earlier that prescription opioid misuse tends to be inversely associated with the availability of heroin.

Nielsen et al. (2008) examined the extent of pharmaceutical misuse among illicit drug treatment clients in Queensland, Tasmania, Western Australia and Victoria. The clients were selected on the

basis of self-reported misuse of pharmaceuticals and, as such, the researchers did not intend for the sample to be representative of all drug treatment clients, or misusers of pharmaceuticals who do not seek treatment. The authors reported that among the study group in the month prior to entering treatment:

- two thirds used pharmaceutical opioids other than in a prescribed manner and long-acting morphine was used by 41% of the sample and long acting oxycodone products were used by 30%. These two products were also the most likely to be injected;
- 13–15% percent of participants used methadone and buprenorphine in a manner that was not as prescribed;
- almost 70% of participants reported the use of benzodiazepines in a manner that was not as prescribed. The most commonly prescribed benzodiazepines were diazepam (55%) and Alprazolam (30%); and
- 23% of participants reported misuse of over the counter analgesics.

The authors also reported that there is a significant group of those who misused pharmaceutical drugs who had significant comorbidities, in particular chronic non-malignant pain and psychiatric problems.

In addition, Nielsen et al. (2008) noted that among the research subjects over a third had given away opioids which had been prescribed to them. Twelve percent reported selling their prescribed opioids and 22% reported swapping one medication for another.

A different picture emerged with benzodiazepines as 60% of the sample reported that they usually used drugs that were prescribed to them. Receiving benzodiazepines as a gift was less frequent (10%) as was purchasing from friends (10%) or a dealer (11%). Very few participants (1%) reported stealing benzodiazepines or prescription opioids (Neilsen et al., 2008).

Nielsen et al. (2008) reported that a significant proportion of their sample experienced problems connected with their pharmaceutical misuse that could bring them to the attention of police. In the previous four weeks among their sample 19% had been involved in property crime; 18% had been involved in drug dealing; 6% had been involved in violent crime; and 5% had been involved in fraud. In the four weeks prior to entry into treatment among those who misused pharmaceutical opioids:

- 29% reported that it made them aggressive towards others;
- 4% had been involved in a road crash;
- 8% had been assaulted while they were intoxicated; and
- 8% had been arrested as a result of a crime committed while intoxicated.

In the four weeks prior to admission into treatment, among those who had misused benzodiazepines:

- 33% reported that they had been aggressive towards others;
- 10% had become psychotic;
- 10% had been involved in a road crash; and
- 15% had been arrested as a result of a crime committed while intoxicated.

The authors reported that a disproportionally high level of these harms were associated with the misuse of the benzodiazepine alprazolam.

In interpreting these findings it is important to be mindful that this research was conducted with a relatively dysfunctional group of pharmaceutical misusers. As a result, the links that they described between pharmaceutical misuse and crime are likely to be far stronger for this group compared with most pharmaceutical drug misusers.

Van Beek (n.d.) reported that in 2005 the Sydney Medically Supervised Injecting Centre (MSIC) saw a significant increase in the proportion of its clients who were injecting pharmaceutical opioids (predominantly MS Contin® and Oxycontin®). Prior to mid-2004 the injection of pharmaceutical opioids was rare at MSIC; however, by 2005, this represented approximately 45% of all injecting episodes at the centre. The injection of pharmaceutical opioids is now more frequent than the injection of heroin at MSIC (van Beek, 2009).

The majority (72%) of those injecting pharmaceutical opioids were former heroin injectors. This group did not become iatrogenically dependent on pharmaceutical opioids, in that their use did not begin after being prescribed the drug for a medical condition. A further 20% began their pharmaceutical opioid use after having been prescribed the drug for a medical condition (van Beek, n.d.).

As is evident, this suggests that the increase in the proportion of attendees using pharmaceutical opioids largely resulted from individuals switching from heroin use to pharmaceutical opioid use. In other words the availability of pharmaceutical opioids has not necessarily attracted a 'new' group of opioid users to the MSIC. Those using the pharmaceutical opioids consistently reported feeling less need to engage in crime and sex work to fund their drug habit due to the lower price of these drugs. They also reported fewer overdoses with pharmaceutical opioids compared with heroin, which was consistent with MSIC data. For every 1,000 recent visits to MSIC to inject heroin, there were between 4.7–11 overdoses, despite the relatively low purity of heroin in recent years. For every 1,000 visits to the centre to inject pharmaceutical opioids, only 2.5 overdosed. It is therefore possible that the use of prescription opioids could be protective against opioid overdoses. The injection of oral pharmaceutical opioids can, however, bring with it a range of other health problems (van Beek, n.d.).

It is important to be cautious in interpreting this finding because the MSIC is one of the few avenues in NSW where IDUs can obtain free injecting filters which would more commonly be associated with the use of pharmaceuticals. Nevertheless, the relative proportion of attendees who now inject pharmaceutical opioids versus heroin could be indicative of wider trends in the use of these drugs.

As is evident, there is a wealth of evidence that suggests that the use of pharmaceutical drugs is common amongst injecting drug users.

6.5.6 The market for illicit pharmaceutical drugs in Australia

The illicit sale of pharmaceutical drugs in Australia can be very lucrative. As at 1 January 2009, for example, consumers paid up to $32.90 for most PBS medicines or $5.30 if they have a concession card (Pharmaceutical Benefits Scheme, PBS, 2009). The Australian Government paid the remaining cost. Ebinger (2007) reported that the street value of 10 mg Kapanol® (slow release morphine) in Victoria was approximately $20 per capsule. A box of 20 would therefore realise $400. So, too, illicit 100 mg Kapanol® costs $50 per capsule and a box of 20 would therefore realise $1,000. Equally the Pharmacy Board of Victoria (2007, in its submission to PVDCPV, 2007) noted that it is not uncommon for alprazolam (Xanax®) to be prescribed and dispensed as a private (non-PBS) prescription in 100 tablet packets and then on-sold at $5 per tablet. A private prescription for 100 1 mg tablets of this drug would cost the purchaser $32.70 (Terry White pharmacy, 2009). Considering the relative ease with which these drugs can be obtained, and the substantial profits which are available, it is not hard to see how the illicit sale of pharmaceutical drugs could be seen as a highly desirable business enterprise. This presents far less legal and logistical difficulties than does obtaining and selling non-pharmaceutical illicit drugs.

6.5.7 Over the counter drug misuse

This chapter focusses primarily on prescription pharmaceuticals; however, over the counter non-prescription drugs are also an emerging problem. Foremost among these are codeine-containing analgesics. Dobbin (2008b) reported that historically the major problematic drugs in this regard have been Panadeine® and Mersyndol® which contain 8 mg and 9.75 mg of codeine respectively. Dobbin reported that in 2007 it became evident that a number of Victorians were being hospitalised with life-threatening complications due to taking exceptionally high doses of the drug ibuprofen. This was caused by taking large amounts of codeine-containing Nurofen Plus® and/or Panafen Plus® tablets, both of which contain ibuprofen. The reason for this misuse was that these tablets contain 12.8 mg of codeine, the highest level available in any non-prescription analgesic. This is an issue that is currently being considered by the Intergovernmental Committee on Drugs.

6.5.8 Pharmaceutical drug use and offending

Dobbin (2006, in evidence to PVDCPC, 2007) described how the misuse of benzodiazepines in particular can impact on criminality via the 'Rambo effect', in which offenders feel invisible and invincible and are quite unaware of what they are doing. They may then become involved in volume crime (such as shoplifting) or violent crime, because of their belief in their invincibility and invisibility. As the PVDCPV (2007) highlighted, there is evidence obtained under controlled laboratory conditions that points to dis-inhibition and aggression occurring under the influence of benzodiazepines. As the committee pointed out, under conditions that are uncontrolled, where other drugs are likely to be involved and benzodiazepines consumed in excess of therapeutic doses, the situation can result in serious crime and significant harms. An emerging trend in Victoria and elsewhere discussed that was raised by several key expert consultants was for alprazolam (Xanax®) to be particularly associated with this profile of problems.

Adams, Sandy, Smith and Triglone (2008) in reporting on the findings of the Drug Use Monitoring in Australia (DUMA) programme found that the use of codeine is also common among police detainees and has been steadily increasing in recent years. In the year 2000, 10% of police detainees tested positive to an opiate metabolite which was unlikely to be heroin (i.e. most likely to be codeine). This had grown to 30% in 2006 (excluding Darwin and Footscray). In 2007 there was a slight decrease to 26% (excluding Alice Springs, Darwin, Elizabeth and Footscray). Compared with 2006, the percentage of adult detainees testing positive to codeine increased at almost all DUMA sites. Footscray recorded the largest increase, with 45% of detainees testing positive to codeine, compared with 17% in 2006. In 2007, 11% of detainees tested positive to codeine in Parramatta, 10% in Bankstown, 9% in East Perth, 8% in Brisbane and Elizabeth, 7% in Adelaide, 5% in Southport and 1% in Alice Springs. Only Darwin remained the same as 2006, with 3% of all detainees testing positive. Female detainees were twice as likely as male detainees to test positive to codeine (16% vs 7%).

This does not necessarily indicate illicit use, since the drugs may have been prescribed and codeine is also available in tablets containing less that 8 mg without prescription. Nevertheless, it does point to a high level of pharmaceutical opioid use among police detainees.

Adams et al. (2008) also reported that, in 2007, 7% of police detainees nationally tested positive to buprenorphine. Of these detainees, two-thirds (66%) were taking buprenorphine illicitly. These figures are similar to 2006. Equally, 6% of detainees tested positive to methadone of whom 13% were using it illicitly. The authors reported that the percentage of adult detainees testing positive to benzodiazepines varied greatly between the sites. Over 2007, 3% tested positive to benzodiazepines in Alice Springs, 9% in Darwin, 17% in Elizabeth, 20% in Bankstown, 21% in East Perth and Southport, 24% in Brisbane, 27% in Parramatta and Adelaide and 43% in Footscray. Also, in line with the preceding year, there has been little change in the number of detainees testing positive to benzodiazepines, with the exception of Southport (3% decrease) and Footscray

(7% increase). For those detainees who tested positive to benzodiazepines 27% were in custody as a result of their most serious charge being for a property offence; 24% for a breach offence; and 22% for a drug offence.

Using the DUMA data from 1999–2005, Loxley (2007) examined benzodiazepine use and harms among police detainees. She reported that 15% had used illicit benzodiazepines in the previous year and 9% had done so in the last 30 days. Thirteen percent had used prescribed benzodiazepines in the last fortnight, most commonly diazepam, but also temazepam, oxazepam, flunitrazepam and alprazolam. As Degenhardt et al. (2005, as cited in Loxley, 2007) pointed out, benzodiazepine use is commonly associated with heroin use, either to enhance its effects or to complement it when it becomes less available. Following her analysis of the DUMA data, Loxley (2007) noted that heroin use rose between 1999 and 2000 to a high of 33.9% and then declined to 15.1% in 2005. Benzodiazepine use followed the same general pattern with an increase between 1999 and 2000 to 19%, and then a decline to 10.2%. This is suggestive of a correlation between heroin and benzodiazepine use.

As is evident, the use of pharmaceuticals is relatively common among offenders but the extent to which this contributes to, or is protective of, criminality is unclear.

6.5.9 Pharmaceutical drugs and driving

As with other aspects of the impact of pharmaceutical drugs on law enforcement, the impact of pharmaceutical drugs on driving is poorly understood. As Mallick, Johnston, Goren and Kennedy (2007) reported, there are a number of complicating factors that need to be considered when examining the issue of pharmaceutical drugs and driving. First, there are many different types of pharmaceutical drugs and doses on the market, with differing degrees of impact on road safety. Second, when taken according to prescription, pharmaceutical drugs can have medicinal benefits that lead to improved (rather than impaired) driving ability. Finally, once a patient's medicine is stabilised (that is, a tolerance is developed), the degree of impairment can reduce (compared with the initial stages of use).

Following its literature review of the impact of benzodiazepines and opioids on driving, Drug and Alcohol Services South Australia (DASSA, 2008) concluded that experimental studies indicate that benzodiazepines impair performance, even among patients taking these drugs for therapeutic purposes. By contrast, DASSA found that the majority of studies showed that opioids produce little or no impairment on performance in patients who are prescribed opioids for pain relief, or in patients stabilised on maintenance programs for the treatment of opioid addiction.

Following their broad examination of pharmaceutical drugs and driving, Mallick et al. (2007) reported that there is increasing evidence that some pharmaceutical drugs, benzodiazepines in particular, are implicated in a considerable proportion of road crashes and trauma. Indeed of the pharmaceutical drugs they examined, benzodiazepines were considered a greater risk to road safety than any other prescription stimulants or analgesics. They found that pharmaceutical drugs are generally perceived to have less of an impairing effect on driving ability than alcohol and illicit drugs, and there is considerable variability regarding perceptions of risk associated with pharmaceutical drugs and driving. The authors called for:

- further research focussed on the impairing effects of pharmaceutical drugs, and that this be used to develop evidence-based education and information countermeasures regarding pharmaceutical drugs and driving; and
- a multifaceted approach to pharmaceutical drugs and driving, including mass media messages about all drug impaired driving, targeted information and education for pharmaceutical users and the wider implementation of detection and law enforcement strategies (that is, sobriety testing and/or RDT).

As is evident, this is a complex and under-researched area.

6.5.10 Pain management, pharmaceutical opioid misuse and illicit drug markets

This section does not try to suggest that the law enforcement sector should be seeking to influence pain management practices in Australia. Rather, it was included to add another dimension to the understanding of the law enforcement sector about the nature of pharmaceutical and illicit opiate misuse in Australia and its impacts on drug markets.

As was discussed earlier, there is a significant overlap between issues of pain management, and opioid misuse. Illicit opioid misusers are far more likely than the general community to experience chronic pain and therefore more likely to be prescribed and to divert the drugs. Jamison, Kauffman and Katz (2002), for example, found that 61% of patients in methadone maintenance treatment in Massachusetts suffered chronic pain. This, for example, compares with 17% of the Australian population over 16 years of age who experience chronic pain (Blyth et al., 2001). So, too, Rosenblum et al. (2003) found that 37% of patients on a methadone program in New York experienced severe chronic pain. White (2006) reported that the situation is similar in the Australian context. Arguably therefore, the desire for pain relief is likely to be a significant factor in the demand for opioids among those who misuse these drugs. This is not often considered as a factor that shapes illicit drug markets in Australia.

A further important issue that clouds the issue of the overlap between pain and opioid misuse is the recently reported relationship between long-term opioid use and hypersensitivity to pain (hyperalgesia). The primary medical use of opioids is for the relief of pain. In the short term, this is generally effective. In the longer term, however, exposure to licit and illicit opioid leads to hyperalgesia[21] (White, 2004, Angst & Clark, 2006 and Chang, Chen & Mao, 2007). This necessitates higher doses of opioids to counteract the effects of ongoing exposure to opioids. As White (2004) pointed out, this is an entirely different process from the diminished effects of opioids that occurs as a result of the effect of developing tolerance to the drugs.

The overlap between opioid misuse and the presence of pain in the general population is important from a law enforcement perspective as it is likely to be having a significant effect on illicit drug markets and on the demand for illicit pharmaceuticals. Previously it was mentioned that 17% of Australians 16 years and over suffer chronic pain. As Blyth et al. (2001) reported, this represents 17.1% of males and 20% of females in this age group. For males, the presence of chronic pain peaks at 27% among the 65–69 year old males and at 31% among the 80–84 year old females. Currently in Australia there are approximately 17,586,900 Australians aged 15 years and over (Australian Bureau of Statistics, 2008b). Seventeen percent of this is approximately 2,989,800. Clearly not all of these will misuse opioids, but this figure gives some indication of the potential size of the market for pharmaceutical opioids in Australia at present. While this is a very under-researched area, the presence of pain among illicit opioid users is likely to be having a greater impact on heroin and other opioid use and markets than was previously thought to be the case.

6.6 Implications for law enforcement

At the outset, it is important to acknowledge that the primary responsibility for addressing diversion and misuse of pharmaceuticals lies with the health sector. The impacts of this problem are, however, not confined to this sector.

This chapter of the environmental scan cites a range of data concerning the increased use and misuse of particular pharmaceutical drugs in Australia, as in other developed countries. The picture painted in this chapter is, at best, sketchy and its interpretation becomes even more difficult in the context of a lack of benchmarks by which the severity of the problem can be assessed. The quality

[21] Hyperalgesia is extreme sensitivity to pain.

of the available data is questionable and the infrastructure available to monitor the extent and nature of pharmaceutical misuse varies considerably between jurisdictions. Equally difficult is an assessment of the implications of this for law enforcement.

It is clear that the prescription of pharmaceutical opioids and stimulants is increasing dramatically in Australia. A significant proportion of this likely to be associated with the misuse of the drugs, but the actual proportion is unclear. A range of other factors could be contributing to the increase in the legitimate prescription of pharmaceuticals.

These increases in prescriptions also need to be seen in the context of the broader trend that is occurring in developed countries away from the misuse of non-pharmaceutical substances towards pharmaceutical or at least synthetically produced substances. Prima facie, however, Australia does appear to be well placed to address this problem before it reaches the level that has been seen in the US in terms of prevalence of use, uptake among young people, emergency department visits and deaths. Australia's ability to address this problem is at present, however, limited by the extent of our understanding of it and having the necessary infrastructure to do so.

While much of the responsibility for addressing this problem lies with the health sector (in terms of its ability to restrict inappropriate flow of pharmaceuticals), the misuse of these drugs does have a number of important implications for the law enforcement sector.

Five key issues arise for law enforcement so far as the future directions of the impact of the misuse of pharmaceuticals in Australia is concerned. These are: the need to better understand the interaction between pharmaceutical drug misuse and illicit drug markets (including markets for the pharmaceuticals themselves); the impact of pharmaceutical misuse on crime committed while under the influence of, or in order to obtain, pharmaceutical drugs; the impact of pharmaceutical misuse on road trauma; emerging sources for illicit pharmaceutical drugs; and the importance of developing partnerships between health and law enforcement agencies to address this problem. Each of these is discussed in turn.

6.6.1 The need to better understand the interaction between pharmaceutical misuse and illicit drug markets

While pharmaceutical misuse is a broadly-based problem, there are a number of groups in the community who are likely to be of interest to law enforcement in the context of better understanding the links between pharmaceutical misuse and illicit drug markets. These include injecting drug users, ecstasy users, patients with chronic pain, people undergoing opiate replacement therapy and prescription shoppers. So, too, there are those who are involved in the supply of these pharmaceuticals licitly and illicitly including doctors and pharmacists.

As was noted above, the diversion of pharmaceuticals adds another layer of complexity to illicit drug markets. An important part of this is whether the use of pharmaceutical drugs increases or decreases the demand for illicit drugs. On the one hand, pharmaceutical drugs could be being used as a 'currency' in the trade for illicit drugs, thereby increasing demand for illicit drugs. On the other hand, the misuse of pharmaceutical drugs could be replacing the demand for and use of illicit drugs, such as heroin.

This gives rise to a number of questions. These include:

- Given that pharmaceutical drugs are cheaper and more readily available than illicit-non-pharmaceutical drugs, could this be having the effect of reducing acquisitive drug-related crime and reducing the demand for illicit non-pharmaceutical drugs among those who enjoy the effects of the drugs, or who use the drugs to assist with the management of their chronic, non-malignant pain or nervous conditions?

- Could the misuse of pharmaceuticals be associated with lower levels of health-related harms (such as overdoses, blood-borne diseases) compared with the misuse of non-pharmaceutical illicit drugs?

The answers to these questions are not clear.

The critical issue in this regard is that there is a need to better understand these dynamics so that strategies can be developed that avoid unintended, undesirable consequences such as health- and crime-related harms. Not the least of these potential harms is the risk of reducing access to medications to those who have a legitimate need for them. This is not only a health issue, but risks criminalising individuals who either have a legitimate need for pain and other medication, or who are currently misusing these drugs in a non-criminal manner.

Preliminary work has been conducted in this area (for example, see Fry et al., 2007) but this work focussed primarily on people who inject drugs. This group is unlikely to be representative of the broad spectrum of prescription drug misusers in Australia.

Two approaches are likely to be useful in this regard. The first is the provision of 'research user friendly' information on prescription drug trends in Australia. This is unlikely to be an expensive exercise and represents the first step in better understanding the extent and nature of this problem.

The second approach is more targeted research to understand the relationships between pharmaceutical misuse, illicit drug markets and other forms of criminality. It will be important that future research does not focus exclusively on the ways in which pharmaceutical misuse among injecting drug users impacts on these dynamics. Also important is a better understanding of the markets for illicit pharmaceuticals and the potential for the profits from these markets to facilitate other illicit drug use or crime.

As is evident, there is a need for research to answer very fundamental questions about the misuse of pharmaceutical drugs and what this means for law enforcement in general and illicit drug markets in particular.

6.6.2 Links between pharmaceutical drugs and crime

There are two aspects to this: crime committed while under the influence of pharmaceutical drugs and crime committed in order to obtain them.

6.6.2.1 Crimes committed while under the influence of pharmaceutical drugs

Foremost in this regard is the influence of benzodiazepine misuse on crime. Police have long been aware of the extent to which the problem of benzodiazepine misuse contributes to the so called 'Rambo effect' in which offenders regard themselves as invisible and invincible (PVDCPC, 2007). An emerging problem described by a large number of key experts consultants is that of crime committed while under the influence of a particular benzodiazepine, alprazolam (Xanax®). It was also the view of many of those providing evidence to PVDCPV (2007) that alprazolam is one of the most widely misused benzodiazepines. The PVDCPC (2007) reported that, while the prescription of most benzodiazepines declined between 2000 and 2005, the prescription of alprazolam increased. While the misuse of this particular benzodiazepine seems especially problematic from a law enforcement perspective, it does appear to be a very effective drug in the treatment of anxiety and panic disorders (for example, see Susman & Klee, 2005). As such, several key experts were of the view that there is likely to be considerable resistance from the medical profession to increased restrictions being placed on the prescription of this drug. Such measures have, however, been introduced in Tasmania (PVDCPC, 2007). At the very least, there is a need for the law enforcement sector to better understand the impact that the misuse of this particular drug is having on patterns of offending so that appropriate representations can be made to prescribing authorities.

6.6.2.2 Crime committed to obtain pharmaceutical drugs

Little is known about the extent of theft/loss of pharmaceutical drugs from pharmacies, medical practitioners, or pharmaceutical manufacturers and distributors. Evidence from the United States suggests that it could be making a significant contribution to the illicit market for pharmaceuticals.

Pharmacies have historically been targets for robberies to obtain pharmaceuticals. An emerging trend in the United States is for criminals to seek to obtain pharmaceutical drugs via robberies perpetrated against the courier and other transport companies which move these substances (particularly pharmaceutical opioids) between wholesale and retail outlets. This is an issue that may warrant the implementation of preventative initiatives in the Australian context, particularly if measures are introduced to make pharmaceuticals more difficult to obtain.

6.6.3 Pharmaceutical misuse and driving

There is ample evidence that the misuse (and potentially even the appropriate use) of pharmaceutical drugs (in particular benzodiazepines) can impact adversely on driving (for example, see Drummer et al., 2004). This too is a complex and under-researched area and, as a result, the extent to which benzodiazepines, in particular, impact on the road toll is unclear. This is particularly concerning in the context of the widespread use of these drugs in Australia. The prevalence of use of these drugs among drivers is therefore likely to be much higher than for illicit drugs. Since the law enforcement sector in combination with its partners is continually seeking ways to reduce the road toll, this too is an issue that warrants closer research attention. It is therefore recommended that NDLERF consider funding research in the area of pharmaceutical misuse (and use) and driving. Specifically, there is a need to improve driver testing to enhance the effectiveness of detecting drivers adversely affected by their use of benzodiazepines.

6.6.4 Alternative sources of pharmaceutical drugs

As ever, there is also a need for law enforcement agencies to remain vigilant regarding the potential for the emergence of alternative illicit sources of pharmaceutical drugs. Most prominent in this regard is the Internet and on-line pharmacies. The Internet has been a theoretical threat for the illegal impartation of pharmaceuticals for some time. A key expert consultant from the treatment sector reported that illicit drug users are now beginning to use this method to obtain pharmaceutical drugs. As has been discussed, there are a number of disincentives to obtaining pharmaceuticals in this way, which at the present point in time are probably keeping this importation to a relatively small scale. This could, however, rapidly change and warrants close monitoring.

6.6.5 The importance of developing partnerships between health and law enforcement agencies to address this problem

Reducing the extent of pharmaceutical misuse in Australia is a complex task which will require input from a number of stakeholders. Key expert consultants from the law enforcement and health sectors spoke of the importance of developing partnerships between health and law enforcement agencies to address this problem. Given that the misuse of pharmaceuticals spills over into law enforcement problems in a variety of ways, there is much to be gained by the law enforcement sector becoming involved in these partnerships. Important in this regard will be the development of protocols that allow law enforcement and health agencies to share information in mutually beneficial ways.

6.7 Conclusion

In conclusion, Australia currently lacks the infrastructure to effectively monitor the extent and nature of pharmaceutical misuse in Australia, particularly in relation to the prescription of drugs of dependence. This is a major impediment to progress in this area. Several commentators have called for the development of a real time on-line prescription monitoring program (PMP).

Perhaps the key advantage of such an approach would be to facilitate a more comprehensive approach to prescription pharmaceutical drug misuse, rather than relying on specific measures to address problems with specific drugs as they emerge.

As has been discussed, if such an approach were to be implemented it will be necessary to ensure that it avoids unintended consequences. The introduction of PMPs is reportedly having a positive impact in the US, although it has led to a change in the methods used by criminals to obtain these drugs. The PMP should not be regarded as a panacea for prescription drug problems. It is, for example, unclear whether such an approach would address the problem of legitimate pain patients diverting their excess opioids onto the illicit markets, or whether this would substantially reduce the practice of obtaining pharmaceuticals using another person's Medicare card. Nevertheless it is likely to be a major step forward.

As a first step, however, there may well be much that could be learned from closer analysis of PBS data, of data sources within the pharmaceutical industry and related sources.

In short, there is an urgent need to better understand the extent and nature of pharmaceutical misuse in Australia and its law enforcement (and health) implications.

Chapter seven: Amphetamine type stimulants

7.1 Introduction and terminology

Before considering the issue of amphetamine type stimulants (ATS) it is important to be clear about relevant terminology. The phrase 'amphetamine type stimulants' is a generic term that is used to refer to a range of substances including the amphetamine group of ATS and the ecstasy group of ATS.

The amphetamine group of ATS includes amphetamine, methamphetamine and non-specified amphetamine (e.g. fenetylline, methylphenidate, phenmetrazine, methcathinone, amfepramone, pemoline, phentermine). The ecstasy group of ATS contains the amphetamine analogues, or phenethylamines, the most common of which is 3,4 methylenedioxymethylamphetamine (MDMA, ecstasy). This group also includes: 3,4-methylenedioxy-N-ethylamphetamine, (MDEA, eve); 3,4-methylenedioxyamphetamine (MDA, love bug, crystal, P, window pane); N-methyl-1-(1,3-benzodioxol-5-yl)-2- butanamine (MBDB, Eden); paramethoxyamphetamine (PMA, death, Dr Death, Mitsubishi double); 4-bromo-2,5-dimethoxyphenethylamine (nexus, 2-CB, bromo, TWOs); 4-bromo-2,5-dimethoxyamphetamine (DOB, DOB, 4-bromo-DMA, Bromo); 2,5-dimethoxy-4-methylamphetamine (DOM, STP); and 4-methylthioamphetamine (4-MTA, flatliner, golden eagle) (Australian Crime Commission, ACC, 2007).

The term amphetamines is also a generic term that covers a range of substances including amphetamine sulphate, dexamphetamine, and methamphetamine, but excluding the amphetamine analogues (Australian Bureau of Criminal Intelligence, 2001).

For convenience, this chapter discusses the amphetamine analogues (such as ecstasy) separately from the rest of the ATS group. The major reason for this is that the production processes and markets for these drugs are, at least to some extent, distinct at the global and local levels.

This chapter also discusses issues associated with the emergence of 1-benzylpiperazine (BZP)/ Trifluoromethylphenylpiperazine (TFMPP). While these are not part of the ATS group, their effects mimic those of the ATS group and they have the potential to be mixed with ATS, hence their inclusion in this chapter.

In using the term 'ecstasy', it is recognised that this term is not universally acceptable in the law enforcement environment. This is because the use of the term could be seen as promoting the desirability of the drug. The alternative, the use of the term 'MDMA' to describe drugs sold as ecstasy, is also problematic because the tablets may contain MDMA in addition to other substances, or little, or even no MDMA. Being the 'lesser of the two evils' this report uses the term ecstasy to describe tablets sold as such which purport to contain MDMA.

7.2 Effects

The use of ATS elevates brain levels of three impulse transmitters, dopamine, serotonin and noradrenaline. The ultimate effect of the ATS taken is dependent on which of these transmitters is predominantly affected. Dopamine is involved in the regulation of movement, cognitive processes related to attention, working memory and motivational behaviour. It is also the primary neurotransmitter involved in reward pathways. Serotonin has a role in determining mood, appetite,

sleep, cognition, perception, motor activity, temperature regulation, pain control, sexual behaviour and hormone secretion. Noradrenaline is responsible for mediating cardiovascular effects, arousal, concentration, attention, learning and memory. MDMA primarily inhibits serotonin reuptake and stimulates serotonin release, while methamphetamine has the same effects on dopamine. Therefore, MDMA is more likely to produce euphoria, mild hallucinations and feelings of closeness to others while methamphetamine is more likely to enhance confidence, energy and sexual stimulation (Department of Health and Ageing, DoHA, 2007).

Following a review of the literature on this issue, DoHA (2007) concluded that the sought after effects of methamphetamine include a sense of wellbeing, euphoria, mood elevation, increased libido, alertness, reduced fatigue, increased concentration, diminished appetite, enhanced reflexes, and a perceived increase in confidence, energy and physical strength. The adverse effects are related to dose and frequency of use and include restlessness, irritation, anxiety, agitation, tremor, teeth grinding, insomnia, confusion, increased heart rate, abdominal pain, sweating, dilated pupils and picking and scratching at the skin.

The sought after effects of ecstasy include a subjective sense of closeness to other people, enhanced sociability, positive mood states, and sharpened sensory perception. With ecstasy, the balance of positive effects to negative effects shifts after a relatively short period of use, which may act as a disincentive to further use. The short-term adverse effects of ecstasy include racing thoughts, depersonalisation, panic attacks, tremor, muscle cramps, increased heart rate, decreased ability to cope with changing ambient temperature, hyperactivity, insomnia and impairment of sexual functioning (DoHA, 2007).

7.3 The global amphetamine type stimulants situation

The global ATS situation is discussed firstly in terms of the trade in the drugs themselves and then in terms of the trade in their precursor chemicals.

7.3.1 The global production of and trade in ATS

The synthetic drugs trade (of which the trade in ATS is a part) is amongst the most lucrative businesses for organised crime. This because it: requires a relatively small capital investment; utilises basic manufacturing methodology; has low production costs; has ready availability of chemicals and equipment; and has the ready capacity to increase production (Europol, 2007). In addition there is no dependence on growing seasons; no large workforce is required; it is easy to locate laboratories near consumer markets; and there is a very high profit return on their investment (United Nations Office on Drugs and Crime, UNODC, 2008). The UNODC (2005), for example, estimated that methamphetamine only costs approximately $US7 ($A8.60) per gram to produce.

As was mentioned above, when examining the ATS-related issues it is useful to consider the ecstasy group of ATS separately from the amphetamine group. As Schloenhardt (2007) pointed out, historically at least, there has been a distinct difference between global patterns of trafficking of the amphetamine group of ATS and the ecstasy group.

Specifically, because of their ease of manufacture, the amphetamine group of ATS have tended to be manufactured relatively close to their point of consumption. Most of the methamphetamine consumed in Australia, for example, is produced locally with additional supplies, particularly of the more potent crystalline form, coming from close neighbours in Asia (McKetin, McLaren & Kelly, 2006). The ecstasy group of ATS on the other hand are far more difficult to produce and have tended, at least in the past, to be transported over very great geographical distances (from

Eastern Europe to Australia, for example). This means that it is less likely that changes in the supply of amphetamine group ATS which occur in one part of the world will have an impact on another. Conversely, ecstasy-related law enforcement efforts are more likely to have geographically diverse impacts (Schloenhardt, 2007).

Globally, amphetamine (as opposed to methamphetamine) and MDMA clandestine production operations tend to be fewer in numbers, and are generally more sophisticated enterprises. They require more specialised equipment and precursor chemicals and more sophisticated skills. Overall, ecstasy-group manufacture appears relatively stable, albeit with a declining proportion of the world's manufacture occurring in Europe. Significant manufacture of ecstasy now occurs in North America, Oceania, and East and South-East Asia, as operations have shifted closer to those consumer markets (UNODC, 2009).

The amphetamines-group of ATS dominates global ATS seizures, accounting for 85% of all seizures by volume. In 2007, there was a dramatic increase in *ecstasy-group* seizures, as significant increases were noted in several large markets.

When considering global markets, however, it is useful to further break down the amphetamine group of ATS into amphetamine and methamphetamine. This is because to a large extent, globally, the production and markets for amphetamine and methamphetamine are quite distinct and regionally specific. They are related to both market demand and chemical availability. Methamphetamine manufacture is typically located throughout East and South-East Asia, North America, and Oceania, where its precursor chemicals are more readily available and demand is high. Amphetamine manufacture, on the other hand, takes place largely in Europe but smaller quantities of amphetamine are also produced in the USA and India. A significant proportion of amphetamine produced in Europe is trafficked into the Near and Middle East. Indeed that region is responsible for 32% of global seizures of ATS, of which the majority is amphetamine. While there is limited ecstasy manufacture in East and South East Asia, it now predominantly occurs in Western Europe, North America and Oceania (UNODC, 2008).

This importance of distinguishing between amphetamine and methamphetamine becomes evident in light of the fact that over recent years there has been a decline in the proportion of ATS of the amphetamine group that is made up of methamphetamine. The UNODC (2008) estimated that, in 2003, 84% of worldwide production of amphetamine group ATS was of methamphetamine and 16% was of other amphetamines. By 2006, 67% was methamphetamine and 33% was amphetamine. This is probably due to tighter controls on pseudoephedrine, a precursor for methamphetamine manufacture.

The UNODC (2009) estimated that in 2007 global amphetamine group manufacture was between 230 and 640 tonnes. Ecstasy group manufacture was estimated at between 72 and 137 tonnes. Based on these estimates and reported seizures, the global interception range is between 7% and 19% for the amphetamines-group and from 6% to 12% for the ecstasy group.

In recent years there has been a global trend towards the production of ATS in more organised, often industrial scale, clandestine laboratories. This generally involves more sophisticated, often international crime groups in the manufacture of these drugs. Globally, 6,990 clandestine laboratories were detected in 2007, down from a peak of 18,639 in 2004 (UNODC, 2009). Given the relative stability of global supply, this points to ATS production increasingly occurring in larger laboratories. This shift towards larger laboratories is particularly evident in relation to methamphetamine production. In the United States of America (USA), for example, the (American) National Drug Intelligence Center (NDIC, 2007b) reported that the number of clandestine methamphetamine laboratory detections in the USA fell from a high of 10,094 in 2003 to 2,107

in 2007. In place of this large number of relatively small laboratories, methamphetamine supply to the USA is now being sustained by much larger laboratories in Mexico, and to a lesser extent Asia and Canada. In this regard, the NDIC (2007b) reported that 15 of the 23 methamphetamine laboratories seized in Canada in 2006 were laboratories with the capacity to produce 4.5 or more kilograms of methamphetamine per production cycle.

There are reports of increasing methamphetamine production in East and South-East Asia, Oceania, Europe, and Southern Africa. Laboratory operations in East and South-East Asia are often significant industrial-sized operations, which have grown in sophistication over the last few years. While manufacture has been reported in many countries, operations in China, Myanmar and the Philippines account for most of the production (ONDC, 2009). Indeed, McKetin et al. (2008) asserted that South East and East Asia have emerged as the global hubs for methamphetamine production and trafficking over the past decade. They reported that over half the world's 15–16 million methamphetamine consumers reside in this region.

The Greater Mekong Subregion (GMS) (encompassing Cambodia, Lao PDR, Myanmar, Thailand, Vietnam and the bordering provinces of Southern China) is central to methamphetamine manufacture, trafficking and use. Thailand, the largest market in the region, significantly increased law enforcement efforts in 2003/04 in response to widespread methamphetamine use. As a result, illicit trafficking in the GMS has relocated into neighbouring countries, including Cambodia, Lao PDR and Vietnam. The primary interregional trafficking routes into Australia emanate from Hong Kong SAR, and China and the Philippines (UNODC, 2009).

One of the ways that the UNODC uses to assess the importance of countries as methamphetamine producers is to analyse the extent to which various countries were mentioned as being the source of methamphetamines seized in destination countries. The UNODC reported that over the 2002–2006 period the countries with the most mentions were China (38%), Philippines (21%), Myanmar (21%), Thailand (6.4%), Japan (4.3%) and Lao PDR (4.3%) (UNODC, 2008).

Global seizures of amphetamine-type stimulants (ATS) have continued to increase, totalling nearly 52 metric tonnes in 2007, surpassing their 2000 peak by nearly 3 tonnes. While the amount of methamphetamine seized in 2006 was approximately half that seized in 2000, there has been a substantial increase in the number of countries reporting these seizures. This indicates that methamphetamine trafficking is expanding intra- and inter-regionally (UNODC, 2009).

Although more ecstasy-group ATS manufacture is taking place outside of Europe, it remains the main manufacturing region. Since 2003–04 Canada has also emerged as the primary source of ecstasy-group substances for North American markets, and increasingly for other regions. In 2007, several large ecstasy laboratories were detected in Canada. These were large-capacity facilities primarily controlled by Asian organised crime groups, utilising precursor chemicals trafficked from China in sea containers (UNODC, 2009). All of the ecstasy laboratories identified in Canada in 2006 were of the super-lab variety. Indeed in Canada in 2005, 85% of ecstasy in use in that country was produced domestically with the remaining 15% coming from Europe. By 2006, 99% was being produced domestically. In 2007, it was estimated that 50% of domestically produced ecstasy was trafficked outside of Canada. Most of this was thought to be destined for the USA, Australia and Japan (UNODC, 2008).

7.3.2 The global trade in ATS precursor chemicals

In 2006, global seizures of ATS-related precursors fell to their lowest level in five years (30 tonnes of ATS equivalents). The UNODC attributed this to: a reduction in the diversion of precursors, as a result of enforcement efforts; and to changes in the usual methods of methamphetamine

manufacture. The ephedrine and pseudoephedrine needed for methamphetamine manufacture, the P-2-P needed for the manufacture of amphetamine, and the 3,4-MDP-2-P, piperonal and safrole needed for ecstasy manufacture, are now far more difficult to obtain than they were in the late 1990s and early 2000s when these markets were undergoing rapid expansion (UNODC, 2008). The amount seized in 2007 increased to 45 tonnes of ATS equivalents, however (UNODC, 2009).

Despite the implementation of a range of successful precursor control activities, illicit manufacturers are circumventing these controls by substituting controlled precursors with those which are outside international controls. The need to circumvent precursor controls is, in turn, leading to more inter-regional (rather than intra-regional) trafficking of precursors.

Particularly important in this regard is the high level of precursors being trafficked out of South, East, and South-East Asia. The trafficking routes are continuing to develop in regions that lack the enforcement and forensic infrastructure to detect them. Also important in this regard is the shift of manufacturing to more vulnerable locations (UNODC, 2008).

Clearly, precursor control activities can play a significant role in reducing the supply of ATS; however, it is also important to be mindful of their limitations. As McKetin (2008) highlighted, these could include:

- the development of methods to manufacture methamphetamine from phenylephrine, a substance now commonly used in cold and flu tablets in place of pseudoephedrine;[22]
- increased trafficking of precursors from countries where they are poorly regulated or relocating production facilities there; and
- shifting the responsibility for policing chemical diversion to developing countries with a limited capacity to fulfil this role.

Notwithstanding these limitations, precursor control will remain a key law enforcement strategy in containing illicit ATS production. Indeed as the number of new synthetic drugs grows and the number of new precursors and proto-precursors become evident, it is likely that it will become increasingly important to develop partnerships with non-law enforcement agencies aimed at precursor control.

7.3.3 Summary of global trends in ATS/precursor markets

In summary, while the global markets for amphetamine and ecstasy type ATS have been relatively stable in a quantitative sense over the recent past, there have been significant changes in the profiles of the markets. First, there has been an increase in the proportion of ATS produced globally that is made up of the amphetamine group compared with the ecstasy group. Second, there has been a decline in the proportion of the amphetamine group of ATS that is made up of methamphetamine relative to amphetamine. Third, there has been an increase in larger, organised crime groups becoming involved in ATS manufacture, which in turn means a greater proportion of global production of ATS occurring in larger, industrial-scale laboratories. Fourth, there has been a major shift away from Europe as being the exclusive region of ecstasy manufacturing. Finally, there have been changes in the production methods used by criminals, which has led to them substituting controlled precursors with those which are outside international controls. This clearly demonstrates the extent to which criminal organisations are able to be flexible and respond to law enforcement pressures.

[22] While this is theoretically possible, one key expert consultant indicated that this would be extremely difficult, if not impossible, in the clandestine environment.

7.4 Amphetamine group ATS use in Australia

7.4.1 Patterns of use

On the one hand, it has been observed that throughout the 1990s the amphetamine market in Australia was waning in significance in the face of booming heroin markets. From this perspective, the market for the drug had largely stagnated and there was no sign of movement in the price, purchase units, or the low purity of the drug through the mid to late 1990s (McKetin, McLaren & Kelly, 2005). On the other hand, it is important to note that amphetamine use was far more prevalent than heroin use in Australia even when heroin use was at its peak in the late 1990s.

In 1998, for example, 8.8% of Australians aged 14 years and over claimed to have ever used amphetamines and 3.7% claimed to have done so in the past six months. In the same year 2.2% of Australians claimed to have ever used heroin and 0.8% claimed to have done so in the past six months. In every NDSHS since 1993 at least, the number of people who had ever, or recently tried/used meth/amphetamines, substantially exceeded those who had ever, or recently used/tried heroin (AIHW, 2008). Heroin is a far more dangerous drug than amphetamine and when it was at its peak in the late 1990s it was associated with many deaths and much drug-related crime. In this way, the problems associated with the peak of the heroin market 'screamed the loudest' but the amphetamine market was, even then, much bigger. While there was an increase in the prevalence of methamphetamine use in the early part of this decade, the increased potency of the drug has also added substantially to the problems associated with its use.

In this regard, McKetin et al. (2005) reported that, since 1999, the markets for the more potent forms of methamphetamine, namely base methamphetamine and crystalline methamphetamine, have flourished in Australia. As Black et al. (2008) reported, amphetamine sulphate was the form of illicit amphetamine that was most readily available in Australia throughout the 1980s. Prior to the introduction of controls on the necessary precursor chemicals, this form of the drug was easily and cheaply manufactured locally. Throughout the 1990s, the proportion of amphetamine-type substance seizures that were methamphetamine (rather than amphetamine sulphate) steadily increased until that substance dominated the amphetamine market (Stafford et al., 2006).

Methamphetamine is a drug that is taken by a wide variety of people with a range of use patterns. Most methamphetamine consumption in Australia involves the use of a half to one gram of low-purity powder methamphetamine ('speed'), or a 'point' (approximately 0.1 gram) of the 'base' methamphetamine or crystalline methamphetamine, or 'ice'[23]. Depending on the form of drug being used, it can be swallowed, injected, snorted, inserted or smoked. Use patterns vary from infrequent snorting or swallowing through to daily injection. Smoking methamphetamine has emerged as a trend in Australia since the increased availability of crystalline methamphetamine in 1999. Most people who use methamphetamine on a regular basis also use a variety of other drugs, ranging from cannabis and other synthetic stimulants through to heroin (Australian National Council on Drugs, ANCD, 2007).

There are major identifiable groups of *regular* methamphetamine users. The first is a group of users for whom this is their drug of choice. They typically inject the drug several days per week, using between one and three 'points' of 'base' or crystalline methamphetamine per day. The second group is those who switched from heroin to methamphetamine injection in the wake of the 2001 Australian heroin shortage. This trend has occurred among both active heroin users and a proportion of people who are enrolled in opioid maintenance therapy. This is likely to be a more dysfunctional group of illicit drug users with no particular affiliation to illicit drug types (ANCD,

[23] Please see below for a more comprehensive description of the different types of methamphetamine.

2007). They are also most unlikely to comprise a large proportion of regular methamphetamine users (Snowball, Moffatt, Weatherburn & Burgess, 2008). The third and somewhat newer group of methamphetamine users is those who smoke the crystalline form of the drug. This group tends to be younger, less experienced drug users compared with those who inject methamphetamine. They also have lower levels of heavy polydrug use, and little history of drug treatment or drug-related arrests (ANCD, 2007). Despite their younger age, and having used the drug for fewer years, the frequency of methamphetamine use and level of dependence among those who smoke the drug rivals that seen among injectors. The likelihood of methamphetamine dependence among this group is over double that seen among other non-injecting methamphetamine users (McKetin, McLaren & Kelly (2006), as cited in ANCD, 2007).

The AIHW (2008) reported that between 2004 and 2007 there was a significant decline in the number of Australians aged 14 years and over who claimed to have used meth/amphetamine in the past year. In 2007, 2.3% claimed to have done so in the last 12 months, compared with 3.2% in 2004. The AIHW also found that, in 2007, 6.3% of Australians aged 14 years or older claimed to have ever used meth/amphetamine, down from 9.1% in 2004. This is an implausibly large drop over a three year period and, as such, these findings need to be seen in the context of the concerns expressed in the chapter of the environmental scan dealing with the interpretation of drug data sets. The AIHW (2008) reported that in 2007 males aged 14 years or older were more likely than their female counterparts to have ever used meth/amphetamine. Among teenagers, 2.1% had ever used the drug and the group most likely to have ever used it was the 20–29 year old age group (16%).

Males aged 14 years and older were more likely to have used meth/amphetamine in the past year (3.0%) versus their female counterparts (1.6%). Among teenagers over the age of 14 years, 1.6% claimed to have used meth/amphetamine in the past year and females in this group were twice as likely to claim to have used the drug compared with males. The age group most likely to have used meth/amphetamine in the past 12 months was the 20–29 year olds (7.3%) and males in this age group were the most likely to have done so. Among those who had ever used meth/amphetamine, approximately 60% had not used the drug in the past 12 months (AIHW, 2008).

During the period 2004–2007 there was a decline in the proportion of recent meth/amphetamine users who reported using meth/amphetamine infrequently (either every few months or once or twice per year) from 73.1% to 64.3%. As a result, there was a corresponding increase in the proportion of recent meth/amphetamine users who reported using the drug either daily or weekly between 2004 (10.8%) and 2007 (14.2%) (AIHW, 2005, 2008). This is probably indicative of a group of less committed users becoming less involved in methamphetamine use, with a more committed core of users maintaining their involvement. This is highly significant from a law enforcement perspective because it is this group which is most likely to come to police attention and the size of this group is not necessarily declining.

McKetin, McLaren, Kelly, Hall & Hickman (2005) estimated that in 2005 there were 102,600, regular methamphetamine users in Australia representing 10.3 per 1,000 persons aged 15 to 49 years. Of these regular methamphetamine users, they estimated that there were 72,700 dependent methamphetamine users. This relatively high proportion of dependent users is very significant because, as the authors pointed out, heavy or dependent methamphetamine use is associated with a range of adverse consequences for both the individual and society. Specifically, they noted that heavy methamphetamine users are at elevated risk for psychosis, suffer a range of mental and physical health problems, and, if they inject the drug, they are at risk of contracting and transmitting blood-borne viruses. Heavy methamphetamine users also show high levels of criminal involvement and contact with the criminal justice system. Police, together with other frontline services, bear the brunt of managing aggressive behaviour that is often associated with heavy methamphetamine use.

In reporting on the findings of the 2005 Australian Secondary Students Alcohol and Drug Survey, White and Hayman (2006) reported that the vast majority (95%) of secondary school students had never used amphetamines. By the age of 17, 7% of students reported having had some experience with amphetamines. Approximately 3% of students 14 years and over reported using amphetamines in the month before the survey. Of the 4% of students who used amphetamines in the year before the survey, 39% of males and 48% of females indicated that they had used them only once or twice. While there was no change in the proportion of 12 to 15 year olds or 16 to 17 year olds using amphetamines in their lifetime between 2002 and 2005, there was a significant decrease between 1999 and 2005 for both age groups. There was, however, no change in the proportion of students in both age groups using amphetamines in the month prior to the survey between 1996 and 2005. In summarising their findings, the authors reported there was a low level of experimental use among secondary school students, with only a few students having used amphetamines recently.

In reporting the findings of the 2008 Illicit Drug Reporting System (which focusses on injecting drug users, IDU), Stafford, Sindichich and Burns (2009) reported that over the preceding year, recent methamphetamine use decreased slightly from 74% to 69%. Frequency of use also declined from a median 24 days in 2007 to 18 days in 2008. The frequency of methamphetamine use was highest in New South Wales (NSW) and lowest in the Northern Territory (NT). Overall there has been a decrease in the use of this drug among the IDU sample between 2006 and 2008. In 2008, 22% of participants nominated methamphetamine as their drug of choice. This has remained stable over the past several years.

Black et al. (2008) also found similar decline in the use of all forms of methamphetamine among their 2007 sentinel (i.e. non-representative) sample of regular ecstasy users (REU). The majority of REU reported lifetime use of one or more forms of methamphetamine (speed, base and/or ice/crystal) and almost three-quarters reported use of one or more of these forms during the six months preceding interview. In 2007, however, they found the lowest proportions reporting recent methamphetamine use since 2003, a finding that was observed across all three forms. Among those who had recently used the drug, the frequency of use remained stable from 2006. They also reported a decrease in the proportion of REU who claimed using ice/crystal during a binge from 49% in 2006 to 34% in 2007.

The National Centre in HIV Epidemiology and Clinical Research (NCHECR) undertakes surveys of attendees of the Australian Needle and Syringe Program (NSP). The centre reported that between 2006 and 2007 the proportion of clients attending the program whose last drug injected was meth/amphetamine declined from 38% to 30%. In 2006, the proportion of NSP clients whose last drug injected was meth/amphetamine was the highest since the survey began in 1995 (Iversen, Deacon & Maher, 2008). As such, the injection of methamphetamine peaked in 2006 among this group. In the years 1995 to 2000, approximately one-fifth of clients last injected methamphetamine (Buddle, Zhou & MacDondald, 2003).

In summary, all of these national surveys, to varying degrees, point to a reduction in the use of methamphetamine in Australia. There was, however, some difference between the perspectives of key experts from the health sector and those from the law enforcement sector concerning the extent to which this represents a substantive drop in methamphetamine use. Those from the health sector tended to be more firmly of the view that methamphetamine use has declined in recent years, albeit that much of the decline had been amongst the less frequent users or ‘dabblers’. Law enforcement key experts tended to be less convinced of this trend, however. The law enforcement representatives were less likely to perceive that there had been reductions in the production and trafficking of methamphetamine or in the adverse behavioural manifestations of its use.

Overall, it seems most likely that there has been a decline in methamphetamine use in Australia in recent years, albeit perhaps not to the extent suggested in population surveys. There are, however, three reasons why this may not manifest itself in law enforcement perceptions. First, if there has been a shift from the importation of methamphetamine to the importation of precursors for local production, then, even if there was a reduction in demand, local production could remain stable or even increase. Second, even if a significant proportion of infrequent users of the drug have fallen away, then this may not lead to a large drop in overall consumption and production because the infrequent users were only responsible for a small proportion of overall consumption. Third, police may not be seeing a substantial reduction in methamphetamine-fuelled behavioural problems because the infrequent users who have fallen away were not the primary source of these problems.

The reduction that has been seen in recent years is entirely consistent with much of the modelling work that has been conducted worldwide with drug 'epidemics'. Expansion in drug markets is generally followed by a period of overshoot (in which the market grows to a level that is well beyond that which is sustainable), peaks and then partially declines (Caulkins, 2007). In this regard, the methamphetamine market in Australia has probably already peaked, has partially declined and will now oscillate around a stable level for the next few years.

7.4.2 Forms, purity and cost of methamphetamine in Australia

7.4.2.1 Forms and purity

One of the issues surrounding the discussion of 'methamphetamine' is that the term has become synonymous with 'ice', particularly in the popular media. As will be discussed, not all methamphetamine is ice and not all methamphetamine that has a crystalline appearance is ice.

McKetin, McLaren and Kelly (2005) described the three predominant forms of methamphetamine that are available in Australia. The first of these is powder methamphetamine which has a median purity of approximately 10% and is usually white, or off white in colour. The authors reported that this is commonly known as 'speed' although sometimes this term is used more generically to refer to other forms of the drug. Black et al. (2008) reported that this form is typically manufactured in Australia. McKetin et al. (2005) reported that the second form is *base* (also known as 'paste', 'wax', 'point' or 'pure'). This is a more pure form of methamphetamine with a damp/oily white/brown appearance. Base has a median purity of 21%. It is reported to be difficult to dissolve for injection without heating and is also thought to be largely manufactured in Australia (Black et al., 2008). McKetin et al. (2005) noted that the third form of methamphetamine is 'ice' or crystal methamphetamine which consists of coarse translucent crystals of the drug. They reported that this form of the drug is thought to be largely manufactured in Asia, although the extent to which local manufacturing is occurring is unclear.

Several key experts consulted during this environmental scan indicated that the proportion of ice being produced locally is probably increasing, given that ice is simply a more refined form of methamphetamine. That said, it was far more common for law enforcement agencies to seize 'pseudo ice' compared with 'real ice'. Pseudo ice is methamphetamine with a crystalline appearance but of much lower purity than 'real ice'. It is unclear whether the 'pseudo ice' being seized is a poor quality locally-produced product or a dilution of 'real ice' with other substances.

According to McKetin et al. (2005) there are two distinct purity profiles of crystal methamphetamine seized in Australia. Approximately 40% of seized crystal methamphetamine has a median purity of approximately 80% while the remainder has a median purity of 19%. Interestingly, the authors also reported that approximately 25% of methamphetamine seizures by weight is in tablet form. These tablets generally contain methamphetamine alone or in

combination with drugs such as ketamine. Given that methamphetamine users rarely report using the drug in pill form, the authors suggested that these tablets are being sold as ecstasy.

In support of this, 34% of Australian police detainees who self-reported that they had used ecstasy in the previous 48 hours, who did not test positive to MDMA, tested positive to methylamphetamine. This suggests that a substantial proportion of those detainees who believe they have taken MDMA had actually consumed methamphetamine (Adams, Sandy, Smith & Triglone, 2008).

Black et al. (2008) reported that a fourth form of the drug, liquid methamphetamine (also known as 'oxblood'), is also available; however, the prevalence and frequency of the use of this form of the drug is low.

McKetin et al. (2005) indicated that this diversification of methamphetamine forms introduces a far broader segment of the population into the methamphetamine market. They also asserted that the more pure forms of ice and base now make up over two-thirds of the market for methamphetamine in Sydney, although, as discussed above, an additional unknown amount of methamphetamine ends up on the ecstasy market being sold as '*pills*'.

In 2007 among Australians 14 years or older who claimed to have had used meth/amphetamine in the past 12 months[24]:

- 51% had used it in powder form (down from 74% in 2004);
- 26% had used it in crystal form (ice) (down from 39% in 2004);
- 11% had used it in base form (down from 26% in 2004);
- 6% had used it in tablet form (down from 12% in 2004); and
- 1% had used it in liquid form (down from 9.1% in 2004).

(AIHW, 2005, 2008)

The reductions in level of use of every form could be due to the reduction in the estimated size of the pool of recent methamphetamine users between the two surveys from 532,100 in 2004 to 394,800 in 2007 (AIHW, 2005, 2008). It could also be a result of less experimentation occurring with different forms of methamphetamine in 2007.

A higher proportion of males than of female users of meth/amphetamine (53.6% versus 46.6%) nominated powder as the main form used in the previous 12 months. Conversely, a slightly higher proportion of females than of males (28.5% versus 25.8%) nominated the crystal form as being the main form used in the past year (AIHW, 2008). Stafford et al. (2009) reported that up until 2008 speed was reported as the form of methamphetamine most commonly used by IDU in the IDRS sample. In 2008 the form of methamphetamine used most in the past six months was ice/crystal (47%), followed by speed (44%), and base (8%). In comparison, in 2007, these figures were: speed (43%), ice/crystal (31%) and base (19%). The number of IDU who had recently used powder methamphetamine (speed) remained stable or decreased in all jurisdictions between 2007–08. They also reported that recent base use declined to varying extents in all jurisdictions.

In interpreting the data it is important to be mindful that the IDRS is a sentinel survey and is not representative of broader patterns of illicit drug use. In summary, however, Stafford et al. (2009) found that, in 2008, substantial proportions of IDRS participants continued to use all three of the most common forms of methamphetamine, although some declines in use were noted compared with 2007. Nevertheless, a small but significant proportion of participants reported high levels of use, including daily use, of ice/crystal. This is of concern to law enforcement because it is this group that is most likely to come to the attention of police.

[24] Respondents could select more than one response.

As is evident, by far the majority of methamphetamine used in Australia is in the powder form, rather than as ice and is probably in the vicinity of 10% purity. Given the frequency with which law enforcement agencies encounter 'pseudo ice', methamphetamine with a crystalline appearance cannot be assumed to be high potency or high quality ice.

7.4.2.2 Price of methamphetamine

Methamphetamine is most commonly purchased in points (0.1 gram), regardless of type (speed, base or ice). In 2008, methamphetamine in Australia cost approximately $50 per point, regardless of type across all jurisdictions except in the NT where a point of speed was $60, base $100 and ice/crystal was $125. In the past, grams of speed were more commonly purchased than points. It may be that that smaller quantities purchased in more recent years reflect local manufacturers trying to compete with imported methamphetamine by selling in the same quantities as the more potent forms of methamphetamine (base and ice). The cost of half grams of speed ranged from $100 (Vic and Qld) to $200 (WA). Half grams of base cost $50 in all jurisdictions apart from the NT where it was $125. Half grams of ice ranged from $150 (Tas) to $500 (NT)[25] (Stafford et al., 2009).

As was discussed earlier, the UNODC (2005) estimated that methamphetamine costs $US7 ($A8.60) per gram to produce. If sold in single point lots, a gram of methamphetamine would reap $500[26]. This provides an indication of the potential profitability of the methamphetamine market.

7.4.2.3 Methamphetamine and offending in Australia

The Drug Use Monitoring in Australia (DUMA) program involves the quarterly collection of information from police detainees in 10 police stations or watch houses across Australia. Adams et al. (2008) found in 2007 that there was substantial variation in the percentage of detainees who tested positive to methamphetamine between the sites. Thirty-six percent of adult detainees in Elizabeth (SA) tested positive; as did 33% in East Perth (WA); 27% in Adelaide (SA); 25% in Brisbane (Qld); 24% in Parramatta (NSW); 23% in Footscray (Vic); 21% in Southport (Qld); 16% in Bankstown (NSW); and 8% in Darwin (NT). No detainees tested positive in Alice Springs. Compared with 2006, there was a slight decrease in self-reported use of methamphetamine in the past 30 days, with the exception of East Perth, Brisbane, and Bankstown, where trends have remained steady (Adams et al., 2008).

Adams et al. (2008) outlined a number of broad trends among adult male detainees that have been evident at the sites at which the DUMA program has been conducted over a long period of time (Adelaide, Bankstown, Brisbane, East Perth, Elizabeth, Parramatta, and Southport). Between 1999–2001, the rate of methamphetamine use almost trebled (from 11% to 29%), after which the use remained stable and high for three years. In 2005–06, this fell to 24% and in 2007 declined slightly to 23%. The DUMA site which has consistently had the highest rate of adult males testing positive for methamphetamine was East Perth. This site saw a slight increase in the numbers of adult males testing positive to methamphetamine in 2007 from 25% to 31%.

Across all the sites, of those adult males who tested positive to methamphetamine, their most serious charge was related to:

- drug offences, 39%;
- property offences, 31%;
- traffic offences, 22%;
- breach offences, 22%;
- violent offences, 19%;
- disorder offences, 14%; and
- drink offences, 6%.

[25] The data on price from the NT need to be interpreted with caution as a result of the small sample size.
[26] This is assuming that the methamphetamine is not cut with adulterants. Since it is usually cut, the profit is actually much greater.

McKetin et al. (2005) found that many regular methamphetamine users are involved in criminal activity and consequently come into regular contact with the criminal justice system. Almost half of their sample of 310 regular methamphetamine users surveyed in Sydney had committed an offence in the past month, one-quarter had been arrested in the past year and one-third had served a prison sentence during their lifetime. The most common types of crimes committed by these methamphetamine users were drug dealing and property crime. The methamphetamine users who committed crime were likely to be using methamphetamine frequently, taking the more pure forms of base or ice, and using a range of other drugs. Alcohol use increased the likelihood of violent crime among these methamphetamine users. Almost one-third of the methamphetamine users were under the influence of methamphetamine on the last occasion that they committed a violent crime. Methamphetamine was reported to make the user feel more alert, confident and aggressive while undertaking the violent crime.

So, too, Torok, Darke, Kaye, Ross and McKetin (2009) reported that among their sample of 400 regular methamphetamine and heroin users, methamphetamine use significantly increased the risk of violent offending in the past 12 months. More frequent methamphetamine use was particularly strongly associated with an increased risk of violent offending. They reported that the increased risk of violent offending associated with methamphetamine use was consistent across a number of indicators, including being arrested for assault and weapon offences in the preceding year and being at greater risk of committing violent crime in the past month. They also reported that violent victimisation was almost universal across the sample but that methamphetamine use was not a significant risk for this. The authors concluded that their study supported police perceptions that methamphetamine use is associated with higher levels of aggressive behaviour. The majority of violent incidents involving methamphetamine users occurred among drug user networks.

As is evident, regular amphetamine use is associated with increased offending in general, and violent offending in particular. So, too, a significant proportion of offenders are also users of methamphetamine. This supports policing perceptions of the close relationships between regular methamphetamine use and criminality.

7.5 Ecstasy group of ATS drugs in Australia

7.5.1 Patterns of use of the ecstasy group of ATS drugs in Australia

Following their study of regular ecstasy users in Queensland, Fowler, Kinner and Kerenske (2007) reported that ecstasy use is concentrated in the younger age demographic with males being more likely to use the drug than females. Ecstasy consumers tend to be young, white, well educated and middle class. Ecstasy consumers are less likely to be involved in criminal activity (other than illegal drug possession) or to contact the drug treatment system than are other types of illicit drug users. They reported that ecstasy is consumed in a range of locations including nightclubs/raves, private parties, friends' homes and consumers' homes. The practice of consuming ecstasy in a private location and then moving on to a public location to experience its effects is also common.

A number of key expert consultants pointed out that the social determinants of health among the majority of the existing cohort of ecstasy users in Australia, are very good. That is, for many ecstasy users, the social factors that can influence their health such as their level of social support and income, early life, work, food, and transport (Marmot, 2005) are much better compared with other groups of illicit drug users. This means that they are less likely to experience the deleterious effects of their illicit drug use compared with users of other illicit drugs.[27]

[27] As is discussed below, ecstasy users also commonly use other licit and illicit drugs.

Fowler et al. (2007) reported that ecstasy use had increasingly become normalised among their respondents. The fact that ecstasy is generally swallowed (rather than being injected or smoked) has contributed significantly to its normalisation. They found that the average age of initiation to ecstasy use is generally older than the average age of onset to a range of other illegal drugs (including cannabis, amphetamines and heroin). Regular ecstasy consumers are likely to consume ecstasy on a weekly basis and a median of two tablets is consumed in a session of use. Ecstasy use is generally planned and managed by most consumers. Consumers often plan their consumption to coincide with particular events so that its effects are experienced at particular times. Various strategies are also implemented to deal with the negative effects of ecstasy including eating healthily before consuming, consuming in a supportive context and researching the drug's effects before using. The consumption of ecstasy generally occurs in a context of poly-drug use. Regular ecstasy consumers surveyed in their study reported the use of a range of illicit substances and they often combined various substances in order to enhance or manage the ecstasy experience. The most common substances used in conjunction with ecstasy were alcohol, tobacco and cannabis. Fun and opportunity were among the most frequently cited reasons why ecstasy was first consumed. Their study found that regular ecstasy consumers generally expect to be using ecstasy in one year's time, but only one in five expect to be using in ten years time. This indicates that users of ecstasy tend to see their use as transient and linked to certain phases in their life (Fowler et al., 2007).

In reporting on the findings of the National Drug Strategy National Household Survey of Australians aged 14 years or older, the AIHW (2008) found that 8.9% of Australians aged 14 years or older claimed to have ever used ecstasy and 3.5% claimed to have done so in the past year. Male Australians (10.2%) were more likely to have ever used ecstasy than females (7.6%). Six percent of Australian teenagers had ever used ecstasy, with females (7.2%) more likely to have done so than males (4.8%). Males aged 20–29 were the group most likely to have ever used ecstasy (25.7%). Only slightly behind this were females in the same age group (22.1%).

Among males aged 14 years and over, 4.4% had used ecstasy in the past year, compared with 2.7% of females. Approximately 5% of teenagers had used ecstasy in the past year and, among 20–29 year olds, 11.2% had done so (the highest prevalence for any age group). Among the Australians aged 14 years or older who had ever used ecstasy, approximately 60% had not used the drug in the last year (AIHW, 2008).

In summarising the trends of recent ecstasy use over the past 15 years, the AIHW (2008) reported that there was a sharp increase in ecstasy use in Australia between 1995 and 1998, but the rate of increase has slowed since then. Overall, the number of males who had used ecstasy in the past year remained stable at 4.4% since the last survey in 2004, while the number of females increased (not statistically significantly) from 2.4% to 2.7% in 2007. There was also a slight increase in the proportion of regular ecstasy users who used the drug daily or weekly between 2004 (6.3%) and 2007 (8.3%) (AIHW, 2005, 2008).

In reporting on the findings of the 2005 Australian Secondary Students Alcohol and Drugs survey, White and Hayman (2006) reported that 4% of the 12–17 year old students had ever used ecstasy. Recent use of ecstasy was not common among any age group and only 2% of students aged 16–17 had used ecstasy in the month prior to the survey. Between 1996 and 2005 there was no change in the proportion of 12 to 15 year olds who reported using ecstasy in their lifetime or in the past month. There was also no change between 1996 and 2005 in the proportion of 16 to 17 year olds who reported using ecstasy in their life. There was, however, a significant decrease in the proportion of this age group who reported use in the past month between 1996 and 2005.

Following their 2007 research with regular ecstasy users (REU) nationally, Black et al. (2008) found that the median age at which ecstasy was first used was 18 years, while the median age at which regular (at least monthly) use commenced was 19 years. The REU in the study used ecstasy on a median of 12 days in the past six months (approximately once per fortnight) while just over one-tenth (14%) reported using ecstasy pills more than once per week, representing a slight decrease from 20% in 2006. There was little jurisdictional difference observed in the frequency of ecstasy use in 2007. Across time, the frequency of use in all jurisdictions has either remained stable, fluctuated or decreased (i.e. did not increase). Participants reported using a median of two ecstasy tablets in a typical session of use and a median of four tablets in a heavy session of use.

A common theme that emerged during discussions with key expert consultants from a variety of sectors was the extent to which the use of ecstasy had become normalised among certain groups of young Australians. This does not mean that all younger Australians have used or will use the drug. Rather, 'normalisation' refers to a process by which the use of the drug is considered normal behaviour among certain groups and is increasingly accepted or at least tolerated by their peers, even those who choose not to use it. Ecstasy has developed a reputation as a safe, clean drug which is reinforced by its oral route of administration. This is discussed in more detail later.

7.5.2 Price, purity and availability of ecstasy in Australia

Black et al. (2008) reported that the median price of a tablet of ecstasy ranged from $30 in NSW, the ACT, Vic, SA and Qld to $50 in the NT. Prices were similar to those reported in 2006, with the exception of the ACT ($35 in 2006). The majority of the REU in all jurisdictions reported that the price of ecstasy had remained stable in the preceding six months.

Australia has very expensive ecstasy tablets by world standards. In the United Kingdom (UK), for example, ecstasy tablets cost £2.30 ($A4.65) (Drug Scope, 2008) or €3 ($A5.40) in other parts of the EU (EMCDDA, n.d.). While Australia already has very high rates of ecstasy use by world standards, this is only likely to increase if the cost of the drug were to decline to that seen in the UK.

Similar to 2006 findings, reports of ecstasy purity were mixed, with the largest proportion of EDRS participants reporting that it was medium (37%). One-quarter reported that purity was fluctuating and similar proportions believed that it was high or low (19% and 17%, respectively). One-third (32%) reported that the purity had remained stable in the six months prior to interview while an equal proportion reported that the purity had fluctuated during this time. Just over one-fifth (22%) believed that it had decreased (Black et al. 2008).

The overwhelming majority of the EDRS sample (92%) considered ecstasy to be easy or very easy to obtain and that this had been stable over the preceding year. There were, however, significant variations between jurisdictions in the extent to which respondents reported that ecstasy was easy to obtain, ranging from 30% in WA to 72% in NSW (Black et al. 2008).

7.5.3 Ecstasy use and offending

A common theme emerging from discussions with key expert law enforcement consultants was that the nexus between criminality and ecstasy use is far less strong compared with other illicit drugs. Even those involved in low level dealing in ecstasy are not generally viewed as being associated with other criminal activities. This observation is supported by the findings of Fowler et al. (2007) who interviewed both users and suppliers (who were also predominantly users) of ecstasy. There were few differences between the profile of users and user/suppliers. Interestingly, however, the suppliers were significantly *less likely* than the user-only group to have been arrested for any reason in the preceding year (although there were no differences in the arrest rates between the two groups for drug-related offences). This finding suggests that, compared with regular users

of ecstasy, suppliers are no more likely to be known to the police as dealers, and are *less likely* than the using-only group to have had recent contact with the police. This is probably because the majority of retail-level ecstasy dealing in Australia occurs among social networks and is not predominantly motivated by financial gain (see Nicholas, 2008).

In support of the observation concerning the loose ties between ecstasy use and criminality, the report from the 2007 Drug Use Monitoring in Australia program (DUMA) reported that the use of ecstasy among police detainees was uncommon in all sites. Seven percent of detainees tested positive to MDMA in Darwin and Southport; 3% in Adelaide, Bankstown and East Perth; 2% in Brisbane; and 1% or less in the remaining sites. Approximately 2% of those surveyed across all sites in 2007 reported using MDMA in the previous 48 hours. Eleven percent of the detainees reported using ecstasy in the past 30 days. Since the DUMA program began in 1999, there has been a small increase in the proportion of detainees testing positive to MDMA at the six long-term DUMA sites. Overall, however, ecstasy does not feature strongly in the profile of drug use detected by the DUMA program (Adams et al., 2008).

7.5.4 Perceptions of ecstasy users/dealers about the illegality of their behaviour

A critically important issue and potential point of leverage for the law enforcement sector in relation to the ecstasy markets is the level understanding of ecstasy users and lower-level dealers in relation to legal consequences of ecstasy possession, particularly in trafficable quantities. Fowler et al. (2007) noted, for example, that in Queensland many ecstasy users appeared relatively unconcerned about participating in the supply of ecstasy at the retail level and that this was largely related to the normalisation process associated with ecstasy use. The authors cited a law enforcement officer who participated in their study who reported that "… the youth and people who are dealing in this sort of stuff (ecstasy) don't see it as a criminal drug" (p.129). They reported that instead of seeing the process of obtaining ecstasy for others as a criminal offence, it is viewed as an efficient use of time which permits consumers and higher-level suppliers to interact less often and more discreetly.

Dunn et al. (2007) also pointed out that many ecstasy users had little knowledge about such issues as: the quantity of ecstasy that qualified as 'supply' and how this quantity is measured; the range of factors that would lead them to be charged with supply; whether there is any difference between being caught in possession of ecstasy that was for their personal use, and being caught with ecstasy that was intended to be used by others; or the outcomes of being convicted for the supply of ecstasy.

As a result, many ecstasy suppliers may be making decisions about their possession of the drug in the absence of any real understanding about the legal implications of this activity. The potential implications of a conviction for illicit drug selling extend well beyond the short-term legal ramifications. These include restrictions on future career choices, employment opportunities (particularly in the public sector), international travel and even potentially the seizure of assets.

There are two implications of this. First, there is an obligation on the law enforcement sector to enhance the understanding of ecstasy users concerning the potential legal implications, particularly of offences related to the possession of ecstasy in trafficable quantities. Second, an education initiative focussed on this issue (perhaps conducted in concert with a health-related campaign) could represent one of the few points of leverage that the law enforcement sector has in relation to socially-based ecstasy markets.

7.5.5 The risk of alcohol campaigns increasing the acceptability of ecstasy

One potential issue that was highlighted by several key experts was that there was a risk that the current major focus on binge drinking among young people could lead to an increase in the use of ecstasy. The suggestion was that, if alcohol was portrayed as a highly undesirable drug, associated with violence and intoxication, then this could lead to a more rapid uptake of ecstasy among younger people. This is particularly the case given that ecstasy is relatively cheap, is not injected or smoked and has a reputation as a harmless, clean drug.

7.6 An update on health harms related to ATS use

7.6.1 Amphetamine group ATS

Darke, Kaye, McKetin and Duflou (2008) undertook a comprehensive literature review of the major physical and psychological harms associated with methamphetamine use. Overall they concluded that while high profile consequences of methamphetamine use such as psychosis are widely publicly known, the less well known health consequences extend far beyond this.

Methamphetamine use can place heavy demands on the cardiovascular system which can lead to heart attack, coronary artery disease and stroke. Methamphetamine use can also lead to dependency, particularly when the drug is injected or smoked and this appears to be strongly associated with methamphetamine potency. So, too, methamphetamine users are at increased risk of contracting blood-borne diseases as a result of sexual behaviour and needle sharing (DoHA, 2007).

Methamphetamine users have higher rates of psychosis than users of opioids, benzodiazepines and barbiturates. In addition, the rates of major depression, attempted suicide, anxiety disorders, and violence are substantially higher than among the general population (Darke et al., 2008). McKetin, McLaren, Lubman & Hides (2006), for example, reported that the prevalence of psychosis among current methamphetamine users is 11 times higher than among the rest of the Australian population. Among their sample of 309 Sydney methamphetamine users, 13% screened positive for psychosis, and 23% had experienced a clinically significant symptom of suspiciousness, unusual thought content or hallucinations in the past year. Dependent methamphetamine users were three times more likely to have experienced psychotic symptoms compared with their non-dependent counterparts.

While psychosis is far more common among methamphetamine users compared with the general population, it may not be the major psychiatric sequelae of methamphetamine use. Nutting et al. (unpublished, as cited in DoHA, 2007) reported that 85% of Victorian amphetamine users may suffer from depression and/or anxiety compared with only 7% who showed psychotic symptoms. This suggests that depression and anxiety are far more prevalent among the methamphetamine using group compared with the higher profile problem of psychosis.

There is abundant evidence of neurotoxic effects associated with methamphetamine use. This arises from animal and human studies. The long-term use of methamphetamine can result in significant deficits in working memory, attention and executive function. Also affected are auditory discrimination[28], word recall, abstract reasoning, planning and behavioural flexibility (DoHA, 2007).

Roxburgh and Burns, (in press, as cited in Stafford et al., 2009) reported that in 2006 (the most recent year for which data is available) there was a total of 66 'drug induced' deaths in Australia among those aged 15–54 years in which methamphetamine was mentioned. Methamphetamine was determined to be the underlying cause of death in 27% (n=18) of all methamphetamine-

[28] This refers to difficulties associated with identifying different sounds, particularly when there is background noise.

related deaths in that year. As Stafford et al. (2009) highlighted, there is currently a limited understanding of the role of methamphetamine in death causation and, therefore, mortality data may under-represent cases where methamphetamine contributed to the death. These deaths could involve such problems as premature death related to cerebral vascular pathology.

Stafford et al. (2009) – using data from the AIHW and health departments from the ACT, Tas, NT, Qld, SA, NSW, Vic and WA – and Roxburgh and Burns (in press) reported that the number of inpatient hospital admissions with a principal diagnosis relating to amphetamines steadily increased between 1999/00 and 2006/07. Nationally, this has risen from 133 admissions per million persons aged 15–54 years to 191 admissions over this period. NSW recorded the highest number of amphetamine-related hospital admissions in 2006/07 at 291 admissions per million persons, which was a significant increase from 237 admissions per million persons in 2005/06. Tasmania reported an increase in amphetamine-related hospital admissions from 147 admissions per million persons to 244 admissions per million persons over this period. The other jurisdictions remained relatively stable between 2005–06 and 2006–07.

Another way of measuring health harms from given drugs is to measure the episodes of drug treatment associated with their use. The AIHW (2008d) reported that amphetamines were the third most common principal drug of concern for which treatment was sought from 633 government-funded alcohol and other drug agencies in 2006–07. In 2006–07, amphetamines replaced heroin as the third most common principal drug of concern with 17,292 closed treatment episodes compared with 15,935 episodes in 2005–06. This accounted for 12% of closed treatment episodes (up slightly from 11% in 2005–06). When all drugs of concern are considered, 25% of episodes included amphetamines.

As is evident, the use of methamphetamine presents short- and long-term risks to users. In recent years, the indicators of many of these health harms have been increasing in Australia. It is possible, however, that this increase in harms represents the accumulation of harms among a group of heavier users, rather than the harms becoming more widespread. In addition, it is important to be mindful that these health harms are being viewed from a rear-view mirror perspective in that the data is now 2–3 years old. As such, this might not be an accurate reflection of current trends.

Overall, however, there is increasing evidence of a range of insidious harms associated with methamphetamine use which is not currently adequately disseminated (Darke et al., 2008).

7.6.2 Ecstasy group ATS

Fowler et al. (2007) reported that data from the National Coronial Information System showed that, in the four years 2001 to 2004, there were 112 ecstasy-related deaths in Australia. To put this into context, however, ecstasy was deemed to be the primary contributor to death in 51 (46%) of these cases. Ecstasy made a secondary contribution to 16 (14%) deaths and made a tertiary contribution to the remaining 45 deaths (40%). Interestingly, MDMA was the sole drug present in the body of the deceased in only 6 (5%) of deaths. The deaths in which ecstasy made a primary contribution mainly involved drug toxicity, overdose or physical collapse. Deaths in which ecstasy made a secondary contribution involved similar proximate causes, although other drugs (e.g. opiates) were deemed to have made the primary contribution to the death. Finally, deaths in which ecstasy made a tertiary contribution involved motor vehicle crashes, fatal violence, falls and suicide by non-drug means. In these deaths, ecstasy was detected in the deceased but with no direct contribution to the death. Of the 112 ecstasy-related deaths, 31% occurred as a result of a road traffic crash. Forty-nine percent of the deaths were as a result of drug toxicity/overdose and MDMA was rarely the only drug involved in these deaths (three out of 45 deaths). In none of the five overdose-related deaths was MDMA the only drug present.

Three key issues arise from these data. First, deaths as a result of ecstasy use (or indeed MDMA use) on its own are rare in Australia compared with other illicit drugs, such as heroin. Second, the overwhelming majority of ecstasy-related deaths involve the use of other drugs as well. Third, almost one third of ecstasy-related deaths occur as a result of a motor vehicle crash.

It is difficult to monitor the trends in health harms associated with the use of ecstasy by using routine data sources because many do not differentiate between ecstasy and amphetamine group ATS. Research in this area is also hampered by the fact that ecstasy users commonly use other drugs as well. So, too, ecstasy users may have pre-existing psychological problems which can make it difficult for research studies to draw conclusions about the effects of the drug. Even if the ecstasy users involved in research do not knowingly use other drugs, given that ecstasy tablets can contain a variety of substances it can also be unclear which of the substances is leading to any given result.

Common health effects of longer-term ecstasy use include lack of sleep, fatigue, reduced resistance to disease, psychological problems including depression, panic attacks, paranoia and hallucinations (DoHA, 2007). Gowing, Henry-Edwards, Irving and Ali (2001) suggested that the use of ecstasy probably only contributes to more severe psychiatric problems in those who are already vulnerable to this, as a result of other reasons.

An emerging issue in relation to longer-term ecstasy use is the contribution it may make to longer-term deficits in cognitive functioning. While this is notoriously difficult to research, there is increasing acceptance that, at high levels, longer-term use of ecstasy leads to problems with memory and cognition. Reviews of the literature conducted by Kalechstein, De La Garza, Mahoney, Fantegrossi and Newton (2007) and Morgan (2000) revealed that MDMA use is clearly associated with neuro-cognitive deficits. Morgan (2000) concluded that some of these problems may remit after abstinence, but residual brain damage may result in recurrent psychological problems and premature cognitive decline. Later work by Morgan, McFie, Fleetwood and Robinson (2002) concluded that selective impairments of neuropsychological performance associated with regular ecstasy use are not reversed by prolonged abstinence. This is consistent with evidence that ecstasy has potent and selective neuro-toxic effects on brain serotonin systems in humans.

Following its review of the evidence in this area, however, the (United Kingdom) Advisory Council on the Misuse of Drugs (2008) concluded that, while there is evidence of harmful effects associated with ecstasy use, it is unclear whether these effects would actually lead to any practical level of impairment. The council did note, however, that more evidence may arise later which could more clearly demonstrate the harmful effects of ecstasy use.

In summary, deaths as a result of ecstasy use (or indeed MDMA use) on its own are rare in Australia as the overwhelming majority of ecstasy-related deaths involve the use of other drugs as well. Almost a third of ecstasy-related deaths occur as a result of a motor vehicle crash. There is a solid body of evidence that points to associations between ecstasy use and short-term mood changes and psychiatric problems in vulnerable individuals. Finally, there is an emerging body of evidence that points to links between longer-term ecstasy use and lasting cognitive deficits, but the ‘jury is still out’ in relation to whether these effects have any practical impact on the users’ functioning.

7.7 Impacts of ATS on law enforcement

7.7.1 Seizures and arrests

Although the number of ATS seizures nationally in 2007–08 declined marginally from the preceding year, it was still the second highest on record (13,097). In 2007–08, the number of seizures increased in all jurisdictions, with the exception of Victoria, Queensland and Tasmania. The number of seizures nationally has been generally trending upwards since the beginning of the decade. Conversely, there was a 63% decrease in the national weight of ATS seizures from 5,433 kg in 2006–07 to 2,036 kg in 2007–08. This is largely as a result of a huge single seizure that occurred in 2006–07.

Nationally, the number of ATS arrests in 2007–08 (16,047) increased slightly from 2006–07 (15,216). ATS arrests have steadily increased over the last decade and are currently the highest on record. During this period, ATS arrests have more than doubled, increasing from 6,584 in 1998–99 to 16,047 in 2007–08 (ACC, 2009).

7.7.2 The production of ATS in Australia

The business of producing and selling ATS is very appealing to criminal groups for a number of reasons. Local methamphetamine production, for example:

- can occur anywhere that has access to precursors;
- is not dependent on importing a natural raw product which is readily identifiable as such to Customs;
- is not dependent for its production on climatic conditions;
- can be relatively easily scaled up to mega-lab production to increase output; and
- has a substantially greater opportunity for profit compared with naturally produced drugs (with the possible exception of cannabis).

So, too, the market for ATS such as methamphetamine in Australia is very much larger than that for drugs such as heroin and this has been the case for the last two decades at least (for example, see Adhikari & Summerill, 2000). Methamphetamine is also not a drug that is associated with high levels of mortality, and is therefore less likely to kill significant numbers of its customers. Therefore, from a marketing perspective alone, it is not difficult to see how local production of methamphetamine, and to a lesser extent ecstasy, has proliferated in Australia in the past decade.

The Australian Crime Commission (ACC) (2005) pointed out that, while the majority of amphetamines consumed within Australia are produced domestically, the majority of crystal methamphetamine is still imported. In summarising the dynamics involved in this, Schloenhardt (2007) asserted:

> *In simple terms, the domestic ATS production and trade involve substances of lower value in comparison to the international ATS trade. The domestic ATS production also frequently involves amateur operators with limited skills operating in small clandestine laboratories. International ATS trafficking, in contrast, is more commonly associated with large, sophisticated criminal enterprises* (p. 60).

In 2007–08, 260 clandestine amphetamine group ATS laboratories were detected in Australia, up from 249 in the previous year. MDMA clandestine laboratory detections decreased from 19 in 2006–07 to 11 in 2007–08. In addition, three paramethoxyamphetamine (PMA) clandestine laboratories were detected in 2007–08. PMA is a highly toxic phenethylamine with hallucinogenic and stimulant properties and it is often sold as ecstasy. It has been linked to a number of deaths in Australia and overseas. Two clandestine laboratories producing both methamphetamine and MDMA were also detected in 2007–08. Despite the differences in production methods, this co-location of manufacture may result from a desire to diversify production in order to maximise profits, efficiently use resources or consolidate risks (ACC, 2009).

While the number of clandestine laboratory detections is still higher than those reported a decade ago, the numbers appear to have stabilised. This was consistent with the view of many of the law enforcement key experts consulted who suggested the numbers were stable or only increasing slightly. The ACC (2008) and the UNODC (2008) reported that this trend is the result of a combination of factors including aggressively pursuing the operators of clandestine laboratories and monitoring and placing restrictions on the purchase of pseudoephedrine-based pharmaceutical products. Also important is the rescheduling of these products such that medications containing greater concentrations of pseudoephedrine are now listed as Schedule 4 drugs, requiring them to be sold by prescription only.

The production of amphetamine group ATS is a relatively easy process which does not require a great degree of skill, training or sophistication. There are four general methods of production: the 'birch' or 'Nazi' method; the hypophosphorus acid method; the phenyl-2-propane (P2P) method; and the red phosphorus method.

The ACC (2009) reported that the majority (53%) of detected amphetamine group clandestine laboratories in Australia still utilise the hypophosphorous acid method of production which requires pseudoephedrine as a precursor. The exception to this trend is in WA where 62% of detected methamphetamine laboratories were using the 'birch' or 'Nazi' method.

The overall national profile of production methods provided by the ACC was consistent with the perspective of law enforcement key expert consultants. Several also suggested that, while this is the case currently, they are seeing other forms of laboratories emerging, as pseudoephedrine becomes more difficult to obtain. This involves differing processes, the importation of different precursors and proto-precursors. This has also included the importation of plant-based precursors.

The use of experimental and more complex methods of methamphetamine production is becoming evident in Australia. In addition, the extraction of ATS precursors, specifically pseudoephedrine or ephedrine, was identified as the sole drug-related activity at 25 clandestine laboratories detected in 2007–08. It is unclear whether the extracted precursors were to be used in ATS production on-site at a later stage, or were to be forwarded for production in another location (ACC, 2009). Nevertheless, this points toward a trend concerning the sub-specialisation of various aspects of ATS production.

Law enforcement key expert consultants indicated that they had not experienced any increase in the size of clandestine laboratories being discovered in Australia. If there was to be a greater level of importation of precursors, this situation could change, however.

The ACC (2008) and the UNODC (2008) reported that an important mechanism which is restricting the ability of criminals to purchase pseudoephedrine-based pharmaceutical products is the implementation of Project STOP. Project STOP is a decision-making tool for pharmacists aimed at preventing the use of pseudoephedrine-based products to manufacture methamphetamine. Project STOP assists pharmacists to determine patients' therapeutic need to use pseudoephedrine-based products. Upon requesting such a product, pharmacists seek an acceptable form of photographic identification from the customer. The pharmacist then records the customer's identification card number, along with the name of the product and the quantity requested, in a protected database held and operated by the Pharmacy Guild of Australia. This database enables pharmacists to ascertain if the customer's identification number has been entered into the database within an appropriate threshold period. This then allows the pharmacist to decide whether or not to supply the product based on a determination of the customer's therapeutic needs. The pharmacist also records on the database whether or not the sale was actually made (Pharmacy Guild of Australia, 2007)

Project STOP was piloted in Queensland and the ACC (2007) suggested that it contributed to a 23% decline in the number of clandestine laboratories discovered in that jurisdiction in 2005–06. Unfortunately, however, Project Stop has not yet been adopted by all pharmacies in Australia. The fact that Project Stop has not been universally adopted was of considerable concern to some law enforcement experts consulted for this environmental scan. This has apparently created a trade in pseudoephedrine from jurisdictions with low levels of compliance to jurisdictions with higher levels. This led some of these key experts to suggest that the program be mandated.

A further issue of concern in relation to jurisdictional legislative differences is that currently not all jurisdictions have equivalent controls over the supply of precursor chemicals. One jurisdiction, for example, has 38 precursors scheduled, compared with 103 in other jurisdictions such as Victoria and South Australia. This is a significant anomaly which criminals are able to exploit.

Key experts from the law enforcement sector also reported that an important change that has occurred in methamphetamine production over the past 10–15 years is the extent to which it has become 'amateurised'. Historically there were a limited number of competent 'cooks' who were generally well known to police. Now, following the advent of the Internet, there is almost universal access to methamphetamine production recipes. Police are increasingly uncovering methamphetamine laboratories run by individuals with no criminal history who often have limited expertise in methamphetamine production.

The illicit production of ATS is highly problematic from a range of perspectives. It is a process that is highly dangerous for the criminals involved, for investigating police and for uninvolved members of the public. Of the clandestine laboratories detected in 2007–08 where a location was reported, over 80% were in residential areas (ACC, 2009). These clandestine laboratories are not only prone to fire and explosion, but they produce large amounts of toxic by-products. Nicosia, Liccardo Pacula, Kilmer, Lundberg and Chiesa (2009) reported, for example, that every kilogram of methamphetamine produced results in 5–6 kg of toxic by-products. The cost of the remediation of these sites to make them habitable again can also be enormous.

There are two trends which are likely to make this even more dangerous. The first of these is the trend towards amateurisation described above. The second is that, as the precursors become more difficult to obtain, this is likely to lead to more experimentation with alternate processes. One of these is the increased use of proto-precursors[29] which adds a further step to the production process. This, in turn, increases the likelihood of mistakes being made. This could be expected to result in more hazardous clandestine laboratories as well as an increased likelihood of toxic materials finding their way into the finished product.

Historically, outlaw motor cycle gangs (OMCG) have had a prominent role in the production and distribution of methamphetamine. In their examination of methamphetamine markets in Sydney, McKetin et al. (2005) reported that established heroin trafficking networks were involved in crystal methamphetamine importation and played a dominant role in the supply of ice within the inner region of Sydney. OMCG members were reported to play a key role in the domestic production and distribution of base, and were particularly dominant in western Sydney, but their involvement was not exclusive to this geographic region. Other criminal networks were also involved in distributing the drug within various drug markets (e.g. the ecstasy market).

There was not agreement among law enforcement officials from all jurisdictions about the current involvement of OMCG in this trade. That said, the officials in those jurisdictions in which OMCG had not come to the attention of police in this context did concede that the OMCG may be producing and distributing methamphetamine in ways that are 'under the police radar'.

[29] Proto-precursors are those substances which are used to make precursors (precursors to precursors).

In summary, the production and distribution of ATS in Australia is likely to remain a problem for the foreseeable future. The difficulties associated with this are likely to be compounded by the development of new drugs and new production processes for existing drugs.

7.7.3 Importation of ATS

Before considering trends in the interception of ATS at the border it is important to be mindful that these importation statistics are heavily influenced by attempts to import (for personal use) the weight-loss promoting drug phentermine. As the ACC (2009) reported, phentermine is sent to Australia by post from countries where it is legally available without prescription, mainly from South America and South East Asia. While phentermine is an ATS and a prohibited import, it is currently not significantly misused in Australia.

In 2007–08, the number of border detections of amphetamine group ATS decreased to 568 (compared with 734 in 2006–07) with the majority of these detected through the postal stream. The number of ecstasy group ATS detections at the border was stable between 2006–07 (114) and 2007–08 (116), with the majority of detections also occurring through the postal stream. The total weight of detections decreased dramatically in 2007–08 (212.8 kg), compared with 2006–07 (5234.3 kg) as a result of a record seizure of 4422.3 kg in 2006–07 (ACS, 2008).

In recent years there has been a major increase in the number of border detections of ATS emanating from Canada. This country accounted for 77% of the total number of border detections of methamphetamine, and 50% of all MDMA border detections in 2007–08. Canada is now a significant exporter of ATS and has become an increasingly important supplier of ATS to Australia (ACC, 2009).

7.7.4 Importation of ATS precursors and equipment

As Shloenhardt (2007) pointed out, ATS precursors are trafficked and sold by criminal organisations in much the same way as the ATS themselves. In addition, the increasing control of precursors has triggered illicit precursor production for supply to illicit ATS manufacturers. As a result, a whole new trade for precursor substances has emerged. As Pieper (2006, as cited in Shloenhardt, 2007) reported, China and India are the principal producers of ATS precursors, largely because of the sheer size of their pharmaceutical and chemical industries.

Considerable quantities of amphetamine group ATS precursors such as ephedrine are also being detected at the border. The ACS (2008) reported that in 2007–08 there were 491 seizures of amphetamine group precursors, down from 630 in 2006–07. There were nine seizures of MDMA precursors in 2006–07 and four in 2007–08. China and India remain important source countries for these substances. The majority of these detections were via the cargo/postal stream although approximately one-sixth was via air passengers and crew.

A further very important issue raised by many law enforcement key experts is the importation of pill presses. The ability to import pill presses into Australia (and in some jurisdictions to possess them without good reason) was seen as a major impediment to the reduction of supply of ATS drugs. These presses are being imported into the country and being declared to Customs as being generic machinery. There are apparently no restrictions on who can import these presses and high quality industrial presses can be refurbished with new tooling sets once they arrive in Australia. They can subsequently have a productive lifespan of 40–50 years. This issue is currently being addressed at the Commonwealth level.

7.8 Possible future trends in the ATS market in Australia

7.8.1 New substances

There is a seemingly endless number of potential new ATS and other synthetic drug substances. Some of these are discussed below. These drugs were highlighted as potential future problematic ATS by key expert consultants.

7.8.1.1 Fluoro amphetamines

The fluoro amphetamines are a new group of amphetamine drugs and, as such, little is known about them. Several key expert consultants reported that there had been a number of seizures of these substances in recent years, however.

7.8.1.2 Methcathinone

Several law enforcement agencies in Australia have recently reported the emergence of methcathinone. There have been a number of seizures of this drug in different jurisdictions. Methcathinone is a stimulant drug and it is being sold in Australia as a methamphetamine/MDMA alternative.

Methcathinone has an abuse potential that is equivalent to methamphetamine and it produces similar effects. This drug is a derivative of cathinone, an alkoid found in the leaves of the khat plant (New Zealand Expert Advisory Committee on Drugs, EACD, 2002). It is a structural analogue of methamphetamine and cathinone. Methcathinone can be easily clandestinely manufactured, and it is sold in the stable and highly water-soluble hydrochloride salt form. The addictive properties and side effects of this synthetic drug are more intense than the naturally occurring khat substances (US Department of Justice, 2005).

Methcathinone was first synthesized in Germany in 1928, and was used in Russia as an anti-depressant during the 1930s and 1940s. By the 1980s, its clandestine production and use was widespread in that country. Heavy users of methcathinone in Russia commonly experienced adverse symptoms such as psychosis with auditory hallucinations, extreme weight loss, marked personality change and antisocial behaviour. Paranoia is also a prominent feature of heavy methcathinone use. Methcathinone has potential to cause death in much the same way as methamphetamine, through toxicity, heart failure, lethal overdoses, misadventure, or poisoning (EACD, 2002).

As is evident, methcathinone has the potential to become a widely misused drug in its own right as well as being a substitute (or additive) in MDMA or methamphetamine. It is unclear whether methcathinone is being manufactured in Australia. Given the relative ease with which it can be clandestinely manufactured, it is a substance that requires close monitoring.

7.8.1.3 1-benzylpiperazine (BZP)/Trifluoromethylphenylpiperazine (TFMPP)

Although these drugs are members of the piperazine, rather than the ATS, group, they are considered in this chapter because their effects most closely mimic those of the ATS group. BZP is a stimulant drug, which gained popularity in some countries in the early 2000s as a legal alternative to amphetamine, methamphetamine and ecstasy. TFMPP has effects similar to low dose ecstasy but it is rarely administered by itself. TFMPP on its own has little potential for misuse (Fantegrossi, Winger, Woods, Woolverton & Coop, 2005) and is only a drug of concern in the context of its combination with BZP. TFMPP is commonly co-administered with BZP, hence they are considered together here.

New Zealand has had an extensive history of the use of BZP and the BZP/TFMPP combination. The market for these drugs grew rapidly in that country in about 2004. By 2006, 40% of males aged 18–24 years had used the drug/s in the past year. In New Zealand, retailers who sell these drugs commonly sell so-called ‘recovery pills’ with the active ingredient 5-HTP to reduce the side effects

of the drugs (Wilkins, Sweetsur & Girling, 2008). Up until March 2008, the use of BZP was legal in that country. It is now an offence to possess and use, sell, supply, import, export, or manufacture benzylpiperazine, phenylpiperazine, and related substances (New Zealand Parliament, n.d.).

BZP is a central nervous system stimulant with about 10% of the potency of d-amphetamine. A typical dose of BZP is approximately 100 mg. BZP is a synthetic product, despite being marketed as a natural ecstasy tablet. It is normally manufactured from piperazine, a substance that has been used for many years in the treatment of intestinal round worm infestations (Advisory Council on the Misuse of Drugs, ACMD, 2008b). Contrary to popular belief, BZP was never developed as an anti-worming agent. (European Monitoring Centre for Drugs and Drug Addiction, EMCDDA, 2009). BZP has no recognised legitimate medical or other commercial use. It can, however, be used as a synthetic intermediate, for example, in the production of pharmaceuticals. The combination of BZP and TFMPP closely mimics the effects of MDMA. Animal studies point to the development of seizures following the administration of high doses of this combination (Johnston et al., 2007). The administration of BZP in combination with MDMA has also demonstrated potentially lethal outcomes in animal studies (Baumann et al., 2005).

Manufacturing BZP is a straightforward process and recipes are available on the Internet. It can be manufactured with rudimentary laboratory equipment. BZP and piperazines in general are also relatively inexpensive to purchase. They can be purchased in bulk (in powder or liquid form) through the Internet and/or from chemical suppliers and then processed into tablets (Johnston et al., 2007).

There have been at least two human deaths linked to the use of BZP. In both instances the BZP was used with other drugs, such as MDMA. In one of the deaths the individual also consumed very large amounts of water (Balmelli, Kupferschmidt, Rentsch & Schneemann, 2001).

Little research has been conducted into the misuse and dependence potential of BZP, but the available evidence suggests similarities to amphetamine. Clinical reports from patients who have consumed BZP suggest an association with grand mal seizures, even in those without any previous history of seizures. This finding is, however, based on a very small number of cases. Users have reported a range of adverse reactions such as vomiting, headache, palpitations, poor appetite, stomach pains/nausea, anxiety, insomnia, strange thoughts, mood swings, confusion, irritability and tremors. Some of these occurred in the 'comedown' period, and some persisted for 24 hours after use (ACMD, 2008).

While there are risks associated with the use of BZP/TFMPP, it appears that the main risks arise when it is used in combination of other stimulant drugs or alcohol. Females also appear to be at greater risk of adverse effects than males (Wilkins et al., 2008).

BZP/TFMPP has not been extensively researched in Australia. Key law enforcement consultants did, however, report that BZP has been detected in pills in some jurisdictions. Based on experience in the United Kingdom, it is possible that Australia will increasingly see tablets and other illicit products containing BZP or other substituted piperazines. During the period 2006–2007 there was a reduction in the proportion of MDMA contained in ecstasy tablets seized in the United Kingdom. At the same time there was an increase in the proportion of tablets containing the piperazine group of drugs. This suggests that these drugs were being used as substitutes for MDMA (ACMD, 2008).

Although there is no suggestion that the use of BZP/TFMPP is a widespread problem in Australia at present, this is an issue that warrants close monitoring. There is also a need to address the importation of BZP and related compounds into Australia. While these substances are controlled at state/territory level, it is still legal to import these substances and they can be easily obtained from international chemical companies.

7.8.1.4 2,5-dimethoxy-4-iodoamphetamine (DOI)

DOI is a psychedelic drug and a substituted amphetamine of the phenethylamine family. Despite being a substituted amphetamine, it is not a stimulant drug. When ingested recreationally, DOI is active at a dosage of 1.5–3.0 mg and has a duration of 16–30 hours (approximately twice as long as LSD). DOI's effects have been compared to LSD, although there are differences including a longer duration. The after effects include residual stimulation and difficulty sleeping, which, depending on the dose, may persist for days (Shulgin, 2009). DOI has been detected in at least one Australian jurisdiction.

7.8.2 Increasing number of pills containing multiple substances

The presence on the Australian market of illicit pills containing mixtures of psychoactive substances is hardly a new phenomenon. Several key experts from the law enforcement sector indicated that this is likely to become an increasing problem in the future. It is likely that an increasing number of pills in Australia will contain psychoactive chemicals that are more easily manufactured or imported, such as BZP.

7.8.3 The growth in potential precursors and proto-precursors

As new synthetic drugs are developed, as different production processes are developed for existing and new drugs, and as increasing numbers of proto-precursors are used for all of the above, the number of chemicals that will require control can be expected to grow exponentially. Criminal organisations (and individual drug producers) have shown themselves to be incredibly adaptable to pressures from law enforcement. Countering the ingenuity of illicit drug producers will necessitate the formation of partnerships with a wide variety of community and professional groups well beyond that which is currently the case.

7.9 Conclusion, summary and implications for law enforcement

Three future trends are likely as far as the on-shore production of ATS is concerned. First is the increased importation of precursors and proto-precursors for local production. Second is the increasing amateurisation of production facilitated by the ready Internet access to recipes and means to obtain precursors. Third is increasing attempts to produce MDMA (and probably other amphetamine analogues) on shore.

Overall, the use of methamphetamine has probably declined in Australia in recent years, although perhaps not to the extent that is indicated in population-based surveys. The methamphetamine market in Australia has probably already peaked, has partially declined and will now oscillate around a stable level for the next few years (after Caulkins, 2007). Methamphetamine-fuelled behaviour is likely to continue to impact upon policing for the foreseeable future, however.

By stark contrast, virtually all key experts consulted indicated that there is no evidence to suggest that the markets for ecstasy in Australia are close to peaking. There currently appear to be few factors on the horizon that would lead to supply-side pressures or reductions in demand.

As far as supply-side pressures are concerned, a feature of the ecstasy market is that it is not dependent on access to a single chemical. If, for example, MDMA were to be made more difficult to obtain, then this could easily be substituted with any number of amphetamine analogues which have similar effects, or with other stimulant drugs such as methamphetamine, BZP/ TFMPP or methcathinone. Although the effects may change somewhat, the suppliers would still have a saleable product.

There is also little evidence that points to the emergence of factors which would give rise to a reduction in demand for ecstasy. The usual pattern of consumption of this drug does not generally lead to the overt side-effects seen with other drugs such as methamphetamine or heroin. The balance of positive effects to negative effects seems to shift after a relatively short period of use and small increases in dose. That is, with increasing dosage and frequency of use, the adverse consequences start to outweigh the sought after effects. This means that massive escalation of use/dosage is less likely to occur compared with other illicit drugs. In addition, most ecstasy users also tend to see their use as transient and linked to certain phases in their life.

Ecstasy also has a reputation among users as a clean and healthy drug, the use of which promotes closeness. It does not have the negative connotations associated with smoking, injection or drunkenness. While there is little doubt that deaths do occur as a result of ecstasy use, these are rare in relation to the level of use and are almost always related to the concomitant use of other drugs. In addition, the longer-term harmful effects of ecstasy use (at least in relation to the usual patterns of use) probably do not accrue for some years and, when they do appear, they are either very subtle (such as changes in cognitive functioning) or are seen as emanating from pre-existing psychological disorders. In other words, while there are very real dangers associated with the use of ecstasy, these do not tend to be as overt as those associated with other illicit drugs.

In short, there is little evidence that the negative feedback loops that would result in potential initiates moving away from ecstasy are occurring in Australia at present. This factor, when coupled with the supply-side characteristics, point to a market that will continue to grow in future years. So, too, the current focus on alcohol-related problems and young people risks compounding this problem by making ecstasy appear more desirable by contrast.

The current popularity of ecstasy is also occurring in the context of Australia having ecstasy pills which cost six times more than in the United Kingdom. If local production of ecstasy were to gain a foothold, it could be imagined that this cost would decrease dramatically and local demand would grow further.

There is an important need to better understand the dynamics associated with the lower-level distribution of ecstasy. Included in this is a need to better understand the supply and demand characteristics and the ways in which lower-level sellers perceive the risks associated with this activity. It appears that these lower-level dealers may have little insight into the potential legal ramifications of their activities.

There are some significant anomalies between jurisdictions as far as the availability of precursor chemicals for ATS production is concerned. There has been unequal roll-out of Project STOP, which means that pseudoephedrine is controlled more tightly in some jurisdictions than others. So, too, there is a lack of uniformity between jurisdictions in the scheduling of controlled precursor chemicals. Both of these issues enhance the opportunities for the clandestine production of illicit drugs.

There are a number of emerging ATS and other stimulant drugs that are being detected in Australia. These include fluoro amphetamines, methcathinone, BZP/TFMPP and DOI. A further important issue is the increasing seizure of pills containing a variety of active ingredients.

Finally, the number of chemicals that it will be necessary to control in order to limit ATS and other synthetic drug production in the future could be expected to grow exponentially. This will not only require responsive legislation, but the ability to enlist the co-operation of a wide variety of organisations. The work of Cherney, O'Rielly and Grabosky (2005) would provide a suitable series of frameworks from which to launch this endeavour. In this regard the policing of ATS production is likely to involve a range of more or less coercive partnerships with a range of organisations.

Chapter eight: Heroin

8.1 Introduction

Heroin was a topic of considerable focus in this environmental scan. This is because it is a drug that is associated with a range of health and social harms and any resurgence of heroin use in Australia is likely to have major consequences, particularly as far as the mortality of users is concerned. This chapter paints a picture of the global heroin situation and the heroin markets in Australia and concludes with an outline of factors that could be promoting or minimising the risk of the proliferation of this drug in this country.

Heroin is derived from the opium poppy, Papaver somniferum. It is a powerful opioid drug with depressant pain-killing properties. Heroin is harvested from hardened opium gum which is collected from scored opium seed pods. The gum is then processed with other chemicals such as ammonium chloride, acetic anhydride and hydrochloric acid, to produce heroin (Australian Crime Commission, ACC, 2008).

Although heroin is commonly administered through intravenous injection, it can also be smoked or snorted. There are four grades of heroin. Number 4 grade, which is considered to be the purest form of heroin, is generally in the form of white powder and is either snorted or dissolved and injected. Number 3 grade heroin is generally grey or brown and is referred to as 'brown rock' or 'brown sugar'. This is due to its granular form and resemblance to unrefined sugar. Number 3 grade heroin is considered unsuitable for injection and is commonly heated and the vapours inhaled. Unprocessed raw heroin or heroin base is referred to as Number 1. Numbers 1 and 2 grade heroin are rarely encountered in Australia. Although heroin is sometimes graded on the street by suppliers and users according to its colour, as will be discussed later, this is not a definitive or reliable method of assessing its purity or origin (ACC, 2009).

'Homebake heroin' is a crude form of heroin which is predominantly made from codeine-based pharmaceuticals (Australian Institute of Criminology, AIC, 2007). As Stafford, Sindicich & Burns, (2009) reported, in the Australian context, the use of homebake is largely confined to Western Australia and the Australian Capital Territory.

In considering global and Australian trends in opioid production, importation and use, it is important to be mindful of precisely what is being measured. The level of opium poppy cultivation is a different measure to the level of opium production (because of differing levels of production per hectare). So, too, the level of opium production is not the same as the level of heroin production, as approximately 10 kg of opium is required to produce 1 kg of heroin (United Nations Office on Drugs and Crime, 2009). Equally, in considering quantities of heroin it is important to be clear about whether the quantity being discussed is pure (upwards of 80%) heroin, or street heroin of far less purity.

8.2 Global trends in heroin markets

8.2.1 Global production trends

In its 2009 World Drug Report, the UNODC (2009) reported that the majority of the world's opium is produced in the Golden Crescent (Afghanistan, Pakistan and Iran) and in the Golden Triangle (Lao PDR, Myanmar, Vietnam and Thailand). Relatively small amounts of opium are also produced in Mexico, Colombia, Peru and Guatemala.

The three distinct production centres for opioids still largely supply three distinct markets. The main trafficking flows continue to be:

- from Afghanistan to neighbouring countries, the Middle East, Africa and Europe;
- from Myanmar/Laos to neighbouring countries of South-East Asia (notably China) and to the Oceania region (mainly Australia); and
- from Latin America (Mexico, Colombia, Guatemala and Peru) to North America (notably USA).

Trafficking activities have, however, started to diversify from these established market connections. Though the bulk of opiates found in the Chinese market still originate from Myanmar, shipments of heroin from Afghanistan have been entering China via Pakistan. The amounts involved are still modest, but may represent emerging trafficking patterns. So, too, in 2007, Pakistan reported that heroin trafficking was occurring into Malaysia, both directly and via Dubai. Until recently, heroin in Malaysia originated exclusively in Myanmar. Malaysia is a key embarkation point for heroin shipments into Australia and this new trafficking route could expose Australia as a destination for Afghan opioids (UNODC, 2009).

Between 2006 and 2007, the total global area under illicit opium poppy cultivation increased by 17%. This was largely due to increases in both Afghanistan and Myanmar. In addition, there was an increase of 10% in opium poppy cultivation (to 1,700 hectares) in Pakistan near the Afghan border (UNODC, 2008). In 2008 opium cultivation decreased by 19% in Afghanistan. In spite of small increases in production in Myanmar and Lao PDR, the total global cultivation remains well below 1994 levels. In 2008, the total global production of opium was 8,000 tonnes, down from a record of 8,870 tonnes in 2007. This is still a historically high level of production and is approximately double the average production levels for the past two decades (UNODC, 2009).

Black et al. (2008) noted that, traditionally, heroin coming from the Golden Triangle (from where Australia's heroin has predominantly originated in the past) has been white or off-white in colour. This form of heroin has an acidic (acetone/hydrochloride) base and, being more refined and easier to dissolve in water, is more readily prepared for injection. By contrast, heroin produced in the Golden Crescent (a region from which Australian heroin has historically rarely originated) has traditionally been brown in colour and is less refined. This type of heroin requires the use of heat and often an acid (such as citric acid) to prepare it for injection. It is more amenable to smoking as a route of administration. These authors (citing Zerrall, Ahrens & Gerz, 2005) reported that there has been some blurring of this picture with at least one documented instance of white acidic heroin production occurring in Afghanistan. As a result, Black et al. (2008) and several of the key experts consulted concluded that it is not possible to determine the geographic origin of the heroin based on its colour alone.

Afghanistan and Myanmar are the largest opium producers in the world. Opium poppy cultivation in Afghanistan had been increasing over the past six years, prior to a decline in 2008. Cultivation in Myanmar had been decreasing in recent years but in 2007 there was a reversal of this trend and there was a further small increase in 2008 (UNODC, 2009).

This level of cultivation does, however, need to be seen in the context of level of interdiction. Global opioid seizures, expressed in pure heroin equivalents[30], rose from 9% in 1990 to a peak of 26% in 2005, before declining to 23% in 2006 and 19% in 2007. In 2007, approximately 735 tonnes of pure heroin were produced globally, and the amount remaining for potential consumption (after subtracting the amount interdicted) was 592 tonnes, up from 464 tonnes in 2006 and 347 tonnes in 2004 (UNODC, 2009).

[30] Based on 10 kg of opium giving rise to 1 kg of heroin (UNODC, 2008).

Consequently, despite a significant decline in production in Afghanistan in 2008, there has been a significant increase in the amount of heroin that is potentially available for consumption. Following the 2006 and 2007 increases in opium production which exceeded global demand, farm-gate prices fell and trafficking out of Afghanistan did not grow as fast as opium production. Therefore it is highly likely that there are significant stockpiles of opioids. Consequently, the falling level of global opium production in 2008 may not translate into reduced trafficking flows in the near future as production shortfalls could be compensated by reducing the size of existing stocks (UNODC, 2009).

8.2.2 Afghanistan

Central to any discussion on global trends in heroin trafficking and use is a focus on Afghanistan. As the Office on Drugs and Crime Office for Afghanistan (UNODCA, 2008) reported, opium production in this country has been on an upward trend since the early 1990s and in 2007 accounted for 82% of the global area under opium cultivation. This growth accelerated after the fall of the Taliban government and reached an all time high in 2007 with 194,000 hectares under cultivation.

In 2007, the total number of provinces involved in poppy cultivation fell from 28 to 21, and there was a concentration of cultivation in the south of the country. The farm-gate value of opium production rose 32% to $US1 billion in 2007, while the total export value of opioids to neighbouring countries rose to $US4 billion (UNODC, 2008). Opium poppy cultivation in Afghanistan is largely concentrated in the southern provinces, while more provinces in the centre and north of the country are now poppy-free. Two-thirds of the area under opium poppy cultivation in 2008 – more than 100,000 hectares – was located in the southern province of Hilmand alone. Indeed if Hilmand were a country, it would be the world's biggest producer of illicit opium. The decline in cultivation in Afghanistan occurred in spite of a reduction in opium poppy eradication in 2008 (5,480 hectares) down from 19,047 hectares (UNODC, 2009).

In 2008, virtually the entire opium poppy-cultivating area was located in regions characterized by high levels of insecurity. The geographical overlap between regions of opium production and zones of insurgency shows the inextricable link between drugs and conflict (UNODC, 2009).

As discussed above, a trend of particular concern is that of opium stockpiling. The year 2008 represented the third year in a row in which production of opium in Afghanistan far exceeded the world demand for the drug. While the farm-gate price of heroin has declined, this has not reduced to the extent that would reflect the level of over-supply. This, in turn, means that vast amounts (thousands of tonnes) of opium, heroin and morphine have been withheld from the market. Little is known about these stockpiles other than that they are not in the hands of farmers. The UNODC described this as a 'time bomb' for public health and global security. The UNODC called for urgent attention to this issue to better understand who holds this surplus, where it may go, and for what purpose (UNODC, 2008).

As a result of the consolidation of opium production in southern Afghanistan, it has become less convenient for traffickers to move opioids via the Silk route (essentially to the north of the country involving countries of Central Asia) and trafficking along this route has been declining. At the same time, trafficking along the Balkan route (via Iran to the west and Pakistan to the south east) has been increasing (UNODC, 2008). The bulk of all opioids produced in Afghanistan are consumed in the neighbouring Iran, Pakistan, the Central Asian countries and India. These markets are much larger (about 5 million users) than the opiate market in West and Central Europe (about 1.4 million). The opiate markets in Western Europe are, however, financially more lucrative. Therefore, opiates also leave Afghanistan via Iran and Pakistan along the Balkan route towards Western Europe (UNODC, 2009).

Historically, the majority of opium from Afghanistan had been processed into heroin or morphine in its neighbouring countries, especially Pakistan, Iran and Turkey. In recent years however, opium processing laboratories have been established in Afghanistan and now two-thirds of that country's processing is occurring internally (UNODCA, 2008).

8.2.3 South East Asia

South East Asian opium production is of particular interest to the Australian situation, given that, historically at least, this region has been the primary embarkation point for consignments of heroin to Australia (ACC, 2008).

A concerted eradication campaign in the Golden Triangle (Lao PDR, Myanmar and Thailand) over the past decades has slashed opium cultivation to the point where it produces only 5% of the world's opium. Opium cultivation in South East Asia takes place mainly in Lao PDR, Myanmar and Thailand. Little opium is grown in Vietnam (UNODC, 2008). Opium poppy cultivation in Lao PDR, Myanmar and Thailand combined has decreased from an estimated 157,900 hectares in 1998 to 30,100 hectares in 2008 (UNODC, 2009). Despite a 22% increase cultivation in 2007, this means that the area under cultivation in this region has decreased by 81% over the past nine years. Lao PDR and Thailand have reduced cultivation to such an extent that opium production is negligible and opium from these countries no longer finds its way to international markets. Indeed Lao PDR is now a net importer of opium (UNODC, 2008).

Between 2006 and 2007, opium cultivation:

- decreased by 40% in Loa PDR from 2,500 hectares to 1,500 hectares and there was a 54% decline in production from 20 tonnes to 9.2 tonnes;
- increased by 31% in Thailand from 157 hectares to 205 hectares and there was a 25% increase in production from 2.4 tonnes to 3.2 tonnes; and
- increased by 29% in Myanmar from 21,500 hectares to 27,700 hectares and there was a 46% increase in production from 315 tonnes to 460 tonnes (UNODC, 2008).

Between 2007 and 2008, opium cultivation:

- increased in Loa PDR from 1,500 hectares to 1,600 hectares and there was a slight increase in production from 9.2 to 10 tonnes; and
- increased in Myanmar from 27,700 hectares to 28,700 hectares and there was a decrease in production from 460 tonnes to 410 tonnes (UNODC, 2009).

8.2.4 Precursor chemical control

An important way in which the international community is seeking to reduce the production of heroin is by reducing the access to a key chemical which is required in its production. Between 100 and 400 litres of this chemical, acetic anhydride (AA), is required to produce 100 kg of heroin (International Narcotics Control Board, INCB, 2008). Restricting the supply of this chemical is the major aim of various international cooperation efforts such as Project Cohesion and Operation Transhipment (UNODC, 2008).

While these efforts have led to substantial increase in the price of AA in Afghanistan, it continues to be available in that country, largely as a result of a lack of controls over the Pakistan/Afghan border. In 2008 almost 20 tonnes of AA and more than 27 tonnes of other precursors were seized in Afghanistan and surrounding countries (UNODC, 2009). The UNODC (2008) suggested that the controls over AA was one of the reasons why the levels of global heroin seizures have been relatively stable in recent years while seizures of opium and morphine have increased significantly.

8.2.5 Summary of global trends

In summary, there is no shortage of opium or heroin worldwide. The amount of heroin that is currently being produced world-wide (but particularly in Afghanistan) represents the single largest risk to a return of high levels of importation and use in Australia. In assessing the overall risk to Australia, however, other factors need to be considered. These include the level of demand for the drug and the business preferences of the organised criminal groups who have, or could potentially have, an interest in bringing heroin into the country.

8.2.6 The impact of global markets on Australia's vulnerability to a resurgence of heroin

The vulnerability of Australia to having a further glut of heroin, similar to that which was evident in the late 1990s, becomes evident after an examination of the relative sizes of the Australian market and the extent of South East Asian (let alone South West Asian) production.

Moore et al. (2005) estimated that approximately 1.9 tonnes of impure heroin is consumed in Australia each year which is equivalent to 456 kg of pure heroin (range 343–1,437 kg). They noted that this estimate is considerably lower than has been presumed in the past. They suggested that this could be as a result of the heroin shortage that occurred in 2001, which led to significantly lower overall drug purity as well as a decrease in the number of heroin users. A further potential reason for this is that the amount that is actually injected on each occasion is considerably smaller than was previously thought. When the estimated amount of heroin consumed in Australia each year is added to the amount seized, this enables an estimation to be made of the total amount of heroin imported into Australia. The authors suggested that in 2003, this was in the region of 670 kg pure (range 557 kg–1,652 kg).

As noted above, there was a 95 tonne increase in opium production in Myanmar between 2006 and 2008. Assuming that 10 tonnes of opium produces approximately 1 tonne of pure heroin (UNODC, 2008), then this would result in an increase in production of 9.5 tonnes of pure heroin. This is nearly 14 times greater than Moore et al. (2003) estimated for total Australian importation. Indeed, the total heroin production from Myanmar in 2008 (which was approximately 41 tonnes (pure)) (UNODC, 2009) is approximately 61 times the estimated total Australian importation. As is evident, the Australian heroin market represents a very small proportion of South East Asian heroin production.

Further, the opium production in Afghanistan in 2008 (7,700 tonnes) (UNODC, 2009), dwarfed that of Myanmar. Even using the maximum annual pure heroin importation estimation developed by Moore et al. (2005) of 1,652 kg (and allowing for potential modest increases in the levels of importation since 2003), this gives rise to an estimation that approximately 0.2% of potential global heroin production is imported into Australia. Even if Moore et al. (2005) substantially underestimated the level of heroin importation into the country, the Australian market for heroin is, in global terms, tiny. This highlights the potential for relatively small shifts in the overall global patterns of heroin exporting to have major impacts on Australia. This becomes more concerning in the context of potential stockpiles of thousands of tonnes of opioids that are likely to be held in Afghanistan or elsewhere.

A further issue that impacts on the vulnerability of Australia is that the country has among the most expensive heroin in the world. The UNODC (2008), for example, reported that in 2006 the cost of a gram of heroin in Europe was $A100.[31] This compares with the cost of a gram of heroin in Australia in the same year which was $A300–600 (O'Brien et al., 2007). In this way, there would appear to be substantial incentives for criminals to bring heroin into Australia.

[31] At the correct currency conversion rate from $US at 13 November 2008.

In short, the size of the Australia heroin market is dwarfed by the size of international production, which, theoretically at least, leaves this country highly vulnerable to a resurgence in heroin importation. This gives rise to the key question of why, in the context of this abundance of worldwide supply, and the high price paid by Australian consumers, there has not been a major resurgence in the use of this drug. This is discussed in further detail later.

8.3 Heroin markets in Australia

8.3.1 The origins of the heroin available in Australia

The extent to which Australia is now the recipient of Afghan heroin is unclear. Most of the key experts consulted indicated that most heroin in Australia still emanates from South East Asia (essentially Myanmar), but there was not universal agreement on this. One reason for this lack of clarity is, as was discussed earlier, the belief among heroin users that the colour of heroin is indicative of its source. In this way, where the heroin being used is described as being brown, an assumption is made that it comes from Afghanistan.

A further complicating factor is, as was discussed earlier, that it is generally necessary to mix poorer quality Afghan heroin with citric acid in order to inject it. Key expert consultants from the health sector noted that heroin users reported that even when they were using brown heroin it was not generally usual practice for them to dissolve it in acid prior to injection. This is consistent with the findings of the Illicit Drug Reporting System (Stafford, et al. 2009) who reported that 77% of those participants who had used brown/beige heroin indicated that they never used an acid to mix the drug and 11% responded that they did so only occasionally.

Most, but not all law enforcement key experts were firmly of the view that Afghan-sourced heroin is, at best, a minor source of supply to the Australian market at present. It is to be hoped that the implementation of the proposed Building Illicit Drug Forensic Capacity Across Australia (BIDFCAA) project will shed further light on the sources of Australian heroin.

Several key experts consulted during this environmental scan suggested that one factor which could increase the risk of heroin from Afghanistan reaching Australia is its lower cost. The farmgate price for dry opium in Afghanistan in 2007 was approximately $US111/kg. This compares with $US256/kg in Myanmar, $US974/kg in Lao PDR and $US1071/kg in Thailand (UNODC, 2008). These differences become greater when they are converted to pure heroin equivalents, (Afghanistan $US1,110/kg, Myanmar $US2,560/kg, Lao PDR $US9,740/kg and Thailand $US10,710/kg). These differences in price do, however, need to be seen in the context of the retail price of pure heroin in Australia which is approximately $US1.93 million/kg[32] (Moore et al., 2005). In this way, the farm-gate cost is a relatively small component of the final retail price. Therefore the lower production costs in Afghanistan are unlikely to be a major factor that would influence a shift from Myanmar to Afghanistan being the primary source for Australian heroin.

8.3.2 Patterns of heroin use in Australia

Moore et al. (2005) estimated that in 2003 there were approximately 41,400 daily or almost daily heroin users in Australia. The ‘typical’ Australian heroin user is an unemployed male in his twenties or thirties, who injects heroin and uses a variety of drugs in addition to heroin. Prior to the 2001 heroin shortage, there was evidence that the age of initiation to heroin use was falling. This is very problematic because earlier initiation to heroin use has been associated with greater polydrug use, accidental overdose and criminal behaviour, and comorbid mental disorders (Ross, 2007).

[32] Based on the estimation of Moore et al. (2005) that pure heroin in Australia costs $2,000 per gram ($2,000,000 per kilogram) converted to US currency at the exchange rate as at the exchange rate as at 13 November 2008.

The Australian Institute of Health and Welfare (AIHW, 2008) reported that in 2007, 1.6% (or 300,000) Australians aged 14 years and over (Australians) claimed to have ever used heroin. Less than 1% of Australians claimed to have used heroin in the past year. Those aged 30–39 years were most likely to have ever used heroin (2.7%) and those aged 20–29 were most likely to have used the drug in the past year (0.5%). Australian males were more likely than their female counterparts to have used heroin in the previous 12 months (0.3%, 25,900 versus 0.1%, 10,300). The number of Australians who had recently (in the last year) used heroin has fluctuated between 1995 and 2007, but was generally lower in 2007. Of the Australians who had ever used heroin, about 90% had not done so in the last 12 months.

The Australian Secondary Students Alcohol and Drug Survey (Hayman and White, 2006) found that, in 2005, only a small proportion (2%) of secondary school students had ever used opioids or narcotics such as heroin or morphine other than for medical reasons. Across the six age groups examined, this ranged from 2% to 4%. Only 2% of students reported using opioids in the past year and this level of use was relatively stable from the age of 14. Approximately 1% of students reported use in the past month. The authors reported that there was a small but significant reduction in the proportion of 12 to 15 year olds indicating they had ever used opioids between 1996 and 2005 and between 1999 and 2005. There was, however, no change in the proportion of 12 to 15 year old students indicating that they had used some sort of opioid in the month prior to the survey.

White and Hayman (2006) reported that among older students, the proportion who reported that they had used opioids in their lifetime fell from 5% in 1999 to 2% in 2005. This reduction was seen among both males and females. The proportion of students aged 16–17 years in 2005 indicating that they had used opioids in the month before the survey was not different from the proportion found in other survey years. These results indicate that opioid use was uncommon among Australian secondary school students in all survey years. The great majority of secondary school students (98%) had never used substances such as heroin. Most of the students who had used opioids had not used them in the past month, suggesting that any use of these substances by students was primarily experimental. Great caution does, however, need to be adopted when interpreting these findings.

As was noted earlier, homebake is a form of heroin made from pharmaceutical products which involves the extraction of diamorphine from pharmaceutical opioids such as codeine and morphine. Stafford et al. (2009) reported that homebake use remains uncommon among the national Illicit Drug Reporting System (IDRS) sample, and nationally in 2008, the level of use remained stable.

The report from the 2008 IDRS (Stafford et al. 2009) found that heroin was the drug of choice for just over half the sample (52%). This was essentially unchanged from the previous year. As the authors reported, the frequency with which injecting drug users (IDU) use heroin is a particularly sensitive indicator of its availability. The frequency of heroin use peaked among IDRS participants in the year 2000 at 120 days in every six months. This fell to half this amount in 2001, following the heroin shortage, a phenomenon which is discussed in more detail below. The median number of days on which participants reported using heroin has fluctuated since but has remained low from this time. In 2006, the frequency of use decreased to its lowest level reported since commencement of the national IDRS (40 days in six months). In 2007 the median days of use among users increased to 70 days. In 2007, there was also a slight increase in the proportion of daily heroin users in the national sample (from 9% to 14%). In 2008, this median days on which heroin was used fell again to 50 days per year and there was also a slight decrease in the number of daily users (to 11%).

As with previous years, the majority of the heroin using IDRS sample were polydrug users (Stafford et al. 2009). Indeed polydrug use is the norm among heroin users (Ross, 2007). One key expert suggested that the fact that many Australian heroin users are polydrug users could be having an influence on the demand for heroin. As a result of the use of (and probably dependence on) multiple drugs, it was suggested that their level of dependence on (and therefore demand for) heroin would be less than it would be if heroin were the only drug being used.

The National Centre in HiV Epidemiology and Clinical Research (NCHECR) conducts annual surveys of needle and syringe program sites in Australia. In 2007, 53 NSP sites participated in the survey which involved 1,912 IDU participants. In that year, there was a slight increase in the proportion of respondents who reported that heroin was the last drug they had injected. This increased from 26% in 2006 to 31% in 2007. This does, however, remain below the 2003 and 2004 levels, 36% (NCHECR, 2008).

Stafford et al. (2009) reported that the price of heroin remained relatively stable in those jurisdictions where the data could be relied upon. The only significant change was in Victoria where there was a reduction in price from $350 per gram to $300 per gram. In 2007, as in previous years, the authors noted that the majority of participants reported that heroin was 'easy' or 'very easy' to obtain. Of those who had bought heroin, the most common source was a known dealer or a friend and the most common place of purchase was at an agreed public location. Seventeen percent of participants nationally reported obtaining heroin from a street market most commonly in NSW and Victoria, in contrast with much lower rates in other jurisdictions.

In summary, it appears that the markets for heroin in Australia are for the most part stable or increasing marginally. It is evident that there has been an increase in the number of heroin importation detections in Victoria but it is unclear whether this is indicative of increased policing activity or increased market activity. It could equally be as a result of a realignment of supply channels from trafficking from NSW to direct importation into Victoria in the context of a largely unchanged market size.

8.3.3 The impacts of heroin on law enforcement

8.3.3.1 Arrest and seizure data

Before considering sources of law enforcement data concerning heroin, it is important to be mindful that, since heroin is an infrequently used drug in Australia, law enforcement data can fluctuate very substantially. These fluctuations can result from factors such as a single large border seizure or a change in the profile of policing activities.

The case of some data released by the NSW Bureau of Crime Statistics and Research (BOCSAR) illustrates this point. In June 2008, the BOCSAR reported that in the 24 months to March 2008 there had been a 29.1% increase in offences concerning the possession of narcotics. This is essentially a heroin-related offence (Snowball, Moffatt, Weatherburn and Burgess, 2008). The number of recorded offences involving dealing or trafficking in narcotics was, however, stable over this period. The increase in possession offences received a considerable amount of media coverage at the time and was seen in some quarters as being indicative of a resurgence of heroin use. Since then the number of possession of narcotics offences declined again (and indeed has fluctuated significantly). Overall there has been a 1.6% decline in these offences over the past seven years. The decline has been even more dramatic since the late 1990s. In the year between October 1998 and September 1999, for example, there were 3,316 such offences recorded in NSW (BOCSAR, 2009). In the corresponding 12 months to September 2008, there were 804 such offences in that jurisdiction. Consequently it is important to be mindful that these data are particularly subject to a range of peaks and troughs which are not indicative of substantive changes in the market.

The Australian Customs Service (ACS, 2008) reported that the number of heroin detections at the Australian border decreased from 389 in 2006–07 to 283 detections in 2007–08. The weight of detections increased from 75.3 kg to 99.3 kg over this period. Included in the 2007–08 data, however, was a sizeable seizure of 24.9 kg. Despite the gradual increase in recent years, overall seizure weight levels remain at approximately one-eighth of those that occurred 10 years ago.

In 2006–07 there was a significant increase in the number of low-volume and high-frequency detections through the post and air cargo which indicates the increasing role of 'scatter' importations. This trend continued in 2007–08. In 2007–08 air cargo accounted for 32.1% detections, air passengers/crew 16.3% and parcel post 51.2% (ACS, 2008).

In 2007–08 embarkation points for shipments of heroin over 500 grams (in weight order) were: Indonesia, India, Afghanistan, Malaysia, Vietnam, Pakistan, China, the United Arab Emirates, Hong SAR of China, South Africa, Nigeria, Singapore, Thailand, Japan and Bangladesh. Although Indonesia was the embarkation point for the majority of detections, India had the largest number of detections over 500 grams. West African criminal networks operating out of India, Malaysia and Indonesia pose a continuing threat to the Australian border. Additionally, Australian criminal networks with traditional ties to South-East Asian heroin traffickers still constitute a major threat to the border, as evidenced by the February 2008 shipment of 24.9 kilograms of heroin in sea cargo from Indonesia (ACC, 2009).

In 2007–08, the weight of all national heroin seizures decreased marginally and remains considerably lower than those reported earlier in the decade. In 2007–08, seizure weights decreased in most jurisdictions but increased in New South Wales, Victoria and the Australian Capital Territory (ACC, 2009).

In 2007–08, the number of heroin and other opioid arrests increased marginally compared with 2006–07. Following a sharp decline between 1998–99 and 2001–02, the number of arrests remain relatively stable and are among the lowest on record. 'Consumer' offences accounted for 70% of heroin and other opioid arrests in 2007–08. In 2007–08 there were 676 provider arrests in Australia compared with 2,951 provider arrests at the height of the heroin market in 1999–2000 (Australian Bureau of Criminal Intelligence, 2001 and ACC, 2009).

These law enforcement data also give rise to an impression of relative stability in the heroin market.

8.3.3.2 Heroin use and offending

The Drug Use Monitoring in Australia (DUMA) program involves the quarterly collection of information from police detainees in 10 police stations or watch houses across Australia. There are two parts to the information collected: an interviewer-administered questionnaire and a urine sample. In 2007, data was collected from Brisbane and Southport (Qld); Bankstown and Parramatta (NSW); Footscray (Vic); Adelaide and Elizabeth (SA); and Darwin and Alice Springs (NT). In 2007, a total of 3,911 detainees were interviewed at the 10 sites and, of these, 79% provided a urine sample. Eighty-four percent of detainees were male and 40% were between 21 and 3 years. (Adams, Sandy, Smith & Trigalone, 2008).

Adams et al. (2008) reported that, compared with 2006, in 2007 there was a slight increase in the overall percentage of police detainees who tested positive to heroin. Excluding Alice Springs, 19% of female detainees and 10% of male detainees tested positive to the drug. In 2007, 51% of detainees tested positive to heroin in Footscray, as did 15% in Brisbane, 12% in Parramatta, 11% in Adelaide, 9% in Bankstown and Elizabeth, 8% in Southport, 7% in East Perth and 1% in Darwin and Alice Springs. Prior to the heroin shortage that occurred in 2000–01, the percentage of police detainees who tested positive to heroin varied substantially between sites. The NSW sites were almost double the percentage of other sites. Since then the percentage of positive tests at the NSW sites has been lower and comparable with the other sites.

Of those testing positive to heroin, for 19% the most serious offence was related to property crime, 14% related to drug crime, 10% to breach offences, 7% each to violent and traffic crimes, and 3% each to drink driving and disorder crimes. Heroin was more likely to be detected among older male detainees. Among 26 to 30 year old male detainees, for example, 13% tested positive to heroin, compared with 9% in the 21 to 25 year age group. The inverse was found for female detainees, however. Those adult male detainees who tested positive to heroin had been charged with somewhat more offences (5.3 charges on average) compared with those who claimed to have never used illicit drugs.

As is evident, there has not been a significant recent change in the detection of heroin use among police detainees.

8.3.4 Health harms in Australia associated with heroin use

One way of measuring health harms from given drugs is to measure the episodes of drug treatment associated with that drug. The AIHW (2008) reported that heroin was the fourth most common principal drug of concern for which treatment was sought in 2006–07.[33] Heroin was the principle drug of concern in 10.6% (or 14,860 of 140,475) of closed treatment episodes in 2006–07, down from 14% in 2005–06. When all drugs of concern are considered (that is, the principal drug of concern and all other drugs of concern nominated by clients), 15% of treatment episodes included heroin as a drug of concern in 2006–07, down from 18% in 2005–06. The proportion of episodes where heroin was the principle drug of concern has generally declined over time from 18% in 2001–02 to 10.6% in 2006–07. The median age of persons receiving treatment was 30 years (males 31 years; females 29 years). In addition to this number involved in treatment, a further 41,347 individuals were receiving opioid pharmacotherapy (AIHW, 2009).

Overdose is one of the primary health harms associated with heroin use. Black et al. (2008) found that over half (56%) of the recent heroin users had overdosed in their lifetime. Eleven percent of recent users reported that they had overdosed in the last year, and 3% reported overdosing in the last month.

Heroin-related overdose deaths have declined dramatically in recent years. In 2005, there were 374 accidental opioid-related deaths (primarily related to heroin) in Australia among those aged 15–54 years. This compares with 1,116 such deaths in 1999. In recent years, opioid-related deaths have declined substantially among younger (15–34 year old) heroin users, but the mortality rate among 45–54 years has returned to rates recorded prior to the heroin shortage. This is consistent with the view that there is an ageing cohort of heroin users in Australia (Degenhardt & Roxburgh, 2007). The existence of other pathology may also play a role in the deaths among this older age group (Darke, Kaye & Duflou, 2006, as cited in Degenhardt & Roxburgh, 2007).

Darke et al. (2006) also suggested that the range of difficulties associated with maintaining regular heroin use may become more problematic after a long period of use. As a result, older heroin users may reduce their use, while increasing their use of other drugs, such as benzodiazepines and alcohol. The authors asserted that this would be consistent with the relatively low blood morphine concentrations detected in many fatal overdose cases, which may reflect less frequent use, and correspondingly lower tolerance to opioids, among older heroin users.

Recent data from Victoria (Cvetkovski, personal communication 9 March 2009) concerning ambulance attendances at heroin overdoses suggests that there has been a slight increase in the number of heroin overdoses in the two years to September 2008. This increase has, however, occurred in the context of great fluctuations. In the period July to September 2007 there were 235 heroin overdoses in Melbourne, compared with 262 during the same period in 2008.

[33] It is important to note that this data excludes agencies whose sole activity is to prescribe and/or dose for opioid pharmacotherapy treatment.

Figure 8: Frequency of heroin overdoses attended by ambulance by month of year in metropolitan Melbourne: 10/2006–09/200834.

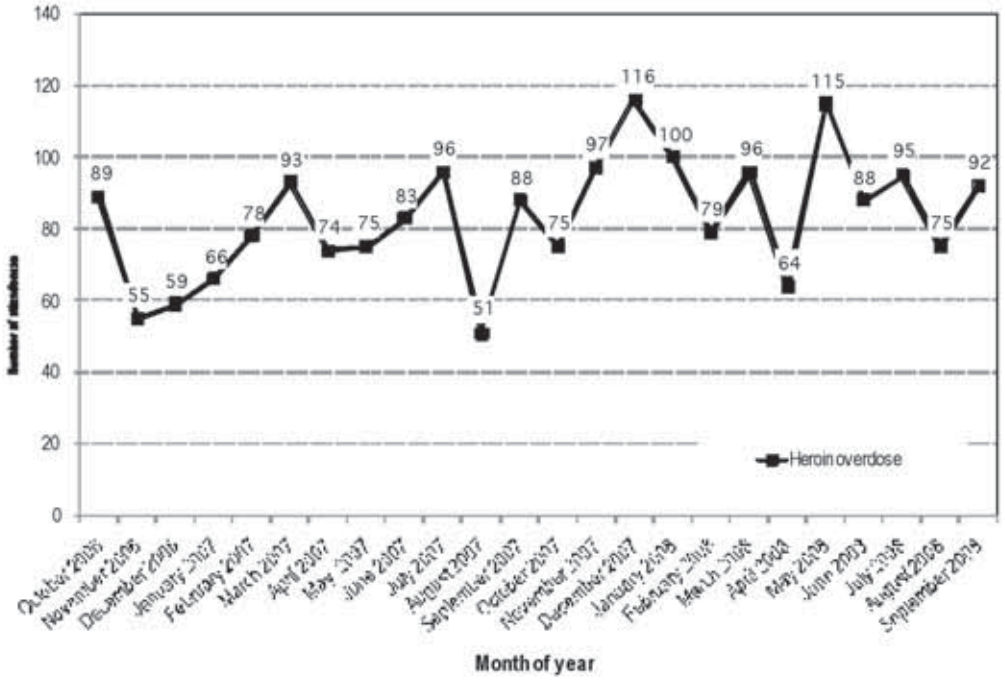
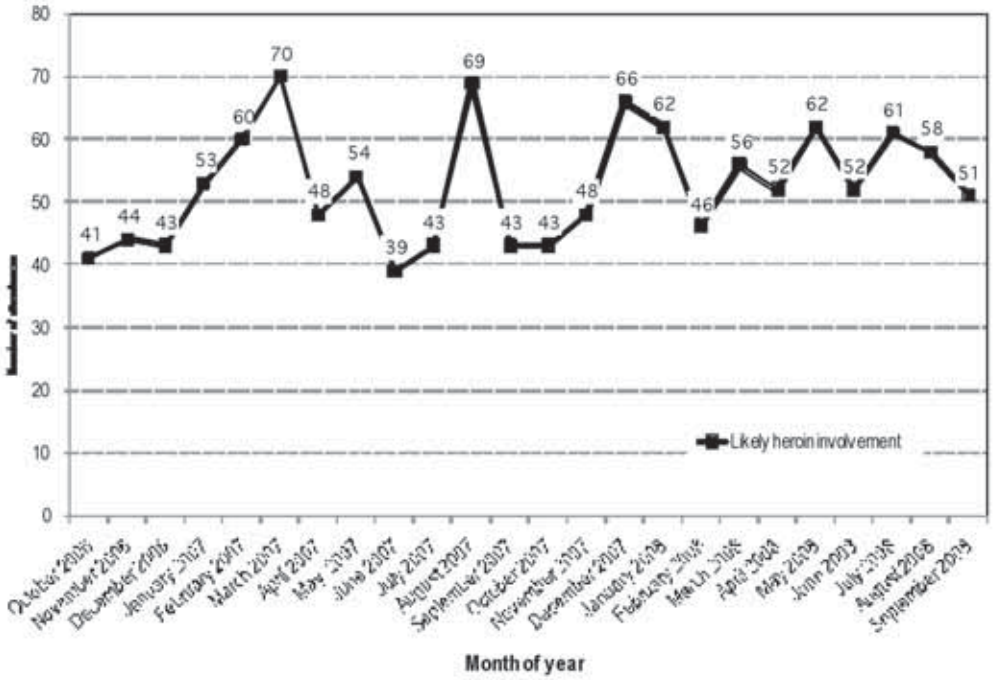


Figure 9: [35]F–requency of likely heroin involved cases attended by ambulance by month of year in metropolitan Melbourne: 10/2006–09/2008.



[34] Heroin overdose in this context is defined as a positive response to the administration of naloxone (an opioid antagonist) for those people attended by an ambulance and where there was no indication that the overdose resulted from another opioid such as codeine or methadone. Other drugs and alcohol may also have been involved. In interpreting the national implications of this data it is important to be mindful that the DUMA data shows Footscray in Melbourne as having an uncharacteristically high level of heroin use among offenders. As such, this data may not be indicative of national trends.
[35] Heroin involved cases are those in which evidence of heroin use is established through the clinical assessment of the ambulance paramedic and/or by the patient or his or her associates at the scene, but naloxone was not administered. In these cases, too, other drugs and alcohol may have also been involved.

In considering the implications of levels of heroin overdoses it is important to differentiate between overdoses from heroin and overdoses from a combination of heroin and other drugs such as pharmaceutical opioids (as has been done in the Victoria ambulance attendance data). If, for example, the base level of use of pharmaceutical opioids among heroin users was to increase and these users were using heroin 'on top' of this, then they are much more likely to overdose on the heroin they have used. This scenario should not be interpreted as an increase in the supply or use of heroin.

In addition, it is important to differentiate between the extent to which an increase in heroin overdoses is representative of an increase in supply or an increase in purity. It is plausible, for example, that the supply of heroin could increase but purity does not. This would not necessarily lead to more overdoses, provided that the level of purity does not reach a certain critical level. One key expert suggested that this was approximately 20%. Equally, it is possible to have an increase in the purity of heroin (such as a strong batch), leading to an increase in overdoses in the absence of any overall increase in the quantity of supply. In other words the number of overdoses could be more indicative of the purity of the heroin than of the overall level of supply.

An important insight into the impact of law enforcement activities on heroin overdoses in Australia was provided by Moore et al. (2005). Specifically, this is the close inverse relationship between heroin price and the frequency of overdose. That is, as heroin price increases, overdoses decrease. The researchers compared data from Melbourne Metropolitan Ambulance Service, involving non-fatal heroin overdoses, with high frequency purity-adjusted heroin cost data from Victoria. They found that 87% of the variation in overdoses in Melbourne from mid-1999 through to early 2004 could be explained by price changes alone. The authors concluded that:

> *Policies that are found to increase the price of heroin – and much more work needs to be done to establish those relationships – will decrease the number of overdoses (p. 35).*

This highlights the importance to health outcomes of law enforcement efforts to maintain the high price of heroin.

In summary, however, there is little in the available data concerning the health harms associated with heroin use that indicates that a substantial increase in supply is occurring.

8.4 The heroin shortage of 2001 several years on

In early 2001, Australian heroin markets experienced a sudden and dramatic reduction in the availability of heroin36. Given the importance of this event to better understanding heroin markets in Australia, it warrants some examination with the benefit of hindsight.

Throughout the 1990s, heroin markets in Australia expanded substantially. The price of the drug decreased and purity and availability both increased (Degenhardt, Reuter, Collins & Hall, 2005). In focussing on the heroin shortage, it is important to be mindful that the shortage can also be viewed as a process of returning to a relatively normal sized heroin market after a heroin glut in the later 1990s (Dietze & Fitzgerald, 2002).

In 2001, as a result of the heroin shortage, price increased and purity decreased as did availability (Degenhardt, Day & Hall, 2004). This profoundly affected heroin markets in Australia and these changes are still in evidence today.

[36] While there was a sudden reduction in the availability of heroin around Christmas 2000, there is evidence that the heroin market in NSW was contracting in early 1999 (Snowball, Moffatt, Weatherburn & Burgess, 2008).

One of the most significant effects of the shortage was the reduction in accidental heroin-related deaths. The heroin shortage made a substantial contribution to the level of heroin-related deaths described earlier by Degenhardt & Roxburgh (2007).

Other impacts of the heroin shortage were:

- a decline in the total number of regular heroin users (Degenhardt, Rendle, Hall, Gilmour & Law, 2004);
- a decrease in the purity of heroin in Australia;
- an increase in the time required and the difficulties associated with buying heroin (Degenhardt et al., 2005); and
- a reduction in acquisitive crime (Degenhardt & Day, 2004).

A key issue with regard to the impact of the heroin shortage is the extent to which it led to IDUs switching to the use of other, potentially hazardous drugs, such as methamphetamine. There were some early suggestions that this did occur (for example, see Maher et al., 2007 and Longo, Henry-Edwards, Humeniuk, Christie & Ali, 2004). As Degenhardt et al. (2007) pointed out, however, the key issue is whether the heroin shortage led to an increase in the use of cocaine and was responsible for the increase in use of amphetamine type stimulants (ATS) in Australia that has been seen in recent years.

Following their examination of the relationship between the heroin shortage and levels of methamphetamine use in NSW, Snowball et al. (2008) concluded that there was no evidence that the heroin shortage increased the level of ATS use in that jurisdiction. Further, they found that the growth in ATS use appeared to be unrelated to the fall in heroin use. They also suggested that while the heroin shortage did lead some IDU to shift from heroin to ATS use, the shift (in NSW at least) was relatively small.

In relation to any switch from heroin to methamphetamine use, Snowball et al. (2008) and Degenhardt et al. (2007) pointed out:

- There was evidence that the use of methamphetamine had been increasing in Australia in the mid 1990s, well before the heroin shortage; and
- The population prevalence of methamphetamine use in Australia is far higher than that for heroin use and for injecting drug use. Therefore, even if all of those who once used heroin began using methamphetamine, much of the growth in methamphetamine use must have come from other sources.

In relation to cocaine, Degenhardt et al. (2007) pointed out that there is little doubt that there was some increase in cocaine use among IDUs following the heroin shortage, particularly in Sydney. This change does, however, need to be seen in the context of the relatively small size of the cocaine market in Australia and the high price and low purity of the drug in Australia. They suggested that it appeared that the change from heroin to cocaine use was more related to the street-level dealers dealing cocaine when they could not source heroin, rather than an increase in the demand for cocaine when heroin became difficult to obtain.

It therefore appears most unlikely that the heroin shortage contributed in any sustained way to the proliferation of methamphetamine markets in recent years or to an increase in the demand for cocaine.

Since the heroin shortage, there has been a degree of robust debate concerning its causes (for example, see Wood, Stoltz, Li, Montaner & Kerr, 2006). These debates have tended to revolve around whether the shortage primarily emanated from factors that were within the control of Australian governments (such as drug law enforcement activities and other drug policy settings); or to those outside its control, such as decreases in heroin production and changes in the behaviour of traffickers.

In their initial examination of this issue Degenhardt et al. (2004) concluded that the shortage was likely to be due to a combination of factors that operated synergistically to reduce the availability of heroin. These included the robust nature of the heroin market in the late 1990s (which made a contraction appear particularly dramatic), increased funding for drug law enforcement efforts, and gradually declining production in South East Asia. A key observation made by Degenhardt et al. (2004) was that the shortage was isolated to Australia, and did not extend to other countries supplied by heroin from the same sources (such as Canada and Hong Kong SAR). This then pointed to causative factors which only impacted on the importation of heroin to Australia (i.e. which were within the control of Australian governments).

This position was challenged by Wood et al. (2006) who reported a number of indications of a decline in heroin markets in Canada, particularly in Vancouver, which coincided with the heroin shortage in Australia. This would imply that the factors that caused the heroin shortage in Australia were not confined to this country (for example, pointing to a reduction in heroin production from source countries).

In reviewing this finding, Degenhardt, Day, Hall & Bewley-Taylor (2007) reported that Vancouver received no comparable shock shortage as occurred in Australia in late 2000 and early 2001. Second, the size of the decrease in fatal and non-fatal heroin overdoses that occurred in Australia was much larger and more immediate than, the smaller and more gradual decline in overdoses that was first observed in Vancouver almost a year later than Australia. Third, using the decline in overdose mortality in Canada to estimate the contribution that declining heroin supply from source countries may have made in Australia would explain only half of the decline in Australian overdose deaths. Finally, a much larger reduction in heroin supply occurred in Australia compared with Canada, and Australia had much larger heroin markets which are geographically closer to heroin source countries. On balance, the authors reported that this was suggestive of the cause of the heroin shortage being more closely related to factors that were confined to Australia which impacted on the supply of heroin.

Degenhardt et al. (2005) explored a range of possible explanations for the shortage. These included:

- the Taliban's 2001 ban on opium production in Afghanistan;
- reduced opium production in Myanmar;
- the surrender of Khun Sa, a significant player in the production of heroin in Myanmar;
- a strategic decision by South-East Asian producers to switch from heroin to methamphetamine production and trafficking;
- diversion of heroin to the expanding Chinese market;
- market manipulation (a deliberate cartel-like action intended to increase the price of heroin);
- individual trafficker decisions to cease or reduce heroin trafficking to Australia; and
- changes to international, border-level and local-level law enforcement practices.

In their summary of plausible explanations for the heroin shortage Degenhardt et al. (2005) asserted that the following combination of factors offered the most plausible explanation for the reduction in heroin supply.

> *The heroin market was well established by the late 1990s but it had a low profit margin, with high heroin purity, an unprecedented low retail price and a large number of seizures that had increased traffickers' risks and costs. The increased funding to and effectiveness of the AFP and ACS probably made the risks of importation greater. The combination of low profits and increased success of interdiction probably reduced the dependability of key suppliers of heroin to Australia. This occurred at a time when seized heroin was becoming more difficult to replace because of reduced supplies in the Golden Triangle … It seems that major importers significantly reduced or ceased making large scale importations of heroin into Australia, reducing heroin availability and increasing retail price* (p. 466).

A further factor that could have contributed to the heroin shortage that was mentioned by a key expert consultant was the occurrence of one or more 'implosions' within the drug importing cartels themselves. As has been mentioned, in the mid 1990s there was a proliferation of heroin markets in Australia and large profits were being made and the markets were expanding. Towards the end of the decade, however, purity had increased and, although sales levels were relatively high, profit margins were low. It was suggested that the pressure of law enforcement efforts, declining profits and supply difficulties, and competition within and between the cartels resulted in 'implosions' which, in turn, meant that the cartels ceased to be functional enterprises.

These comments concerning the impact of the law enforcement sector's role need to be seen in the context of three further issues. The first of these is the relative centralisation and hence fragility of heroin importation in the late 1990s and the size of the Australian market in world terms. Following their discussion with law enforcement officials from several countries Degenhardt et al. (2005) reported that, at that time, heroin importation into Australia was being undertaken by six major suppliers. Three of these were 'large scale' two were 'medium scale' and one was 'small scale'. From this perspective the removal of one or two of these suppliers could have a dramatic effect on supply. Indeed, the authors' international law enforcement key informants reported that multiple heroin seizures totalling one tonne in 1998–99 reportedly resulted in three small–medium operators ceasing to supply heroin to Australia. Further seizures in 1999–2000 saw the remaining suppliers pull back. In a market dominated by such a small number of importers, it is not difficult to see how removing or dissuading them from importing into Australia could disrupt the market. This is particularly the case when the relatively small size of the overall Australian heroin market is considered (when compared with total global production) and hence the relative ease with which heroin bound for Australia could be sent elsewhere.

The second issue is that there is no suggestion that the seizures of heroin directly reduced supply of that drug to Australia (see Degenhardt et al., 2007). Rather, the large seizures acted as a deterrent to the small number of criminal syndicates importing heroin into Australia in large quantities. A further factor was that it 'took out of circulation' some of the small number of key players importing heroin. This would have been particularly problematic at a time when heroin supply in source countries was declining.

The key point here is that the major value of these seizures was not so much the removal of the drugs themselves, it was the deterrent effect that it had on future trafficking activities. This deterrent effect also needs to be seen in context of the probability that it was much easier for the cartels to do business elsewhere.

The third issue that warrants consideration is that the heroin shortage in Australia took place in an environment in which significant policy support exists for harm and demand reduction measures. Were this not the case, then the impact on heroin users and, in all probability levels of crime, could have been much more adverse.

In a sense it is unlikely that the law enforcement sector will ever have a full understanding of the factors which led to the heroin shortage in 2001. Nevertheless, it seems likely that factors which were specific to Australia had the primary impact on the heroin shortage.

Rather than focussing on the debate surrounding the causes of the heroin shortage, it is more useful to consider why, in the absence of any particular global heroin supply problems, heroin supplies in Australia have not returned to a level which is in any way comparable with that of the late 1990s. This issue is considered next.

8.5 Commentary on heroin markets in Australia

8.5.1 Overview

The available data supports the view of many of the key experts consulted – that the heroin market in Australia at present has returned to a state of relative stability or marginal increase. That said, there were some key experts that were extremely concerned about the possibility of a return of heroin use to the levels seen in the late 1990s.

The possible exception to this picture of relative stability is Victoria which has had a recent spate of arrests for heroin importation. It is, however, unclear whether this is indicative of increased market activity. It could equally be as a result of an increase in police attention being given to the drug or a realignment of supply channels from trafficking from NSW to direct importation into Victoria. It is also worth noting, however, that the DUMA site in Footscray, Victoria, also had substantially higher levels of reported recent (last 30 days) use of heroin than any of the other DUMA sites nationally (Adams et al., 2008).

The current situation contrasts, at one extreme, with the glut period of heroin supply and use which occurred in the mid to late 1990s; and at the other extreme the abrupt dislocation of supply that occurred in early 2001. Some key experts, particularly from the health sector, pointed to anecdotal evidence concerning increasing ambulance attendances at opioid overdoses, emergency department attendances and overdose deaths over the past six months, which could be suggestive of an increase in use. Despite this, however, these increases are modest and subject to large fluctuations and the level of these indicators remains well below that seen in the late 1990s. Equally it is unclear about the extent to which pharmaceutical opioids are contributing to this modest increase in overdoses. Further, it is likely that any current increase in the use of heroin is as a result of increased use among the existing committed cohort of heroin users in Australia, rather then the recruitment of a group of newer users to the drug.

In all, it is unclear whether these small increases in the indicators of heroin use are indicative of an increase which will be sustained, or whether it is part of the normal oscillations of illicit drug markets (Caulkins, 2007). During periods of increasing use of a specific illicit drug, there is a tendency to overshoot its final level on the upswing. There is also a subsequent tendency during periods of decline in the use of the drugs for the prevalence to decrease below the stable level, before oscillating and stabilising (Caulkins, 2005). This may well be what is occurring with heroin now.

As was discussed previously, there was some disagreement among key experts consulted concerning the origins of the heroin currently available in Australia. Most law enforcement experts consulted indicated that they believed that most Australian heroin still emanates from South East Asia. This was not a view shared by other key experts who indicated that a much greater proportion of Australia's heroin was now being sourced from South West Asia (essentially Afghanistan).

Key expert consultants reinforced the view that laboratory testing is the only way to verify the origins of the heroin available in Australia. Purity is not a reliable indicator because the quality of heroin emanating from Afghanistan could have improved as a result of an increased proportion being processed in Afghanistan. Equally, the quality of South East Asian heroin may have declined. Appearance is also no indication of source because there may be some off-shore or on-shore re-processing of Afghan heroin to make it more visually acceptable to Australian consumers. There was a clear consensus among the key experts consulted that the appearance of heroin provides no insight into its origins.

By world standards the markets for heroin in Australia are tiny. That said, the relatively small amount of heroin that enters Australia is associated with a disproportionate amount of harm, particularly in terms of overdoses. The key issue in this regard is that Australia represents such a small proportion of global heroin consumption that even minor changes in world markets (such as, for example, the addition or subtraction of 1000 kg, or 0.1% of world production to the Australian market) could be expected to have profound impacts in Australia.

Australia has amongst the most expensive heroin in the world. Even if the retail price of heroin were to be halved, it could be anticipated that there would still be a great deal of incentive for criminal enterprises to import heroin into Australia. The key question that arises therefore is, in the context of a world glut of heroin, why isn't Australia being flooded with heroin in the way that it was in the late 1990s? This was puzzling to many of the key experts consulted.

What follows is an attempt to map a range of factors that could increase and decrease the likelihood of a resurgence of heroin use in Australia. From the perspective of the author, not all of these factors are equally relevant but they were included here because they were suggested by key expert consultants.

8.5.2 Factors which could be protective against a resurgence of heroin use in Australia

A. The law enforcement sector's supply reduction efforts are keeping heroin out or making Australia an undesirable destination for the drug.

It is highly likely that law enforcement efforts in this area are hardening Australia as a target for heroin importation. This includes drug law enforcement efforts in source countries and those at and within the border. It also includes the myriad of other ways in which the law enforcement sector makes Australia an undesirable place for criminals to do business (such as money laundering and corruption prevention initiatives). This is probably having an impact in terms of reducing the supply of heroin to Australia.

At the same time, however, criminal groups are able to import into Australia sufficient quantities of MDMA and crystalline methamphetamine and illicit drug precursors to meet the needs of the vastly larger markets for these substances. Presumably, therefore, if there was sufficient demand for heroin in Australia, there would be sufficient incentive for criminal groups to bring it in. Consequently, while national and international law enforcement efforts provide a partial explanation for why heroin has not returned to the extent that might be expected, this is not a comprehensive explanation.

B. There has been a major shift in the preferences of criminal groups to produce and import methamphetamine into Australia, rather than heroin.

There are a variety of reasons why the production of methamphetamine in South East Asia and other parts of the world would be more attractive to criminal groups compared with the production of heroin. In many ways methamphetamine is more easily produced than heroin. Methamphetamine production:

- can occur anywhere that has access to precursors and these precursors are readily available in South East Asia;
- is not dependent on having access to land to produce the raw product;
- is not dependent on climatic conditions;
- can be relatively easily scaled up to mega-lab production to increase output; and
- has a substantially greater opportunity for profit.

So, too, the market for psycho-stimulants such as methamphetamine in Australia is now, and has been for decades, much larger than that for heroin. In this regard, it is important to be mindful that the meth/amphetamine-using population in Australia, prior to the onset of the heroin shortage, was substantially larger than the heroin-using population (see Adhikari & Summerill, 2000).

In addition, heroin is a drug which is associated with a much higher level of mortality compared with methamphetamine/ecstasy. In a sense, therefore, heroin is a drug which kills a significant proportion of its users. Therefore, from a marketing perspective, methamphetamine has substantial benefits over heroin in the Australian context.

C. Heroin is being 'soaked up' by expanding markets elsewhere.

As has been discussed, Australia has an extremely small market for heroin in world terms. It may be the case that a greater proportion of the global production is now being soaked up by other markets in eastern Europe, East Africa, in the countries bordering Afghanistan and on the trafficking routes. The actual and potential size of these markets relative to Australia's and the greater risks associated with importing the drug into this country may mean that it is simply not worth the effort to divert heroin to this country.

D. Demand for heroin has declined as a result of the needs of opioid users being met from other licit and illicit pharmaceutical sources.

There are three lines of evidence that could support this possibility. First, as is discussed in the chapter of this environmental scan that deals with pharmaceutical drugs, this could be part of the trend seen in several developed countries away from the use of heroin towards the use of pharmaceutical opioids (for example, see Fischer and Rehm, 2007).

Second, Australia has seen a dramatic increase in recent years in the prescription of pharmaceutical opioids, particularly the slow release agents such as MS Contin® and Capanol®, as well as drugs such as oxycodone. It may well be the case that the use of these drugs is, at least partially, meeting the needs of a group of individuals who were heroin users prior to the onset of the heroin shortage (for example, see van Beek, n.d.). There is probably a group of former heroin users who have completely moved to pharmaceutical opioids while there are others who move between the use of pharmaceutical opioids and heroin. Nevertheless, the overall effect of this change would be a reduction in demand for heroin.

The third issue that was mentioned by key experts was that there has historically always been an overlap between heroin use and the management of chronic non-malignant pain. That is, a number of heroin users used that drug in order to assist with the management of their chronic pain conditions. It may be the case that since the onset of the heroin shortage these individuals have gradually been able to access pharmaceutical opioids more readily and, as such, have no need to use heroin. From a drug misuser's perspective these pharmaceuticals have a range of advantages over illicit drugs. This is explored in more detail in the chapter of the environmental scan that deals with pharmaceutical drugs.

The key issue in this regard is whether the group of heroin users who now use pharmaceutical opioids could be lured back into the market if, for example, market dynamics changed such that there was a dramatic lowering of the price.

E. There has been a significant increase in opioid substitution treatment places available in Australia.

Since the late 1990s the number of Australians receiving opioid substitution treatment increased from 24,657 in 1998 to 41,347 in 2008 with the most significant increase occurring between 1998 and 2003 (AIHW, 2009). This could well be an important factor that is reducing the demand for heroin in Australia. While those receiving opioid substitution therapies may not cease their heroin use, it is likely that they will decrease it, thereby reducing overall demand for the drug.

In recent years, an increasing proportion of those receiving opioid substitution therapies have been receiving buprenorphine rather than methadone treatment[37]. The use of buprenorphine not only controls heroin withdrawal symptoms but it reduces the incentive to use heroin because it blocks its pleasurable effects. Therefore, in theory at least, the increasing use of buprenorphine should further decrease the demand for heroin. One key expert suggested that the increased use of buprenorphine may not be a major factor because of lower levels of treatment compliance among buprenorphine recipients.

Despite a substantial increase in opioid substitution treatment in Australia, several key experts from the health sector indicated that there is still significant unmet demand for this treatment, particularly in the public sector. This could leave Australia vulnerable if there were to be an increase in the supply and demand for heroin.

F. The heroin shortage of 2001 and the passage of time have removed many heroin users from the market and they have simply not returned because of unfavourable market conditions.

Key experts from the law enforcement and health sectors observed that at present the demand for heroin in Australia is largely driven by an essentially ageing cohort of relatively committed heroin users. Prior to the heroin shortage of 2001, during the years in which Australia experienced a glut of heroin, it was suggested that this committed group of users was joined by a number of other users who were less committed to their use of heroin. The heroin use of this later group was driven by the relatively low price and high purity of heroin at the time. The suggestion is that after the heroin shortage occurred these more peripheral users fell away, and have never returned to the market.

In addition, many of those who were formerly heavier and more committed users may now find obtaining heroin too difficult and onerous and have moved away from the market. One factor that could be contributing to this is that heroin is less desirable because of its higher cost and lower purity. Some may have turned to methamphetamine, but given the relative sizes of the heroin and methamphetamine markets in Australia this would be difficult to detect (Snowball et al., 2008).

In addition, the use of heroin is a relatively dangerous activity which is associated with a high mortality rate. Despite the substantial decrease in fatal heroin overdoses since the 2001 heroin shortage, a significant number of heroin users have died, thereby also reducing demand.

G. Demand for heroin has declined as a result of heroin's reputation as a dangerous and unfashionable drug.

Heroin may simply have become unfashionable (or, as it were, perceived as a drug for 'losers'). Potential and former users may also be concerned about the drug's dangerousness, and be dissuaded from its use as a result of the need to inject it. It is also a drug with a relatively anti-social reputation (compared with drugs such as ecstasy) and therefore may not fit with the social needs of the current cohort of younger Australians.

[37] In 2008, 30% of those receiving opioid substitution therapy were taking buprenorphine either on its own or in combination with naloxone (AIHW NOPSAD).

H. The cost of heroin and its current levels of purity make it unattractive to users.

Moore et al. (2005) reported that, prior to the heroin shortage in 2001, street heroin in Victoria cost just under $300 per gram. Towards the end of 2001, the cost of street heroin peaked at approximately $440 before stabilising at approximately $330 per gram in 2004. In 2008, heroin in Victoria cost approximately $350 per gram (Stafford et al. 2009). These data do, however, hide the impact of changes in the purity of heroin over this period. Moore et al., (2005) reported that, prior to the heroin shortage, the cost of the equivalent of a gram of pure street heroin in Victoria was approximately $540. After the onset of the shortage, this rose to $4,000 per gram and by late 2004 had stabilised to approximately $1,300 per gram. In other words, when purity is taken into consideration the cost of heroin in Victoria in 2004 was 2.4 times higher than it was prior to the heroin shortage. This is also a factor which is likely to be making heroin less attractive.

I. Heroin users are predominantly polydrug users, which reduces the overall demand for heroin.

The fact that many heroin users are generally also users of multiple other substances suggests that their level of dependence on, and therefore demand for, heroin is likely to be much lower than it would otherwise be. In other words, using or being dependent on multiple drugs means that the users' tolerance to heroin is lower than it would otherwise be if they were using only heroin. This in turn means they would need to use it less often, which in turn reduces demand. While polydrug use among heroin users is hardly a new phenomenon, if as a result of difficulties associated with obtaining heroin, a greater proportion of their drug use was of drugs other than heroin, this would reduce their tolerance for and reliance on heroin. Darke and colleagues (2007) indicated that this would be consistent with the low blood morphine concentrations detected in many fatal overdose cases, which may reflect less frequent use, and correspondingly lower tolerance to opioids, among older heroin users. Not all key experts consulted regarded this as a major contributing factor, however.

J. The pharmacology of heroin is incompatible with the socio-economic environment of the early 2000s.

Over the past decade, socio-economic conditions in Australia have been characterised by: rapid economic expansion; virtually full employment (at least in terms of the number of Australians having full- or part-time employment); a resources boom; and a significant increase in the hours being worked by those Australians in full-time employment (Dawson, McCullogh & Baker, 2001). Heroin is a drug which slows down the central nervous system and arguably its effects are inconsistent with the socio-economic environment in which younger Australians now find themselves (or at least did so before the recent global financial crisis). In the early part of this century, arguably Australia had a socio-economic environment that was better suited to the proliferation of psycho-stimulant drugs such as methamphetamine and ecstasy, than to the more depressant effects of heroin or cannabis. This may well change as a result of current economic conditions.

K. Currently, heroin use and actual and potential demand is at a level which is not conducive to rapid expansion of the markets in Australia.

There are three aspects to this. First, it may be the case that the level of heroin use in Australia at present is below that which would be necessary to lead to rapid expansion as a result of positive feedback loops, in which existing users initiate new users (Caulkins, 2007). In other words, the level of supply and use is too low at present to lead to a 'contagious epidemic' of increasing heroin use in which one user 'infects' other non-users, thereby increasing demand and stimulating supply. Second, the actual (and even the potential) Australian markets for heroin may simply be too small (in comparison with other countries and in comparison with the markets for other

drugs in Australia) for drug cartels to bother putting in the effort to expand the market in Australia. This needs to be seen in the context of readily expanding large potential markets in countries surrounding Afghanistan, Africa and Eastern Europe (UNODC, 2008). Third, the markets may be too small to reach the critical stage at which they 'tip' into more efficient and resilient forms. Over time, expanding drug markets become denser and achieve economies of scale that reduce the price of drugs, which in turn stimulates greater initiation and use (Caulkins, 2007). If the heroin markets in Australia have not yet reached this critical mass, then they remain relatively inefficient and vulnerable.

8.5.3 Factors which are likely to increase the demand for and supply of heroin

In addition to these factors which are likely to be reducing the demand for and supply of heroin to Australia, there are also factors which are likely to be increasing the risk of a return of heroin. Foremost among these, as has been discussed, is the historically high international levels of production of the drug and the probability of international stockpiling. There are, however, other factors which could increase the size of heroin markets in Australia.

A. A dramatic reduction in the availability of pharmaceutical opioids could lead to a resurgence of demand for heroin.

It is likely that the widespread misuse of pharmaceutical drugs is a factor which is reducing the demand for heroin. If there were to be a dramatic reduction in the supply of these pharmaceuticals, this could lead to an increase in demand for heroin. This would be particularly problematic if there was no concomitant increase in opioid treatment capacity in Australia or if treatment services were not realigned to meet the needs of pharmaceutical opioid misusers.

B. There is still a latent demand for heroin among injecting drug users.

In the report from the 2008 Illicit Drug Reporting System (Stafford et al., 2009) the authors reported that 52% of respondents nationally indicated that heroin was their drug of choice. Only 36% of respondents, however, indicated that heroin was the last drug they injected and 37% indicated that it was the drug they most often injected in the last month. In other words, among many injecting drug users in Australia, there is still a preferential desire to use heroin, but, for whatever reason, many are using different drugs.

C. There is a cohort of younger Australians who are too young to remember the 'bad times' that were associated with the misuse of heroin in the late 1990s.

Prior to the heroin shortage of 2001, Australia faced a myriad of problems associated with heroin use, not the least of which were high levels of fatal and non-fatal overdoses. The peak of heroin-related fatal overdoses occurred ten years ago, in 1999. Arguably therefore, those younger Australians who are entering their early twenties may not recall these issues, and therefore be more inclined to use the drug.

D. A change in the economic environment could lead to resurgence in demand for depressant drugs.

If, as was suggested above, one of the factors associated with the decline in heroin use in Australia in the past decade was the buoyant economic conditions, then a decline in these conditions associated with the global financial crisis could lead to a resurgence in its use. Less buoyant economic conditions could also lead to a demand for cheaper albeit less pure heroin. In this regard, there is no particular reason to believe that any increase in demand for depressant drugs would lead to an increase in demand for heroin over and above other depressant drugs such as benzodiazepines, GHB, or even ketamine.

E. Periods of peak demand for illicit stimulants and depressants are cyclical and Australia is 'due' for a peak in demand for depressant drugs such as heroin.

For much of the past decade Australia has been in a cycle of preference for illicit pyschostimulants (predominantly methamphetamine and ecstasy). Given the historically cyclical nature of preferences for depressants and stimulants, several key experts suggested that Australia is again due for a period of peak demand for depressant drugs such as heroin.

F. The transition between methamphetamine use and heroin use could be made via smoking.

Methamphetamine is commonly smoked in Australia (McKetin, McLaren & Kelly, 2005) and the pool of methamphetamine users in this country is far greater than the pool of heroin users (AIHW, 2008). Therefore, if Australia was to receive a greater proportion of its heroin from Afghanistan which (historically at least) produces a form of heroin that is more amenable to smoking) this could encourage the transition from the smoking of methamphetamine to the smoking of heroin.

G. Increased availability of much cheaper heroin in Australia.

As was discussed, Australia has among the most expensive heroin in the world. It is likely that heroin could be imported into Australia at a significantly reduced cost and still be profitable. If this were to occur, it is possible that this could stimulate demand and begin a cycle of a heroin 'epidemic' as was seen in the late 1990s. There is, however, no reason to believe that this is likely to occur.

8.6 Conclusion

In conclusion, there is every reason for law enforcement in Australia to remain highly vigilant against a resurgence of heroin use in this country. There are some preliminary indications that supply may be increasing, although to nowhere near the extent that it was prior to 2001. There is little doubt that there is an abundance of heroin that is available for importation into Australia. In addition, in global terms, the size of the heroin market in Australia is so small that even if the amount of heroin imported into Australia were to increase ten-fold this would have little impact on world markets. This would, however, have profound effects in this country.

In considering the level of threat posed by heroin, however, it is necessary to focus on factors other than just the level of potential supply. Specifically, as has been discussed, there have been a number of significant changes in the demand-side dynamics for heroin within Australia which would tend to mitigate the threat posed by the increased global availability of heroin.

That said, should more solid indications of an increase in the use of and the harm associated with heroin arise, then this would warrant a prompt and historically disproportionately strong response from law enforcement. There are two reasons for this. First, as has been discussed, even a small increase in heroin use has the potential to create great harm in the Australian community. The second reason stems from Caulkins' (2007) modelling of appropriate law enforcement approaches to the early stages of drug epidemics. Specifically:

> *Enforcement's effectiveness at suppressing drug use declines markedly as the size of a drug market grows … supply control programmes may have a unique capacity to disrupt the contagious spread of a new drug, but limited capacity to eradicate established markets* (p 102).

In addition, there is every reason to continue law enforcement efforts to maintain the high cost of heroin in Australia. This is not only likely to be an important factor affecting overall demand, but is an important factor in reducing overdoses.

As is evident, it is important for the law enforcement sector to continue monitoring the heroin situation in Australia. In doing so, however, it is also important that this process does not unduly draw resources away from monitoring and responding to drug problems that clearly are getting worse.

In this regard, several key expert consultants expressed concern that the extent of resources that are currently being applied to detect a potential resurgence of heroin use (not to mention the concomitant media attention) could be better applied to addressing actually emerging problems in other markets. As Weatherburn (2009) suggested, instead of worrying so much about the heroin shortage ending, perhaps we should be focussing more on the drug problems that have become worse, such as pharmaceutical misuse.

Chapter nine: Cannabis

9.1 Introduction

Cannabis is the most widely produced and consumed illicit drug in the world (United Nations Office on Drugs and Crime, UNODC, 2008) and is the most widely consumed illicit drug in Australia (Australian Institute of Health and Welfare, AIHW, 2008a).

In contrast to other sections of this report, the chapter on cannabis only provides a cursory examination of the global trade in this drug. This is because global dynamics do not impact substantially on cannabis markets in Australia. Cannabis importations into Australia remain economically unattractive due to the low prices and plentiful supplies associated with abundant domestic cultivation (Australian Crime Commission, ACC, 2008).

It should be noted that this chapter does not address issues related to the increase in cannabis use among some Indigenous Australians. This is covered in the chapter on vulnerable Australian populations.

9.2 The global cannabis situation

While recognising the difficulties associated with estimating global production, as a result of the ubiquitous nature of the drug's production worldwide, the UNODC (2008) reported that the global cannabis market essentially remained stable over the preceding year. There have, however, been significant increases in production of cannabis resin in Afghanistan. These increases have occurred at the same time as a decline in the importance of Morocco as a cannabis resin-producing country.

Cannabis use is declining in many parts of the world. Interestingly, this decline in many of its main markets could be attributable to the increase in its potency. That is, as the potency of the cannabis increases, so does the awareness of risks associated with its use, which in turn is leading to declining demand. The most significant reported declines in cannabis use have occurred in those regions that produce cannabis hydroponically, potentially containing somewhat higher levels of tetrahydrocannabinol (THC, the major psychoactive constituent of the drug). These regions include North America, West and Central Europe, and Oceania (including Australia) (UNODC, 2008).

The UNODC (2007) outlined the three forms of cannabis. The first, cannabis plant, comprises the flowering tops and leaves of the plant, which are smoked like tobacco using a variety of techniques. Cannabis resin consists of the secretions of the plant emitted in the flowering phase of its development. Cannabis oil (hashish oil) is an oily mixture resulting from extraction or distillation of THC-rich parts of the cannabis plant.

Overall, however, the global picture of the cannabis market is one of stability.

9.3 Cannabis use in Australia

In 2007, one-third of Australians 14 years and older (hereafter Australians) had ever used cannabis. The National Drug Strategy Household Survey (NDSHS) found that recent reported (in the last year) use of the drug among Australians has been declining steadily since the mid-1990s and this reduction has been most pronounced among younger Australians. In 1995, 18% of male

Australians claimed to have used cannabis recently. This fell to 11.6% by 2007. In 1995, 8.6% of females claimed to have recently used cannabis. This fell to 6.6% in 2007. Among 14–19 year old males, the proportion who claimed recent use of cannabis fell from 35.9% in 1995 to 13.1% in 2007 and, among 20–29 year old males, the proportion fell from 43.7% to 25.7% over this period. So too, among 14–19 year old females, the proportion who claimed to have recently used cannabis fell from 20.1% in 1995 to 12.7% in 2007. Among 20–29 year old females, the proportion fell from 23.4% to 15.9% over the same period (AIHW, 2008).

These findings were consistent with those of the Australian Secondary School Alcohol and Drug Survey (ASSAD, White and Hayman, 2006). They also reported that cannabis was the most commonly used illicit substance among secondary school students, especially among those in the older age groups. Among 12–17 year olds, lifetime use of cannabis fell from 35% in 1996 to 18% in 2005. So, too, use of the drug in the past month fell from 18% in 1996 to 7% in 2005. The use of the drug in the last week fell from 11% in 1996 to 4% in 2005.

Overall, White et al. (2006) reported that that, while the proportion of students using cannabis in 2005 was lower than in previous survey years, cannabis use was still relatively widespread among secondary school students, particularly older males. Older students were more likely than younger students to have ever used cannabis and to have done so in the month before the survey.

Further evidence concerning the decline in the use of cannabis comes from the reduction in cannabis use seen among police detainees in Australia (Adams, Sandy, Smith & Trigalone, 2008). This trend is discussed in more detail in the section of this chapter that deals with links between cannabis use and offending.

The AIHW (2008d) reported that cannabis was the second most common principal drug of concern for which treatment was sought from 633 government-funded alcohol and other drug agencies in 2006–07. The drug accounted for 23% of closed treatment episodes in that year. When all drugs of concern are considered (that is, the principal drug of concern and all other drugs of concern nominated by the client), 46% of treatment episodes included cannabis as a drug of concern in 2006–07. The proportion of episodes for which cannabis was the principal drug of concern declined slightly since 2005–06.

In the 1990s, the age of initiation into cannabis use was declining in Australia (Degenhardt, Lynskey & Hall, 2000). This was of concern, given that, as is discussed later, early initiation into cannabis use is a associated with the development of a range of problems. Since then, however, the NDSHS indicates that this trend has stabilised. In 1998 the mean age of initiation into cannabis use in Australia was 18.8 years (AIHW, 2000) and this was unchanged in 2007 (AIHW, 2008). It is important to note, however. that this apparent stability may hide changes that have occurred in the age of initiation among more vulnerable groups in the community.

The majority of health and research-related key consultants were also of the view that cannabis use had declined dramatically in recent years. These consultants gave a number of reasons for this including:

- cannabis is simply no longer fashionable;
- the drug has been caught up in anti-smoking campaigns and is therefore regarded as an unhealthy drug;
- there has been an apparent increase in the number of older, heavier cannabis users seeking treatment; and
- the public health campaigns have increased community awareness of the physical and mental health problems associated with the use of the drug and have encouraged the less heavy users, at least, to reduce or cease their use.

As is evident, there are a number of indications from research surveys that cannabis use has declined in Australia in recent years. Despite this, cannabis remains the most widely used illicit drug in Australia.

9.4 An update on the health impacts of cannabis use

9.4.1 Hospital separations

Cannabis-related hospital separations have remained relatively stable over the past few years following a significant increase between 1993 and 2002. Rates per million persons were highest in NSW followed by Victoria. The proportion of cannabis-related separations that were due to dependence has continued to increase from 1993/94 when they accounted for 42% of principal cannabis-related separations, to (70%) of these separations in 2004/05 (Roxburgh & Degenhardt, 2006). As is evident, there has been no decline in cannabis-related hospital separations nationally since the early 1990s.

9.4.2 Mental health problems

In recent years the link between the use of cannabis and mental health problems has received increasing research and general media attention. Although severe illnesses such as schizophrenia have received a large portion of this media attention, there is increased research focus on whether the use of cannabis can lead to more common psychiatric disorders such as depression and anxiety (National Cannabis Prevention and Information Centre, NCPIC, 2009).

9.4.2.1 Psychosis

The issue of cannabis-induced psychosis[38] is of considerable interest to police, given the frequency with which they may have to deal with its behavioural effects. There is little doubt that using large amounts of cannabis on a single occasion (or at least more than the person is used to using) can lead to psychosis. This is rare and the symptoms usually recede once cannabis use is stopped (NCPIC, 2009).

In response to media attention concerning the relationship between cannabis use and psychosis, Degenhardt, Roxburgh and McKetin (2007) prospectively collected data from the National Hospital Morbidity Database on hospital separations between July 1993 and June 2004 that were related to drug-induced psychosis. They also specifically examined the hospital separations that were due to cannabis and amphetamines between 1999 and 2004. They found that there were a relatively stable number of hospital separations for cannabis-induced psychosis over the five years between 1999 and 2004. Consequently, they concluded that cannabis use may not be making the contribution to drug-induced psychosis that some sections of the media suggest.

Cannabis has also been shown to make psychotic symptoms worse in those who already have a psychotic disorder such as schizophrenia (NCPIC, 2009). As to whether cannabis use causes schizophrenia, the most plausible hypothesis is that cannabis use can precipitate schizophrenia in individuals who are vulnerable to the illness (Hall, 2009).

[38] Psychosis is a symptom of a number of mental illnesses in which people experience difficulty in telling what is real and what is not. Individuals suffering from psychosis might hear voices that are not really there (hallucinations), or believe things that are not true (delusions). Schizophrenia, for example, can lead to symptoms of psychosis (NCPIC, 2009).

9.4.2.2 Depression and anxiety

The link between cannabis and other more common mental health disorders such as depression and anxiety is confusing, because cannabis is often used to relieve the symptoms of these disorders. As such, it is difficult to establish which came first. Those who use cannabis have higher levels of depression and depressive symptoms than those who do not use the drug. Although results are mixed, there is a substantial amount of evidence to suggest that cannabis use, particularly frequent or heavy use, predicts depression later in life. Young women appear to be more likely to experience this effect. Cannabis use can lead to symptoms of anxiety, such as panic, in the short-term, but there is a lack of evidence pointing to cannabis as being an important risk factor for the development of chronic anxiety disorders (NCPIC, 2009).

9.4.2.3 Cannabis dependence

There is little doubt that a cannabis dependence syndrome occurs in some heavy, longer-term chronic users of cannabis. Cannabis dependence was the most common form of illicit drug dependence in the United States in the early 1980s and in Australia in the late 1990s. The risk of developing cannabis dependence is similar to that for alcohol but lower than that for nicotine and the opioids, with approximately 10% of those who ever use cannabis meeting criteria for dependence at some time in their lives. Persons who initiate use early and who use cannabis daily are at greatest risk of dependence (Hall, 2009).

9.4.2.4 The respiratory risks of cannabis smoking

Regular smokers of cannabis who do not also smoke tobacco have more symptoms of chronic bronchitis and poorer lung function than people who do not smoke either cannabis or tobacco. The immune response of the respiratory system in people who only smoke cannabis is also impaired, which increases their susceptibility to infectious diseases. Cannabis smoke is also carcinogenic and therefore cannabis smoking is a potential cause of cancers in the lung and mouth, tongue and oesophagus (Hall, 2009).

9.4.2.5 Cannabis and motor vehicle crashes

Cannabis intoxication produces dose-related impairments in cognitive and behavioural skills that might affect driving. Up until recently it has been unclear whether these impairments increase the risk of motor vehicle crashes. Recent evidence from epidemiological studies that have measured tetrahydrocannabinol (THC) in blood (rather than inactive cannabinoid metabolites) suggests that cannabis use increases the risk of motor vehicle crashes. The effects of cannabis use on driving performance are probably less than those of alcohol (Hall, 2009). It is important to note that cannabis is commonly used in conjunction with alcohol, and psycho-stimulants (AIHW, 2008). Therefore, the impacts of cannabis on driving are not confined to the drug itself, but also include the effects of cannabis in combination with other drugs.

9.4.2.6 The effects of adolescent cannabis use

Generally speaking, those who start smoking cannabis earlier (for example. in early adolescence) and smoke heavily are far more likely to experience negative consequences across a number of domains. This can include mental health problems, but also more general life problems, such as conflict at home or school/work, financial problems and memory problems (NCPIC, 2009). While there is not universal agreement on this issue, high quality longitudinal studies show that the relationships between early cannabis use and the risk of using 'harder' drugs and school failure persist after taking into consideration pre-existing differences between adolescents who do and do not use cannabis (Hall, 2009).

This has important implications for the law enforcement sector because efforts to limit the exposure of younger people to cannabis are likely to have disproportionately large effects in terms of reducing the associated harms. This is discussed in more detail later.

9.5 Cannabis potency

9.5.1 Has the potency of cannabis increased in recent years?

One issue that is regularly the subject of media attention and public debate concerning cannabis is the extent to which the THC potency of the drug has increased in recent decades. As Copeland, Gerber & Swift (2004) reported, there has been speculation that the THC content of cannabis has increased up to thirty-fold and that this has contributed to reported increases in cannabis-related harms, particularly among younger users.

Determining whether there has been an overall increase in cannabis THC levels in recent decades is not a simple matter. As McLaren, Swift, Dillon & Allsop (2008) pointed out, cannabis potency is affected by:

- the plant's variety and geographical origin;
- whether the plant has been cross bred or genetically modified to produce hybrids with high levels of THC;
- the part of the plant that is used (e.g. the buds have the most THC, followed by the leaves, stems and seeds);
- the means used to store the drug;
- specific cultivation techniques (such as growing female plants in isolation so that they are seedless); and
- whether or not the cannabis is produced by indoor hydroponic cultivation.[39]

THC potency can therefore vary between plants; between different parts of the same plant; between identical plants cultivated under different conditions; and between samples of the same part of a plant stored under different conditions. Given the enormous variation between samples it is possible that cannabis users may be exposed to a greater variation in a single year, than over years or decades. In order for the trend data on cannabis potency over time to be truly meaningful, it would be necessary to have a standardised approach to the testing of cannabis samples to remove all of these potential variables. Uniform process such as this would also be required in order to determine which of the variables discussed above could be contributing to any changes in potency (McLaren et al., 2008).

There is some international trend data concerning the THC potency of cannabis. It is clear, for example, that the average THC potency of cannabis in the United States increased from 2.8% in 1986 to 8.77% in 2006 (University of Mississippi Cannabis Potency Monitoring Project, as cited in National Drug Intelligence Center, 2006). As the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA, 2004) pointed out, however, this increase is deceptive when viewed in the European context. The EMCDDA asserted that the quality of herbal cannabis consumed in the USA 20 years ago was unusually poor, but in recent years the cannabis available in that country has risen to levels generally seen in Europe. Poulsen and Sutherland (2000, as cited in McLaren et al., 2008) reported that there was no increase in the potency of New Zealand herbal cannabis seized between 1976 and 1996. Following its examination of this issue, EMCDDA (2004) also concluded that the potency of cannabis used in Europe (with the exception of the Netherlands) has not increased significantly over time.

The fact that Australia has no uniform program for the ongoing testing of the THC content of cannabis is a major impediment to learning more about this issue in the Australian context. Copeland, Gerber & Swift (2004) concluded that, based on the available evidence, there probably has been a modest increase in the THC potency of cannabis available in Australia over the past

[39] On the one hand, a trend towards hydroponic cultivation would be likely to provide cannabis plants with better growing conditions which could be expected to increase THC levels. On the other hand, it is also clear that high THC cannabis was also available in the 1970s, well before hydroponic cultivation became popular (Baker, Gough & Johncock, 1982, as cited in McLaren et al., 2008).

two decades. It is certainly not of the order of 20 or 30 fold, however, and it is also unclear which of the variables discussed above is contributing to the increase.

9.5.2 Is an increase in cannabis potency associated with an increase in harms?

There are a number of aspects to this question. Cannabis contains almost 500 compounds including 70 cannabinoids. While the cannabinoid with the strongest psychoactive effect is THC (which is why this measure is used to test the potency of samples) the effect of a given dose of THC may be dependent on levels of other cannabinoids. Cannabidiol (CBD), for example, reduces the effects of THC and may have the effect of reducing the incidence of anxiety and psychosis associated with cannabis use. Thus, as the levels of CBD increase, so the harmful effects of THC could decrease. Consequently, the potency of CBD may be as important a factor in cannabis-related harms as is the potency of THC. Thus, considering THC concentration in isolation is unlikely to provide a comprehensive picture of the ways the chemical constituents of cannabis interact to enhance harms. This is problematic, given that most potency studies only assess THC content (McLaren et al., 2008).

A further complicating factor is that cannabis users may adjust the amount of cannabis smoked according to its potency. Users may use the drug less frequently or ingest less on each occasion of use, when using more potent samples of cannabis. The evidence concerning this is unclear (McLaren et al., 2008), although it does appear to be consistent with the global trend described by UNODC (2008) discussed earlier. That is, the consumption of cannabis appears to be declining in those countries which have the highest THC potency.

In all, while it appears that the THC potency of cannabis available in Australia has probably increased to a modest extent over the past decade, the implications of this for the harms associated with cannabis are unclear.

9.6 The impact of cannabis on law enforcement

9.6.1 Importation

The Australian Customs Service detected 53.4 kg of cannabis products at the Australian border in 2007–08, which was eight kilograms more than in 2006–07. There were 651 detections of cannabis at the border in 2007–08, 24 more than the previous year. Only one of these was a marketable quantity (more than 25 kg) and 14 were trafficable quantities (greater than 250g but less than 25 kg). The majority of cannabis detections at the Australian border were sent by mail or found on air passengers and were considered to be personal use quantities (Australian Customs Service, ACS, 2008). Cannabis is difficult to conceal and its strong odour makes consignments vulnerable to detection (ACC, 2008). As is evident, the importation of cannabis products into Australia does not represent a major source of supply.

9.6.2 Drug arrests/seizures

It is important to be cautious in the interpretation of cannabis offence and seizure data because they may be as much a reflection of policing activity as they are of trends in drug markets. In 2007–08, 67% of national drug arrests were for cannabis offences[40]. Overall, the number of cannabis arrests declined by 7.7% in that year compared with the previous year. The number of cannabis seizures also declined by 5% but the weight seized increased by 13%.

While there has been a significant decline in consumer and provider cannabis arrests between 1995–06 (78,948) and 2007–08 (52,465), there has been little change in the proportion of all

[40] This includes Cannabis Expiation Notices in SA, Cannabis Infringement Notices in WA, Drug Infringement Notices in the NT, and Simple Cannabis Offence Notices in the ACT.

drug arrests that are cannabis-related over this time (Australian Bureau of Criminal Intelligence, 2001 & ACC, 2008). As was noted above, there was a reduction in the number of cannabis arrests in 2007–08. Nevertheless the number of consumer and provider arrests has remained relatively consistent over the past decade. This is not entirely consistent with the picture of a dramatically contracting cannabis market in Australia.

9.6.3 Cannabis production in Australia

The production of cannabis is a massive industry in Australia. Clements and Daryal (2005) estimated that in the late 1990s the annual expenditure on cannabis in Australia was almost twice that of expenditure on wine, approximately equal to the expenditure on wine plus spirits, and it was about three-quarters of the total expenditure on beer. They estimated that in 1998 expenditure on cannabis was $5.3 billion (which was equivalent to about 1% of Australia's then gross domestic product), or $354 per capita. Even allowing for some possible decline in cannabis consumption over the past decade, it is evident that the cannabis production and distribution industry is 'big business' in Australia.

Cannabis is produced in most parts of Australia and in recent years there has been a trend towards hydroponic cultivation, as growers believe that this produces a better yield, reduces the chance of detection and mitigates seasonal climate changes. A wide range of individuals and organisations are involved in cannabis production in Australia. This ranges from those who produce cannabis for their own (or shared) consumption, 'cottage industries' through to organised criminal groups including outlaw motor cycle gangs (Willis, 2008).

There is also an elaborate series of businesses which support these syndicates including cannabis plant nurseries, product suppliers, facilitators (who collect cannabis from a large number of small growers and on-sell it), hydroponic equipment suppliers, packagers and transporters.

The hydroponic cultivation of cannabis requires a considerable amount of electricity for the lights, irrigation systems and air conditioning, all of which are used continuously. Given the high costs associated with this level of electricity use and the risk of detection (through police monitoring of electricity companies), there is a close association between hydroponic cannabis production and electricity theft (ACC, 2003). This has two implications. First, in order to achieve this theft of electricity, electrical meter boards are often tampered with or circumvented in a manner that is unsafe. This, and the amount of heat generated by hydroponic lighting can also lead to fires. This presents considerable risks to growers, to investigating police and to the broader community.

Second, this means that all purchasers of electricity are forced to subsidise the considerable cost of this theft. For example, in the year 2000, the (Australian) Electricity Supply Association estimated that approximately 20% of the $120 million worth of electricity stolen each year at that time was used to power the hydroponic cultivation of cannabis. The theft of electricity to power hydroponic cultivation was described as the fastest growing area of electricity theft in Australia and was even perceived as a threat to the survival of some electricity supply companies (Orchison, cited in Treadgold, 2000).

Virtually all key law enforcement experts consulted for this environmental scan provided a picture which was completely the reverse of that which would be indicative of a reduction in the size of the cannabis market in Australia in recent years. A consistent theme among those consulted was that in their jurisdiction the overall use of cannabis and the size of cannabis markets had not declined substantially over the past 10 years. Levels of cannabis production were described as being significant or high in all jurisdictions apart from the Northern Territory (NT), where key law enforcement experts believed that cannabis production (but not use) had declined substantially. It was suggested that this decline in production was due to the economies of scale associated with production in the southern states making it financially unviable to produce cannabis on a commercial basis in the NT.

Cannabis production in South Australia (SA) was almost universally regarded as 'booming' by several key expert consultants from around Australia. It was suggested that SA has become a major focus of cannabis production because the history of cannabis decriminalisation in that state in the 1980s led to a culture of 'cottage industry' production. Over the years, with the advent of hydroponic cultivation, the industry has become more sophisticated.

Predictably, SA also has a very large hydroponics industry. An examination of the Yellow Pages®, for example, reveals that there are 55 hydroponic shops in the Adelaide metropolitan area alone. South Australia has recently passed legislation making it illegal to be in possession of hydroponic equipment without a reasonable excuse and is proposing the closer regulation of the hydroponics industry.

In summary, on the one hand, there is evidence from the NDSHS and ASSAD that cannabis use has declined very substantially over the past decade. On the other hand, virtually every law enforcement key expert consulted in this environmental scan was of the view that the cannabis industry has not declined significantly over this period. This apparent paradox is explored in more detail later.

9.6.4 Links between cannabis and offending

The Drug Use Monitoring in Australia (DUMA) program involves the quarterly collection of information from police detainees in 10 police stations or watch houses across Australia. There are two parts to the information collected: an interviewer-administered questionnaire and a voluntary urine sample. In 2007, data was collected from Brisbane and Southport (Qld); Bankstown and Parramatta (NSW); Footscray (Vic); Adelaide and Elizabeth (SA); and Darwin and Alice Springs (NT). In 2007, a total of 3,911 detainees were interviewed at the 10 sites and, of these, 79% provided a urine sample. Eighty-four percent of detainees were male and 40% were between 21 and 30 years (Adams et al., 2008).

In keeping with the prevalence of cannabis use reported in population surveys, Adams et al. (2008) reported that cannabis is the most commonly detected illicit drug among the detainees. That said, it should also be noted that cannabis has the largest window period of detection of drugs screened for in the DUMA program. In 2007, 49% of police detainees nationally tested positive for cannabis, which was a slight decrease from 2006 (54%). Over half the detainees reported having used cannabis in the past year, and, for 43% of detainees, cannabis was their drug of choice. Hydroponically produced heads were the most common form of cannabis used. Cannabis was least likely to be detected in Alice Springs (21%) and most likely to be detected in Darwin (71%). Fifty-five percent of detainees tested positive in Elizabeth, 52% in Adelaide and East Perth, 51% in Southport, 48% in Brisbane, 46% in Parramatta and 40% in Footscray and Bankstown. Cannabis use was found to be concentrated among the younger adult detainees.

Adams et al. (2008) reported that, among the adult males who tested positive to cannabis (bearing in mind that many offenders tested positive to more than one drug), the most serious offences were: 53% traffic and property offences respectively; 50% for drug offences; 49% for breach offences; 47% for violent offences; 46% for disorder offences; and 43% for drink driving offences.

The proportion of police detainees testing positive for cannabis has fluctuated over time, but has generally declined in recent years. Adams et al. (2008) examined the trends that have been observed in recent cannabis use among adult male detainees at the six long-term DUMA sites of Adelaide, Bankstown, Brisbane, Elizabeth, Parramatta and Southport. Three of these sites showed significant trends. Since 2004, there has been a declining trend in cannabis detections in the Adelaide site and, in 2007, the number of detainees testing positive was the lowest since monitoring began. Since 2001, the rate of cannabis use in East Perth has fluctuated between

67% and 59%. It decreased to 53% in 2007, which is the lowest rate recorded at that site since monitoring began. Since 2002, the use of cannabis in the Brisbane site has continually decreased, reaching an all-time low in 2006; however, it has since stabilised at 49% in 2007. As is evident, this data supports the population studies which point to a reduction in cannabis use in Australia in recent years. An aggregation of the data from the four longest-term DUMA sites shows that cannabis use among police detainees has declined between 1999 and 2007 (Tresidder & Shaddock, 2009).

Simpson, Howard, Copeland &Arcuri (2009) examined the prevalence of cannabis use among young people in custody in Australia. They reported that for much of the past two decades almost all adolescents who spend time in custody have tried cannabis and this trend is quite stable over time. So, too, over the past 15 years approximately 80% of young offenders in custody had used cannabis in the past month. The authors suggested a range of reasons why there has been no decline in cannabis use among young people in custody.

These were that:

- current public health messages about cannabis and other illicit substances are not reaching or appealing to this group;
- cannabis forms part of a cluster of delinquent behaviours that these youth engage in; and
- cannabis is virtually normalised in the peer and even the family environments within which these young offenders spend much of their time.

The authors called for the implementation of more focussed interventions and preventative efforts to address cannabis use.

As is evident, cannabis use is extremely common among offenders in Australia, particularly among younger offenders. Given the increased harms associated with the use of cannabis by younger people and the ubiquitous nature of cannabis use among offenders, the prevention of cannabis use by young people and early intervention with cannabis users and cannabis using offenders is likely to give rise to highly valuable outcomes. These outcomes are likely to accrue both in crime reduction and drug harm reduction domains.

9.7 What do we understand about trends in the size of the cannabis market in Australia?

The key issue here is why, amid all the evidence of declining cannabis consumption in Australia, are so many law enforcement officials so firmly of the view that the size of the cannabis market is not declining substantially? It seems most unlikely that virtually every law enforcement key expert consulted in this environmental scan could be mistaken.

There are a number of potential (non-mutually exclusive) explanations for this apparent paradox.

First, the number of cannabis consumers may have simply not declined to the extent suggested by the NDSHS and similar data collections. It is, for example, possible that there could be characteristics of the NDSHS and other surveys that have made them less sensitive to the detection of cannabis users in recent years. Alternatively, there may have been a decline in use in some groups which has been matched by an increase in use among groups of Australians who are under-sampled or not sampled at all by these surveys. There is, for example, ample evidence concerning increasing use of cannabis among some remote Indigenous communities (for example, see Delahunty & Putt, 2006). This factor could account for the reduction in cannabis use seen in the NDSHS and ASSAD, but it is less likely to account for the reduction seen in the DUMA survey.

Second, in recent years it has become more common for cannabis users in Australia to smoke the more potent parts of the plant, namely the flowering tops or buds (NCPIC, 2009). This could result in an increasing proportion of the plant being discarded (the leaves), which in turn leads to a requirement for increased production to make up for this, despite a stable or even declining level of demand.

A third possible explanation is that, instead of growing cannabis for personal use, there is an increasing trend towards outsourcing the production. This would result in a relative increase in the proportion of cannabis supplied by commercial producers versus home production. There is some very tentative evidence for this. In 2001, 4.6% of recent cannabis users usually used cannabis that they had grown themselves (AIHW, 2002). By 2007, this had declined to 3.1% (AIHW, 2008).[41] If domestic production is declining, it could simply result from factors such as individuals having less leisure time available to produce the drug. It could also be an artefact of changes in drug legislation. If, for example, the amount of plants or cannabis deemed to be for personal use is significantly reduced, this may lead individuals to perceive the risk of producing their own cannabis to be too high compared with the risks associated with buying their cannabis from commercial sources.

A fourth possible explanation is that, while there has been an overall decline in the number of cannabis users in Australia, this decline was most prominent among infrequent users. What remains, therefore, is a core of heavy users. This number of heavy cannabis users may even be increasing, but for a variety of reasons they are not being detected by population surveys. While occasional users of cannabis are a numerically larger group, because they smoke less, their level of use of the drug could lead to less overall demand than would the use of heavy smokers. Therefore, it is possible that if a proportion of infrequent users have fallen away from the market, this would not necessarily result in a significant reduction in overall demand for the drug.

There is some support for this hypothesis from the work of Clements and Daryal (2005). They estimated that in 1998 those cannabis users who smoked daily, or once a week or more, were responsible for the consumption of 11,381 ounces of cannabis in that year. This was 22.6 times more cannabis than was consumed by infrequent users (although they were larger in number). So, too, total expenditure on cannabis by those who used the drug daily, or once a week or more ($5.12 billion) was 22.7 times higher than the $225 million spent by less frequent users of the drug.

From this perspective, the demand side of the cannabis market is largely driven by heavy consumers of the drug. Thus, it is entirely possible that there has been a decline in the population-wide prevalence of cannabis use, without there being a resultant major drop in overall demand for it.

Overall, the information gained from the literature and from key expert consultants painted a confusing picture of the patterns and extent of current cannabis use and the markets for the drug in Australia. As is discussed below, there is a need to better understand this phenomenon, preferably by means that do not rely solely on extrapolations from the NDSHS.

9.8 Summary

As has been discussed above, there was a remarkable divergence of perspectives regarding the extent and nature of the cannabis market in Australia. At a general level, most of the key expert consultants from the health or research sectors were of the view that overall the use of cannabis in Australia and therefore the associated markets are declining. This perspective was largely based on the findings of the NDSHS, ASSAD and to a lesser extent DUMA. On the other hand, virtually all law enforcement key expert consultants were of the view that the cannabis market is almost as

[41] It is important to note that this may not be a statistically significant trend.

robust as ever. This perspective was largely based on policing intelligence and activity indicators. As has been discussed, the two positions are not necessarily mutually exclusive. It is theoretically possible to have a population-wide decline in the prevalence of consumption, particularly among less heavy users, without having a major impact on the level of cannabis being produced to meet overall demand.

With this much divergence of opinion among key experts, there is a demonstrated need to better understand the extent of cannabis production in Australia and the size of the cannabis market. This is important from a law enforcement perspective in order to better understand the size of the problem that it is seeking to address. If, as was suggested by police, the amount of cash profit that is being generated by the cannabis industry is enormous, then this has major implications for the extent of ancillary illegal activities, such as money laundering. Indeed, one law enforcement key consultant suggested that so much money was being produced from cannabis production that it was now becoming an increasingly important source of funds to finance a range of other criminal activities.

Based on the perspectives of key experts and the themes which emerged from the literature, there are two ways in which the law enforcement sector can enhance its contribution to reducing the harms associated with cannabis use in Australia. The first of these is reducing the frequency with which cannabis-affected individuals drive on the road. Several policing agencies in Australia have already moved towards random drug testing and similar efforts to bring this about. It will be important that efforts to reduce the impact of cannabis on driving do not focus on the impact of cannabis use in isolation, but also consider the impact of cannabis use on driving in the context of polydrug use.

The second is for law enforcement to focus its efforts around the use of cannabis by younger people. A reoccurring theme in considering the prevention and minimisation of cannabis-related harms is the importance of ensuring that young adolescents do not commence using cannabis. There is a wealth of evidence that suggests that younger initiation into cannabis use is associated with increased levels of problems across a number of domains. While preventing adolescents from using cannabis would represent the ideal outcome, any law enforcement efforts that could delay the onset of cannabis use and reduce the exposure of adolescents to cannabis are likely to have beneficial outcomes. Therefore, there may be scope for the law enforcement sector to consider how it can more strategically focus its efforts towards reducing the extent to which cannabis is supplied to young people. While this outcome would be difficult to achieve, it seems likely that a disproportionate number of problems would be avoided, compared with more broad-based programs that operate at a whole of population level. While diversion programs which focus on the cannabis use of young people are important, of increasingly crucial significance, particularly for crime reduction outcomes, are programs that address cannabis use among younger offenders.

Chapter ten: Cocaine

10.1 Introduction

Cocaine is a crystalline alkaloid powder produced from material found in the leaves of the Erythroxylon coca plant, which is indigenous to South America. Cocaine has similar qualities to amphetamine and is the most powerful stimulant derived from a natural source. Cocaine has historically been used in medicine in its pure chemical form, cocaine hydrochloride. It has been used as a local anaesthetic, especially for the eyes, nose and throat, but is now used illicitly for its euphoric and stimulating effects. As a central nervous systemstimulant, cocaine promotes the release of high levels of dopamine. While cocaine powder is most commonly inhaled into the nasal passages, it can also be injected, smoked or ingested (Australian Crime Commission, ACC, 2009a).

'Crack' is a freebase, smokeable form of cocaine. It is produced by processing cocaine hydrochloride with ammonia or sodium bicarbonate and water, which is then heated to remove the hydrochloride base. The name 'crack' refers to the crackling sound that occurs when the rock is heated and smoked. 'Crack' cocaine is most prevalent in North America and is not frequently encountered in Australia (ACC, 2009a).

10.2 Global trends in cocaine production and consumption

The overwhelming majority of the world's cocaine is produced in Bolivia, Peru and Colombia. In 2008, the total global area under coca cultivation decreased by 8% due to an 18% reduction in cultivation in Colombia, which was not offset by small increases in Bolivia (6%) and Peru (4%). The total area under coca cultivation decreased to 167,600 hectares, which is well below the level reached in the 1990s. In spite of this decrease, Colombia remained the world's largest coca bush-cultivating country with 81,000 hectares, followed by Peru (56,100 hectares) and Bolivia (30,500 hectares). Global potential cocaine production decreased by 15%, from 994 tonnes in 2007 to 845 tonnes in 2008. This is the lowest amount in the period 2004–2008 and is largely as a result of the significant reduction in Colombian production. In 2007, governments reported the detection of 7,225 clandestine coca processing laboratories, compared with 7,060 laboratories reported for 2006. Almost all of the coca processing laboratories were located in the three coca cultivating countries (United Nations Offices of Drugs and Crime, UNODC, 2009).

Global seizures of cocaine base, salts and crack cocaine fell slightly from the record high of 750 tonnes in 2005 to 711 tonnes in 2007, a decrease of some 5%. This was similar to the level in 2006 (693 tonnes), thus halting the strong upward trend reported in recent years. In 2007, the global cocaine interception rate was 41.5%, up from 23% in 1990 (UNODC, 2009).

America has historically had the world's largest market for cocaine. While this is still the case, the use of cocaine in that country has fallen sharply in recent years. Following strong increases in recent years, Western European countries' cocaine markets are now showing signs of stabilisation. Decreased demand from North America has been largely offset by increased demand in South America, Western Europe and Western and Southern Africa. In 2007, the use of cocaine increased in France, the Czech Republic, Ireland, Slovakia, the Ukraine and Portugal. Increases in cocaine use in 2007 were also reported by Venezuela, Ecuador, Brazil, Argentina and Uruguay as well as countries in Central America (Guatemala and Honduras) and the Caribbean (Jamaica and Haiti) (UNODC, 2009).

10.3 Patterns of cocaine use and market characteristics in Australia

The major cocaine markets in Australia are in NSW, Qld and Vic. In 2007–08 there were ten times more cocaine seizures in NSW compared with Qld, the jurisdiction with the next highest number of seizures. In addition to the size of the cocaine market in NSW, the high number of seizures in that jurisdiction is also indicative of the fact that the mail coming from South America all comes in via Sydney. As such, a significant number of seizures that occur in Sydney actually occur at the border.

In keeping with the earlier research of Hando, Flaherty and Rutter (1997), Shearer, Johnston, Kaye, Dillon & Collins (2005) identified two distinct groups of Australian cocaine users. The first were employed, well educated, socially and economically integrated users who occasionally snorted cocaine, typically with a range of other licit and illicit drugs. Their cocaine use was funded through paid employment (or 'shouting' by friends), and the group primarily used cocaine in private social settings such as homes and at private parties. This group reported very few cocaine-related problems, largely because they used cocaine irregularly and at a low level.

The second group of users identified were socially and economically marginalised users predominantly from Sydney who typically injected cocaine, often in conjunction with heroin. This group appeared to be the leading users of cocaine in Australia. They tended to support their use through government benefits, sex work, and dealing in cocaine, cannabis, and heroin. They also experienced a much higher level of cocaine-related harms including financial, relationship and legal problems, and had high levels of cocaine dependence. The estimated monthly personal expenditure on cocaine of this group was $2,800. This was ten times greater than for the better integrated group of users (Shearer et al., 2005). While cocaine is often associated with upper socio-economic group users, it is important to be mindful that, at least in the context of Sydney, there is also a sizable market among more economically marginalised users.

Some key expert consultants suggested that this picture may now be changing, with cocaine use spreading into 'special occasion' use among users of other psycho-stimulant drugs.

In 2007, among Australians aged 14 years or older, over 1 million (5.9%) had ever used cocaine and 281,100 (1.6%) had used it in the previous 12 months. The highest level of cocaine use was among the 20–29 years age group and 11.9% had ever used cocaine and 5.1% had used the drug in the previous 12 months. The average age at which Australians used cocaine for the first time was 23.1 years. Among recent users of cocaine, 18.9% had used it at least once a month. Males were more likely than females to use cocaine every few months or more often. Of recent users overall, 57.6% had used it only once or twice in the previous 12 months. Almost all (96.9%) of recent users used cocaine powder and one in seven (13.7%) used crack cocaine. Among recent users, 95.2% had snorted cocaine and 7.9% had injected it. Three-quarters of recent users (74.4%) usually obtained cocaine from a friend or acquaintance. The next most common source of cocaine was a dealer (20.1%) (AIHW, 2008b).

Between 2004 and 2007, the proportion of Australians who recently used cocaine increased from 1.3% to 2.2% for males and 0.8% to 1.0% for females. During the period 1995 to 2007, 20–29 year old males were the most likely group to have used cocaine in the previous 12 months. There was a significant increase in recent use among this group between 2004 and 2007 from 3.7% to 7.0%. So, too, there was an increase in use among males 40 years or older (from 0.2 %to 0.5%) (AIHW, 2008b).

There was also an increase in the number of Australians who had the opportunity to use cocaine in the past year between 2004 and 2007. In 2004, 3.1% of Australians had an opportunity to use cocaine, compared with 3.9% in 2007 (AIHW, 2008b).

In 2009 cocaine use among regular ecstasy users was stable nationally, however, there was an increase in use among NSW and Qld users. Recent use among NSW users increased from 51% in 2008 to 64% in 2009 and among Qld users from 30% in 2008 to 55% in 2009. Frequency of use remained low at two days per six months across most jurisdictions and three days in NSW. Use appeared to remain concentrated in jurisdictions on the east coast of Australia. Market characteristics in NSW and Qld did provide some basis for the increase in use. In NSW reports of purity perceptions as 'high' increased from 20% in 2008 to 32% in 2009 and in Qld availability reports of cocaine increased ('easy' to 'very easy') from 35% in 2008 to 55% in 2009 and purity reports of 'high' increased from 11% in 2008 to 28% in 2009 (Sindicich, Stafford and Burns, 2009).

As with the REUs, the recent use of cocaine was highest among Illicit Drug Reporting System injecting drug user (IDU) participants in NSW (58%), while elsewhere 25% or less of participants reported use in the preceding six months. The frequency of cocaine use remained low and sporadic (on average less than bi-monthly use in the last six months) in all jurisdictions except NSW. In NSW, the frequency of cocaine use among IDU decreased from 20 days per six months in 2007 to 12 days in 2008 (i.e. once a fortnight). Cocaine powder remained the most common form of the drug used by participants, with negligible reports of crack cocaine use (Stafford, Sindicich & Burns, 2009).

In 2008, cocaine was considered 'easy' or 'very easy' to obtain in NSW, and the majority of IDUs reported availability as stable in the preceding six months. Substantial numbers of participants commenting in other jurisdictions, with the exception of Vic, reported cocaine as 'difficult' or 'very difficult' to obtain. Small numbers in all jurisdictions except NSW were able to comment on the price, purity and availability of cocaine. The price of a gram and a cap of cocaine in NSW remained largely stable at $300 and $50 respectively. The majority of participants also described the price of cocaine as having remained 'stable' over the last six months (Stafford et al., 2009).

The report from the National Needle and Syringe Program survey indicates that cocaine was the last drug injected by only 2% of respondents in 2007. This has not changed significantly since 2003. Four percent of NSW respondents last injected cocaine, down from a peak of 6% in 2004 and 2005 (Iversen, Deacon & Maher, 2008).

In summary there are several indicators which point to increases in activity in cocaine markets, particularly in NSW. There is probably also a significant hidden market of more affluent users who are difficult to attract into research studies and who do not come to the attention of law enforcement or treatment services.

10.4 Law enforcement impacts of cocaine in Australia

10.4.1 The importation and trafficking of cocaine

Consignments of cocaine rapidly diffuse into the Australian market through short supply chains characterised by low levels of cutting and relatively low mark-ups. Cocaine primarily enters Australia via Sydney and rapidly reaches users through these short supply chains which are often tightly socially-based (Shearer et al., 2005).

Cocaine detections at the Australian border increased slightly in weight and significantly in number in 2007–08 compared with 2006–07. In total, 649.3 kilograms of cocaine was seized in 627 detections. This represents a 6% increase in weight and a 71% increase by number. The increase in number is largely attributable to importations by parcel post and air cargo using the 'scatter methodology'. In 2007–08, 530.8 kilograms of cocaine was detected in sea cargo; 48.7 kilograms was detected in air cargo; 37.7 kilograms 'on' or 'in' air passengers; and 31.9 kilograms in postal articles. There were 30 detections over one kilogram (ACC, 2009a).

The trafficking and subsequent transhipment of cocaine from Canada continues to pose a substantial threat to the Australian border. Similarly, the growth in cocaine trafficking through China and the Hong Kong SAR continues to be a significant issue. In 2007–08, West African criminal syndicates continued to import cocaine via the postal, air cargo and passenger streams and accounted for a greater number of detected importations (ACC, 2009a).

The weight and number of overall cocaine seizures nationally also increased in 2007–08. In 2006-07, 646 kg of cocaine was seized compared with 665 kilograms in 2007–08, an increase of 2.8%. The number of seizures increased from 1,184 to 1,271, an increase of 7.3% which was the highest on record. New South Wales accounted for approximately 80% of cocaine seizures by number and weight. The number of national cocaine arrests decreased by 4% in 2007–08 – nevertheless, it is still the second highest reported in the last decade (ACC 2009a).

The median purity of cocaine seizures in NSW has gradually increased in recent years. In 2000/01, the median purity of cocaine seized in NSW by the AFP was 45% (n=57); this increased to 76% in 2006–07 (n=491). So, too, the median purity of cocaine seized by NSW police was 52% (n=101) in 2000–01 which, after fluctuating, increased to 61.5% in 2006–07 (Stafford et al., 2009).

Shearer et al. (2005) estimated that the total annual cocaine consumption in Sydney and Melbourne was 2,916 kilograms. This would require the importation of 1,458 kilograms of high grade cocaine per annum for these two cities. These estimates indicate that the multiple seizures totalling hundreds of kilograms of cocaine in recent years at the Australian border were not aberrations, but were consistent with the quantities needed to satisfy current levels of demand.

The cocaine dealers surveyed by Shearer et al. (2005) were mostly male, well educated, and employed, with above average incomes. Two types of dealers were identified. The first typically supplied cocaine to marginalised injecting drug users but had little involvement in supplying heroin. A second group of dealers typically supplied the socially integrated users and was also involved in the retail supply of ecstasy. There appeared to be very little overlap, at least at the retail level, between the supply of cocaine and the supply of heroin or crystalline methamphetamine. Many dealers, in particular the younger drug suppliers, did not appear to appreciate the potential legal consequences of their trading activities.

Two key law enforcement consultants from different jurisdictions reported that there was an increasing trend among ecstasy dealers to dabble in cocaine sales. In addition to the financial incentive of doing this, an additional incentive was to enhance their own status as dealers.

Cocaine is an expensive drug. In 2008 the price of a gram and a cap of cocaine in NSW remained largely stable from the preceding year at $300 and $50 respectively (Stafford et al., 2009). Many key expert consultants suggested that the fact that it is so expensive (especially when compared to methamphetamine) severely limits the market for the drug. That said, there is a risk that cocaine could become a more widespread 'fashion accessory' or status symbol which could increase demand.

Shearer et al. (2005) found that the majority of the financial rewards associated with the cocaine trade occurred either at the point of importation, or when ounces or grams of cocaine were broken down and diluted into caps for cocaine injection. The financial returns gained by other middle level and retail dealers were reasonable but (in the dealer's view) not sufficient to compensate for the risk of apprehension and potential penalties. Indeed, apart from those dealers who were involved in the upper parts of the supply chain, most needed to have alternative employment. The researchers found no commercial market for crack cocaine.

10.4.2 Cocaine use and offending

In reporting on the findings of the 2007 Drug Use Monitoring in Australia (DUMA) survey Adams, Sandy, Smith and Triglone (2008) reported that cocaine is the least likely of all drugs to be used and detected among police detainees. In 2007, 1% of Australian police detainees tested positive to cocaine, compared with 2% in 2006. Four percent of detainees self-reported use of cocaine in the past month (5% of male detainees versus 3% of female detainees).

Consistent with previous years, in 2007 the two NSW DUMA sites of Bankstown and Parramatta had the highest number of detainees testing positive to cocaine (6% and 5% respectively). This peaked in 2001, where use increased from 6% in 2000 to 16% in 2001 in Bankstown and from 3% to 12% in Parramatta. Since then, use has fluctuated, but the trend has been towards a gradual increase in detected use. The other DUMA sites detected very few detainees that had recently used cocaine. Over time, the smallest percentage of detainees testing positive to cocaine were in the sites of East Perth and Elizabeth.

As is evident, cocaine is not a drug which features strongly in the drug use of police detainees, and there do not appear to be close links between cocaine use and offending.

10.5 Health impacts of cocaine misuse

Cocaine is a powerful constrictor of blood vessels and many of the physical harms associated with cocaine use are due to this effect. Cocaine use can lead to problems in a wide range of body systems including: the cardiovascular, neurological, gastrointestinal, or respiratory systems. The intranasal use of cocaine is associated with a number of nasal symptoms, such as nasal congestion, rhinitis, bleeding, ulceration and perforation of the nasal septum, as well as a loss of the sense of smell (Kaye, 2007). In addition, when cocaine is consumed with alcohol, the human liver manufactures a chemical called cocaethylene. This intensifies the euphoric effect, but increases the risk of sudden death (ACC, 2009a).

Deaths due to cocaine toxicity typically occur among male, experienced drug users who are, on average, in their mid-30s. Cocaine-related fatalities often involve multiple drugs, most commonly heroin and alcohol. Deaths due to cocaine toxicity are due primarily to cardiovascular complications, such as myocardial ischaemia and infarction and cardiac arrhythmias. The risk of these events occurring is increased in the presence of underlying coronary artery disease. Cerebrovascular accidents (strokes), and cerebral haemorrhage in particular, are also well-recognised causes of cocaine-related deaths. There were 20 accidental drug induced deaths in Australia in 2004 where cocaine was mentioned as either the primary cause of death or noted in "toxic quantities" where another drug was the primary cause of death (Kaye, 2007).

In 2006–07 cocaine was cited as the principal drug of concern in less than 1% of closed treatment episodes in 633 government-funded alcohol and other drug treatment agencies from across Australia. When all drugs of concern are considered (that is, the principal drug of concern and all

other drugs of concern nominated by the client), approximately 2% of treatment episodes included cocaine as a drug of concern in 2006–07 (AIHW, 200[d).

Cocaine-related hospitalisations are also rare in Australia. Between 1993 and 2005 cocaine-related hospitalisations did not exceed 300 per year. As could be expected, during the twelve-year period rates were highest in NSW, which accounted for the majority of the national total of cocaine-related separations during this period.

Increases in cocaine-related hospital separations were recorded in 1998/99 and 2001/02, with the latter coinciding with the heroin shortage and increased reports among injecting drug users about problems associated with cocaine use. A further increase was evident in 2004/05 in NSW, which was predominantly due to an increase in cocaine dependence separations. This increase was consistent with reports of increases in daily use and greater availability of cocaine among injecting drug users in Sydney (Roxburgh & Degenhardt, 2006).

While the use of cocaine has a range of potentially adverse effects, as is evident, it is not currently a major draw on drug treatment or hospital resources or a major cause of mortality in Australia.

10.6 Summary of cocaine markets in Australia

The size and nature of cocaine markets in Australia is difficult to establish. Of concern is the range of measures which point to an increase in activity in the cocaine market, predominantly on the east coast. There are indications of increasing levels of recent use in population level data (particularly among 20–29 year old males), an increase in the quantity of seizures and in the amount of cocaine seized and increased purity.

Most of the key expert consultants were of the view that cocaine represented little risk to Australia in the future, largely as a result of its high cost (particularly relative to methamphetamine). From this perspective, cocaine is a niche drug used predominantley by a small number of affluent Australians and is attractive only to those who can afford it. It was regarded by many key consultants as a ‘status symbol’ drug and its use is likely to be closely linked to peak periods of the economic cycle. In this regard, many of the indicators discussed above were taken in 2007 and 2008, before the full effects of the global financial crisis became clear. In this regard they are a ‘rear view vision’ of the situation at this time. Several key consultants suggested that the global financial crisis could significantly reduce the demand for this drug in Australia. There is, however, a risk that cocaine could become a more widespread ‘fashion accessory’ or status symbol which could increase demand.

While the use of cocaine has been traditionally associated with more affluent Australians, it is also important to be mindful that there is a second group of lower socio-economic group users. As Shearer et al. (2005) suggested, this group could be responsible for a significant proportion of overall cocaine consumption, particularly in Sydney. As was discussed earlier, the researchers estimated that the monthly personal expenditure on cocaine of this group was $2,800 which was ten times greater than for the higher socio-economic group of users. From this perspective, the actual and potential market for cocaine ought not to be regarded as being confined exclusively to upper socio-economic groups. Cocaine is approximately the same price as heroin (Stafford et al., 2009) and the use of heroin is not confined to upper socio-economic groups.

Nevertheless, it is probable that cocaine has a niche position among both market groups, and any sustained expansion in the size of the markets is likely to come from those who can most

afford it. This is reinforced by the fact that for those seeking the effects of stimulant drugs, methamphetamine is a far more cost effective and longer lasting drug.

Given the distances involved between Australia and the source countries for cocaine, the process of getting large quantities of the drug into Australia is a complex and risky one which necessitates the involvement of well organised crime groups. The increasing use of scatter importations is evidence of the problems and risk associated with large importations.

Overall, the impression gained about cocaine markets in Australia is that they are relatively small, but that they were increasing at least in 2007, and potentially increasing still, particularly on the east coast. As was mentioned earlier, the world's largest market for cocaine (USA) has declined very significantly in size in recent years. This could leave Australia as a target for the cocaine production that was previously sent to the USA. For these reasons, there is a need for the law enforcement sector to continue to monitor cocaine markets closely.

Chapter eleven: Other drugs

11.1 Introduction

This chapter deals with a range of current and emerging illicit drug threats that were identified in the environmental scan, but which are not dealt with elsewhere.

11.2 Ketamine

Ketamine is a dissociative anaesthetic drug with pain-killing and amnesic qualities. The drug is more commonly used in veterinary rather than human surgical settings. Ketamine has a wide margin of safety and few cases of ketamine overdoses have been recorded. The majority of deaths associated with the use of ketamine have resulted from its combination with other (particularly depressant) drugs or as a result of dangerous behaviour while under its effects. The level of use across the population is very low, although its use is somewhat higher among parts of the population with ready access to the drug, such as medical and veterinary practitioners and those with access to the drug on the illicit drug market (Copeland & Dillon, 2005). In 2007, 1.1% of Australians 14 years and over reported having used ever used ketamine, and 0.2% reported having done so in the past year (AIHW, 2008b). The use of ketamine among regular ecstasy users has generally declined in recent years, although in 2007 increases in use occurred in NSW and SA (Black et al., 2008).

In Australia ketamine is generally sold in small glass vials and is usually obtained from diverted veterinary or medical supplies. The use of ketamine can lead to physical and psychological dependence and a withdrawal syndrome has also been observed. The use of ketamine can also result in difficulties with walking and balance resulting in falls, numbness, slurring of speech, dizziness and feelings that the world is unreal, panic attacks and persistent perceptual changes. As a result of many of these unpleasant side effects, many of those who experiment with ketamine do not persist with its use (Copeland & Dillon, 2005).

Most police key consultants reported that the use of ketamine was low and generally stable in their jurisdiction. The spread of use of the drug is probably being limited by the extent of its unpleasant side effects and, as such, it is a 'niche' drug. One key consultant did suggest that if there was to be an increase in demand for depressant drugs in the community then the demand for ketamine was more likely to fill that niche than heroin. Overall, however, ketamine was not a drug which was of major concern to health or law enforcement key consultants.

Notwithstanding the fact that ketamine is not a drug that is of major concern to law enforcement at present, it is a drug that warrants close monitoring. Ketamine has become a major drug of misuse in the Hong Kong SAR, for example, where it has largely replaced ecstasy as a drug of misuse. This is despite being largely unheard of in this context a decade ago in that country. Despite the fact that ketamine is difficult to manufacture, major illicit manufacturing operations and seizures have occurred in China and Hong Kong SAR. In China, for example, the number of detected clandestine ketamine laboratories increased from 17 in 2006 to 44 in 2007. This increase in production occurred in response to increased demand for the drug, particularly in Hong Kong SAR. So, too, in 2007–08, ketamine was being manufactured in methamphetamine laboratories in Indonesia, which raises the possibility of that country also becoming a source of illicit production (UNODC, 2009).

Although very little ketamine is seized at the Australian border (15.2 kg in 2007–08), China was the major embarkation point for this ketamine. The largest detection was of 5 kg of suspected ketamine powder (ACC, 2009a).

Therefore, in future, the threat posed by ketamine ought not to be seen as one that is confined to the diversion of the drug from pharmaceutical sources. Clearly, large-scale illicit production of ketamine is feasible and this could occur both on shore and off shore. Off shore production could relatively easily be diverted to Australia via established trafficking routes.

11.3 Gamma-hydroxybutyrate (GHB)

GHB is a naturally occurring fatty acid that occurs in the human body. GHB is a depressant drug and was originally developed as an anaesthetic, but was not widely used due to the incidence of unwanted side effects, including vomiting and seizures. Common street names for GHB in Australia include 'liquid ecstasy', 'fantasy', 'GBH', 'grievous bodily harm' and 'blue nitro'. GHB is sold in millilitre doses with the usual dose being 3 ml (Black et al., 2008).

Following restrictions on the availability of GHB, there have been reports of the production of GHB from its precursor, gamma-butyrolactone (GBL). GBL is a common ingredient in paint thinners and varnishes. GBL is mixed with substances that are easily obtainable to make GHB. In addition, GBL and a similar chemical, 1,4-butanediol (1,4-B), are metabolised into GHB in the body when consumed (Black et al., 2008). Consequently, it is entirely possible that much of what is being sold as GBH is actually GBL (or potentially 1,4-B) because the effects are similar. Although the euphoric effects of GBL/1,4-B are similar to that of GHB, the onset of their effect is slower. This means that users can risk overdosing on GBL by taking a second serve, not realising the effects of the first dose are still to occur (Dillon, 2008).

The effects of GHB are very dose-dependent, which means that there is an extremely small difference between the 'desired' dose and one that induces unconsciousness or death (Degenhardt et al., 2003, as cited in Black et al., 2008). When mixed with other depressants, such as alcohol, the depressant effects are increased and this can readily lead to respiratory difficulties and overdose.

The comparatively low price of GHB[42] means that it is a cheap alternative to alcohol and the effects of GHB are much closer to those of alcohol, cannabis and benzodiazepines, than they are to MDMA and other stimulant drugs. The physical incapacity, drowsiness and unconsciousness resulting from relatively small increases in GHB dosage mean that the risks associated with driving or operating machinery are high (European Monitoring Centre for Drugs and Drug Addiction, EMCDDA, 2000).

It is very common for users of GHB to overdose on the drug. Degenhardt, Darke and Dillon (2002) found that half of their sample of GHB users had overdosed on it. This was despite the fact that the users had not had a long or extensive use of GHB. Those who had used the drug for a longer period of time were more likely to have overdosed on it. There have also been a number of GHB-related deaths in Australia. Cauldicott, Chow, Burns, Felgare and Byard (2004) identified 10 such deaths between 2000 and 2003 with eight of these being directly attributable to GHB.

Dietze, Cvetkovski, Barratt and Clemens (2008) documented the steady increase in non-fatal GHB overdoses in Victoria between 2001 and 2005. There were 618 GHB-related ambulance attendances across the 46 months of data collection with 362 involving GHB only and 256

[42] GHB in Australia has a median price ranging from $3.50 to $7.50 in different jurisdictions (Black et al., 2008).

involving the concurrent use of GHB and other drugs. The number of GHB-related attendances increased by around 4% per month over this period, which was a higher rate of increase than that found for heroin overdose attendances.

The use of GHB is rare in the Australian population. In 2007, 1.1% of Australians claimed to have had used the drug in their lifetime and 0.2% claimed to have done so in the past year (AIHW, 2008). The use of GHB among regular ecstasy users has been generally declining in recent years in most jurisdictions. The exception to this trend is Queensland where its use has increased since 2005 (Black et al., 2008).

GHB has also been linked to drug facilitated sexual assault but the extent of this is unclear. In this regard, it should be noted that GHB dissolves easily and is colourless, odourless and may be difficult to taste. Therefore, it can be taken unobtrusively in social settings where drinks are served (EMCDDA, 2000).

By any measure, the use of GHB (or GBL, or 1,4-B) is risky. Not only is there a small margin for error in terms of the doses, but given the very small amounts taken (2–3 ml) there is a significant risk of a measuring error. Inadvertently taking only one extra millilitre increases the overall dose by 30–50% and can easily lead to overdose.

Key law enforcement consultants also pointed out that it is also unfortunately common for multiple overdoses to occur simultaneously at the one event. This can severely stretch ambulance and policing resources. Overall, however, it appears that the use of GHB is stable in Australia.

11.4 Khat

The increasing use of khat was an emerging issue that was raised by key expert consultants, particularly from Victoria. The issue emerged in the context of a potential link between the use of khat and an increased incidence of family violence. It was also previously raised as an emerging issue in the 2005 environmental scan of alcohol and other drug issues for policing undertaken in 2005 (Nicholas & Shoobridge, 2005).

Khat is a herbal product consisting of the leaves and shoots of the shrub *Catha edulis*. There are many different varieties of *Catha edulis* depending upon the area in which it is cultivated. It is cultivated primarily in East Africa and the Arabian Peninsula where it has been used for centuries. Khat is first harvested and then chewed to obtain a mild stimulant effect. It is known by a variety of different names including mirra, qat, Catha, bushman's tea, jaad, herari, tschat, flower of paradise, kaad, chat, tohai, Abyssinian tea, qaat, gat, African salad, and tea of the Arabs (Advisory Council on the Misuse of Drugs, ACMD, 2005).

The fresh leaves of khat contain the alkaloid stimulants cathinone and cathine in addition to more than 40 other chemicals. These substances have biochemical properties that are similar to those of a mild amphetamine. When stored, khat loses potency rapidly and hence the dried form of the plant is less active than the fresh form. Cathinone and cathine are isolated from the leaves of the *Catha edulis* plant by the action of enzymes in saliva. Chewing khat has been shown to be an efficient way of extracting cathinone and cathine but it takes a long time to reach maximal plasma levels and hence khat has less reinforcing properties than other stimulants such as amphetamine and cocaine. The international literature suggests that khat has a low abuse potential (ACMD, 2005).

The importation of khat into Australia is subject to regulation 5 of the *Customs (Prohibited Imports) Regulations (1956)* and is prohibited unless the importer holds a licence and permit issued by the Office of Chemical Safety and Environmental Health. In order to obtain this license and permit, potential importers need to obtain an Australian Quarantine and Inspection Service (AQIS) Import Permit. Importers can apply for an annual permit which allows importation of up to 5 kg once a month for 12 months or a single shipment permit which allows importation of up to 5kg and may only be used once (Department of Health and Ageing, n.d.).

The legal status of khat varies between jurisdictions. In Western Australia, South Australia, Queensland, the Australian Capital Territory, and the Northern Territory it is an offence to possess and/or sell and/or cultivate khat. In Victoria, New South Wales and Tasmania there is no criminal regulation on the khat plant and the only control is jurisdictional enforcement of the Food Standards Code. Thus, while it is legal to import khat once the appropriate permits have been obtained, it is illegal to possess/cultivate/sell it in five jurisdictions (Parliament of Australia, 2008).

Over the past decade, Australia has experienced a substantial increase in the proportion of the resident population which emanates from sub-Saharan Africa. As noted above, this region has a long cultural history of khat production and consumption. Although the importation data is difficult to interpret, it appears that there has been a significant increase in the volume of khat imported over this period. It also appears that the overwhelming majority of khat imported is in dried form, rather than the more potent fresh form (Fitzgerald & Lawrence, 2009).

One of the difficulties associated with assessing the law enforcement impacts of the use of khat, is that its use is most prevalent in Australia among groups of people who often have a history of highly traumatic experiences, such as torture, war and the difficulties associated with shifting to a new country. It could well be the case that problems attributed to the use of khat could actually stem from these experiences, rather than from the use of the substance itself. Also important in this regard are: the symbolic meaning of the use of khat to males from the sub-Saharan region; changes in the male/female power relationships following immigration; and the influence of these factors on patterns of family violence (Fitzgerald & Lawrence, 2009). The use of khat outside of its usual social context may further contribute to these kinds of problems (ACMD, 2005).

In Australia the available evidence suggests that the vast majority of khat import licenses are granted for dried khat. This in turn points to the majority of khat being imported having low levels of the most active constituent cathinone. While there have been substantial increases in the volume of khat being imported into Australia, there is little systematic evidence of a consequent rise in harms associated with khat use (Fitzgerald & Lawrence, 2009).

In summarising the evidence concerning the impact of khat use on law enforcement issues in the United Kingdom, the ACMD (2005) reported that there is some evidence that the use of khat is associated with strains in family relationships. This does not, however, suggest that khat use of itself is a significant cause of family violence and other disruption. It could also be the case that khat use is a convenient 'scapegoat' for these problems. There is little evidence that the use of khat fuels acquisitive crime in the way the use of other illicit drugs does. Khat users do not generally appear to use other drugs of abuse, a situation possibly helped by its legal status. Users are not criminalised and do not have to come into contact with dealers who sell a range of illicit drugs. It is possible that intoxication with khat may impair driving in some cases, but from the available evidence it seems that using khat alone causes very little impairment in an individual's ability to drive.

It summary, the issue of increasing khat use among immigrants from sub-Saharan Africa is clearly an issue that warrants monitoring. Nevertheless it is important to be mindful that khat is a relatively mild stimulant and that its use is prevalent among groups who often have a history of traumatic

experiences. As a result it is possible to over-emphasise the role of khat in any problems that manifest themselves among khat users. It is to be hoped that the current NDLERF-funded project on this topic will shed further light on this issue.

11.5 Kava

The use and misuse of kava was an issue raised by a range of expert health consultants from various jurisdictions and key law experts in the Northern Territory (NT). The misuse of this substance is primarily a problem in some communities in Arnhem Land, in the NT.

Kava is a psychoactive drink prepared from the root of the plant *Piper methysticum* and has been used for millennia in the Pacific islands. The consumption of kava is part of everyday life on islands such as Fiji, Tonga and Vanuatu and occurs during important events or social and relaxing gatherings and in secular drinking. The beverage is prepared within a 'kava circle' of people gathering to drink, in rituals that vary somewhat across the Pacific, yet the styles are similar. In the early 1980s kava was, in part, introduced as a substitute for alcohol among Aboriginal populations in the north of Australia (Cairney, Maruff & Clough, 2002).

Kava can be consumed by drinking an infusion of either the dried powdered parts of the plant or the fresh ground root, or by swallowing the product of a commercial extraction process. In small doses, kava acts as a muscle relaxant. Larger doses of kava can produce ataxia, intoxication, sedation, analgesia and paralysis of the extremities without loss of consciousness. These effects are completely recoverable (Cairney et al., 2002).

In the early part of this decade, kava or kava derivatives became increasingly popular in European and American markets, in capsule form, for the treatment of anxiety and tension. Kava has been demonstrated to be effective in treating anxiety (Pittler & Ernst, 2000).

Kava use can be associated with a range of health harms. These include skin rashes, liver function abnormalities, and decreased level of specific white blood cells, lymphocytes. The reduction in these white cell counts could leave kava users more prone to infection (Clough et al. 2003). Liver problems associated with kava misuse are rare, however, if the drug is taken in recommended doses. Overdose, prolonged use and the use of other substances are associated with an increased risk of liver damage (Teschke, Schwarzenboeck & Hennermann, 2008).

Prior to the Northern Territory Emergency Response (NTER), kava was available from licensed retailers who were able to sell kava to people residing in approved licensed areas. Despite this, there was a large illegal trade in kava. This licensed trading arrangement ceased with the introduction of the NTER. There is still a large illegal market supplying kava to Arnhem Land communities, just as there was prior to the NTER. NT Police regularly seize kava which is headed for remote communities in Arnhem Land.

11.6 Performance and image enhancing drugs

Performance and image enhancing drugs (PIEDS) are typically misused with a view to enhance muscle growth or reduce body fat. They can increase the size and definition of muscles, reduce water retention and increase physical strength and endurance. They are usually illicitly obtained human or veterinary pharmaceuticals, which when misused are taken in amounts that greatly exceed recommended therapeutic doses. The major drugs of concern are human and veterinary anabolic-androgenic steroids (AAS), growth hormones, anti-oestrogen diuretics, stimulants, beta-2

agonists (i.e. clenbuterol) and hormones such as insulin and thyroxine. The most widely used and investigated PIEDS are AAS (Larance & Degenhardt, 2007).

Approximately 0.01% of Australians aged 14 years and over claimed to have used 'steroids' in the last six months (AIHW, 2008). Other studies have found much higher rates of use among particular groups, such as regular gym attendees, gay men and adolescents (Larance & Degenhardt, 2007). There was a slight increase in the availability of steroids between 2004, when 0.8% had an opportunity to use the drug compared with 1.3% in 2007 (AIHW, 2008b).

In 2007–08, there was a 27% increase in the number of detected importations of steroids, while there were similar decreases in detections of dehydoepiandrosterone (DHEA) and of other selected hormones. The overwhelming majority of AAS detections involve small quantities imported for personal use or for small-scale trafficking (ACC, 2009a).

Overall it appears that the PIED market in Australia is relatively stable and not particularly dynamic. There is no evidence that it is an increasing problem (Larance and Degenhardt, 2007).

11.7 Hallucinogens

In 2007, over 1 million Australians aged 14 years or older had used hallucinogens in their lifetime, 106,100 of them in the 12 months before the survey. The majority of users (65.8%) at all ages and both sexes were relatively infrequent users (once or twice a year). The most common form of hallucinogens used was magic mushrooms (69.6% of recent users), followed by lysergic acid diethylamide (LSD) tabs (62.0%) (AIHW, 2008b).

In 2008, a substantial proportion of injecting drug users reported having used hallucinogens at some stage in their lifetimes (69%), while use in the preceding six months remained low (4% for LSD, and mushrooms 3%) (Stafford, Sindicich & Burns, 2009). In 2007, a similar proportion of regular ecstasy users (61%) reported lifetime use of LSD and 28% had used it in the six months preceding interview (Black et al., 2008).

Overall the market for hallucinogens in Australia appears stable and low.

11.8 Volatile substances

Volatile substance[43] misuse is a significant problem for law enforcement. Volatile substances are not generally illegal to possess or use and yet the users can become so intoxicated that they create significant public amenity problems and can be involved in violent interactions with members of the public and the police.

Volatile substances (also known as inhalants) are usually classified into four groups:

- solvents – liquids or semi-liquids that vaporise at room temperature, such as glues and petrol;
- gases – medical anaesthetics and fuel gases, such as lighter fuels;
- aerosols – sprays containing propellants and solvents, such as aerosol paints;
- nitrites – amyl nitrite or cyclohexyl nitrite found in room deodorisers (d'Abbs and MacLean, 2008)

Data on volatile substance misuse (VSM) are generally of poor quality. This is because: VSM is not a criminal offence; it is often a clandestine activity; and many users are below the minimum age covered by drug use surveys. Globally, VSM most commonly occurs among young people from

[43] Also see the chapter of the environmental scan on Indigenous Australians.

poor (often indigenous minority) groups. It is likely that poverty and marginalisation, rather than cultural attributes of particular groups, account for most VSM. In remote Indigenous communities in Australia, petrol sniffing is the most common form of VSM, whereas in urban and regional centres sniffing aerosol paints ('chroming') is the preferred form of VSM among both Indigenous and non-Indigenous youths (d'Abbs & MacLean, 2008)

VSM appears to involve a relatively large number of experimental users and a smaller number of chronic users. In Aboriginal communities, however, the sniffing population often contains a high proportion of chronic sniffers, particularly among older age groups. Prevalence peaks early compared to other drug use, being highest among 12–14 year olds and diminishing thereafter (d'Abbs and MacLean, 2008).

In 2007, approximately 500,000 Australians aged 14 years or older (3.1%) had ever used inhalants with more males (3.9%) than females (2.3%) having done so. Much lower proportions had used inhalants in the previous 12 months, with the highest prevalence being among 14–19 year olds (1.1%). Among recent users, 44.3% used inhalants once or more a month, with the remainder using less often (AIHW, 2008b).

In reporting on the results of the reported use of inhalants among secondary students, White and Hayman (2006b) reported that in 2005 VSM was more common among younger students than older students. While 17% of all students had ever used inhalants, this proportion decreased from 21% of 12 year olds to 10% of 17 year olds. Recent use of inhalants also decreased with age. Six percent of 12 year olds had used inhalants in the week prior to the survey, while only 2% of 17 year olds had done so. Three per cent of 12 year olds had used inhalants 10 or more times in the past year and this decreased to 1% of 17 year olds.

The proportion of 12 to 15 year olds using inhalants in their lifetime and in the past month has decreased significantly between 1996 and 2005 and between 2002 and 2005. Among 16 and 17 year olds, significantly fewer students reported lifetime use of inhalants in 2005 than in 1996, 1999 and 2002. However, there was no change in the proportion of older students using inhalants in the past month (White & Hayman 2006b).

In Australia since 1994, the prevalence of petrol sniffing in some Indigenous communities where it has been present for a long time, especially in Central Australia, appears to have declined. This has occurred alongside reports of increasing VSM in regional and urban centres. Inhalant users have been found to exhibit relatively high rates of psychological disorders, including depression, anxiety, stress, anti-social personality disorder and poor self esteem. They are disproportionately involved in petty crime and more likely than other young people to be incarcerated. VSM has been identified as both a cause and a consequence of poor schooling outcomes and early school leaving (d'Abbs & MacLean, 2008).

Overall, it appears that the use of volatile substances is concentrated among younger, particularly Indigenous, Australians and levels of use are stable.

Chapter twelve: Vulnerable groups for experiencing alcohol and other drug-related harm

12.1 Introduction

This chapter examines in depth the current situation regarding alcohol and other drug use problems among some Indigenous Australians. This stems from the fact that Indigenous Australians were regarded by many of the key expert consultants as being a particularly vulnerable group which is currently experiencing very high levels of alcohol and other drug-related harm. In addition, this chapter examines issues surrounding two other vulnerable groups, younger Australians and people with concurrent alcohol and other drug and mental health conditions (comorbidity).

12.2 Indigenous Australians

12.2.1 Introduction

As with the impact of alcohol and other drug misuse by non-Indigenous Australians the misuse of alcohol and other drugs by some Indigenous Australians impacts on policing in a range of ways. This includes its impacts on patterns of offending and victimisation, as well as public amenity issues.

It is very difficult to construct a coherent picture of alcohol and other drug problems among Indigenous Australians from the available research. As Pascal, Chikritzhs & Gray (2009) pointed out, for example, the most reliable national survey concerning alcohol and other drug use patterns among Indigenous Australians was undertaken in 1994. As is evident, 15 year old research is an unsteady foundation upon which to build evidence-based policy. In addition, much of the research that is available on this topic relates to studies of particular communities, geographical places or time periods, and so the findings of these may not necessarily be generalisable to the wider Indigenous population (Australian Institute of Health and Welfare, AIHW, 2006). Further, data obtained from large population samples such as the National Drug Strategy Household Survey is most unlikely to fully capture the detail of alcohol and other drug problems as they impact on Indigenous people, particularly from remote areas.

Researching this area also is fraught with difficulties (for example, see Chikritzhs & Brady, 2006). While there is general consensus, among Indigenous Australians and other interested groups, that substance misuse is a significant problem among some Indigenous Australians, the literature on this topic is somewhat fragmented (AIHW, 2006). In addition, far more research has been conducted with Indigenous Australians from remote communities compared with those from urban communities.

In 2006, the estimated resident Indigenous population was 517,200, representing 2.5% of the total Australian population. Approximately 32% of Indigenous people live in major cities, 43% in regional areas and 25% in remote areas. The Indigenous population has a younger age profile, with a median age of 21 years, compared with 36 years for the non-Indigenous population (Steering Committee for the Review of Government Service Provision, SCRGSP, 2009).

Critical to more fully understanding the alcohol and other drug use problems experienced by some Indigenous Australians is an awareness of the context of dispossession, alienation, and deprivation in which they occur. The aim of this chapter is to provide a snapshot of alcohol and other drug problems as they currently impact on Indigenous Australians and as they are likely to do so in the future. Consequently it is beyond the scope of the chapter to explore the myriad of historical factors that have been associated with the development of these problems. For a more complete exploration of these issues, please see Brady (2004) or Ministerial Council on Drug Strategy (MCDS, 2003).

In the previous environmental scan of alcohol and other drug issues undertaken for policing in Australia, Nicholas and Shoobridge (2005) highlighted a range of ways in which Indigenous Australians are a particularly vulnerable group as far as experiencing alcohol and other drug-related harms is concerned. Issues of particular significance in this regard included:

- continuing high levels of alcohol consumption and related harm in some groups;
- evidence of dramatic increases in cannabis use among some groups;
- evidence to suggest that the rate of injecting drug use among Indigenous Australians has at least doubled in the past ten years;
- the fact that illicit drug use poses a disproportionate health risk to Indigenous communities as compared with the total Australian population;
- comorbidity (combined alcohol and other drug and mental health problems) and poly-substance use; and
- volatile substance misuse.

While there are a number of projects underway across Australia that are having positive impacts, unfortunately the consultations and literature review undertaken for this environmental scan indicate that little progress has been made in addressing many of these issues since the last scan was undertaken. Indeed a further concern can be added to this list, which is that of emerging pharmaceutical misuse. The exception to this rather bleak picture is a reduction in petrol sniffing in remote communities in the NT, WA and SA.

Delahunty and Putt (2006), described the fear of many Indigenous Australians that they consulted in their research, that a whole generation of young people could be 'lost' to substance misuse. The researchers reported that these fears were based on perceptions by those consulted that:

- the age of first time substance use among many Indigenous young people is falling;
- too many young Indigenous people drop out of school early or only complete basic schooling with minimal learning and few prospects for the future;
- participation in sport, cultural activities and other key aspects of community life is suffering as a result of alcohol and other drug abuse; and
- rates of Aboriginal incarceration are increasing, not declining.

In considering the issue of alcohol and other drug use problems as they impact on Indigenous Australians, it is important to be cognisant that these problems do not adversely impact upon all Indigenous Australians, or on all Indigenous Australians living in remote regions. While it is often stated, it is worth reiterating that there is a considerable degree of heterogeneity present in Indigenous groups in Australia, and great caution needs to be adopted when making generalisations about any characteristics of Indigenous culture or experience. Indigenous Australians, even those living within a single jurisdiction or region, cannot be regarded as a single homogenous (or harmonious) group, for whom 'one size fit all' responses can be applied to alcohol and other drug problems.

The chapter first explores levels of offending among indigenous Australians and the links between this offending and alcohol and other drug misuse. Next, the trends in alcohol and other problems are explored and this is followed by the implications for law enforcement and research.

12.2.2 Alcohol misuse among Indigenous Australians

Alcohol remains the major drug problem impacting upon Indigenous Australians. Among both urban and non-urban police officers surveyed by Delahunty and Putt (2006), 81% regarded alcohol as a serious problem among Indigenous Australians in their area. This compared with the next most problematic drug, cannabis, which 47% regarded as being a serious problem.

The MCDS (2003) noted that the proportion of Indigenous Australians who drink alcohol is lower than that of non-Indigenous Australians; however, those who do drink are more likely to do so at hazardous or harmful levels. The ABS (2004), reported that around one-sixth (15%) of Indigenous people aged 15 years or over, reported risky/high risk alcohol consumption in the last 12 months. This rate was higher for Indigenous males (17%) compared with (13%) for females and peaked for males aged 45–54 years (22%) and females aged 35–44 years (19%). The level of risky/high risk alcohol consumption in the last 12 months was similar for Indigenous people in non-remote and remote areas[44].

Brady (2004) reported that approximately 62% of Aboriginal people drink alcohol, of whom about two-thirds drink alcohol at harmful levels. Of particular concern is that the quantities associated with these levels can be enormous. She reported that binge drinking is the main distinguishing feature of Aboriginal drinking styles in both remote and rural regions, and that alcohol is implicated as a direct cause in approximately 10% of deaths among Aboriginal people. This death rate is three to five times higher than in the general Australian population. Chikritzhs and Pascal (2004) and Bourbon, Saggers and Gray (1999) also reported that young Indigenous Australians are particularly at risk of death, injury or illness from an alcohol-attributable cause. Indeed there is now evidence that the estimates of alcohol-attributable mortality among Indigenous Australians substantially underestimate the extent of the problem (Pascal, Chikritzhs & Gray, 2009).

A further insight into the extent of problematic drinking among some Indigenous Australians is derived from statistics concerning the number of persons taken into police protective custody in the NT. In 2007–08, there were 29,139 occasions on which people were taken into police protective custody as a result of intoxication (primarily with alcohol), of whom 27,213 were Indigenous Australians (Northern Territory Police, Fire and Emergency Services, 2008). There were a further 19,579 admissions to sobering-up shelters (S. Mitchell, NT Police personal communication 22 April 2009). This means that in that year there were 48,718 admissions to either sobering-up shelters or police protective custody in a jurisdiction with a population of 220,000 (Australian Bureau of Statistics, 2008b). If the proportion of admissions of Indigenous Australians to sobering-up shelters in the NT is similar to the proportion taken to protective custody, then there were approximately 45,500 occasions on which Indigenous persons were taken into protective custody/sobering-up shelters in 2007–08. This is among an Indigenous population of approximately 73,000 in the NT (Australian Bureau of Statistics, 2008c). It should be noted that these statistics do not include intoxicated Indigenous individuals taken into custody as a result of committing an offence. As a result, the statistics described above would understate the extent of the problem.

Over the five year period from 2000 to 2004, an estimated 1,145 (4.85 per 10,000) Indigenous Australians died from alcohol attributable injuries and diseases. Alcohol causes the death of an Indigenous Australian every 38 hours on average. Trends and numbers of alcohol-attributable

[44] These data need to be viewed with some caution as they may significantly underestimate both overall levels of alcohol consumption and problematic patterns of consumption (see Chikritzhs & Brady, 2006) .

deaths among Indigenous Australians vary widely both between and within jurisdictions. In 2004, Indigenous alcohol-attributable death rates in the Central NT (14 per 10,000), and Northern WA (10 per 10,000) were more than double the national rate for that year. Suicide (19%) and alcoholic liver cirrhosis (18%) are the predominant causes of alcohol-attributable deaths among Indigenous men. Alcoholic liver cirrhosis (27%), haemorrhagic stroke (16%), and fatal injury caused by assault (10%) are the most common causes of alcohol-attributable death among Indigenous women. The average age at death from alcohol-attributable causes among Indigenous people is about 35 years (Chikritzhs et al., 2007).

Bourbon et al. (1999) also reported that Indigenous people are subjected to disproportionately high levels of irresponsible service of alcohol. This includes the supply of alcohol to intoxicated people, the supply of alcohol in unhygienic containers, the supply of alcohol in ways that contravene license conditions and illegal sales of liquor. Equally, it was reported to the researchers that Indigenous people were more likely to frequent premises that had lower levels of amenity, and as a consequence were more likely to be subjected to alcohol-related injuries resulting from excessive alcohol consumption on licensed premises. A further problem identified was the sale of alcohol on credit, which was allegedly widespread in most jurisdictions. Those consulted by the researchers alleged that it was common practice for alcohol retailers to allow Indigenous people to purchase alcohol against incoming social security funds.

In all, this paints a bleak picture of the ways in which the misuse of alcohol is impacting on the health and welfare of some Indigenous Australians – a situation that in the view of many of the key consultants is not necessarily improving.

12.2.3 Patterns of illicit drug use among Indigenous Australians

In 2007, Indigenous Australians were almost twice as likely as other Australians to be recent users of illicit drugs (24.2% compared with 13.0%) (AIHW, 2008b). In addition there is evidence that Indigenous Australians are far more likely to be injecting drug users. In 2007, 11% of attendees surveyed at needle and syringe programs (NSP) identified as being of Aboriginal or Torres Strait Islander origin, despite making up only 2.5% of the Australian population as a whole. In addition, between 2003 and 2007 Indigenous attendees at NSP were more likely to be hepatitis C virus antibody positive compared with non-Indigenous participants (Iversen, Deacon & Maher, 2008).

Indigenous Australians are also hospitalised as a result of mental/behavioural disorders stemming from the use of multiple drug and psychoactive substances at 3.5 times the rate of non-Indigenous Australians (AIHW, 2008e). Indigenous illicit drug users also generally begin their use at earlier ages compared with their non-Indigenous counterparts (Joudo, 2008).

12.2.3.1 Cannabis

There is an increasing body of evidence that suggests that cannabis use is having a substantially detrimental effect on some Aboriginal and Torres Strait Islander communities. As the AIHW (2005) reported, in 2004, 19% of Indigenous Australians claimed to have used cannabis in the preceding 12 months, compared with 11% of other Australians. Indigenous Australians were almost twice as likely (12.4%) as non-Indigenous Australians (6.5%) to approve of regular cannabis use by adults (AIHW, 2008a). Indigenous Australians are hospitalised as a result of mental or behavioural disorders stemming from the use of cannabis at 4.6 times the rate of non-Indigenous Australians (AIHW, 2008e).

In their survey of 792 police officers in the Northern Territory, Queensland, South Australia and Western Australia, Delahunty and Putt (2006) found that most (81%) of the officers reported that cannabis was ‘easily available’ in their area. In addition, most (87%) of the police thought

cannabis was 'very commonly used' or 'commonly used' among local Aboriginal and Torres Strait Islander people, and many (36%) said this use had 'increased' or 'greatly increased' in the past three years. The researchers reported that up to two-thirds of males and one in five female Indigenous Australians in some remote areas regularly use the drug, and that the age of initiation into cannabis use is falling, with children as young as 10 or 11 years old smoking it. Indeed, they found that some of the poorest and youngest users spent between one-third and two-thirds of their weekly incomes on cannabis.

Delahunty and Putt (2006) reported that there is now a thriving trade in cannabis in some Aboriginal and Torres Strait Islander settlements, even in Australia's most isolated regions. This trade has grown substantially over the past decade, to the point where even very remote locations now have regular deliveries of cannabis. These authors described the rate of increase in cannabis use in some Indigenous communities as 'staggering' and this often results in very high levels of use of the drug in those communities.

Clough et al. (2004) reported major increases in the prevalence of cannabis use in Arnhem Land in recent years. Over 10 years the situation has gone from virtually no cannabis use in these communities to approximately 65% of males regularly using the drug. They also reported that, while women generally smoke less than do men, when they do smoke the drug they tend to do so in very large quantities. These researchers also found that the proportion of Indigenous males who had used cannabis in the *month* prior to the interview (67%) was almost double the proportion of the broader Northern Territory (NT) population reporting use of cannabis *in the last year*. Cannabis use by males in the NT is, in turn, approximately 1.7 times higher than that of males of a similar age in other Australian jurisdictions.

Unfortunately, the Northern Territory Emergency Response intervention (NTER) Review Board (2008) heard from many communities that the alcohol restrictions which resulted from the introduction of the NTER have been associated with an increase in cannabis consumption. These communities urged that specific strategies dealing with the supply and use of illicit drugs also be put in place. Some communities commented that cannabis has become the 'new currency' in many Aboriginal communities and there are increasing concerns about the level of associated mental health problems. This is in keeping with the findings of Senior and Chenhall (2008) and Senior, Chenhall and Daniels (2006) in relation to the impact on cannabis use following the imposition of alcohol restrictions and following the introduction of Opal fuel respectively.

Delahunty and Putt (2006) also reported on binge patterns of cannabis use in some communities, including those who smoke the equivalent of up to 20 'joints' in a single session. Bucket bongs were found to be widely used to binge on cannabis. Disturbingly, the new wave of cannabis use appeared to be in addition to, not instead of, the use of alcohol and other substances. In fact, there was no evidence that users in rural and remote settlements were substituting one drug for another. In this regard, the combination of heavy cannabis and alcohol use was found to be common, even in communities with liquor controls. The police surveyed indicated that heavy cannabis use exacerbated many existing problems among local Indigenous residents, especially family violence and mental illness. The use of the drug also tended to exacerbate long-standing community divisions, conflicts and disorder, especially in areas where community leaders and others with influence were involved in using or selling cannabis.

Another issue of concern highlighted by Delahunty and Putt (2006) was the potential for the drug networks that currently supply cannabis to outlying areas to be used to channel amphetamines and other injectable drugs in the future. As is evident, this would bring with it the concomitant risk of the spread of blood-borne diseases such as HIV and hepatitis C.

Lee, Clough, Jaragba, Conigrave and Patton (2008) found a strong association between heavy cannabis use and moderate to severe depressive symptoms in their sample of three NT Indigenous communities in Arnhem Land. They found high rates of depression in the communities, with nearly a third of females and one in six males reporting moderate to severe symptoms. The association between cannabis and depressive symptoms was clearest in heavy cannabis users and one-third of this group reported moderate to severe symptoms.

Indigenous Australians already have a suicide rate that is 2.4 times that of non-Indigenous Australians (AIHW, 2000e). Among Indigenous people aged up to 24 years, the suicide rate is five times higher for females and three times higher for males compared with non-Indigenous Australians (AIHW, 2006 as cited in Lee et al., 2008). Any factor, such as heavy cannabis use, which is associated with increased rates of depression, should be seen in the context of the threat that it poses to increased rates of suicide among Indigenous Australians.

As is evident, there is little doubt that there has been a recent burgeoning of cannabis use in some Indigenous communities and that this is having a substantially detrimental effect on some of those communities. This is clearly an issue of concern to policing in its own right and there is also a grave risk that the means used to get cannabis into the communities, could be used to traffic injectable drugs in the future.

12.2.3.2 Illicit drugs other than cannabis

There is little research which provides a broad perspective on the levels and patterns of the use of illicit drugs other than cannabis by Indigenous Australians. In 2007, Indigenous Australians were much more likely to have used an illicit drug other than cannabis (12.1%) compared with non Indigenous Australians (7.6%) (AIHW, 2008a). Indigenous Australians are hospitalised as a result of mental or behavioural disorders stemming from the use of stimulant drugs and opioids at 2.9 times and 2.3 times the rate of non-Indigenous Australians respectively (AIHW, 2008e).

Early studies have suggested a preference for amphetamines over heroin by Indigenous injecting drug users (see, for example, Gray, Saggers, Atkinson, Carter, Loxley & Hayward, (2001); Shoobridge, Vincent, Allsop & Biven, (1998); and Larson, Shannon & Eldridge, (1999). In fact, Shoobridge et al. (1998) reported that amongst some (and especially younger) users, amphetamines were preferred over alcohol. This was due to the stimulant effects of amphetamines (e.g. increased confidence and energy) having fewer negative social connotations compared with those associated with alcohol.

In their survey of 792 police officers serving Indigenous communities in the Northern Territory, Queensland, South Australia and Western Australia, Delahunty and Putt (2006) found that 85% of police said amphetamines were ‘available’ or ‘easily available’ in their local area, and 34% said it was ‘very commonly used’ or ‘commonly used’ among local Indigenous people. Significantly, 56% of all police (48% of police in non-urban areas) said local amphetamine use among Aboriginal and Torres Strait Islander people had ‘increased’ or ‘greatly increased’ in the past three years, while fewer than 2% (<2% in non-urban areas) reported decreases in use.

If the use of stimulants does increase in Indigenous communities, it will have major ramifications for the individuals and communities involved, many of whom are already experiencing substantial harm as a result of alcohol and other drug use. It will also have major impacts in terms of the provision of policing services to these communities, as it could be expected to lead to increases in violence and amphetamine-induced psychosis.

The largest study conducted to date on patterns of injecting drug use among Indigenous Australians was conducted in 2001 by Holly and Shoobridge (2003). This project involved interviewing 58 key consultants and 307 Indigenous injecting drug users, who lived in and around the metropolitan city of Adelaide. The key expert consultants identified injecting drug use as increasingly widespread within some parts of the Indigenous community. Injecting drug use was found to have considerable negative ramifications upon the structure of families and the community and contributed to further social and economic disadvantage. It was found to contribute to family stress and breakdown, interfere with parenting responsibilities, cause shame and disruption to family life, and perpetuate the cycle of grief and loss already experienced by many families.

12.2.4 Levels and patterns of volatile substance misuse (VSM) among Indigenous Australians

Data on VSM are often of poor quality, partly because VSM is not a criminal offence, partly because it is often a clandestine activity, and partly because many users are very young and are not counted in drug use surveys. In remote Indigenous communities in Australia, petrol sniffing is the most common form of VSM, whereas in urban and regional centres sniffing aerosol paints ('chroming') is the preferred form of VSM (d'Abbs & MacLean, 2008). The 1994 NDSHS Urban Aboriginal and Torres Strait Islander Peoples Supplement (the most reliable national survey of drug use by Indigenous Australians) found that Indigenous people were almost twice as likely to have inhaled solvents in their lifetime, compared with the general population.

Indigenous Australians are hospitalised as a result of mental or behavioural disorders stemming from the use of volatile solvents at 32.3 times the rate of non-Indigenous Australians and as a result of the toxic effects of organic solvents at 3.6 times the rate of non-Indigenous Australians (AIHW, 2008e).

In Australia in recent years, there appears to have been a reduction in intensity of petrol sniffing in some areas where it has been prevalent for a long time, particularly in the central Australian regions of SA, WA and NT. That said, some communities still experience high levels of VSM (d'Abbs & MacLean, 2008).

The introduction of Opal (non-sniffable) petrol has had a significant impact on petrol sniffing in Indigenous rural and remote Indigenous communities. Following their examination of 20 such communities, d'Abbs and Shaw (2008) reported that since the introduction of Opal fuel the prevalence of sniffing had declined in 17 of the communities and there was a decrease of 70% in the number of people sniffing. Central Australia and the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands were the regions with the largest decreases in prevalence of sniffing, with 94% and 93% decreases respectively. In addition, the number of people sniffing has dropped substantially across all frequency groups, with a fall of 60% in the number of people sniffing at occasional levels, of 85% at regular light levels, and of 90% at regular heavy levels. Prior to the introduction of Opal fuel there were two communities involved in their study where there was no sniffing, compared with nine after its introduction. In three communities, however, the prevalence of sniffing had risen. In two of these cases there appeared to be particular supply-related factors at work (unleaded petrol was easily available). In the third site there was substantial sniffing of aerosols rather than petrol. The drop in the number of people sniffing at regular heavy levels was associated with substantial decreases in the negative social impacts caused by sniffing in communities. Most residents of the communities which experienced a decline in sniffing attributed the cause of that decline, at least in part, to the introduction of Opal fuel.

Senior, Chenhall and Daniels (2006) cautioned about attributing this decline in petrol sniffing wholly to the introduction of Opal fuel. In the remote Aboriginal community they studied, other factors were also influential. These included: fears of sorcery resulting in a large number of deaths in the community (which resulted in less people being out at night potentially sniffing); increased access to cannabis (and community preference to this drug over petrol); and increased media attention given to petrol sniffing deaths. Nevertheless, they did indicate that the introduction of Opal petrol was a factor in the reduction of petrol sniffing.

Although the introduction of Opal fuel does appear to have had a substantially positive impact upon petrol sniffing, there is a great risk of displacement to other volatile substances such as paints and methylated spirits and to other drugs such as cannabis.

12.2.5 Pharmaceutical drugs

Several key expert consultants expressed major concerns about burgeoning problems of pharmaceutical misuse within some Indigenous communities. Typically, this involves the misuse of benzodiazepines and pharmaceutical opioids by friends and relatives of those to whom the drugs are prescribed. The perceptions of the key expert consultants rely on anecdotal evidence as no research has been conducted into the issue.

In recent years considerable efforts have been made to increase the access that Indigenous Australians living in remote areas have to prescription medicines. Pharmacists are now subsidised to provide pharmaceutical services to remote Indigenous communities. The average expenditure by the Australian Government on the Pharmaceutical Benefits Scheme per person for the Indigenous population almost doubled between 1995–96 and 1998–99, and increased by a further 64% between 1998–99 and 2004–05 (AIHW, 2008e). The apparent increase in the misuse of pharmaceuticals may well be an undesired outcome of this. Given the extent to which many Indigenous Australians are already vulnerable to existing patterns of alcohol and other drug misuse, this will be an important issue to monitor.

12.2.6 Offending among Indigenous Australians and links with alcohol and other drug misuse

Between 2000 and 2008, the imprisonment rate for Indigenous women in Australia increased by 46% and for Indigenous men by 27%. After adjusting for age differences, Indigenous adults were 13 times as likely as non-Indigenous adults to be imprisoned in 2008, compared with being 10 times as likely in 2000. Between 2001 and 2007, the detention rate for Indigenous juveniles increased by 27%. In 2007, Indigenous juveniles were 28 times as likely to be detained compared with non-Indigenous juveniles (SCRGSP, 2009).

Despite constituting approximately 2.5% of the general Australian population, Indigenous people constitute: nearly one-quarter of the prison population; more than 40% of all Australians in prison for acts intended to cause injury; and more than 20% of all Australians in prison for sexual assault or related offences. Indigenous children are nearly four times as likely as other children to be the subject of a substantiated child protection notification of abuse or neglect (Bryant & Willis, 2008).

In NSW, Indigenous offenders are approximately 2.5 times more likely than non-Indigenous offenders to receive a prison sentence, if convicted. This racially-based difference becomes insignificant, however, when factors that courts can legitimately take into account in sentencing are considered. Indigenous offenders are more likely to receive a prison sentence than non-Indigenous offenders because they are more likely to: have much longer criminal records; be convicted of a violent offence; at any given court appearance to be convicted of multiple offences; have breached a previous court order; and have re-offended after being given an alternative to

full-time imprisonment, such as periodic detention and/or a suspended sentence (Snowball & Weatherburn, 2006). Indigenous offenders are also more likely to have subsequent contact with the criminal justice system, once they first come into contact with it, compared with their non-Indigenous counterparts (Joudo, 2008).

The high rate of incarceration of Indigenous Australians ought not to be regarded exclusively as a failure of the criminal justice system. Rather, it is symptomatic of a very long-term failure to address the underlying social determinants of offending and alcohol and other drug misuse among some Indigenous Australians. This could be viewed as a form of cost shifting, in which the ultimate cost of problems is shifted from the health, welfare and education sectors to the criminal justice sector. In other words, while there is clear scope for improvement in criminal justice approaches to Indigenous Australians, there are also limitations concerning what these approaches can realistically be expected to achieve, given the current paucity of approaches that address the fundamental structural determinants of these problems.

As is evident, Indigenous Australians have a disproportionately large amount of contact with the criminal justice system. In addition, for Indigenous Australians there are particularly strong links between alcohol and other drug misuse and their involvement in the criminal justice system. Hamilton and Hunter (2002, as cited in Ministerial Council on Drug Strategy, MCDS, 2003) found that alcohol was third among six factors underlying the high rates of arrest for Indigenous Australians.

Weatherburn, Snowball & Hunter (2006) also reported that Indigenous Australians are far more likely to have been charged with, or imprisoned for, an offence if they misuse alcohol or other drugs. They found that, among Indigenous Australians, drug use is second only to being male as a predictor of being charged or imprisoned. Misusing alcohol is the third strongest predictor for being charged with an offence and the fourth strongest predictor for being imprisoned among Indigenous Australians.

Indigenous offenders are generally more likely to report being under the influence of alcohol at the time of the offence or arrest, and are more likely to attribute their offending to substance use than are non-Indigenous offenders. This can differ in terms of offences and the drug used (Joudo, 2008 and Putt, Payne & Milner, 2005).

The courts are also seeing an increase in both the quantity and ferocity of alcohol-fuelled violence in Aboriginal communities. In 2007, NT Supreme Court Judge, Mr Justice Riley (as cited in report of the Northern Territory Board of Inquiry into the Protection of Aboriginal Children from Sexual Abuse[45], BIPACSA, 2007) stated in court[46] that:

> *The situation regarding alcohol-related violence within the Aboriginal community in Central Australia has gone from bad to worse … The number of victims seems to be ever increasing and the level of violence continues to be horrifying … The problem is not one just for the Aboriginal community of Central Australia. It is not one just for the people of Alice Springs. It is not one just for the people of the Northern Territory … It must be a matter of deep concern for the nation. This is a tragedy about which all Australians must feel embarrassed and that all Australians should feel the need to address.*
>
> *While the number of matters coming before the courts is disturbing enough, the reality is that the courts see only a small percentage of the violence that occurs…All the Judges and Magistrates can do is to impose ever-increasing sentences of imprisonment upon the violent offenders, but as experience reveals, that has not served to stem the flow of such cases* (p. 162).

[45] Better known as the Little Children are Sacred Report.
[46] *The Queen v Ricky Nelson*, 14 March 2007, NT Supreme Court.

BIPACSA (2007) also commented on the strong association between substance abuse, particularly alcohol, and the sexual abuse of children. Overall BIPACSA (2007) found that alcohol and other drug misuse is having a massively negative impact on the social fabric of Aboriginal communities in the NT and this contributes greatly to family and cultural breakdown. The Inquiry indicated that extreme alcohol abuse has become normal in some communities in the NT and the devastating effects on children are rapidly increasing. The board strongly emphasised the importance of effectively dealing with substance abuse, in particular alcohol, as part of an overall strategy aimed at protecting Aboriginal children from sexual abuse. Snowball and Weatherburn (2006) came to similar conclusions in relation to reducing broader patterns of offending by Indigenous Australians.

As is evident:

> *Since health, substance misuse and wellbeing issues are closely linked to Indigenous violence, offending and incarceration, interventions that address alcohol and other drug misuse have the potential to significantly reduce the overrepresentation of Indigenous Australians in our correctional system. This is especially true for those Indigenous offenders who may more frequently commit more serious alcohol and other drug-related offences* (National Indigenous Drug and Alcohol Committee, NIDAC, 2009, p. 1)

12.2.7 Indigenous Australians and drug diversion programs

A key way in which the law enforcement sector and its partners seek to break the nexus between alcohol and other drug problems and crime is via diversion programs. Unfortunately, in the majority of diversion programs which have been evaluated, and for which the evaluations are available, Indigenous people are less likely than their non-Indigenous counterparts to be referred and accepted into the programs. Indigenous offenders who have participated in various forms of diversion are also more likely to re-offend following a diversion episode than are non-Indigenous offenders who have been diverted (Joudo, 2008).

A range of factors have been identified which adversely impact on the ability of Indigenous offenders to access diversion programs. These include that Indigenous offenders are:
less likely to make an admission of guilt to police (which effectively closes the pathway to diversion);

- more likely to have multiple charges;
- more likely to have previous criminal convictions (particularly for violent offences);
- more likely to have drug misuse problems that are not covered by the drug diversion
- programs (such as alcohol and volatile substances);
- more likely to have a co-existing mental illness; and
- more likely to have difficulties in accessing programs because of the remoteness of many Indigenous communities (Joudo, 2008).

Joudo (2008) suggested a number of ways forward in terms of enhancing the access that Indigenous Australians have to diversion programs as well as their suitability. The first is the need to better tailor diversion programs to the drug use problems specific to Indigenous offenders and to consider the expansion of programs to cover substances such as alcohol and inhalants, which generally fall outside the scope of many drug diversion initiatives. The second is to more widely disseminate information about diversion programs among Indigenous communities and among Aboriginal Legal Service solicitors and client officers. This would enable them to explain the programs to their clients prior to decisions being made about whether to admit guilt. Third, notwithstanding the valid reasons for excluding those with specific offending histories (such as those including violence), many Indigenous offenders are likely to benefit from diversion-related drug and alcohol treatment services to which they may not otherwise have access. It may therefore be preferable for suitability assessments for diversion to be made on a case by case basis

rather than based on rigid criteria. This would have the potential to make diversion available to Indigenous offenders who are currently automatically excluded, but who do not pose a threat to treatment providers.

A further issue that warrants closer examination is the extent to which agencies that provide diversion programs to Indigenous Australians are adequately equipped to do so. Gray, Green, Saggers and Wilkes (2009) reported that in Queensland many Indigenous clients referred to diversion programs have complex needs which are unable to be effectively met under the models of service provision that are currently in use. This could be substantially limiting the effectiveness of the programs.

As is evident, the way in which diversion programs are currently structured in Australia may be contributing to the exclusion of Indigenous Australians. So, too, it is important that when Indigenous clients do reach diversion programs that these programs have the capacity to meet their, often complex, needs. Otherwise, this could represent an important opportunity which is being lost to break the nexus between alcohol and other drug misuse and offending among this group.

12.2.8 The limitations of the effectiveness of alcohol and other supply reduction strategies

As with non-Indigenous Australians, there is little doubt that supply reduction strategies play an important role in reducing the alcohol and other drug-related harm experienced by Indigenous Australians.[47] Gray, Saggers, Sputore and Bourbon (2000), and D'Abbs and Togni (2000), for example, found that *community supported* restrictions on the supply of alcohol can produce tangible results in Indigenous communities.

There are, however, risks associated with having unrealistic expectations about what supply reduction strategies can achieve. These risks become particularly acute when the restrictions are introduced without the support of the communities concerned. As was mentioned earlier, the alcohol and other drug misuse problems experienced by some Indigenous Australians occur in the context of dispossession, alienation, and broadly-based deprivation. There is clearly a risk of imposed restrictions further contributing to this sense of powerlessness (see, for example, NTER Review Board, 2008).

There is also need for caution in applying frameworks developed to address alcohol and other drug problems among less disenfranchised people, to highly disenfranchised Indigenous Australians. Relying primarily upon physical or financial restrictions on the supply of alcohol, for example, can lead to: substance substitution; consuming alcohol in increasingly dangerous environments; travelling further to obtain alcohol (this is particularly problematic in the context of driving while intoxicated and using unsafe vehicles); and humbugging (the practice of demanding money from relatives, often with threats of violence).

Indeed, there appears to be a dichotomy of approaches to the alcohol-related problems experienced by some Indigenous Australians compared with their non-Indigenous counterparts. The alcohol-related problems experienced by some Indigenous Australians (particularly in remote regions) are far more likely to be seen as resulting from supply-side problems. That is, the excessive availability of alcohol. The appropriate responses, therefore, are more likely to be seen as those which are weighted towards supply reduction (such as those associated with the Northern Territory Emergency Response).

[47] For a more comprehensive review, see: Chikritzhs T, Gray D, Lyons Z, and Saggers S. *Restrictions on the Sale and Supply of Alcohol: Evidence and Outcomes*. Perth: National Drug Research Institute, 2007.

On the other hand, the causal factors of alcohol problems among 'mainstream' Australians were far more likely to be attributed to demand-side issues with the appropriate responses being more heavily weighted towards demand-side responses (such as binge drinking campaigns, and the need for cultural change).

Clearly, both approaches (as well as harm reduction measures) have a role to play. Yet it was not difficult to come to the conclusion that approaches to the alcohol problems experienced by some Indigenous Australians could benefit from a perspective which relies more heavily upon addressing the social determinants of their demand for alcohol.

12.2.9 Overview and implications for policing

Before summarising this chapter it is important to reiterate that not all Indigenous communities are experiencing the kinds of issues described here. Also, in painting a relatively gloomy broad brush picture of these problems, it is important to be mindful that such a picture misses many 'good news stories'. These positives tend to disappear when describing a situation from a global perspective. The overall tone of this chapter is in no way intended to reflect on the positive work that is being undertaken. Rather, the intention is to highlight that Indigenous Australians still represent a particularly vulnerable group.

Several consistent themes arose from the consultations conducted for this environmental scan and from the literature concerning the continued impact of alcohol (and other drug) problems among Indigenous Australians.

The first issue is the slow rate of progress that is currently being made in addressing these problems. The exception to this is the improvements that have been made in reducing petrol sniffing in Central Australia, largely as a result of the introduction of Opal fuel. Most indices of alcohol and other drug-related harms among Indigenous Australians are, however, simply not improving.

The second is how poorly the problems are understood. This gap in the knowledge is particularly stark in relation to the misuse of alcohol and other drugs among urban Indigenous Australians. This is the focus of an NDLERF-funded project currently being undertaken by the Australian Institute of Criminology.

As Gray and Saggers (2002) pointed out, there is commonly a degree of scepticism on the behalf of many Indigenous Australians, service providers and policymakers, regarding the extent to which research can make a positive contribution to Indigenous wellbeing. Yet, by the same token, it is difficult to address problems without understanding their extent and nature. Our understanding of the alcohol and other drug problems being experienced by some Indigenous Australians is at best patchy. This is severely limiting Australia's capacity to develop strategies which appropriately balance supply, demand and harm reduction strategies to best meet their needs.

The third issue concerns the gross over-representation of Indigenous Australians in the criminal justice system and the fact that this situation is worsening. Of particular relevance to this environmental scan are the close links between substance misuse and offending among some Indigenous Australians. There are two important issues in this regard. The first is broadly-based strategies to reduce the extent of alcohol and other drug misuse among Indigenous Australians. There is an increasing body of knowledge about the characteristics of effective law enforcement approaches in this area (see, for example, Delahunty and Putt, 2006). The second issue is that of alcohol and other drug diversion programs. There is preliminary evidence that diversion programs as they are currently structured in some Australian jurisdictions are acting to exclude Indigenous

Australians. This is currently the subject of a study being undertaken by the Australian Institute of Criminology. The findings of this project are likely to provide guidance to law enforcement agencies and their partners involved in diversion programs.

The fourth issue is that it is important to recognise the extent to which Indigenous alcohol and other drug misuse and related offending is symptomatic of a long-term failure to address the underlying social determinants of these behaviours. From this perspective there are clear limitations about what the criminal justice system can realistically be expected to redress.

The fifth issue concerns the very high levels of cannabis use in some Indigenous communities. This has major direct and indirect implications. These include the amount of money being spent on purchasing the drug; the potential impact of its use upon health outcomes (such as mental health issues and Indigenous suicide rates); and its destabilising effects on communities. Particularly concerning is the potential for existing cannabis trafficking methodologies to be applied to the trafficking of other drugs such as methamphetamine. Increases in methamphetamine misuse in Indigenous communities could be expected to have catastrophic results.

The sixth issue concerns the potential expansion of pharmaceutical misuse among Indigenous Australians. As has been discussed, the extent to which this is occurring and the nature of the problems are unclear. Several key expert consultants reported that this is an important emerging issue, but it is as yet little understood.

12.3 Other vulnerable Australians

12.3.1 Younger people

The overall health status of younger Australians is generally very good. Despite this, however, many younger Australians are not faring well physically or psychologically. Indeed younger Australians are suffering mental health problems at higher rates than other age groups. This is not a fixed group and at one point or another most younger Australians will experience problems. A fifth to a third of younger Australians are experiencing significant psychological stress or distress at any one time (Eckersley, Wierenga & Wyn, 2005).

Many of the key expert consultants highlighted the extent to which younger Australians are particularly vulnerable to alcohol and other drug related harm. The AIHW (2008b) reported that approximately 70% of 12 to 15 year olds did not consume alcohol but about 3.0% of males and 6.3% of females in that age group were at risk of alcohol-related harm in the short-term, on at least one occasion per month. Among 16 to17 year olds 24% of males and 27% of females drank at levels that risked short-term harm. This proportion rose to 44% of males and 46% of females among 18 to 19 year olds. Among 18 to 19 year olds, 17% of consumed alcohol in risky or high risk ways on a weekly basis.

Important changes have occurred in the patterns of alcohol consumption among younger Australians in recent decades. Over the past 50 years, initiation into drinking has occurred at an earlier age. By the age of 18 years, approximately 50% of young Australians are now risky drinkers, and Australians aged 18–24 having the highest level of risky alcohol consumption of all age groups. The proportion of younger Australians who consume alcohol at risky levels and the average number of standard drinks they consume have both increased in Australia in recent years. Between 2000 and 2004 there has been a three and a half fold increase in the preference for sprits among young female risky drinkers aged 15–17 years. Particularly important in this regard has been the emergence of ready to drink products (Roche et al., 2008).

There is emerging evidence of increases in levels of acute alcohol-related harms accruing among younger Australians, especially in terms of increased intoxication-related hospital admissions (Livingston, 2008). For young men, the hospital separation rate for acute alcohol intoxication increased from 66 to 107 per 100,000 between 1998–99 and 2005–06. For young women, the rate doubled over this time from 46 to 99 separations per 100,000 (Australian Bureau of Statistics, 2008d). Young people are also far more likely to be hospitalised for alcohol-related assaults than are older people (Chikritzhs et al., 2003).

Australians aged 20–29 years are more likely than those in the other age groups to have used an illicit drug in the previous 12 months. This is the case for cannabis, amphetamines and ecstasy (AIHW, 2008b). The AIHW (2008a) reported that the age of initiation into illicit drugs has been stable or has increased slightly for most categories of illicit drugs between 1995 and 2007. Great caution should be adopted in interpreting these data because they almost certainly hide reductions in the age of initiation among more vulnerable sub-groups of younger people.

Several key expert consultants discussed the issue of police intervention in child abuse and neglect, particularly but not exclusively in some Indigenous communities. In its written submission, the National Drug Research Institute (NDRI) indicated that a large proportion of these cases involve chronic substance misuse, particularly of alcohol, by parents, carers and other community members. The detrimental effects on babies and children include: foetal alcohol spectrum disorder; failure to provide adequate food, shelter, emotional sustenance, or access to appropriate medical attention; and exposure to physical and sexual violence. The cumulative effects of this include: mental health disorders; poor cognitive functioning; behavioural problems; poor school attendance and attainment; and even death. The NDRI pointed to the prominent role many police have in advising authorities of potential and actual risks to children, particularly when issues of alcohol and other substance misuse are evident. This may include problems of school truancy, but has also involved concerns about pre-school children. The NDRI argued that determining the most appropriate service responses (including those of police and other law enforcement agencies) to these intractable issues at each stage of children's lives, but particularly in the 0–5 year age group, will be at the forefront of advocacy, policy and research activity over the coming years.

International household surveys and other population estimates suggest that approximately 10 per cent of children live in households where there is parental alcohol abuse or dependence and/or substance dependence and that parental substance misuse is a key feature of families identified by child and protective services. Based on the number of children aged 12 years or less living in Australia, approximately 450,000 children are at risk of exposure to binge drinking in the household by at least one adult; and 2.3% (or 78,691) live in a household containing at least one daily cannabis user. Finally, 0.8 per cent or 27,370 live in a household with an adult who uses methamphetamine at least monthly and reports doing so in their home (Dawe et al., 2006).

An important issue concerning intervention programs for younger people arose in discussions with several police expert consultants. This was the potential for strategies (such as diversion programs) that are intended to keep younger people out of the criminal justice system, and legal frameworks which prevent community agencies from sharing information about troubled young people, to obscure the fact that their offending essentially stems from family neglect. A common feature of this neglect is the misuse of alcohol and other drugs by parents. In other words, by focussing on the legal rights of children (by the use of mechanisms to divert them from the criminal justice system and to protect their privacy) this can lead to a situation which over-rides the rights of the children to be physically and emotionally cared for.

Clearly there are many advantages to programs which keep younger people out of the criminal justice system. It is possible, however, that low intervention diversion programs could be better suited to the needs of younger people who have more supportive family structures, while allowing children who have much more complex needs to more easily 'slip through the gaps'. One key expert consultant from the law enforcement sector argued that, in the past, court process provided a 'circuit breaker' in which a child's overall situation could be assessed and, where that situation was found wanting, relevant community resources could be focussed on ensuring that the child's overall needs were being met. So, too, it was argued, these court processes were often a means through which community agencies could be held accountable for their inaction in relation to the welfare needs of specific children.

The interface between police, the judicial system and child welfare agencies is clearly a complex area, and well beyond the scope of this environmental scan to fully address. Nevertheless, this is clearly an issue that will warrant further policy and research attention in the future.

12.3.2 Individuals with comorbid conditions

In this context, comorbidity refers to the co-existence in individuals of a mental health and substance misuse disorder. In keeping with the findings of the last alcohol and other drug environmental scan (Nicholas & Shoobridge, 2005), several key expert policing consultants indicated that this has become an increasing problem.

NSW Police, for example, reported that the number of individuals with both mental health and substance misuse disorders who require police intervention is currently imposing heavily on policing resources. Important in this regard are attendances at violent incidents, public nuisance and street offences, as well as the resultant need to transport the affected individuals to appropriate health facilities. A factor that complicates this transportation is the difficulty that is associated with locating facilities that accept patients with comorbid conditions. This issue is more difficult in rural areas, particularly in relation to young people, for whom there are generally few appropriate service providers.

Comorbidity is remarkably common among those with substance misuse problems. Among Australians with a substance use disorder, one in five meet the criteria for having an anxiety disorder and one in three meet the criteria for having a mood disorder (Teesson, Slade & Mills, 2009).

The problems police experience with dealing with individuals with comorbid conditions are reflected in problems experienced in the health sector and there is a long history of these individuals 'falling between the gaps' of service provision between alcohol and other drug services and mental health services. Also important in this regard is the history of deinstitutionalisation of patients with mental illnesses in Australia which dates back 20 years. The potential problems for policing associated with this deinstitutionalisation were recognised as far back as 1990 by Wylie & Wilson (1990).

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