

# Chapter 1: Introduction

## 1.1 Background to the National Amphetamine-Type Stimulant Strategy

The National Drug Strategy (NDS) and its forerunner, the National Campaign Against Drug Abuse (NCADA), have provided the national policy framework on drugs since 1985. The NDS is the responsibility of the Ministerial Council on Drug Strategy (MCDS). The MCDS is the peak policy and decision making body on licit and illicit drugs in Australia, and is responsible for developing policies and programs to reduce the demand, supply and harm associated with drugs and their impact on individuals, families and communities in Australia. It brings together Australian Government, State and Territory Ministers responsible for health and law enforcement, and the Australian Government Minister responsible for education.

The MCDS liaises with, and provide reports to, the Australasian Police Ministers' Council, the Australian Health Ministers' Council, the Ministerial Council on Employment, Education, Training and Youth Affairs, the Ministerial Council for Aboriginal and Torres Strait Islander Affairs and other ministerial councils on matters of joint responsibility and priority in relation to the NDS. The MCDS is supported in its role by an advisory structure which includes the Intergovernmental Committee on Drugs (IGCD) and the Australian National Council on Drugs (ANCD) as principal bodies responsible for the provision of advice to the MCDS on the development and implementation of policies and programs.

In May 2004, the *National Drug Strategy: Australia's Integrated Framework 2004-2009* was endorsed by the MCDS (Ministerial Council on Drug Strategy, 2004). A key outcome from the framework has been the development of a set of strategy documents focused on individual drugs which are designed to ensure a consistent approach to the reduction in supply, demand and associated harms.

Australia's NDS aims to reduce drug-related harm and improve health, social and economic outcomes for both the individual and the community. It includes a wide range of approaches and encourages a balance between demand reduction, supply reduction and harm reduction strategies. For example, it encompasses:

- supply reduction strategies to disrupt the production and supply of illicit drugs, and the control and regulation of licit substances;
- demand reduction strategies to prevent the uptake of harmful drug use, including abstinence orientated strategies and treatment to reduce drug use; and
- harm reduction strategies to reduce drug-related harm to individuals and communities.

Individual jurisdictions and non-government organisations continue to develop plans and strategies that reflect the key elements of the NDS, and report annually on implementation of programs, activities and initiatives. A number of participants in the community consultations asked that there be consistency in the development of the strategy in terms of applying the NDS principles outlined above and that the National Amphetamine-type Stimulant (ATS) Strategy be linked to two other national strategies that have been developed for alcohol and cannabis.

The NDS framework and the Law Enforcement Component of the National ATS Strategy provided the framework and starting point for determining the important issues in relation to ATS. Existing national strategies and action plans such as the National Action Plan on Illicit Drugs (NAPID) 2001 to 2002-03 and the Aboriginal and Torres Strait Islander Complementary Action Plan 2003-2006, were also drawn upon. NAPID identified seven key areas that are also the focus of this report:

- demand reduction: promotion of opportunities, settings, and values that promote resilience and reduce the uptake and use of drugs and the risks of drug use;
- supply reduction: interventions to reduce availability and supply;
- treatment;
- harm reduction;
- workforce development;
- research; and
- monitoring illicit drug trends.

Other key sources of information were the National Leadership Forum on Ice (2006) held in Sydney and the recent Australian National Council on Drugs (2007) position paper on methamphetamine. In addition to an extensive review of the literature and research to date, consultations were undertaken in every jurisdiction of Australia in capital cities and regional areas between March and June 2007 (see Appendix 1). Community members and representatives from a range of sectors were invited to attend the forums and attendees had the opportunity to express views on issues for consideration in developing the Strategy. Participants included drug and alcohol workers, criminal justice workers, police, government representatives, researchers, educators, Indigenous representatives, consumer groups, health professionals, and other relevant stakeholders. Specific forums for canvassing the views of consumers, young people, and Indigenous community members were also held.

Written submissions to inform development of the National ATS Strategy were sought using several approaches. First, participants at the consultation forums were invited to make submissions and encouraged to inform colleagues of the opportunity. Second, formal invitations to make a written submission were sent to 107 organisations across Australia, including peak community bodies, health services, law enforcement, justice system, and non-government organisations. This list was generated from those invited to make submissions as part of development of the National Cannabis Strategy and updated to include agencies that might have an interest or involvement in responding to ATS problems. Third, the Australian Government Department of Health and Ageing placed an advertisement in a key newspaper in each State and Territory, inviting written submissions. Fourth, details of how to make a written submission were posted on the National Drug Research Institute (NDRI) website and on the list server of the Alcohol and Drug Council of Australia (ADCA). A total of 22 written submissions were received (see Appendix 2).

## 1.2 Defining amphetamine-type stimulants

The generic term amphetamine-type stimulants is commonly used to refer to a family of synthetic drugs that are chemically related to the parent compound amphetamine (phenylisopropylamine) (Dyer & Cruickshank, 2005). Also referred to as 'psychostimulants', they are distinguishable from 'botanical' psychoactive drugs (e.g., heroin, cocaine, cannabis), which are derived from plants (Chawla, 1998). Amphetamines act as central nervous system stimulants, which increase synaptic concentrations of monoamine neurotransmitters in the brain, namely, dopamine, serotonin and noradrenaline (Rothman & Baumann, 2003).

Amphetamine and methamphetamine may also be identified by the chemical terms 1-phenylpropan-2-amine and N-methyl-1-phenyl-propan-2-amine, respectively (International Union of Pure and Applied Chemistry, 1993). Methamphetamine (methyl- $\beta$ -phenylisopropylamine) is structurally similar to amphetamine, but is more potent in that it has proportionally greater central stimulatory effect as well as stronger subjective effects (Degenhardt & Topp, 2003). Crystal methamphetamine, commonly referred to as 'ice', is methamphetamine of high purity and manufactured like any other form of methamphetamine, except for an additional step of refinement, known as the 'conversion process'. Phenethylamines include MDMA (3,4-methylenedioxymethamphetamine), commonly referred to as ecstasy, and MDA (3,4-methylenedioxyamphetamine), which are structurally similar to amphetamine, but produced by a different chemical process (Kalant, 2001). Table 1.1 provides an overview of common illicit ATS, their street names and routes of administration.

In its report on the manufacture, importation and use of amphetamine and other synthetic drugs (AOSD), the Parliamentary Joint Committee on the Australian Crime Commission (2007) commented on the definitions of these drugs contained in the submissions it received. The Australian Federal Police (AFP) stated in their submission that AOSD is a term used by the ACC to incorporate synthetically manufactured illicit drugs and their precursors. On an international level, ATS is the term used to describe this group of drugs. In the interests of international consistency, the AFP continues to use the term ATS and reports separately on ATS and MDMA seizures. The Parliamentary Joint Committee (2007) noted that:

the ambiguity over what is or is not included in the term ATS could lead to confusion for researchers, law enforcement and community support organisations. The Committee recommends the Australian Government and its agencies standardise their use of a descriptor for this class of illicit drugs and clarify what is included in the term selected (p.6).

Table 1.1: Amphetamine-type stimulants commonly used in Australia

Drug type	Common names	Forms	Route of administration
Amphetamine, dexamphetamines	Speed, whiz, uppers, goey, dexies, pep pills	White, yellow, pink or brown powder or tablets	Oral, intranasal, injection, anal
Methamphetamine	Meth, speed, whiz, fast, uppers, goey, louee, Lou Reed, rabbit tail, pep pills; in paste form can be referred to as base, pure, point or wax; in liquid form can be referred to as leopard's blood, ox blood, red speed or liquid red	White, yellow or brown powder, paste, tablets or a red liquid	Oral, intranasal, injection, anal
Crystalline methamphetamine hydrochloride (D-methamphetamine)—purified methamphetamine	Ice, meth, d-meth, glass, crystal, batu, shabu (from the Philippines)	Crystal—resembles crushed ice	Smoking, intranasal, injection
3,4-methylenedioxyamphetamine (MDMA)	XTC, X, Ecstasy, Adam, M & M, eccy, E, Go, Scooby Snacks, hug, bea	Tablet, gel tab, powder	Oral, intranasal, smoking, injecting

- Dexamphetamine (also known as dextroamphetamine sulphate) is sold in tablet form in Australia for ADHD and narcolepsy, in accordance with state and territory laws. It is also used illicitly.
- In tablet form, the drug can be inserted into the anus or the vagina to avoid the irritation to the user's stomach which commonly occurs when taken orally (also known as 'shafting' or 'shelving').
- Terminology noted in Queensland.

Source: Australian Forensic Drug Laboratory, South Australia Forensic Science Centre.

MDMA is chemically related to the amphetamine module, but has different pharmacological properties in that it not only stimulates the central nervous system, but also has hallucinogenic and/or entactogenic effects (United Nations Drug Control Programme, 1996). Consequently, MDMA may be classified as a stimulant or a hallucinogen or an entactogen. MDMA is included in official statistics as an ATS, particularly seizure and arrest data, and these sources often do not distinguish between amphetamine and MDMA. On this basis, MDMA is included as an ATS for the purposes of this background paper.

The general misunderstanding and confusion about the various terms that are used to describe ATS was raised in the submission received from Turning Point Drug and Alcohol and Drug Centre in Melbourne:

There needs to be a definitive statement that covers terminology and description of the mechanisms of action of ATS. The terminology should take into account use of terms that are primarily clinical and those that are primarily used in the justice system. We do not believe that each sector needs to use exactly the same terms as the terms serve different purposes in the different sectors (e.g., the term ATS is generally used among

justice and frontline workers and the term amphetamines is more commonly used among health workers) but each sector needs to understand the terms used in other sectors and why they might be different to those used in their own sector. An organization or consortium could be charged with Australia wide consultation among the sectors with an interest in this area to develop a consensus on terminology that would be used both at the state and federal level when talking about ATS.

In addition to illicit ATS, there are several licit stimulants such as dextroamphetamine and methylphenidate, and phentermine based diet pills, such as duromine. Licit ATS are used primarily in medications to treat attention deficit hyperactivity disorder (ADHD) such as dexamphetamine and Ritalin; anorectics in the treatment of obesity, such as clobenzorex and dexfenfluramine; narcolepsy treatment such as modafinil; and in nasal inhalers, such as levomethamphetamine and propylhexedrine (United Nations Drug Control Programme, 1996). Given the potential misuse of these drugs in illicit markets and debate about their therapeutic value, these drugs are subject to ongoing review by medical, health and law enforcement authorities. At present, few studies have investigated prevalence and patterns of use associated with diversion of these drugs to illicit use, highlighting this as an area for future research.

### 1.3 History of amphetamine-type stimulants

The use of amphetamine has been documented for centuries in China, where the ma huang plant (*Ephedra vulgaris*) has been used to treat people with asthma (Tyler, 1986). The ma huang plant contains ephedrine which is a central nervous system stimulant first produced by chemical synthesis in 1887 in Germany (Tyler, 1986). Following this discovery, amphetamine came into medical and recreational use in the 1920s primarily through the treatment of colds and asthma. In 1932 the Benzedrine Inhaler was introduced as an over the counter product and became a licit substitute for cocaine which had been declared illegal by the US federal government in 1914 (Tyler, 1986). By 1940, thirty-nine disorders had been identified for which Benzedrine – one of the three main kinds of amphetamine – was the recommended treatment, including night blindness, sea sickness and impotence (Tyler, 1986).

Methamphetamine, more potent and easier to make than amphetamine, was discovered in Japan in 1919 (Bell, 2006). The crystalline powder was soluble in water, making it easy to inject. During World War II and the Vietnam War methamphetamine was widely used by the armed forces to increase alertness, confidence, feelings of increased strength and to suppress appetite. In the United States in the 1950s, legally manufactured tablets of both dextroamphetamine (Dexedrine) and methamphetamine (Methedrine) became readily available and were used by college students, truck drivers, and athletes. These drugs were often used as a substitute for cocaine, which had become illegal, and one of the primary reasons for use was to remain alert for extended periods of time.

By the 1960s the market in methamphetamine had changed from being predominantly licit to illicit. The black market consisted first of the diversion of supplies from pharmaceutical companies, chemists and doctors. This was followed by the synthesis, manufacture and distribution of methamphetamine by motor cycle and other criminal gangs and syndicates,

particularly on the Pacific Coast of the United States (Bell, 2006). The Australian experience of amphetamine use and supply largely followed that of the United States. As noted by Dillon (2000), MDMA use in Australia seems to date from as recently as the late 1970s. It was briefly used as a therapeutic drug in the early eighties by some psychiatrists for the treatment of post traumatic stress and as an aid to marital relationships, but was never a mainstream or widely used legitimate medication and declared illegal in 1989.

## 1.4 Forms of illicit amphetamine-type stimulants

### Meth/amphetamine

Until the late 1980s the form of amphetamine most available in Australia was amphetamine sulphate. During the 1990s, the proportion of ATS seizures that were methamphetamine (rather than amphetamine) steadily increased until methamphetamine dominated the market. Currently in Australia, the powder traditionally known as 'speed' is almost exclusively methamphetamine rather than amphetamine (Topp et al., 2002). Methamphetamine is available in a number of different forms as the result of different modes of production and levels of purity. Aside from more common forms of powder, base and crystal, methamphetamine sometimes used in the production of pills and in liquid form, referred to as 'oxblood' (Black et al., 2005). Variations in colour and texture occur because the purifying process involved in the manufacture of methamphetamine is complex and many manufacturers of the drug lack the relevant expertise. The result is a wide range of products at the end of the manufacturing process which look different and contain different impurities. As shown in Table 1.2, up until 2002 at least three types of meth/amphetamine could be viewed as distinct commodities:

- speed, or methamphetamine powder that is locally manufactured, generally of low purity, and is usually administered by snorting or injecting;
- base or paste, which is a gummy, pasty or oily kind of methamphetamine powder that is locally manufactured and often has a brown or yellow tinge due to the presence of iodine and other organic impurities; and
- crystal methamphetamine which is high purity, imported crystalline methamphetamine that comes in the form of large translucent to white crystals that are usually smoked or injected (Topp et al., 2002).

Table 1.2: Amphetamine types, forms and routes of administration

Common Name	Medical or Chemical Name	Other Street Names	Drug Action	Form	Route of Administration	Comments
Speed	Amphetamine (Sulphate) Dexamphetamine	Goey or Go-ee Whizz Dexies	Stimulant	Powder, tablet or capsule, liquid	Snorted, swallowed, injected	Speed is often used as a generic name for a 'family' of amphetamine drugs that have been synthesised from approximately the late 19th century. In general sens, the term amphetamines may also include 'party drugs' such as MDMA. More commonly, however, speed refers to the specific drug amphetamine sulphate and more recently it may also refer to methamphetamines and prescription drugs such as ephedrine and pseudoephedrine.
Meth	Methamphetamine or Methylamphetamine	Speed, Base	Stimulant	Powder, oil or paste (Base)	Snorted, swallowed, injected, smoked	
Crystal Meth	Methamphetamine Hydrochloride	Srystal, Ice, Shabu, Crank, Glass	Stimulant	Crystalline posder or crystals	Smoked, swallowed, injected, snorted	Scientist and pharmacists who use the term 'ice' may be referrinf to the chemical 4-methylaminorex. Street Ice however is almost exclusively a strong, high purity form of methamphetamine.

Source: Drug and Crime Prevention Committee (2004, p.28)

## MDMA, or ecstasy

Like amphetamine, MDMA and its related compounds are amines that can exist either as volatile free bases or as salts of various acids (Kalant, 2001). While the free bases are volatile, the salts are quite soluble in water and can therefore be administered intravenously, orally or by snorting the powder (Kalant, 2001). MDMA is typically prepared in tablet or pill form and stamped with a wide variety of symbols, as shown in Figure 1.1. The tablets contain MDMA in varying amounts combined with other substances such as meth/amphetamine and ketamine (a dissociative anesthetic), while some contain no MDMA, but chemicals such as MDA (3,4-methylenedioxyamphetamine), PMA (paramethoxyamphetamine), MDEA (3,4 Methylenedioxyethylamphetamine), or substances like caffeine or paracetamol (National Drug and Alcohol Research Centre 2003). When self-reported use of MDMA was compared with urinalysis results, 44% of police detainees tested positive for methamphetamine not MDMA (Mouzos et al., 2007).

Figure 1.1: MDMA (ecstasy) tablets



Source: Victorian Police

## 1.5 Australian data collections

Australia has a number of data collections that provide empirical data for evidence based research which can inform the making and implementation of drug policy in the areas of supply reduction, demand reduction, and harm reduction strategies. The collections fall into two categories; national statistical collections and specialised collections. National statistical collections derive from jurisdictions providing police data relating to offences/incidents and data from courts, corrections and treatment agencies, while specialised collections include national drug strategy surveys (Makkai, 1999). It is important to coordinate existing data sources. For example, in their written submission, Turning Point Alcohol and Drug Centre noted:

There are a number of regular monitoring and surveillance studies underway that produce data about the prevalence of ATS among the different groups ....A coordinated response to drawing this information together and a critical examination of the sources of information and the picture they produce on a regular basis would assist both frontline workers and health professionals to understand the monitoring data and translate it to effective practice. An organisation or consortium could be charged with reporting on the various sources of data and making it meaningful for practice.

Following is a brief overview of the collections referred to in the current paper, which represents some of the monitoring systems operating in Australia.

The National Drug Strategy Household Survey (NDSHS) is the main Australian source of data on alcohol, tobacco and illicit drug prevalence and consumption. It is conducted every two to three years by the Australian Institute of Health and Welfare (AIHW) with the most recent survey conducted in 2004.

Statistics on Drug Use in Australia is also produced by AIHW and provides a comprehensive summary of major drug use statistical collections, with references to sources of more detailed information. It also serves as the 'companion document' to the NDS. Data are provided on consumption and, to a lesser extent, drug-related behaviour for tobacco, alcohol, illicit drugs and pharmaceuticals.

The Australian Secondary School Students Alcohol and Drug Survey (ASSAD) is a survey of students' alcohol and drug use across Australia. It is conducted in secondary schools every three years with the most recent survey conducted in 2005.

The Illicit Drug Reporting System (IDRS) is an annual study conducted to monitor the use of illicit drugs and drug markets by a sentinel sample of injecting drug users (IDU). It is complemented by the Ecstasy and Related Drugs Reporting System (EDRS), formerly known as the Party Drugs Initiative (PDI), which is conducted with a sentinel sample of regular ecstasy users (REU). The surveys are conducted in the capital city of every state and territory in Australia, with approximately 100 users interviewed in each jurisdiction for each survey. The most recent surveys were conducted in 2006.

The Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS–NMDS) summarises data from Australian alcohol and drug treatment services.

The Drug Use Monitoring in Australia (DUMA) study is conducted by the Australian Institute of Criminology (AIC). Established in 1999, the DUMA program is a quarterly collection of information from police detainees in nine sites (police stations or watchhouses) across Australia. The results are published annually.

The Illicit Drug Data Report (IDDR) is produced by the Australian Crime Commission (ACC) each financial year. It includes information on drug offences, price and purity of a range of illicit drugs including heroin, cocaine, amphetamine-type stimulants, ecstasy, cannabis, hallucinogens and steroids.

Drug Use Careers of Offenders (DUCO) was a survey of the illegal drug use and criminal careers of persons incarcerated in prisons in Queensland, Western Australia, Tasmania, and the Northern Territory. It was conducted with adult male offenders in 2001, adult female offenders in 2003, and with juvenile offenders in 2005.

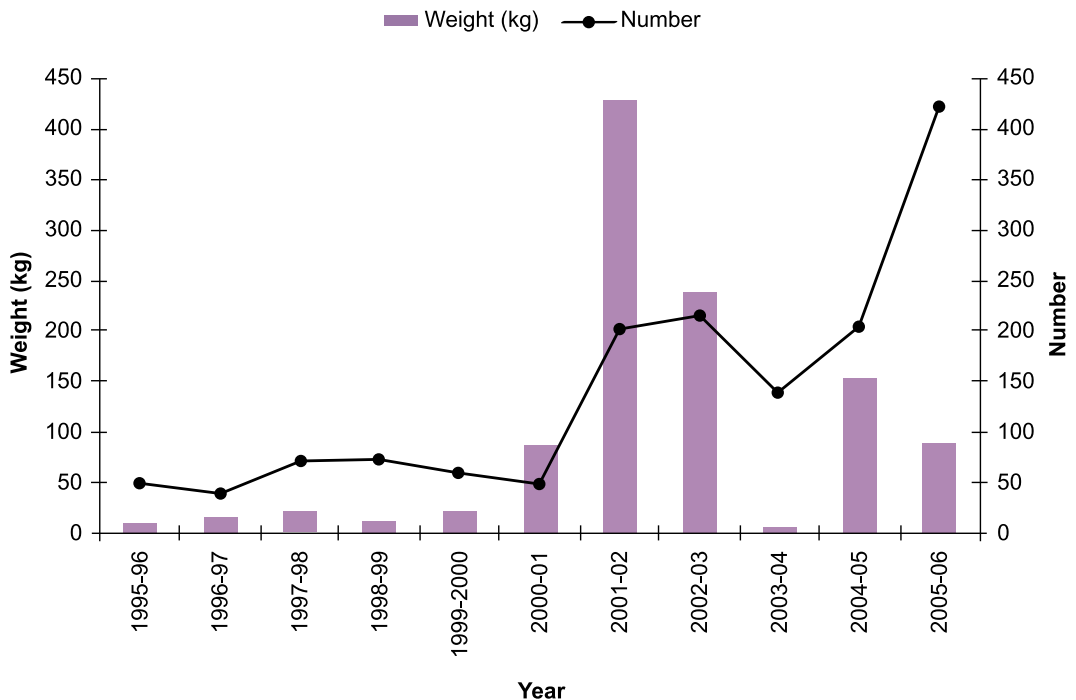
## 1.6 Availability

Methamphetamine is readily available on the drug market in most areas of Australia. The 2005-06 IDDR found that the total weight of ATS seizures increased nationally from a few hundred kilos each year during the late 1990s to an average of around 1700 kilograms per annum over the past five years (Australian Crime Commission, 2007). The significance of the weight data is difficult to judge as several large MDMA seizures at the border in 2001-02, 2002-03 and 2004-05 distort the totals. Nonetheless, there has been a significant increase in the amount of ATS/MDMA seized over the past five years when compared to the previous five year period. Figures 1.2 and 1.3 show this relationship between number and weight of seizures for amphetamine and phenethylamine at the Australian border over

a 10-year period. While some of the increase can be attributed to more effective detection techniques, it may also indicate a marked increase in the availability of these drugs in Australia over the past decade.

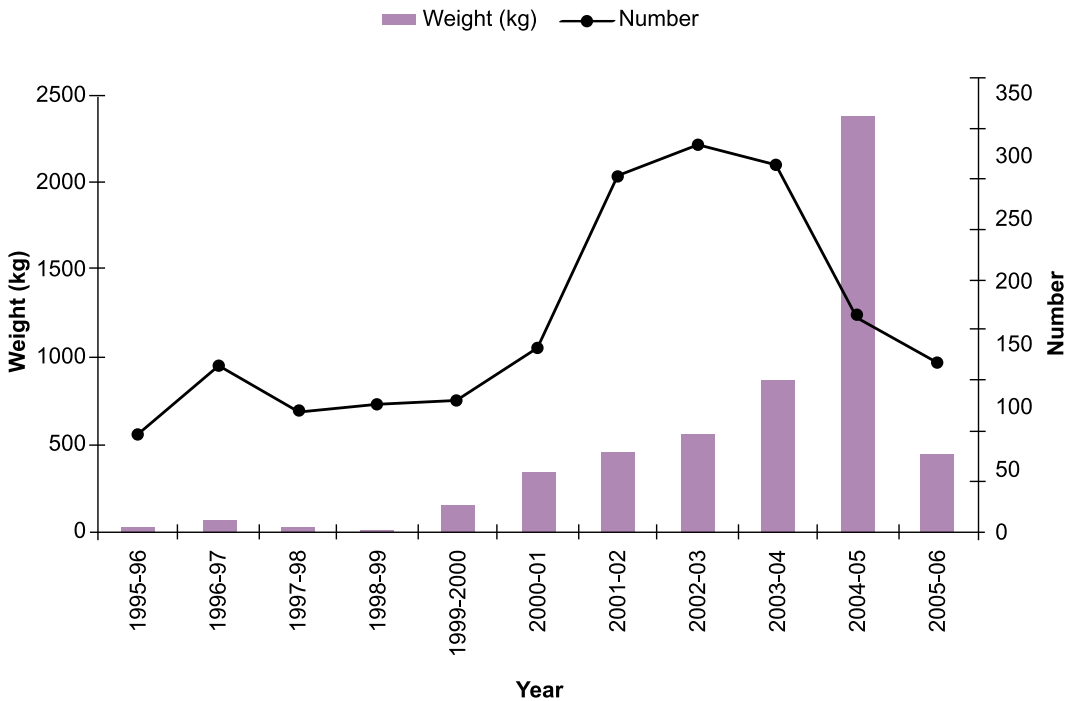
Indications of availability from official records, such as seizure data, can be complemented by surveys with the general population and with specific groups of drug users. Both IDRS and EDRS enquire about market aspects of illicit drugs in the interviews conducted with regular users. The greatest proportion of the 2006 IDRS sample rated all forms of methamphetamine as 'easy' or 'very easy' to obtain, and availability over the previous six months as 'stable' (O'Brien et al., 2007). Jurisdictional differences were observed, most notably in the Northern Territory where participants in Darwin rated all forms of methamphetamine as 'difficult' to obtain. The findings of the 2006 IDRS regarding availability of methamphetamine were supported by those of the 2006 EDRS. The greatest proportion of the national sample of REU rated availability of all forms of methamphetamine as 'easy' or 'very easy', and availability over the previous six months as 'stable' (Dunn et al., 2007). These were also the most common responses found for availability of ecstasy.

Figure 1.2: Number and weight of detections of amphetamine (excluding phenethylamine) at the Australian border, 1995–96 to 2005–06



Source: Australian Customs Service

Figure 1.3: Number and weight of detections of phenethylamine (MDMA/ecstasy) at the Australian border, 1995–96 to 2005–06

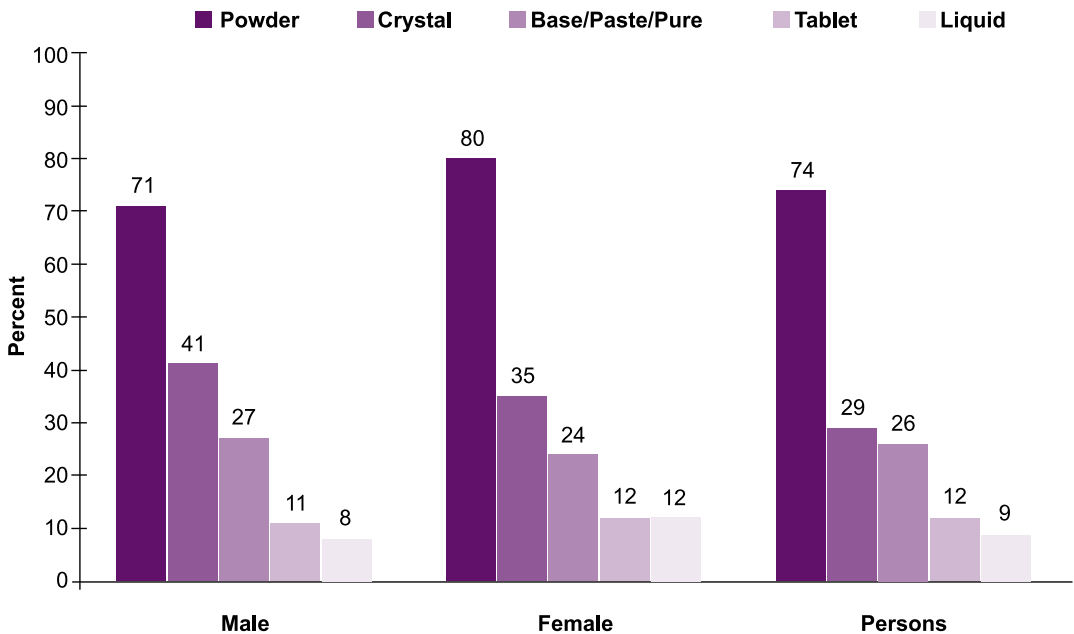


Source: Australian Customs Service

Responses from the 2006 sample of police detainees for DUMA suggest there have been some changes to the methamphetamine markets. Just under a third (30%) indicated it was harder to obtain their preferred form of amphetamine in the past 12 months and 26% indicated there had been an increase in price in the past 12 months (Mouzos et al., 2007). Difficulty with supply may account for the decrease in 2006 in the percent of detainees indicating crystal methamphetamine as their preferred form of amphetamine.

According to the 2004 NDSHS, the most common form of methamphetamine used by the Australian general population in the last 12 months was powder (74%) followed by crystal (29%), base (26%), tablets (12%) and liquid (9%) (Australian Institute of Health and Welfare, 2005a). Figure 1.4 shows little variation between males and females, although females are slightly more likely to report using powder.

Figure 1.4: Forms of methamphetamine\* used by recent users\*\*, 2004



\*Respondents could select more than one type

\*\* Self reported use in past 12 months

Source: 2004 National Drug Strategy Household Survey – detailed findings, N=29,445 respondents

The national consultations reported variations in availability of methamphetamine across the country and geographic variations in terms of demand and supply. There was general concern however, that ATS were becoming more widely available in rural and remote Australia. This is supported by research in rural and remote Australia that reported a perception that methamphetamine use was increasing in these areas (Delahunty & Putt, 2006).

## 1.7 Price

Among IDU in the 2006 IDRS, the price across forms of methamphetamine remained fairly stable, with some variation between capital cities (O'Brien et al 2007; see Table 1.3). In particular, IDU from Sydney reported much lower prices for powder while IDU from Darwin reported much higher prices for crystal. While there were jurisdictional variations between prices reported for forms of methamphetamine by REU in the 2006 EDRS, the greatest proportion reported the price for all forms as 'stable' over the previous six months (Dunn et al., 2007). The median price per ecstasy tablet ranged from \$30 in Sydney, Melbourne, Adelaide and Brisbane to \$50 in Darwin and, with the exception of Darwin, the price of ecstasy had declined over the period 2003-2006 (Dunn et al., 2007). Police detainees were also more likely to report that price had not increased in the past 12 months (74%) (Mouzos et al., 2007).

Table 1.3: Estimated availability and median price of methamphetamine by jurisdiction, 2000-2006

	Availability# 2006	Price (\$) per gram of powder							Price (\$) per point of base and ice*												
		2000	2001	2002	2003 (point)	2004 (point)	2005 (point)	2006 (point)	2000	2001	2002		2003		2004		2005		2006		
											Base	Ice	Base	Ice	Base	Ice	Base	Ice	Base	Ice	
NSW	Powder & Base: Easy to very easy, Stable Ice/crystal: Very easy; Stable	90	100	100	50 <sup>^</sup> (50)	100 (50)	90 (50)	100 (50)	50	50	50	50	50	50	50	50	50	50	50	50	50
ACT	Powder: Easy, Stable Base: Easy to very easy, Stable Ice/crystal: Easy to very easy; Stable to easier	180	250	300	175 <sup>^</sup> (50)	200 (50)	125 (50)	175 <sup>^</sup> (50)	-	50	50	50	50 <sup>^</sup>	50	50	50	50	50	50	50	50
VIC	Powder: Very easy, Stable Base <sup>^</sup> : Mixed reports (easy/difficult); Stable to more difficult Ice/crystal: Easy to very easy; Stable	50	200	200	200 (40)	180 (40)	200 (40)	200 (35)	50	50	35 <sup>^</sup>	50	40 <sup>^</sup>	50	35 <sup>^</sup>	50	45 <sup>^</sup>	50 <sup>^</sup>	50 <sup>^</sup>	50 <sup>^</sup>	50
TAS	Powder & Base: Easy to very easy, Stable Ice/crystal: Very easy; Stable	80	70	80	215 <sup>^</sup> (50)	290 (50)	300 (50)	300 <sup>^</sup> (50)	50	50	50	50 <sup>^</sup>	50	50	50	50	50	50	50	50	50
SA	Powder & Base: Very easy, Stable Ice/crystal: Easy to very easy; Stable	50	50	50	100 (25)	50 (27.50)	200 (41.50)	150 <sup>^</sup> (50)	30	30	25	25	30	50	25	30	50	50	50	50	50
WA	Powder & Ice/crystal: Easy to very easy, Stable Base: Mixed reports (difficult to very easy); Stable	200	250	250	260 (50)	260 (50)	300 (50)	300 (50)	50	50	50	50	50	50	50	50	50	50	50	50	50

Source: IDRS IDU interviews

# Participants were asked 'How easy is it to get at the moment?' and 'Has this changed in the last six months?'

<sup>^</sup> Reports based on small numbers (n<sub>≤</sub>10), interpret with caution

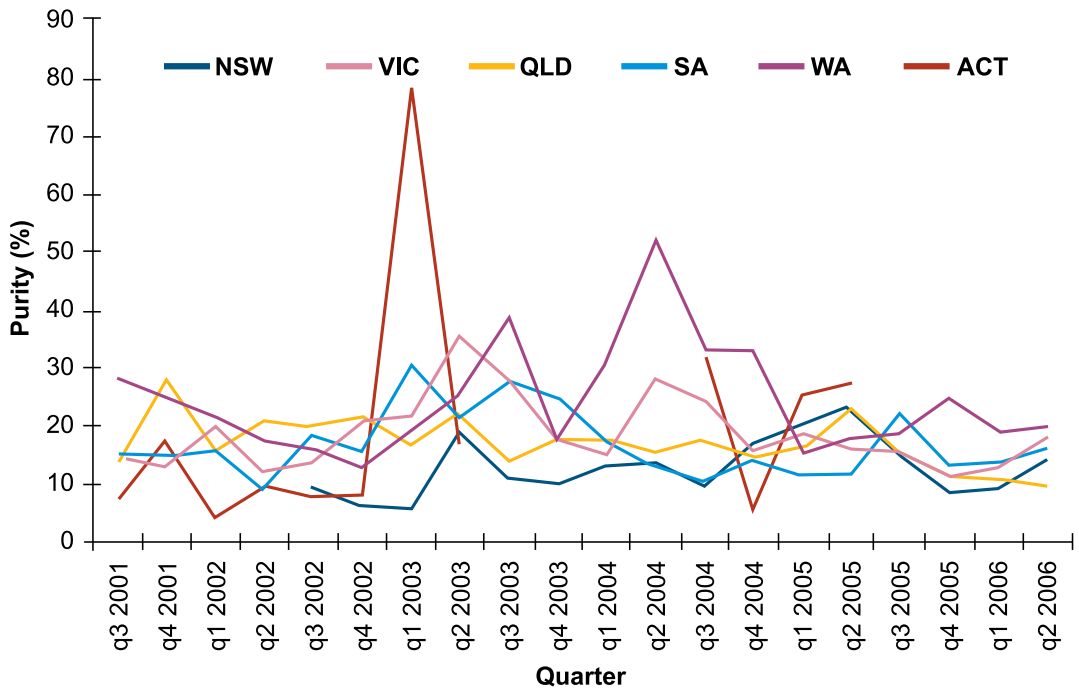
\* In 2000 and 2001 base and ice/crystal were combined under 'potent forms' of methamphetamine, and therefore the price reflects both forms. From 2002 to 2006 base and ice/crystal were separated to provide more detailed information on the price and availability of the different forms of methamphetamine

Note: Dashes represent no purchases

## 1.8 Purity

According to the IDDR (Australian Crime Commission, 2007), purity levels vary markedly from 1% to 99% pure for both amphetamine and methamphetamine samples. Not all seizures by Australian law enforcement agencies are subjected to forensic analysis. In 2005/06, 193 amphetamine seizures were tested and 4878 methamphetamine seizures were tested. Their median purity varied from 7% to 79%. The largest number of seizures tested were in Queensland (n=1649) and South Australia (n=1319), while no seizures in the ACT or the NT were tested.

Figure 1.5: Median purity of methamphetamine samples, 2001/02–2005/06



Note: Breaks in the lines in this chart indicate that no seizures were analysed in that quarter.

Source: ACC Illicit drug report 2005-06:16.

Given that all the forms of methamphetamine are classified together by forensic laboratories for testing, it is difficult to determine the purity of the different forms. Estimates ranged from 10% purity for powder forms, 21% for base methamphetamine, and 19% to 80% for crystalline methamphetamine (National Leadership Forum on Ice, 2006). The majority of IDU in the 2006 IDRS reported the current purity of powder as 'low', base as 'medium', and the purity of crystal methamphetamine as 'high' (O'Brien et al., 2007). The greatest proportion of IDU rated the purity of all forms of methamphetamine as 'stable' over the previous six months (O'Brien et al., 2007). Differences emerged in perceptions across capital cities of drug purity by IDU. Ratings of 'high' purity for both speed and base were greatest in Melbourne (25% and 50% respectively) and Adelaide (24% and 49% respectively), and for crystal in Brisbane (68%), Perth (59%) and Hobart (51%) (O'Brien et al., 2007).

In the 2006 EDRS, the greatest proportion of REU reported the purity of all forms of methamphetamine as 'high' or 'medium' (Dunn et al., 2007). It is noted that these ratings are subjective in nature and although some users report the quality as high, the overall median purity generally remains low at less than 20% for those seizures tested by State and Territory police (Australian Crime Commission, 2007). However, AFP seizures have a much higher medium purity suggesting that methamphetamine, once it reaches users, has been significantly adulterated (Australian Crime Commission, 2007).

In the 2006 EDRS, the majority of REU in the national sample rated the current purity of ecstasy tablets as 'medium' (38%), followed by 'fluctuates' (31%) (Dunn et al., 2007). Accordingly, 32% of the national sample each rated purity of ecstasy over the previous six months as 'stable' and 'fluctuated' (Dunn et al., 2007). Ratings of current purity as 'high' were greatest among REU in Canberra (23%), Brisbane (22%) and Sydney (20%), while ratings of current purity as 'low' was greatest in Perth (22%) (Dunn et al., 2007). As noted, the purity of ecstasy tablets varies considerably because of the mode of manufacture and levels of adulterants. The median purity of phenethylamines is estimated between 20% and 40% (Australian Crime Commission, 2007).

There was considerable comment across consultations and within the jurisdictions about the variable quality of ATS. It was suggested at one consultation that domestically manufactured ATS are becoming purer in content, although are still not to the standard of those imported from SE Asia. Many at the consultations and key stakeholders considered street amphetamine to be heavily adulterated with other substances including sugar, ephedrine, glucose, talcum powder and quinine. One adulterant used in the production of methamphetamine is dimethylsulphone (also known as MSM), a dietary supplement for arthritis sufferers. MSM can be added to methamphetamine during the final stages of the production process to give a similar appearance to crystal methamphetamine (Fetherston & Lenton, 2007). This may in turn lead some users to believe that they are consuming the higher potency crystalline form of methamphetamine when they are consuming lower purity forms of methamphetamine which have been given a crystal appearance.

The written submission from the National Drug and Alcohol Research Centre (NDARC) noted previous research suggesting that:

Several shifts in the drug market over the past decade have prompted concern. These include a shift from amphetamine to methamphetamine supply in the mid 1990s, an increase in the prevalence of use and related indicators in the late 1990s, and an increase in the purity of street level seizures of the drug from this time, with the emergence of imported high purity crystalline methamphetamine. Current community concern about methamphetamine reflects the culmination of these trends and a growing public awareness about this drug problem.

## 1.9 Routes of administration

Meth/amphetamine can be consumed by a variety of methods or routes of administration, including oral (swallowing), nasal (snorting), inhalation (smoking), vaginal/anal (shelving/shafting), and intravenous (injection). The method of administration depends both on the form of the drug and the norms of different groups of users (Mundy, 2001), and is a significant mediating factor on the effect of a drug. Various routes of administration are preferred because they can enhance or facilitate drug effects. A study of the Sydney methamphetamine market found that the majority of amphetamine users who had tried powder, base and crystal methamphetamine preferred the purer forms of the drug to achieve 'a more intense and longer lasting high' (McKetin, McLaren & Kelly, 2005). Intranasal or oral ingestion are common routes of administration by novice and recreational users, while injection is a common route of administration among heavier dependent users (Ross, 2007).

As noted, the route of administration also differs according to the form. Among the national sample for the 2006 EDRS, speed powder was most commonly 'snorted' (75%) or 'swallowed' (73%), base was most commonly 'swallowed' (84%), and crystal methamphetamine was most commonly 'smoked' (79%) in the previous six months (Dunn et al. 2007). Small proportions reported injecting in the last six months: 12% reported injecting speed, 18% reported injecting base, and 20% reported injecting crystal methamphetamine (Dunn et al., 2007). The main route of administration for ecstasy in the previous six months was 'swallowing', reported by 94% of the national sample (Dunn et al., 2007).

The route of administration also varies according to the user. In contrast to those who participate in the EDRS survey, regular amphetamine users in a study of methamphetamine use in Sydney were most likely to inject the three common forms of ATS – powder, base and crystal (McKetin, McLaren & Kelly, 2005). However, one-third reported that they usually snort powder and one quarter reported usually swallowing base. A quarter (25%) reported that their initial administration of the drug was through injecting and 63% had injected on the most recent use. Twenty-six percent reported that they injected daily and 38% reported injecting twice or more a week.

By definition (e.g., participants are recruited on the basis of regular injecting), the main route of administration for participants in the IDRS is injecting. Among police detainees, 70% reported that they had injected methamphetamine in the past 12 months and of those who had injected in the past 30 days, the average number of injections was 27 times during this period (Mouzos et al., 2007). Dependence on methamphetamine may partly be a function of route of administration. Among 310 regular methamphetamine users in Sydney, 67% of those who injected were dependent compared to 58% of those who smoked and 30% of those who snorted or swallowed the drug (McKetin, McLaren & Kelly, 2005). It was noted at one of the consultations that methamphetamine users themselves have distinct views about differences between injecting and non-injecting users, with a perception that injectors were 'more dependent' or 'more severe addicts' and more 'socially irresponsible' than non-injecting users.

Smoking methamphetamine has emerged as a trend in Australia following the increased availability of crystalline methamphetamine in 1999. Methamphetamine vaporises when heated and when inhaled, is rapidly absorbed into the pulmonary blood flow, giving an almost instant and intense drug effect (Australian National Council on Drugs, 2007). Crystal methamphetamine is typically smoked using a glass pipe, but it can be smoked using a 'bong' (water pipe used for smoking cannabis) or using a non-flammable surface (Australian National Council on Drugs, 2007). Methamphetamine is often smoked in social situations, where the methamphetamine pipe is passed among friends (Australian National Council on Drugs, 2007). The smoking of crystal amphetamine among young recreational drug users is a significant new trend because of the potential smoking has, given peer group influences, to introduce a younger, less experienced person to engage in a more risky pattern of drug use, and increase their risk of becoming dependent on methamphetamine (McKetin, McLaren & Kelly, 2005). One response in some jurisdictions has been to ban smoking equipment; however, there was concern at some consultations that such bans could influence smokers to move to injecting as a means of obtaining an instant drug effect.

## 1.10 Summary

The MCDS is represented by the Australian and State and Territory Ministers of Health and Law Enforcement and Education. The role of the Council is to determine national policies and programs intended to reduce drug related harm within the Australian community. Recently, the MCDS authorised development of a National ATS Strategy to complement existing strategies, such as the National Cannabis and Alcohol Strategies. These individual strategies are guided by the NDS, which adopts a harm minimisation approach to drug use and related harms in Australia by targeting reductions in supply, demand and harms.

ATS are all chemically related to the parent compound amphetamine and act as central nervous system stimulants. ATS include amphetamine and methamphetamine in forms of powder, base and crystal; MDMA (ecstasy) and related drugs such as MDA and MDEA; and pharmaceutical stimulants such as dextroamphetamine, methylphenidate and phentermine. ATS vary in form and purity, with crystal methamphetamine representing the most potent ATS. There is a relationship between both purity and method of administration with drug effects. There are various existing sources of data that can inform our understanding of patterns of ATS production, distribution, use and related problems. It will be important to ensure these data sources are coordinated to ensure current and accurate information are available to inform preventive and other responses to ATS use and related problems.