

# Amphetamine, Ecstasy and Cocaine

A Prevention and Treatment Plan  
2005 - 2009



**NSW DEPARTMENT OF HEALTH**

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# Executive Summary

The development of the *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* is an acknowledgement that in NSW, as in other parts of the world, patterns of drug use are changing, requiring dynamic, evidence-based and innovative responses from the health sector in partnership with other agencies that are in a position to effect change. The Plan provides a framework to guide the health sector's response to the abuse of psychostimulants. The aim of the Plan is to reduce the harms associated with the abuse of psychostimulants. To accomplish this, six Key Activity Areas have been identified to guide action. These include:

1. Information and Education
2. Early Intervention
3. Treatment Approaches
4. Research, Monitoring and Evaluation
5. Special Populations
6. Partnerships

The whole-of-government approach adopted in the *NSW Drug Summit Government Plan of Action 1999* demonstrates the benefits of government-sector

collaboration in developing workable solutions to complex problems. The NSW Government places a high premium on developing coordinated, strategic responses to emerging issues involving the different levels of government, law enforcement, the community sector and non-government organisations. In keeping with this, the *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* both complements and reflects the whole-of-government Psychostimulant Strategy currently being developed by The Office of Drug and Alcohol Policy.

The *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* represents an agreement between key stakeholders in the NSW health sector regarding policy development and action to address problems associated with the abuse of psychostimulants. Specifically, this Plan:

- provides a framework for action
- identifies issues and target population groups
- highlights programs and approaches that have had positive impacts
- defines anticipated outcomes.

# Why an Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan?

In recent years, particularly in the wake of the 'Heroin shortage' over the period 2001–2002, there has been a resurgence of interest among the drug and alcohol field about the health impacts of illicit stimulant use. In particular, a keen interest has been taken in relation to the use of amphetamines (including dextroamphetamine and methamphetamine), and amphetamine type stimulants such as cocaine and 'ecstasy' (MDMA) (Henry-Edwards, 2001). Many of the stimulant substances that are now illicit were developed for therapeutic purposes in the late 19th and early 20th centuries. While their wide medicinal use (in the main for respiratory diseases such as asthma and congestion due to influenza or the common cold) was largely discontinued when the potential for abuse was recognised and concerns were expressed regarding the associated health risks (UNDCP, 1996), proprietary amphetamines and other psychostimulants are still used extensively (and controversially) in the treatment of hyperkinetic behaviour and attention disorders (ADHD)<sup>1</sup> and narcolepsy. Adverse reactions ranging from nervousness, insomnia, anorexia, headache through drowsiness, dizziness, mood disturbance growth retardation, gastro-intestinal upset, hepatic dysfunction, hypertension to tolerance, rashes and dependence are now well documented.

Knowledge and understanding of the effects and harms associated with use of a range of psychostimulants is now increasing with an extensive body of research analysing the mechanisms and effects of these compounds including illicit amphetamine analogues.

The abuse of psychostimulants is a global phenomenon. Research undertaken by the World Health Organization and the United Nations Drug Control Program has highlighted the worldwide

increase in abuse of these substances and the need for strategies to reduce supply, demand and drug-related harm (UNDCP, 1996; ODCCP, 2000; WHO, 2001; ODCCP, 2003).

The most comprehensive review of Australia's major national data sets relating to illicit drugs indicate the supply and use of amphetamines increased tenfold between 1996 and 2002, an increase attributed to both increased production and importation of methamphetamine. The data indicate that while all forms of amphetamine have been increasingly available since the late 1990s, the potent crystalline form of methamphetamine was first detected in 1999 (McKetin & McLaren, 2004). These data also indicate amphetamines (in the main methamphetamines) are the second most commonly used illicit drug after cannabis, with some nine per cent of Australians reporting having ever used the substances and about 500,000 people having tried them in the last twelve months (McKetin & McLaren, 2004)

In NSW, anecdotal evidence from drug and alcohol services, emergency departments, mental health services and needle and syringe programs indicates that increasing numbers of drug users are presenting with problems related to psychostimulant use. It is acknowledged that many psychostimulant users do not consider themselves at risk of harm and therefore will not come in contact with health services. In times of crisis, however, they may present to emergency departments and mental health services, or seek advice from general practitioners, alternative practitioners, peer and friendship networks, or family.

In developing this Plan, a range of actions and approaches has been adopted to reflect the diversity of psychostimulant users and the range of problems encountered.

<sup>1</sup> Methylphenidate hydrochloride (eg, Ritalin™, Attenta™, Lorentin™) is a central nervous system stimulant and the most commonly prescribed psychotropic medicine for children suffering Attention Deficit Hyperactivity Disorder (ADHD). This proprietary drug and others similar will not be dealt with in this Strategy.

### How the Plan was Developed

Following approval from the NSW Minister for Health, the then Drug Programs Bureau (DPB) (now the Centre for Drug and Alcohol) convened a steering committee to assist the development and implementation of a Psychostimulants Plan. The Psychostimulants Steering Committee (PSC) comprised of representatives from rural and metropolitan Area Health Services, researchers, clinicians, and community stakeholders. A number of research and discussion papers were prepared to inform the development of the Plan.

In March 2002, the DPB hosted a Psychostimulants Forum with broad representation from the health and Non Government Organisation sector. The Forum was convened as the primary consultative mechanism for the development of the *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan 2005–2009*. The Forum provided the opportunity to exchange information and expert advice, to establish and strengthen existing professional networks, and to promote discussion regarding service delivery implications arising from increases in psychostimulant use. Many of the suggested actions arising from the Forum have been incorporated into this Plan. Further, the Quality in Treatment, a clinical advisory group to the NSW Health Drug and Alcohol Council, has provided clinical guidance in finalising the Plan.

### Understanding Psychostimulant Use: An Overview

Psychostimulants are chemical substances that stimulate the central nervous system, increasing activity in a number of brain pathways and variously affecting the behaviour of the user. Psychostimulants include amphetamines (amphetamine, dexamphetamine, methamphetamine), cocaine, and amphetamine analogues such as 'ecstasy' (or MDMA) (Henry-Edwards, 2001; Christie, 2002).

As with the use of all drugs, the effects of psychostimulants depend not only on the pharmacology of the drug taken but also on factors regarding the user and their personal and social environment (Chesher, 1993). The effects of drugs are influenced by the amount taken, physical characteristics of the user (height, weight, general health, etc.), the mood of the user, the environment in which the drug is taken, the way in which the drug is taken and past experiences and expectations

of the person taking the drug. Polydrug use will also change the effects of drugs and may enhance or interrupt their effects.

Research indicates that the highest prevalence for use of psychostimulants is among young adults and young people. While much of this use is considered 'recreational', a small but significant population has also been implicated in the misuse of psychostimulants – vis., long-haul truck drivers and shift workers seeking to increase working hours, remain alert and elevate mood. A number of key factors attend psychostimulant use, as follows:

- Use of amphetamines, cocaine and 'ecstasy' occurs in a variety of settings with a strong association with social gatherings (private parties, dance parties, public venues).
- Polydrug use is common among psychostimulant users. Drugs popularly used in combination with psychostimulants include alcohol and cannabis.
- While mortality rates among psychostimulant users are low, there are a number of known and suspected harms associated with psychostimulant use.
- Many of the harms associated with psychostimulant use are mental health-related.

(For detailed information on specific substances refer to the Appendix *Key Information on Psychostimulant Drug Types*.)

In order to understand how psychostimulants are used, consideration should be given to the common routes of administration (the way the drugs are taken) and the ways in which the drugs are used.

- Amphetamines, including methamphetamine, can be administered intra-nasally (sniffed or snorted), swallowed or injected. Some of the more potent forms of methamphetamine are active only when smoked.
- Cocaine can be administered intranasally, swallowed or injected. Only the alkaloid form of cocaine ('crack') can be smoked.
- 'Ecstasy' is most commonly swallowed but can be sniffed or snorted (if in powder form or by crushing a tablet) or injected.
- Other stimulants, such as phentermine (a proprietary pharmaceutical intended as an anorectic) are generally taken orally.

### What are the Patterns of Use?

For the majority of non-problematic users, psychostimulants are generally associated with social use, however, stimulant use is also frequent in a range of occupational settings, such as in hospitality, transportation and among students. While there is an identifiable population of cocaine and amphetamine injectors, it is important to note that low levels of mortality are attributable directly to psychostimulant use.

Research indicates there are many in the community whose psychostimulant use is infrequent, and whose use can be classified as experimental and occasional. It also appears that many psychostimulant users cease using these substances as they get older (Adhikari & Summerhill, 2000).

While many users of psychostimulants will not experience severe harms, it is important to recognise that little is known about the long-term effects of psychostimulant use and that there are identifiable harms associated with non-dependent use.

In order that patterns of psychostimulant use and the associated harms can be better understood, terms have developed that represent a move from the traditional concepts of 'dependent' and 'recreational' drug use. The following terms are used throughout this document and will assist in identifying the range of harms that can occur across the different patterns of use.

- *Experimental* use describes use of a substance, usually motivated by curiosity, on one or two occasions.
- *Instrumental* use occurs when the substance is being used for its performance-enhancing effects (to stay awake for work or study, for example), rather than for pleasure.
- *Occasional (contextual)* use occurs in association with a specific social occasion. This type of use may be infrequent or frequent.
- *Heavy, sessional* use refers to excessive or continuous use of one or more drugs over a short period of time (in the case of stimulants, usually about 48 hours).<sup>2</sup>
- *Compulsive* use is usually associated with heavy sessional use but may also be associated with chronic use and usually refers to situations where the user has little impulse control over their using.
- *Chronic* use is heavy, prolonged use.

It is possible for these different patterns of use to overlap. It is important to acknowledge that shifts may occur between patterns of drug use in both directions over time. For example, a long-term study into the drug use of 'non-deviant' cocaine users in Amsterdam found that most of the users became abstinent over time, including those who had experienced a period of heavy use (Cohen and Sas, 1993). Another study of drugs of a cohort of 14 to 16-year-olds in South London showed considerable variance in uptake of psychostimulants. While one user might progress to prolonged heavy use, an experimenter might never use the drug again. Similarly, a heavy sessional user might cut back to occasional use (Manning et al, 2001). Recognising and identifying transitions in drug use may provide opportunities for intervention to reduce the escalation of drug use, reduce harms and provide effective treatment options.

The problem of emerging psychostimulant use in Third World countries and unregulated labour markets, where stimulants are used to enhance workplace productivity (particularly among workers engaged in repetitive tasks and working long hours), is an example of the way in which social and/or economic pressures can contribute to an increased acceptability and uptake of drug use. This is not however a problem that is limited to developing countries. Surveys conducted in the 1970s in the United States and Australia indicate that between 40 and 60 per cent of long-haul truck drivers had used stimulants at one time or another to stay awake (Hall and Hando, 1993). The customary instrumental users identified by international researchers include drivers (particularly long-distance drivers), prostitutes, students, fishermen and agricultural workers (Klee, 2001).

### Aim, Objectives and Anticipated Outcomes

#### Aim

The aim of the *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* is to reduce the harms associated with the use or the abuse of psychostimulants. In order to accomplish this goal, a number of objectives and outcomes need to be achieved.

<sup>2</sup> This equates to 'binge' consumption which remains ill-defined. Consistent with Commonwealth guidelines and strategic plans on alcohol, the term 'binge' will not be used in this document other than in citations where it has been used (See NHMRC, 2001).



### Objectives

- To increase the range of effective interventions to reduce psychostimulant-related harms.
- To interrupt transition to heavy, problematic use
- To increase the knowledge and skill levels of drug users, health and allied health professionals regarding the association between psychostimulant drug use and harm.
- To increase the range and availability of effective, evidence-based treatment options and their appeal to psychostimulant users.
- To increase understanding within the field of psychostimulant use and promote best practice through research, monitoring and evaluation of initiatives.
- To increase the capacity of drug users to make decisions that reduce the harm associated with psychostimulant use.
- To promote the development of targeted initiatives for special populations.
- To encourage partnerships and collaborative approaches between health professionals and agencies, non-government organisations, communities and drug users to reduce psychostimulant-related harms.

### Anticipated Outcomes

- Reduction in size of the population at risk of psychostimulant-related harm.
- Increase in community understanding of the harms of psychostimulant use and of available strategies to reduce harm.
- Increase in health initiatives to respond to illicit psychostimulant use.
- Increase in dissemination of education and information regarding psychostimulant use to health professionals, families and drug users.
- Increase in the number of health occasions of service
- Increase in the presentation of psychostimulant users to treatment services.
- Increase in collaborative health approaches to reduce psychostimulant use-related harm.
- Increase psychostimulant and psychostimulant-user research.

### Principles of the Plan

#### Harm Prevention

NSW Health works in partnership with the NSW Police, the Commonwealth and other jurisdictions through the structures of the Ministerial Council on Drug Strategy and the Intergovernmental Committee on Drugs to reduce the harm caused by drug use in Australia.

Harm minimisation is the philosophy underpinning drug and alcohol policy in New South Wales. It refers to policies and programs aimed at reducing drug-related harm. It includes preventing potential harm as well as reducing actual harm by employing three main strategies:

- Supply reduction: strategies aimed at reducing the production and supply of illicit drugs.
- Demand reduction: strategies aimed at preventing the uptake of harmful and hazardous drug use.
- Harm reduction: strategies aimed at reducing the various forms of drug-related harm (including social, physical, psychological, legal and economic).

#### Capacity Building

Activities stemming from the *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* will adopt a capacity-building approach in line with NSW Health's *Framework for Building Capacity to Improve Health (NSW Health, 2001)*. The Strategy will focus on: establishment of minimum standards in terms of structures, organisations, skills and resources in the health sector; identification of major health issues arising from psychostimulant use and the development of appropriate mechanisms to address them; and delivery of programs through a network of agencies.

#### Evidence

Illicit drug use is an area that is controversial and steeped in mythology. Successful interventions must therefore be based on accurate, objective and well-conducted research, and approached in a systematic, even-handed fashion.

#### Access and Equity

Considerations of access and equity must also be taken into account in all planning and implementation

## Why an Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan?

phases, particularly in relation to resources allocation and the provision of services. The development of universal and targeted programs for the community and improving access to services, particularly for disadvantaged or vulnerable groups, is part of the core business of NSW Health.

### **Effective Communication**

It is important that clear and consistent messages are sent to the community regarding drug use. It needs to be emphasised that drug taking can be harmful, and clear information needs to be provided to the community regarding the risks of use.

### **Accountability**

The NSW Government, through the NSW Office of Drug and Alcohol Policy, has improved accountability for the response to drug problems by providing regular reports to the Special Minister of State on the implementation of the *NSW Drug Summit Government Plan of Action*. In line with this approach, psychostimulant initiatives will be monitored for effective use of resources in meeting anticipated outcomes.

# Information and Education

# 1

## Objective

To increase the knowledge and skill-levels of drug users, health and allied professionals regarding the association between psychostimulant drug use and harm.

## Background

Provision of accurate, targeted and culturally relevant information and education is essential for developing effective responses to psychostimulant use and underpins health protection and maintenance. In order to ensure access to information, effective dissemination strategies will need to be developed.

Three groups are identified as targets for education and information. They are:

- drug users
- families
- health workers and service providers

The information and educational requirements of these groups may vary considerably, and approaches to the development and delivery of information and education need to accommodate these differences.

## Drug Users

Information and education for drug users helps people make informed decisions about their drug use. It is widely recognised that levels of information and knowledge among drug users vary considerably, with some users having access to accurate, evidence-based information and others relying upon informal networks. The transmission of accurate information among such a diverse group presents a challenge to the health system. There are some drug users, for example, who experience high levels of harm associated with their drug use requiring specific, targeted information.

These users include:

- amphetamine and cocaine injectors
- young, experimental or occasional users
- psychostimulant users taking anti-depressants
- situational/occupational users

NSW Health will utilise a context or settings-based approach, as distinct from a whole-of-population approach, in determining an appropriate strategy for educating drug users. For example, psychostimulant drug users may be targeted through the NSW Needle and Syringe Program. Needle and Syringe Programs are in a unique position of accessing a range of drug users who may have little or no contact with other health services, and may therefore be able to offer drug education and referrals to various forms of treatment upon request.

## Families

Providing families with information and education is fundamental to the creation of supportive environments. Parents, partners and siblings of drug users are often sources of support and information and can be influential in shaping behaviours. The family environment as a site for effective intervention is widely acknowledged.

Families require support in the form of information and education that is up-to-date, accurate, culturally appropriate and not morally judgemental. In addition to information on the effects of drugs and associated harms, families may also require information on where to get help and how to access support services. Much of this information is already available, but continued efforts need to be directed into ensuring that the information and education becomes increasingly accessible.

In addition, families may also need accurate information regarding:

- recognition of intoxication
- the effects of drugs
- drug-related harms
- conflict resolution skills
- communication skills
- withdrawal symptoms and basic interventions
- common mental health problems and where to obtain help.

There is a need to ensure that existing programs designed to support families are enhanced and

## Information and Education

developed. Other opportunities include working with family GPs and local pharmacies to ensure they can assist family members and friends of drug users.

### Health Workers and Service Providers

The Strategy consultation process has identified a diverse range of workforce issues that may be addressed through education and information.

A skilled and educated workforce is essential for dealing effectively with, and responding to, problems arising from psychostimulant use. Providing workers with the support and necessary skills to work with psychostimulant users is a priority of the Strategy.

Given that many psychostimulant users do not come into contact with treatment agencies, information and education needs to target a range of health professionals including: GPs, psychiatrists, mental health workers, accident and emergency staff, ambulance officers, youth workers, community health workers and needle and syringe program staff.

Ensuring that workers have access to accurate, evidence-based information will enhance the effectiveness of interventions and ensure that accurate information is passed on to drug users. Relevant Trade Unions and industry groups will be included as key partners in facilitating this professional development approach.

The common information needs that have been identified include:

- signs and symptoms of psychostimulant use
- drug pharmacology and interactions; and
- information regarding the short, medium and long-term effects of psychostimulant drug use.

Training in effective interventions, dual-diagnosis, primary mental health assessment skills, de-escalation skills and risk-management skills will enhance the capacity and confidence of frontline workers to deal with chaotic cocaine and psychostimulant users.

Consultations with health workers and service providers have highlighted a degree of concern regarding the unpredictable nature of the behaviour of heavy, problematic psychostimulant users, in particular heavy sessional-use injecting drug users. Acute psychostimulant intoxication can mimic psychiatric conditions (Dore, 2002), and mood swings and chaotic behaviour are also

associated with heavy psychostimulant use. This highlights the need for frontline workers to acquire skills in recognising mental health signs and symptoms, including acute psychostimulant intoxication and psychotic symptoms, as well as skills in managing challenging and aggressive behaviour. Education needs to be supported by workplaces along with the development of policies and procedures for working with psychostimulant users, including the management of chaotic clients. Policies that support workers by providing clear guidelines for the recognition and management of potentially violent clients, regardless of the cause, are essential for worker safety.

### Information and Education Actions

- 1.1** NSW Health will develop and distribute information resources for users of cocaine, ecstasy and amphetamines to provide accurate, culturally appropriate information regarding the risks and harms associated with use of these drugs.
- 1.2** NSW Health will ensure that information on psychostimulants is disseminated to organisations and agencies that work with families and communities utilising existing Health Improvement positions within NSW Health and through a range of initiatives including the Community Drug Action Strategy and the Community Drug Information Strategy.
- 1.3** NSW Health has provided funding over two years to the Sydney South West Area Health Service, in conjunction with the Central Sydney Division of General Practice and the University of Sydney Union, to improve the knowledge about psychostimulants among young people attending the University of Sydney and to improve the knowledge, skills and confidence of health workers in the recognition, assessment and treatment of problematic psychostimulant use.
- 1.4** NSW Health commissioned Streetwise Communications to conduct research into the information needs of psychostimulant users, with a focus on non-injecting drug users and injecting drug users not initiating others into injecting. This information will be used to assist in the development of a range of appropriate resources for occasional and regular drug users.

- 1.5** NSW Health will develop a brief assessment tool for frontline workers, including workers in non-government organisations, to assist in identifying drug users who have co-morbid psychosocial issues that increase the risk of problems developing.
- 1.6** Frontline workers, including counsellors, will be provided with appropriate training and should be supported by the development of policies and procedures for working with psychostimulant users. Relevant Trade Unions and industry groups will be included as key partners in facilitating this professional development approach.
- 1.7** NSW Health will investigate ways of improving GP knowledge and skills with regard to the recognition and treatment of psychostimulant-related health issues through greater involvement with medical education providers and facilitating links with drug and alcohol services.
- 1.8** The Sydney South West project includes the development of a clinical training package regarding psychostimulant use that targets GPs

and incorporates identification, assessment and best practice interventions. This package may also be readily adapted for the education and training of allied health workers.

- 1.9** NSW Health has developed the *Interagency Guidelines for the Early Intervention, Response and Management of Drug and Alcohol Misuse* based on a whole-of-government approach. These guidelines will provide a framework to assist non-drug and alcohol specialist agencies to improve the effectiveness of their responses to harmful drug use among service users. The *Interagency Guidelines* will be used by a broad range of agencies to develop and review their policies and procedures.

## Objectives

- To increase the range of effective interventions to reduce psychostimulant-related harms.
- To interrupt transitions to heavy, problematic use among drug users.

# 2 Prevention and Intervention

## Background

The development of prevention and intervention strategies is essential to ensuring reductions in drug-related harm and disrupting escalation of problematic drug use. Such strategies must be evidence-based and coupled with an understanding of substance-use contexts and factors contributing to the development of problematic drug use.

The key aims for intervention strategies include: reducing the appeal of substances; preventing transition to injecting drug use; promotion of healthy lifestyles and drug-free activities; raising awareness of the harms and negative consequences of psychostimulant use and informing users of the legal implications of their use.

Some individuals are more vulnerable to harms associated with psychostimulant use, in particular individuals with psychiatric or mood disorders (Hall and Hando, 1993), and injecting drug users. Specific interventions and prevention messages need to be developed for these groups.

## Psychostimulants and the Law

Psychostimulant substances are prohibited drugs in NSW and possession and/or use of these, unless lawfully prescribed or supplied by a medical or nurse practitioner, is a summary offence. Manufacture of amphetamines and their analogues is an indictable offence with offenders liable to heavy penalties (from a \$2,200 fine and/or two years in jail to a \$550,000 fine and/or jail for life) under the *Drug Misuse and Trafficking Act 1985*.

In 2000, following recommendations of an interagency taskforce established under the auspices of the Drug Summit Government Plan of Action, this Act (among others relating to the supply and possession of drugs) was amended to reflect increasing knowledge of 'designer' drugs and their illicit manufacture and to provide penalties sufficient to deter both users and manufacturers of these drugs. Importantly, a new offence of possessing precursors for the manufacture or production of prohibited drugs was included in the legislation to counter the widespread use of otherwise legitimate precursor chemicals (such as

pseudoephedrine, commonly used in cold and flu preparations) in the manufacture of illegal amphetamines. This legislation aims to approach the problem of illicit drug use with both 'supply' and 'demand' side strategies.

In NSW it is an offence under the *Road Transport (Safety and Traffic Management) Act 1999* to use or attempt to use a vehicle under the influence of alcohol or any other drug, including psychostimulants. Heavy penalties exist for a first offence of 'driving under the influence' including a minimum fine of \$5,500 for offences. Police have the right to obtain a blood sample from drivers or riders reasonably suspected of being under the influence of drugs other than alcohol.

This area of legislation is currently under review and changes are expected. NSW Health is contributing to the whole-of government approach to the issue of drug driving including review of the legislation and current screening (toxicology) approaches.

## Reducing the Appeal of Psychostimulants

The short-term effects of psychostimulants are well documented and include mood- and performance-enhancing effects. An international report on global trends identifies the common perception that amphetamines and ecstasy are more benign and socially acceptable than drugs such as heroin (ODCCP, 2001). The perception that psychostimulants have lower health risks, are associated with sociability and fashion, their relatively low cost and the performance- and mood-enhancing effects of these drugs may explain the appeal of these drugs, particularly for young people (UNDCP, 1996).

Youth health services, community health services and needle and syringe program outlets are also a potential point of access for those at risk or those users who do not consider their use to be problematic. Awareness-raising activities within health services may assist services in identifying users presenting with other health issues.

The importance of peer-based interventions and activities is recognised, however, this needs to be balanced by the recognition that many people using psychostimulants

may not identify as drug users, particularly if they do not inject. As such, these users are unlikely to come in contact with peer user groups. Telephone information services, emergency department services and sexual health services are all identified as potential sites of intervention and referral.

### **Interrupting Transitions to Injecting Drug Use**

An important focus for the health sector is identifying high-risk users and prevention of transition from experimental and occasional use to heavy, sessional patterns and/or injecting drug use. Research undertaken with amphetamine users in England has identified this as an important area for activity (Klee, 1995).

Developing approaches that are context or settings-based and which target different types of use and different user-population groups should receive priority. Increasing health worker awareness of the warning signs of escalating drug use, in conjunction with increasing the capacity for self-assessment among drug users, will increase opportunities for successful interventions.

As psychostimulant users often do not present to health services until an issue arises, and because treatment services have limited access to non-dependent/non-problematic drug users, a health-intervention strategy should consider how to engage psychostimulant users prior to the development of problems. For example, consideration may be given to developing strategies with public needle and syringe programs, which offer significant potential for successful health interventions with injecting drug users, including novice users.

### **Heavy, Sessional use**

Heavy, sessional or 'binge' use of psychostimulants and its associated harms, particularly the development of mental health problems and escalating use, is an action priority area. Heavy episodic or sessional use, usually accompanied by polydrug use, is common among many psychostimulant users. This type of use is high-risk and has the potential to facilitate the transition to higher frequency of use and more problematic routes of administration such as injecting. The development of specific programs and interventions similar to those being used for heavy episodic drinking is a strategy

that has the potential to reduce the harms associated with heavy sessional psychostimulant use.

### **Early Intervention Actions**

- 2.1** NSW Health will disseminate information to both drug users and health workers regarding heavy sessional use and its associated harms.
- 2.2** NSW Health has funded the Alcohol and Drug Service, St Vincent's Hospital, to develop brief interventions for cocaine users, train clinicians and develop relevant clinical protocols. NSW Health will investigate the potential to expand the range of psychostimulant-use interventions and develop strategies to increase referrals to health services.
- 2.3** NSW Health will investigate means to inform young people who have not begun use about the health consequences of psychostimulant use.
- 2.4** NSW Health is contributing to a whole-of-government approach to the issue of drug driving, including a review of current legislation and screening (toxicology) approaches.
- 2.5** NSW Health will research the development of information regarding psychostimulant overdose and its management for drug users and their families, and the broader community.
- 2.6** The Centre for Drug and Alcohol proposes to formalise a system of "Director's Alerts" to ensure prompt responses to emerging trends in psychostimulant use, for example as in the recent case involving Paramethoxyamphetamine (PMA). This will operate in a similar way to the Illicit Substance Project operated by the NSW Ambulance Service to advise Area Health Service staff of emerging trends in the illicit drug field.



# 3 Treatment Approaches

## Objective

To increase the range and availability of effective, evidence-based treatment options, and their appeal to psychostimulant users.

## Background

The Australian approach to drug treatment has historically focused upon opiates and alcohol with far fewer cocaine and amphetamine users presenting for counselling and detoxification. This may be due to lack of knowledge and information regarding treatment options, or a perceived or actual lack of need for treatment.

Many treatment services are provided in NSW by government and non-government organisations including detoxification, outpatient/community-based services, pharmacotherapy services, and residential rehabilitation programs. Building on existing treatment approaches and enhancing service capacity through research initiatives, skills-development and information-sharing is critical for the development of interventions and treatment options regarding problematic psychostimulant use.

The diversity of psychostimulant users and different patterns of use require that a range of treatment options be provided.

In order that health services are better equipped to respond to the specific needs of drug users, clients and communities should be consulted in the development of services and involved in research activities.

## Detoxification Services

Psychostimulant withdrawal, for example amphetamine withdrawal, may last longer than opiate withdrawal. Effective treatment may therefore be better provided in outpatient settings in combination with ongoing assessment and monitoring, particularly during the first two weeks in which peak detoxification symptoms will appear.

Determining the appropriate setting for withdrawal or detoxification will depend upon the patient's physical and mental health, social situation, type and extent of

drug use and availability of appropriate resources. Detoxification services need to carefully assess the patient and plan service provision so that appropriate care is delivered during the most intense phases of withdrawal. As most cocaine and amphetamine users are polydrug users, treatment options such as selective detoxification may prove the most beneficial.

Baker, Kay-Lambkin, Lee, Claire and Jenner emphasise that it is crucial for clinicians to identify key support people in their patients lives and to ensure that these resources are utilised effectively. Support from relatives and friends can be vital as depression is common in the withdrawal phase (Baker et al 2003).

The release of the *Stimulant Withdrawal Guidelines* as part of the *NSW Withdrawal Management Guidelines* will assist detoxification services in the management of psychostimulant withdrawal and treatment. The *Stimulant Withdrawal Guidelines* provide a framework for the assessment, management and treatment of cocaine and amphetamine dependence.

## Non-Pharmacotherapy Approaches

It is important that a range of approaches be considered in the treatment of problematic psychostimulant use. While dependent users may benefit from detoxification, other options such as counselling and psychosocial services, including Cognitive Behavioural Therapy (CBT), may also be of therapeutic value. Data from the National Minimum Data Set for Alcohol and Other Drug Treatment Services reveal that those seeking treatment for cocaine use in 2000–2001 sought detoxification as a first preference followed by counselling, whereas amphetamine users first sought counselling followed by detoxification.

In a paper prepared for NSW Health, Baker and Lee (2002) reviewed psychosocial interventions for psychostimulant use and recommended intervention at the various stages of drug use. Other research has identified that behavioural interventions may be beneficial in reducing psychostimulant consumption and may also bring users into contact with treatment services for ongoing support (Kamieniecki, et al, 1997). In a major study, Baker et al (2004) found that there was a



significant increase in the likelihood of abstinence from amphetamines amongst those receiving two or more treatment sessions consisting of motivational interviewing and Cognitive Behavioural Therapy. This replicated the results of a smaller pilot study (Baker, Bloggs and Lewin, 2001).

These papers indicate that a 'stepped care approach' is likely to be of benefit to amphetamine users who engage in counselling type approaches. Stepped care is an approach where "a more intensive or different form of care or treatment is offered only when a less intensive form has been insufficient" (Schipper, Schramade, & Walburg, 2002). The first step, particularly suited to non-treatment settings, would consist of a structured assessment, provision of self-help materials and regular monitoring of amphetamine use and related harms. Second and third steps would be more targeted to users presenting to treatment settings. In addition to the elements of the first step, users could be offered two sessions of Cognitive Behavioural Therapy for amphetamine use. For those users presenting with moderate to severe levels of depression it may be best that four sessions of Cognitive Behavioural Therapy for amphetamine use from the outset is offered with further treatment for amphetamine use and/or depression depending on response. A further step of longer term psychotherapy and/or pharmacotherapy may be suitable for non-responders (Baker et al, 2004).

Treatment services using a stepped care approach need to ensure that staff are trained for the differing levels of intervention and have access to the self-help and treatment materials. Two good examples are the "A User's Guide to Speed" (NDARC) and "A Brief Cognitive Behavioural Intervention for Regular Amphetamine Users" (Baker et al, Australian Government Department of Health and Ageing, 2003).

### **Pharmacotherapy Substitution Treatment**

The efficacy of pharmacotherapy substitution remains a contested issue. While substitution and maintenance treatments have proven effective in treating dependence on other drugs, for example nicotine patches for smokers, the efficacy of substitution treatments for amphetamine users remains unclear (Shearer, et al, 2002). While there is some evidence to suggest that dexamphetamine substitution may be of some value to

highly dependent and chaotic amphetamine users (Shearer, 2002; Klee, 2001), the population most likely to benefit from such treatment is small. In addition, the appropriateness of substitution needs to be weighed up against possible long-term health and psychological implications (Mattick & Darke, 1995).

A review of treatment for amphetamine-related disorders undertaken by the World Health Organization notes that no available treatment has been demonstrated to be effective in the treatment of amphetamine dependence (WHO, 2001). That said, dexamphetamine substitution is a widely practised, yet under-researched and controversial treatment for amphetamine abusers. Further investigation of the benefits of dexamphetamine substitution is needed to demonstrate its efficacy (White, 2000).

Consultations with specialists in the field of addiction medicine, however, have revealed that offering some form of pharmacotherapy treatment may assist in attracting a small number of chaotic users into treatment. It is thought that by providing short-term substitution treatment with strict entry criteria, many of the problems associated with long-term amphetamine substitution may be significantly reduced.

### **Acute Mental Health Problems**

The effects of cocaine and amphetamines can sometimes mimic psychiatric disturbances, particularly at high doses or with frequent use. Such disturbances include anxiety states; depressive symptoms; psychotic reactions; manic or hypomanic reactions; delirium; aggressive behaviour and violence. While most of these disturbances tend to be transient and disappear after cessation of drug use, people with drug-related psychosis may present for treatment in mental health settings.

Stimulants may also trigger and exacerbate psychotic symptoms in those with pre-existing disorders. For clinicians, distinguishing between a stimulant-related disturbance and another diagnosis is difficult when a patient is intoxicated. Mental health professionals have identified a number of clinical features that can assist in determining whether a disturbance is drug related including onset of illness, the history of illness, characteristic of drug use and family history.

For people using psychostimulants and presenting with mental health symptoms it is often not possible to

## Treatment Approaches

establish whether there will be a risk of ongoing mental health symptomatology or relapse vulnerability. For this reason, a structure of care that allows for collaborative care management between services, care in the use of psychiatric medications, and flexibility for clients to move between services is required. Local area partnerships and cross-service skills exchange needs to be established and maintained.

Community mental health services, including crisis outreach teams, are another contact point for this population. Mental health services require similar clarity regarding assessment, treatment guidelines and referral pathways to drug and alcohol services.

### Emergency and Pre-Hospital Settings

In cases of medical emergency, the Ambulance Service of NSW and hospital emergency departments provide care to psychostimulant users. Encouraging users to seek medical attention in times of crisis is a priority of illicit drug education campaigns aiming to reduce drug-related morbidity and mortality. The Ambulance Service and emergency departments may be a first point of contact for drug users who have not previously accessed drug treatment services or sought assistance for their drug use.

These frontline services are often involved in triaging, managing and containing acute presentations where drug use may be an issue. These services also have a responsibility to investigate the possibility of other causes for acute states, including delirium, Wernicke's syndrome, postictal states, hypoglycaemia, neurological disorders, bacterial and viral infections and trauma. Support for these services in the form of development of clear processes of identification and initial treatment and referral pathways to aftercare services is important. The establishment of links with Area Health Service drug and alcohol and mental health services will ensure the timely and appropriate implementation of treatment and increase the capacity of frontline services to streamline the movement of patients into appropriate follow-up care.

## Treatment Actions

- 3.1** NSW Health will continue to examine new and emerging treatment programs in consultation with the Clinical Advisor, Centre for Drug and Alcohol and the Quality In Treatment sub-committee of the NSW Health Drug and Alcohol Council.
- 3.2** NSW Health will investigate establishing a clinical trial of short-term prescription of dexamphetamine as a substitution therapy for chaotic, at-risk injecting amphetamine and cocaine users.
- 3.3** The release of the *Stimulant Withdrawal Guidelines* as part of the *NSW Withdrawal Management Guidelines* will assist detoxification services in the management of psychostimulant withdrawal and treatment. The *Stimulant Withdrawal Guidelines* provide a framework for the assessment, management and treatment of cocaine and amphetamine dependence.
- 3.4** NSW Health will conduct a comprehensive analysis of dual diagnosis services, followed by service planning in each Area Health Service to determine whether local patient characteristics demonstrate a need for specialist dual diagnosis services.
- 3.5** NSW Health will require Area Health Services to develop memoranda of understanding between mental health services, NSW Police, emergency departments and drug and alcohol services regarding the treatment of drug-induced psychosis.
- 3.6** NSW Health will establish new dual diagnosis projects in eight Area Health Services over a period of three years which will facilitate strengthened dual diagnosis management for these patients by promoting models of care and links to drug services, mental health services, NGO services and other services. These projects will aim to achieve better identification, referral and treatment of these complex patients.

# Research, Monitoring and Evaluation

# 4

## Objective

To increase practitioners understanding of psychostimulant use and promote best practice responses through monitoring, research and evaluation initiatives.

## Background

In order to develop strategies to address the consequences of psychostimulant use, it is essential to maintain investment in ongoing research, monitoring and evaluation. Research into the patterns and harms associated with psychostimulant use and the settings and contexts in which they are used is one mechanism to build a better-informed understanding of this class of drugs. Similarly, further investigation into the factors that influence an individual's decision to use or cease use of psychostimulants and the way in which transitions to heavy or injecting use occur will facilitate the development of appropriate interventions and treatment approaches.

The use of psychostimulants by young people is an area of special concern. It is important that support is maintained for ongoing research into factors contributing to young people's vulnerability, transitions to problematic use and protective factors that may prevent uptake of drug use. Similarly, investigation into the information requirements of young people, and preferences for receiving information, intervention and treatment will assist in the development of appropriate strategies.

NSW Health has funded Sydney South West Area Health Service, in conjunction with the University of Sydney Union, to conduct a social marketing campaign designed to increase students awareness of the harms associated with psychostimulant and polydrug use and to increase their awareness of treatment options.

As with all drugs, it is important to continuously monitor trends in use and presentations to health services. Currently, monitoring of psychostimulant use is possible through data collected from a number of systems including: the National Drug Strategy Household Surveys; the Illicit Drug Reporting System (IDRS); the New South Wales Emergency Departments; the New

South Wales Inpatients Statistics Collection; and the National Minimum Data Set for Alcohol and Other Drug Treatment Services. These data are complemented through additional research undertaken in NSW and nationally. NSW Health is committed to maintaining and improving data collection and monitoring systems.

Evaluation is crucial for determining standards of service delivery and to measure the effectiveness of initiatives. All initiatives will be evaluated to ensure objectives have been met.

## Research, Monitoring and Evaluation Actions

- 4.1** NSW Health will continue to monitor psychostimulant trends utilising existing data.
- 4.2** NSW Health commissioned Streetwize Communications to conduct research into the information needs of psychostimulant users, with a focus on non-injecting drug users. This information is being used to inform policy development.
- 4.3** NSW Health will continue to collect and analyse trend data and will undertake research into psychostimulants use in rural/regional settings and ways treatment outcomes can be measured.

# 5 Special Populations

## Objective

To promote the development of targeted initiatives for special populations.

## Background

Literature review and consultation indicates that a number of specific populations require targeted information and interventions regarding psychostimulant use. Special populations include the socially marginalised, culturally and linguistically diverse (CALD) communities, and those engaging in hazardous use of psychostimulants.

## Young People

While many young people do not use psychostimulants at dangerously high levels, there are known harms associated with all levels of drug use. It is also recognised that some young people will develop chronic patterns of drug use and be engaged in frequent, harmful binge use (Mattick & Darke, 1995). Prevention and early intervention strategies may be effective in interrupting transitions to problematic use and may be useful in creating supportive environments for young people. Such interventions and activities will need to be accessible and relevant to young people and should therefore be developed in consultation with them.

For some vulnerable young people, drug use may contribute to situations of social exclusion and compound the type of problems experienced. These young people may, for example, experience problems at school, encounter poverty and may also be at risk of exposure to criminal elements and the criminal justice system. Ensuring that youth services, particularly services for disadvantaged young people, have the resources and skills to recognise and intervene in escalating psychostimulant use is important for the protection and well-being of vulnerable young people. An essential aspect of protecting young people considering psychostimulant use is to ensure that any information provided to them accurately describes the risks involved.

NSW Health will support the forthcoming club drugs information campaign run by the Premier's Department

and the Commonwealth's National Drugs Campaign that has a particular focus on club drugs. This will include ecstasy and ecstasy related drugs like PMA.

## Long-Haul Truck Drivers

Stimulant drug use in the transport industry, particularly by long distance truck drivers, has long been of concern to the community. Several government agencies, including the Roads and Traffic Authority, the Motor Accidents Authority and the Parliamentary Staysafe Committee, have investigated this issue over a number of years and concluded that the situation requires ongoing, serious attention.

*The Report of Inquiry into Safety in the Long Haul Trucking Industry* commissioned by the Motor Accidents Authority (Quinlan, 2001) found evidence of widespread tolerance of drug use among long-distance drivers by transport companies. The report also found evidence of a lack of discouragement of drug use by transport companies. There are well-known consequences arising from such drug use including road injuries and fatalities; less well recognised are the health problems which drivers face as a result of prolonged use of stimulants. These problems include:

- high blood pressure
- renal problems and kidney damage
- heart and lung damage
- stroke
- liver damage
- depression and other forms of mental illness
- family problems

To address these issues the Roads and Traffic Authority has developed educational materials, including information booklets and posters, for drivers and operators highlighting the dangers of using drugs and the need to use more appropriate fatigue management strategies. These materials have been used as part of a state-wide campaign that included direct mail, print media and radio, highlighting the dangers of drug taking and heavy vehicles.

On 25 October 2004, Cabinet approved joint proposals from the Minister for Roads and the Minister for Police on the drug testing of drivers. The proposals are:

- the introduction of random roadside drug testing for the presence of certain illicit drugs in oral fluid, two of which are known psychostimulants
- compulsory drug testing of any driver, motorcycle rider or supervising licence holder involved in a fatal traffic accident.

An interagency Drug Driving Working Party has been convened to manage the research and field trials required before commencement of legislation.

Workcover NSW contributes to state and national strategies to address fatigue management. Recently they have been pursuing aspects pertinent to this issue encompassed in the expectation that employers provide the necessary health, safety and welfare obligations employees including through appropriate fatigue management systems. *The National Heavy Vehicle Safety Strategy 2003-2010* makes clear that the use of stimulant drugs is a consequence of drivers trying to manage the impact of fatigue and that this issue is primarily a concern for long haul drivers (National Road Transport Commission, 2004).

NSW Health has allocated funding to the University of NSW Injury Risk Management Research Centre to investigate the predictors of the use of psychostimulants by long-haul distance truck drivers.

The first phase of the research project will involve a re-analysis of existing survey data to explore the relationships between work and driver characteristics, fatigue experiences and reported use of psychostimulants. The second phase will involve interview and survey of long-haul drivers.

It is anticipated that these activities will ultimately help develop the structures required to improve the health outcomes and reduce road risk of this group of workers and the travelling public.

### **Aboriginal and Torres Strait Islander Communities**

There is little prevalence data regarding psychostimulant use by Aboriginal and Torres Strait Islander people, however, *Statistics on Drug Use in Australia 2002* reports

that 13 per cent of Aboriginal and Torres Strait Islander people reported using an illicit drug other than marijuana/cannabis in the last 12 months compared to 8 per cent of other Australians (AIHW 2003).

*The NSW Aboriginal Substance Misuse Plan* was a recommendation of the NSW Drug Summit. The *NSW Health Amphetamine, Ecstasy and Cocaine Prevention and Treatment Plan* will provide a framework for action across all NSW government agencies and Aboriginal communities with the aim of reducing the harms associated with drug use. NSW Health will work in partnership with other sectors and the Aboriginal community to develop culturally relevant education, information, interventions and treatment models for Aboriginal people experiencing problematic psychostimulant use.

### **Culturally and Linguistically Diverse (CALD) Communities**

Research into psychostimulant use in culturally and linguistically diverse communities is not extensive. The available research, however, indicates that there are lower levels of drug use among people from CALD. Despite this, it is important to acknowledge that people from CALD may experience difficulties in accessing appropriate information and treatment services that have been developed primarily for non-CALD populations.

A recent report into substance use among young people from CALD argues that it is important to understand that regardless of cultural differences, all young people living in NSW share some attitudes and experiences including those around substance use (DAMEC, 2001).

NSW Health will collaborate with the Community Relations Commission for a Multicultural NSW, the Drug & Alcohol Multicultural Education Centre (DAMEC) and other key community stakeholders to identify at-risk populations within Culturally and Linguistically Diverse (CALD) Communities.

### **Individuals with Mental Health Issues**

Individuals diagnosed with a psychiatric condition or who are at risk of psychotic illness are particularly vulnerable to the effects of psychostimulant use. A report into the association between psychosis and problematic drug use (Degenhardt & Hall, 2000)

## Special Populations

recommends that people diagnosed with, or at risk of developing, a psychotic illness need to be made aware of the mental health risks of substance use. For people with psychotic disorders, problematic substance abuse is associated with symptom exacerbation and/or relapse, homelessness or housing instability, poor medication compliance, family problems and increased treatment costs.

Given that the use of psychostimulants has a number of negative effects on mood and mental health, the importance of effective interventions with dual-diagnosis populations is a priority for mental health, drug and alcohol and generalist health workers. Interventions focusing on protecting mental and physical health in conjunction with discouraging drug use will assist individuals with mental health problems and their carers or families to protect and maintain their well-being. The need for such interventions highlights the importance of developing effective partnerships between all stakeholders working with this population.

NSW Health will require Area Health Services to develop memoranda of understanding between mental health services, NSW Police, emergency departments and drug and alcohol services regarding the treatment of drug-induced psychosis.

### Gay, Lesbian and Transgender

Global research demonstrates a relationship between drug taking and unsafe sexual practices and there is some evidence that recent increases in the reporting of new cases of HIV infection amongst gay males may be related to 'recreational drug usage' including psychostimulant usage.

The social stigmatisation of gay men, lesbians and transgender people creates difficulties in the delivery of appropriate educational campaigns and health services. Individuals may be reluctant to discuss sexual behaviours and drug usage with their own local doctor if there is a fear of being identified as gay or lesbian. Consequently programs targeted at the lesbian, gay, transgender community require the utilisation of local gay and lesbian health networks including local community-based organisations.

### Injecting Drug Users

Cocaine and methamphetamine users, especially those

who inject frequently and/or consume large quantities over a short period of time, may experience significant drug-related health problems (Dixon & Maurice, 2002; Topp, Degenhardt, Kaye & Darke, 2002). The impact of the problems listed below may be severely compounded by the mental health problems associated with heavy psychostimulant use. Health problems identified through research and consultation with staff working with injecting drug users highlight the importance of providing effective interventions through Needle and Syringe Programs and the importance of attracting injecting users into treatment. Health problems experienced by this group include:

- significant weight loss among regular or intensive (heavy sessional) users
- decreased self-care
- increased vascular problems including: abscessing, cellulitis, thrombosis, bruising, septicaemia, infective endocarditis
- sores and skin infections
- erratic behaviour
- mental health problems including anxiety, panic attacks, depression, paranoia, irritability, psychosis, hallucinations, obsessive-compulsive behaviour
- twitching, including inability to control major body movements
- extreme fatigue
- lack of appetite, dehydration
- insomnia
- low self-esteem
- infection with hepatitis B, C or HIV

### Special Population Actions

- 5.1** The *NSW Aboriginal Substance Misuse Plan* will provide a comprehensive strategy for the management of substance misuse, including psychostimulant use, in indigenous communities.
- 5.2** NSW Health will include a focus on the social and health aspects of young people's drug use in the development of treatment guidelines.
- 5.3** NSW Health has funded Sydney South West Area Health Service, in conjunction with the University of Sydney Union, to conduct a social marketing campaign designed to increase students



awareness of the harms associated with psychostimulant and polydrug use and to increase their awareness of treatment options.

- 5.4** NSW Health will require Area Health Services to develop memoranda of understanding between mental health services, NSW Police, emergency departments and drug and alcohol services regarding the treatment of drug-induced psychosis.
- 5.5** NSW Health will develop specific interventions around blood-borne infections, with a focus on injecting behaviour.
- 5.6** NSW Health, in collaboration with the Office of Drug and Alcohol Policy, Workcover and the Roads and Traffic Authority will investigate the extent and nature of psychostimulant use in the long haul trucking industry and develop a range of strategies to reduce the health impacts of stimulant drug abuse in this population group. To

support this strategy NSW Health has allocated funding to the University of NSW Injury Risk Management Research Centre to investigate the predictors of the use of psychostimulants by long-haul distance truck drivers.

- 5.7** NSW Health will support interventions and targeted programs that focus upon the links between drug usage, health and sexual practices.
- 5.8** NSW Health will support the forthcoming club drugs information campaign run by the Premier's Department and the Commonwealth's National Drugs Campaign.
- 5.9** NSW Health will collaborate with the Community Relations Commission for a Multicultural NSW, the Drug & Alcohol Multicultural Education Centre (DAMEC) and other key community stakeholders to identify at-risk populations within Culturally and Linguistically Diverse (CALD) Communities.

# 6 Partnerships

## Objective

To encourage partnerships and collaborative approaches between health professionals and agencies, non-government organisations, communities and drug users to reduce psychostimulant-related harms.

## Background

The NSW Drug Summit stressed the importance of developing collaborative, whole-of-government approaches to dealing with drug problems. The *NSW Drug Summit Government Plan of Action 1999* recognises that drug problems do not occur in isolation and that partnerships between government agencies, the non-government sector and the community are essential to tackle the issues and harms associated with drug use.

Collaboration between the health sector and the community is one means to build the capacity to deal with drug-use problems. The benefits of collaboration include improved, flexible service delivery and better outcomes for clients and the community. Many opportunities exist to develop partnerships and enhance collaborative efforts to reduce psychostimulant-related harm.

## Collaborative Health Sector Approaches

Developing service partnerships at the local health sector level has been identified as an important factor in increasing and improving service delivery. Mental health, health promotion, allied health, drug and alcohol and needle and syringe program services have key roles in developing partnerships to address problematic psychostimulant use. The development of referral pathways between services will build capacity at the local level and assist in the management of psychostimulant related harms.

## Whole-of-Government Approaches and Interagency Partnerships

Through mechanisms established to guide the implementation of the *NSW Drug Summit Government Plan of Action*, including the Senior Officers Coordinating Committee on Drugs, government agencies are working together to develop coordinated approaches to address drug issues. NSW Health has long-established partnerships with the NSW Department of Education and Training and NSW Police to ensure that school-based prevention efforts and law enforcement strategies are consistent with the public health agenda. These collaborative relationships will be expanded to reduce psychostimulant-related harm.

## The Non-Government Sector

The non-government sector is an important service provider for many people seeking support and treatment for drug problems. NSW Health provides funding to non-government drug and alcohol services and works with the sector through Area Health Services and peak bodies.

NSW Health recognises the importance of the work of non-government agencies and is committed to ensuring that government and non-government agencies support each other in their activities.

NSW Health has funded the Network of Alcohol and Other Drug Agencies (NADA) to develop *Treatment Guidelines for Drug and Alcohol Rehabilitation Treatment Services*.

## Partnerships with the Commonwealth Government

NSW Health is working in partnership with the Commonwealth and other jurisdictions through the auspices of the Ministerial Council on Drugs Strategy and the Intergovernmental Committee on Drugs to reduce the harm caused by drugs.

At the national level, the emerging problem of increased availability and misuse of psychostimulants has been an issue for all jurisdictions. NSW Health provides input into the development of national priorities for action on



psychostimulants, and is active in its partnerships with the Commonwealth and other states and territories in addressing this issue.

### Partnership Actions

**6.1** NSW Health will work in partnership with the NSW Department of Gaming and Racing to provide the liquor industry with information about drug intoxication through Gaming and Racing's quarterly bulletin, *Liquor and Gaming*.

**6.2** NSW Health will work in partnership with the Roads and Traffic Authority, the Motor Accidents Authority and other key stakeholders from the

transportation industries to facilitate the distribution of information to drivers and work towards reforms of work practices to reduce the use of psychostimulants.

**6.3** The document *Interagency Guidelines for the Early Intervention, Response and Management of Drug and Alcohol Misuse* will provide a framework for support and coordination for human services agencies.

**6.4** NSW Health has funded the Network of Alcohol and Other Drug Agencies (NADA) to develop *Treatment Guidelines for Drug and Alcohol Rehabilitation Treatment Services*.

# Appendix:

## Key Information on Psychostimulant Drug Types

### Amphetamine(s)

For the purposes of this Plan, the term amphetamines includes methamphetamine and dexamphetamine. While amphetamine is a specific chemical, it has become an umbrella term for *d*-amphetamine (dextroamphetamine or dexamphetamine), *l*-amphetamine, *N*-methylamphetamine (methamphetamine), *d*-methylamphetamine (crystalline methamphetamine) and *l*-methamphetamine. Amphetamine is a powerful central nervous system stimulant with multiple mechanisms of action. It stimulates neurotransmission by increasing the activity of the neurotransmitters serotonin, dopamine and noradrenaline. Amphetamines block uptake of monoamine oxidase (an enzyme that breaks down serotonin, dopamine and noradrenaline) and thereby increases the concentration of monoamines (particularly dopamine) in the brain. The neurotransmitters affect processes of the brain that control physical movement, emotional responses, the ability to experience pleasure and pain and memory. Amphetamine also blocks the uptake of adrenergics that stimulate the smooth muscle of the heart, lungs and intestines, the endocrine system and metabolism. Amphetamine is a sympathomimetic—mimicking the actions of the sympathetic nervous system, the attention and impulse centres that determine the ‘flight or fight’ response.

The *d*-form of amphetamine (dextroamphetamine or dexamphetamine) is a commonly prescribed stimulant for treatment of hyperkinetic behaviour and attention disorders (ADHD), largely in children, narcolepsy, epilepsy and parkinsonism. It has potent sympathomimetic actions. Dexedrine™ is one proprietary name for this drug.

The *l*-form of amphetamine (laevoamphetamine) has less central nervous system activity but is longer lasting and has stronger cardiovascular and peripheral stimulation effects. It was marketed in the US under the proprietary name Benzedrine, a potent broncho-dilator.

Methamphetamine derives from amphetamine and was originally used as a decongestant, broncho-dilator, and in the treatment of narcolepsy and obesity.

Methamphetamine is now the commonest street version of amphetamine produced in clandestine laboratories—*d*-methylamphetamine (crystalline methamphetamine)

is known as ‘crystal meth’ or ‘ice’, is also smoked and is proving increasingly common (ABCI, 2001; ABCI, 2002). The *l*-form of methamphetamine affects the cardiovascular system more than the central nervous system and is accordingly the least abused of this class of drug (Pennell et al., 1999). All have powerful sympathomimetic effects.

Until the 1990s, the primary form of illicit amphetamine available in Australia was amphetamine sulphate. Since that time, other forms of amphetamines have become more widely available in Australia, most notably methamphetamine, by diversion and/or theft of the precursor pseudoephedrine. Pseudoephedrine is chemically reduced by a number of reaction methods in crude clandestine laboratories, rendering methamphetamine hydrochloride in varying degrees of purity. Since November 2001, the criminal diversion of pseudoephedrine-based tablets has become more difficult due to a number of legislative and industry reforms, including restricted sales and mandatory recording of these sales (AIDR 2002).

The introduction and availability of these more potent and highly contaminated forms of amphetamines increases the health risks associated with use. While ten years ago individuals using ‘speed’ were likely to be using low-grade amphetamine sulphate, according to *Australian Drug Trends 2001: Findings of the Illicit Drug Reporting System (IDRS)* they are now more likely to be using methamphetamine which dominates the market (Topp et al, 2002). According to the *Australian Illicit Drug Report* more than 324 kilograms of methylamphetamine was detected by Customs in 2001/02; an almost four fold increase from 2000/01 (ABCI, 2002). Purity of methamphetamine in NSW fluctuates. The average purity of seizures of methamphetamine analysed across Australia remained stable between 1999/00 and 2000/01 at 22 per cent, an increase from 1998/99 at 16 per cent. The Report found both methamphetamine powder and the more potent forms were described as easy to obtain in all jurisdictions, and availability of both forms was considered to have remained stable or increased (Topp et al, 2002).

In considering this data, it is important to consider the lack of stability of purity in the illicit drug market. Users may access high-purity substances on one occasion, and low-purity substances on another. The uncertainty regarding potency requires effective harm reduction strategies.

### Prevalence and Patterns

The *2001 National Drug Strategy Household Survey* indicates that amphetamines were the second most commonly used illicit drug in Australia after cannabis (AIHW, 2002). Amphetamines are most commonly used in the 20–29 year age group; in 2001, this group was reported as the most likely to have ever used amphetamines (AIHW, 2002).

This is consistent with previous national and international research that identifies amphetamine-type stimulants as having particular appeal for young people. Further, the 2001 NSW Health University Drug and Alcohol Survey of university students aged between 18 and 24 years found that 10 per cent of the sample reported having used amphetamines in the previous 12 months (NSW Health, 2001a).

In Australia in 2001, the usual places recent users reported having used amphetamines were at home or at a friends place (59.1 per cent) followed by private parties (47.4 per cent). Use in settings such as raves/dance parties and public establishments was also common (AIHW, 2002). This lends credibility to an understanding that amphetamines are mostly used as 'social' drugs.

The social context of amphetamine/methamphetamine use is a dominant theme in research with drug users. Research undertaken in the United Kingdom has highlighted the normalisation of such drug use among young people (Riley et al, 2001). Reports into the source of amphetamines supports the notion that these substances are used as social drugs and lends support to the theory that drug use has been normalised among certain populations. When asked to identify the source of supply of amphetamines in the 2001 National Drug Strategy Household Survey, recent users reported that amphetamines were generally obtained from friends or acquaintances (AIHW, 2002).

### Effects and Harms

In low to moderate doses, the usual effects of amphetamines are as follows:

- disinhibition
- greatly elevated mood and sense of well-being
- increased sense of energy
- increased confidence
- increased risk-taking behaviour
- decreased appetite

In high doses (and occasionally low doses) the following effects may be observed:

- mental confusion
- agitation
- paranoid ideation
- erratic behaviour
- hallucinating

In some cases intoxication can mimic a functional psychosis such as paranoid schizophrenia. Severe adverse reactions include:

- serious cardiac toxicity
- heart failure
- stroke
- seizures
- adverse behavioural reactions

Harms associated with chronic use and dependent use:

- hypertension
- cardiac arrhythmias
- myocardial infarction
- profound mood swings
- aggressive behaviour
- psychosis
- neurotoxicity
- damage to the nasal mucosa

The risk of development of psychotic symptoms resembling schizophrenia increases with frequency of use.

After cessation of a period of psychostimulant use, users typically suffer a period of extreme lethargy and sleep, a 'crash', as the stimulating effects of the drug wears off.

This is followed by a longer period, lasting at least several days, of depressed mood, associated with intense craving for the drug in dependent users.

The likelihood of damage to dopamine-containing brain cells from methamphetamine increases with increasing dose and frequency of consumption. Potential long-term consequences of this toxicity for users and ex-users are currently unknown.

### Cocaine

Cocaine is an amphetamine type stimulant (ATS) derived from alkaloids of the coca plant. Most cocaine available in Australia is from South America and is generally in the form of cocaine hydrochloride. Similar to amphetamines, cocaine interferes with neurotransmission, particularly affecting the uptake of dopamine.

Despite concerns during the 1980s about the emergence of other forms of cocaine such as 'crack' onto the illicit drug market, this form of the drug is rarely seen in NSW and there is no evidence of its commercial distribution. Cocaine use had reportedly become an issue among injecting drug users in Sydney in 1998 but by 2001 its use had appeared to have stabilised among these users (Darke, et al, 2002).

### Prevalence and Patterns

The 2001 *National Drug Strategy Household Survey* estimated that 1.3 per cent of Australians aged 14 and over had used cocaine during the previous 12 month period. In terms of lifetime use the figure is 4.4 per cent. There has been no significant increase in prevalence since the 1998 *National Drug Strategy Household Survey* (AIHW, 2001).

Few reliable statistics are available for cocaine use in NSW due to the unreliable estimate associated with the small number of responses to cocaine use in the sample survey (AIHW, 1999). That said, the 2001 *National Drug Strategy Household Survey* reported that cocaine is used mostly by younger persons, with highest prevalence in the 20–29 and 30–39 year age groups (AIHW, 2001). The use of cocaine by young people is also supported by data from the NSW Health University Drug and Alcohol Survey, which found that 4.7 per cent of the sample reported recent use, with 6 per cent reporting lifetime use (NSW Health, 2001a).

Frequency of use of cocaine is lower than with the other drugs. Among the cocaine users surveyed in the *National Drug Strategy Household Survey*, the majority reported using once or twice a year, commonly snorting the drug (AIHW, 2001). As with amphetamines, place of use was most commonly at home followed by raves/dance parties (AIHW, 2001).

A more recent research initiative reported use of cocaine in 2003 was as near to 50 per cent in a sample of drug users in NSW though frequency of use was sporadic and less than 15 per cent in all jurisdictions in Australia. Further, it was reported the drug as 'very easy' to obtain (Breen, Degenhardt & White, 2003)

In 2001 the *Illicit Drug Reporting System (IDRS)* indicated a notable increase in the use of cocaine by injecting drug users. An increase in both the prevalence of recent cocaine use (84 per cent in 2001 compared to 63 per cent in 2000) and in the prevalence of daily injecting use was also notable. In 2000, only 5 per cent of the study sample were daily users; in 2001 this had increased to 29 per cent (Darke, Kay & Topp, 2002). Both drug users and key informants interviewed attributed the increase in cocaine prevalence to a reduction in availability of heroin, with some heroin users moving from heroin to cocaine use. The IDRS for 2002 showed a decrease in cocaine use, from 84 per cent in 2001 to 79 per cent in 2002. Frequency of cocaine use was also reported as being lower, dropping by more than 30 per cent compared with the previous year (Roxburgh et al, 2003)

### Effects and Harms

Cocaine produces similar effects to methamphetamine, with the main difference being duration of action. Cocaine is the shorter acting of the two drugs. In low to moderate doses the usual effects are as follows:

- disinhibition
- greatly elevated mood and sense of well-being
- increased sense of energy
- increased confidence
- increased risk-taking behaviour
- decreased appetite.

In high doses (and occasionally low doses) the following effects may be observed:

- mental confusion

- agitation
- paranoid ideation
- violent behaviour
- hallucinating.

Severe adverse reactions can occur in susceptible individuals, particularly those with pre-existing cardiovascular disease. These include:

- serious cardiac toxicity
- heart failure
- stroke
- seizures
- adverse behavioural reactions.

Harms associated with chronic use and dependent use is also associated with occasional use. The risks increase greatly with repeated use.

- hypertension
- cardiac arrhythmias
- myocardial infarction
- profound mood swings
- aggressive behaviour
- psychosis
- neurotoxicity
- necrotic damage to the nasal mucosa
- cocaine-excited delirium.

The risk of development of psychotic symptoms resembling schizophrenia increases with frequency of use.

Paranoid delusions are particularly common among heavy users, as are auditory and tactile hallucinations producing beliefs of skin infestation by insects. These symptoms usually abate after several days of cessation of use.

There are a number of significant harms associated with cocaine injection (Kaye et al, 2000; Van Beek, et al, 2001). These include increased risk of exposure to HIV or other blood-borne infections, vascular damage, infections, and psychosis.

### Ecstasy

MDMA (3,4-methylene-dioxy-methamphetamine) is a widely abused drug chemically related to both the

amphetamines and mescaline. Laboratory animal studies have shown that MDMA is a potent re-uptake inhibitor and stimulator of dopamine and serotonin. The physiological effects of MDMA have been compared to *d*-amphetamine in humans (Tancer & Johanson, 2003).

Research indicates the use of MDMA may result in cognitive and affective impairment, including memory loss. MDMA is known to damage serotonin receptors in the brain that affect both mood and memory (Bengel et al, 1998; Reneman et al 2000). While there is little research on differences in the long-term behavioural effects of the drug, a recent Dutch study suggested that women may be more susceptible to the neurotoxic effects of MDMA than men (Reneman et al, 2001). One recent study showed that when compared with abstinent subjects, MDMA users are 25 per cent more likely to report compromised memory. Compared with users of other 'recreational' substances, 14 per cent of MDMA users reported some difficulty with memory (Reneman et al, 2000; Rodgers et al, 2003). Changes to the ecstasy market have resulted in an increase in pills containing substances other than MDMA being sold as ecstasy. In Australia, analysis of seized tablets, in particular those manufactured locally, have revealed that most tablets contain little or no MDMA and are likely to contain other compounds, such as ketamine or PMA (ABCI, 2001). It is noteworthy that in a self-report study conducted in 2003, over half of a national sample of ecstasy users reported the purity and strength of the drug as medium or high (Breen, Degenhardt & White, 2003).

### Prevalence and Patterns

In the late eighties, MDMA became an issue of concern for Australian authorities. Initially associated with dance parties (Hall & Hando, 1993), more recent research with ecstasy users revealed that ecstasy is associated with a wide range of social activities including: socialising and meeting new people, listening to music, staying home or at a friend's place, sex, thinking, going to the pub and attending live musical performances (Topp, et al, 1998). The social appeal of this drug, particularly for young people, is reinforced by the findings from the National Drug Strategy Household Surveys that have consistently associated the use of ecstasy with party-going (AIHW, 1999; AIHW 2002).

In NSW in 1998 the 20–29 year age group reported the

highest prevalence of ecstasy use in regard to lifetime use (13.8 per cent) and recent use (7 per cent). Similarly, the 14–19 year old age group in NSW recorded the next highest prevalence of lifetime use (7.4 per cent) and recent use (4.2 per cent) (AIHW, 1999).

Research has revealed that ecstasy/designer drugs are popular among students, those who have HSC or equivalent education, Australian born and of high socio-economic status. Consistent with earlier research into ecstasy users in Sydney (Topp et al, 1998), NSW Party Drug Trends 2000 found that ecstasy users in NSW were young, relatively well-educated (most completed high school and some with tertiary qualifications) with little contact with either the criminal justice system or drug treatment agencies. While the amount and frequency of drugs taken by ecstasy users can vary, heavy sessional use (using the drug continuously for more than 48 hours) and polydrug use is common (Topp & Darke, 2001). This is reinforced by the most recent national survey (Breen C, Degenhardt L & White B 2003).

### Effects and Harms

Usual effects (in high or low doses):

- sense of heightened energy
- increased activity
- a general sense of well-being and a greatly elevated, gregarious mood
- mild perceptual distortions or hallucinations (some users)
- increased jaw clenching and grinding of teeth
- hot and cold flushes
- sweaty palms
- poor concentration
- reduced urine flow
- excessive thirst.

### Severe Adverse Effects (High Doses or Susceptible Individuals):

- anxiety
- depression (usually for several days after ingestion)
- mood swings
- feelings of paranoia
- panic attacks
- sleep disturbances
- appetite disturbances.

Fatal toxicity is low, but documented causes of death include: hyperthermia, cardiac arrhythmia, convulsions, stroke and liver necrosis.

Excessive compensatory fluid consumption ('water intoxication') associated with hyponatremia—reduced blood sodium concentration—has been reported as the cause of death in some cases. This effect results partly from uncontrolled intake of excessive amounts of water, producing excessive dilution of blood and body fluids, and partly from the direct effects of MDMA on the hormone systems that regulate the body's fluid balance.

The incidence of acute adverse effects of MDMA do not appear to be clearly related to dose, although the incidence of non-fatal adverse effects increases with repeated use of the drug. It is also possible that some people are more susceptible to adverse effects of MDMA due to their metabolism.

The use of other stimulant drugs, or drugs which have independent actions on serotonergic nerves, e.g. anti-depressants such as selective serotonin reuptake inhibitors (SSRIs) and monoamine oxidase inhibitors (MOIs) may also exacerbate the adverse effects of MDMA, although this has not been scientifically established.

Chronic or heavy use of MDMA may deplete serotonin stores from the brain and impair synthesis of new serotonin for a prolonged period. Prolonged use of MDMA in such patterns may diminish the ecstasy-like mood effects and enhance the risk of permanent injury to serotonin-containing brain cells, long-term mood disorders (probably depression), sexual dysfunction and sleep disorders may develop. Evidence has suggested that long-term psychiatric complications such as depression and sleep disturbances occur in some MDMA users and are suggestive of neurotoxicity (Bengel et al, 1998).

There is evidence to suggest that heavy users of MDMA may suffer from long-term consequences of use of the drug, however, the evidence remains inconclusive. Heavy regular use of MDMA may cause neurotoxicity or damage to serotonin-containing brain cells in humans. In experimental animals much of this damage has been found to be irreversible (Bengel et al, 1998).

When considering the potential long-term effects of ecstasy, it is important to recognise that this is an area of ongoing research and that some of the long-term harms have been contested and remain contentious.



## Paramethoxyamphetamine

Paramethoxyamphetamine (PMA) is a methoxylated phenethylamine derivative. It is a synthetic hallucinogen that has stimulant effects similar to amphetamine derivatives like methylenedioxymethamphetamine (MDMA) that has the street name of Ecstasy. Reports of illicit abuse of PMA were briefly encountered during the early 1970s in the United States and Canada. While in Australia, PMA has only been used illicitly since 1994. It is predominantly manufactured clandestinely, at the local level.

Pure PMA is a white powder, but can also appear as a beige, white, or pink powder. It's usually made into pressed pills and often sold as MDMA (ecstasy). The street names for PMA include Red Mitsubishi, Dr Red and Killer.

## Effects and Harms

PMA is highly toxic at doses considered safe for MDMA, and has an unusually high incidence of morbidity and mortality associated with overdose. Clinically, the hallucinogenic effects of PMA are similar to LSD and it is weaker than MDMA resulting in users often doubling the dose to achieve the desired effects. The other variation of PMA is that it has a prolonged onset with reports of a 3 to 4 hours delay between ingestion and effect. Over this period additional or other drugs may be ingested in the belief that the original have 'not worked'. This accounts for some of the incidents of overdose.

Symptoms of overdose for PMA can include muscle spasms with an increase in blood temperature, blood pressure and pulse rate. These symptoms are accompanied by laboured breathing, nausea and vomiting and can progress to convulsions, coma and ultimately death. Characteristically the presenting symptom is excessively high fever and an inability of the body to regulate increasing body temperature. Even small doses (60mg) can significantly increase blood pressure, body temperature and pulse rates and the effect is exacerbated in a hot atmosphere such as a club or dance party.

## Prevalence and Patterns

In 1998, a series of six cases of death due to PMA were reported in South Australia. The other comparable report of deaths due to PMA was that of nine deaths in Ontario, Canada, in the early 1970s.

Recently a near fatality at St Vincent's Hospital, in

Darlinghurst and a death on 3 October at Nepean Hospital were initially attributed to PMA.

## Polydrug Use

Polydrug use refers to the use of more than one drug either concurrently or sequentially. Most people who use drugs are polydrug users. People may use more than one drug for any number of reasons, including to enhance the effect of another substance, to balance the effect of another substance, to terminate the effect of another substance or to create a distinct effect (Drugscope, 2001).

Polydrug use is common among psychostimulant users and among illicit drug users in general. Australian studies of ecstasy users (Topp, et al, 1998), cocaine users (Kaye, et al, 2000), amphetamine users (Hall & Hando, 1993) and party drug users have all found polydrug use to be the norm. The association with ecstasy use and polydrug use is also well established, with studies from the UK reporting high levels of polydrug use among ecstasy users (Riley et al, 2001; Winstock et al, 2001; Drugscope, 2001). In Australia, across all reported drugs, recent users of amphetamine-type substances had substantially higher prevalence than non-users, including three times the rate of smoking and around eight times the use of marijuana/cannabis (AIHW, 2003).

Polydrug use increases the risk of drug-related harm and in some combinations can be fatal. Both injecting and non-injecting users have been identified as polydrug users with cannabis, alcohol and tobacco being commonly used in conjunction with opiates and psychostimulants (AIHW, 2003). It is important to note that other licit drugs may be used to conjunction with illicit drugs. For example, users wanting to reduce the 'come down' effects following psychostimulant use, or to sleep, may take central nervous system depressants such as alcohol, cannabis or benzodiazepines.

Of polydrug users presenting for drug treatment, about 40 per cent of the treatment episodes in NSW in 2000/01 involve clients having used more than one drug of concern. However, further information needs to be provided to ensure that users are aware of the increased risks associated with polydrug use.

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