

KEY POINTS

1. Amphetamine and methamphetamine (also known as 'methamphetamine') are closely related chemically and have similar kinds of effects on the user, but methamphetamine is the more potent form with stronger subjective effects.
2. Throughout the 1980s, the form of illicit amphetamine most available in Australia was amphetamine sulfate. In the financial year 2000/01, however, 91% of the seizures of this family of drugs were of methamphetamine.
3. Although there is disagreement between both users and key informants about the forms of methamphetamine currently available, it appears that there are at least four main classes. This *Bulletin* refers to them as:

(i) 'Speed' - also known as goey or whiz, this is methamphetamine powder that is manufactured in Australia and ranges in colour from white to yellow, orange, brown or pink. It is usually of relatively low purity, although the purity of speed may be increasing.

(ii) 'Pills' - methamphetamine tablets that are mostly manufactured in Australia and are generally sold as 'ecstasy'. Sometimes these 'fake ecstasy' tablets are mixed with drugs like ketamine to try to mimic the effects of MDMA (real ecstasy). MDMA is almost always imported, as few illicit chemists in Australia have the expertise to make it here.

(iii) 'Base' - also called paste, wax, point and pure, this is an oily, gluggy or pastey type of damp, sticky powder that often has a brownish tinge and is difficult to dissolve for injection without heat. Base is manufactured in Australia and is usually of relatively high purity.

(iv) 'Ice' - also called shabu, crystal and crystal meth, this is high purity methamphetamine crystals or coarse powder that ranges in colour from translucent to white, but may have a green, blue or pink tinge. True 'ice' is manufactured in Asia and imported into Australia.

AUSTRALIA'S DYNAMIC METHAMPHETAMINE MARKETS

INTRODUCTION

The April 2002 *Drug Trends Bulletin* presented data from the 2001 IDRS which showed that there were marked increases between 2000 and 2001 in the prevalence of methamphetamine use in most jurisdictions. These results were a continuation of the trend observed in all jurisdictions between 1999 and 2000 of increased availability and use of potent forms of methamphetamine.

The current issue of the *Drug Trends Bulletin* examines the changes observed in recent years in Australia's methamphetamine markets. It seeks to clarify the terminology used to refer to the different forms of methamphetamine available, and to present information regarding the price, purity, availability, appearance, origin, and routes of administration of each of the forms.

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THE 'FAMILY' OF AMPHETAMINES

The 'amphetamines' are a class of drugs that, in chemical terms, are closely related. This family of drugs includes amphetamine sulfate, dexamphetamine, and methamphetamine (also known as 'methylamphetamine'). Throughout the 1980s, the form of illicit amphetamine most available in Australia was amphetamine sulfate¹. Following the legislative controls introduced in the early 1990s on the distribution of the chemicals used to make amphetamine², illicit manufacturers were forced to rely on different recipes for 'cooking' the drugs. As a result, throughout the 1990s, the proportion of amphetamine seizures that were methamphetamine (rather than amphetamine sulfate) steadily increased, until methamphetamine clearly dominated the market. In the financial year 2000/01, 91% of all seizures of amphetamines were of methamphetamine³. Most methamphetamine manufactured in Australia is based on the precursor chemical pseudoephedrine.

Both amphetamine and methamphetamine work by stimulating the release of various neurotransmitters (dopamine, noradrenaline, adrenaline and serotonin). Both boost central nervous system activity, leading to increases in physical activity, heart rate, blood pressure, and body temperature, and decreased appetite and need for sleep⁴. Both also cause feelings of euphoria, well-being and confidence in users. Of the two, methamphetamine is the more potent form, and has stronger subjective effects. This means that methamphetamine is more addictive, and is associated with more harm than amphetamine. In particular, the risk of significant psychological harm among heavy users appears greater with methamphetamine, including anxiety, depression, paranoia, agitation, aggression and psychotic symptoms. Further, methamphetamine use is closely associated with increased risk of transmission of HIV among certain subcultures^{5,6}.

Thus, over the last two decades, there has been a steady shift in the form of amphetamines available in Australia, from the less potent amphetamine sulfate to the more potent and more harmful methamphetamine. Although there is disagreement between users and experts alike about the forms of methamphetamine that are currently available, it appears that there are at least four main classes. These four classes are called different things by different groups of drug users, but this *Bulletin* uses the summary terms 'speed', 'pills', 'base' and 'ice'. These are considered in turn below.

TYPES OF METHAMPHETAMINE AVAILABLE IN AUSTRALIA

Speed

'Speed', also known as 'goey' and 'whiz', is the powder that has traditionally been available in Australia. In the 1980s, speed powder was predominantly amphetamine sulfate, but now almost all speed powder is methamphetamine. The powder can range in consistency from fine to more crystalline or coarse. Speed is manufactured in Australia, and ranges in colour from white to yellow, orange, brown or pink (Figure 1). Differences in the appearance of speed are due to differences in the chemicals used to make it, and the expertise of the 'chemist' who 'cooks' it. Most people who use speed snort or inject it. Speed is purchased in quantities of grams, ounces and their derivatives, and the standard price for one gram of powder ranges between \$50 (SA) and \$100 (NSW). Speed is easy to get right across Australia, mainly because it is fairly easy to manufacture, and clandestine speed labs have been detected in every jurisdiction in recent years. However, it seems that in some jurisdictions, notably SA and TAS, speed powder is no longer the most available form of methamphetamine, nor the most sought after.



Figure 1: Speed powder

Pills

The term 'ecstasy' originally applied to the compound MDMA (methylenedioxymethamphetamine). Few illicit chemists in Australia have the expertise to make MDMA, and almost every tablet that contains true MDMA is imported from manufacturing and distribution points in Europe and Asia. The Australian Bureau of Criminal Intelligence³ estimates that 80% of the tablets sold as 'ecstasy' in Australia today are actually locally manufactured methamphetamine tablets that are sometimes mixed with other drugs such as ketamine in an attempt to mimic the effects of MDMA. Illicit manufacturers use the reports posted on websites about 'good pills' to produce 'fake ecstasy' tablets that are the same weight and colour, and have the same logo, as real MDMA tablets (Figure 2). Most people who think they are buying ecstasy are actually buying methamphetamine tablets. Many experienced ecstasy users know that they are unlikely to get real MDMA these days, and sometimes use the term 'pills' in place of 'ecstasy', in a tacit acknowledgement that they don't really know what they are using. Tablets sold as ecstasy cost around \$30-\$40 each, and vary widely in



Figure 2: Methamphetamine 'pills'

Base

'Base', also known as 'paste', 'wax', 'point' or 'pure' is a sticky, gummy, waxy or oily form of damp powder, paste or crystal that is manufactured in Australia and often has a yellow or brownish hue (Figure 3). It is oily because the pseudoephedrine to methamphetamine conversion produces the base form of methamphetamine, which is an oil. An oil is not highly marketable in illicit drug markets, because it cannot be easily injected or snorted. Therefore, manufacturers attempt to purify methamphetamine base (oil) into methamphetamine hydrochloride (crystal). To successfully complete this process requires considerable chemistry expertise, and few illicit manufacturers in Australia have such expertise. The result is an oily powder that often has a yellow or brownish tinge due to the presence of iodine and other organic impurities. These organic impurities, which would not be present if the conversion and purification were performed accurately, also prevent the substance from forming into the large translucent crystals typical of 'ice' (Figures 4 & 5), so the appearance of these two forms of methamphetamine is quite different.

Base is administered through a number of routes, including swallowing, snorting, smoking and injecting. The oily consistency of base makes it difficult to dissolve for injection without the use of heat, and appears to be associated with increased vein damage among people who inject it. Base is most often sold in the quantity of 'points' (0.1 gram), although some people report the purchase of grams, half-grams and 'eightballs' (one eighth of an ounce or 3.5 grams) of base. A point of

base costs between \$30 (SA) and \$50 (other jurisdictions). The availability of base has increased across Australia in recent years.



Figure 3: 'Base' methamphetamine

Ice

'Ice', also known as 'shabu', 'crystal' and/or 'crystal meth', is a crystalline form of high purity methamphetamine which is imported from Asian countries. Australian Customs Service figures indicate that importations of ice have increased significantly in recent years. Ice is consistently described as large, translucent to white crystals or crystalline coarse powder (Figures 4 & 5). Ice can be administered via snorting, smoking, swallowing and injection. There have been reports in Australia of the smoking of ice in a glass pipe similar to a crack pipe, the traditional route of administration in places such as Hawaii and the Philippines, where the use of ice has a long and problematic history. The snorting of ice is associated with nasal damage due to its crystalline form. Ice is most often sold in 'points', and a point costs \$50 in all jurisdictions. The availability of ice has increased across Australia in recent years.



Figure 4: An 'ice' crystal



Figure 5: 'Ice' crystals

INTERPRETING METHAMPHETAMINE PURITY FIGURES

The purity of methamphetamine seizures fluctuates more than any other drug, for a number of reasons, including the type and quality of the chemicals used in the production process, the expertise of the 'cooks' involved, and whether the drug was manufactured in Australia or imported. A major limitation of purity data is that not all illicit drugs seized by Australia's law

enforcement agencies are analysed for purity. In some instances, seized drugs will be analysed only in a contested court matter. The purity figures therefore relate to an unrepresentative sample of the illicit drugs available in Australia, and drawing meaningful conclusions from purity data can be difficult.

When forensic laboratories analyse seizures of methamphetamine, the different forms of the drug are not distinguished. For example, during 2000/01, forensic analysis of seizures of methamphetamine in Australia revealed purity levels ranging from less than 1% to 90%. So, the purity of a seizure made at the street level by state police of a gram of speed might be as low as 1%, whereas the purity of a seizure of kilograms of ice made at the border may be as high as 90%. When average purity figures are calculated, all seizures are classified together, regardless of where they were made and what form of the drug it was.

Notwithstanding the limitations of purity data, the average purity of methamphetamine seizures increased from 16% in 1998/99 to 22% in 1999/00, and remained stable between 1999/00 and 2000/01. Therefore, it does appear that the quality of methamphetamine *in general* has increased in recent years.

Given that all the forms of methamphetamine are classified together by forensic laboratories, we can only rely on drug users' reports of the purity of the different forms. Luckily, the reports are fairly consistent: most people describe the purity of 'speed' as low to medium, of 'base' as medium to high and of 'ice' as high.

CONCLUSION

IDRS findings, along with those from other monitoring systems such as Drug Use Monitoring Australia, suggest that there have been recent increases in the availability and use of potent forms of methamphetamine, such as ice/shabu and base/paste. Although the IDRS has made some progress toward an understanding of Australia's dynamic methamphetamine markets, the system was designed to point to trends that require further, specialist research, rather than to document all phenomena in detail⁷. Indeed, the information provided by the IDRS about changes in methamphetamine markets constitutes an example of the operation of an effective early warning system. Clearly, the emergence of potent forms of methamphetamine in Australia is an area that should be examined in more detail in order that the dynamics of the market can be documented, and appropriate prevention, education and treatment

strategies can be developed. The 2002 IDRS will assess the price, purity, availability and patterns of use of three different forms of methamphetamine: powder, base/paste and ice/shabu. This change should bring a little more clarity to this market, which at present is characterised by dynamism and uncertainty.

In addition, on the basis of IDRS findings, the National Drug and Alcohol Research Centre is to be funded by the Commonwealth Department of Health and Ageing and the National Drug Law Enforcement Research Fund to specifically examine the implications for the health and law enforcement sectors of the changes in our methamphetamine markets. These studies will build upon the findings of the IDRS to provide the more detailed information required.

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