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## Key findings

- Methamphetamine use decreased amongst the national sample of regular ecstasy users (REU) over the past three years.
- With respect to the ACT, although, methamphetamine use is still relatively low there has been a recent increase in median days of use.
- One-third of the national sample of REU reported bingeing on any drug. 'Bingeing' was defined as the use of a drug on a continuous basis for more than 48 hours without sleep. Of those who had recently binged, over one third reported using powder methamphetamine (speed) and over a quarter reported using crystal methamphetamine (ice/crystal) during their most recent binge.
- Using methamphetamine in conjunction with ecstasy use was relatively low amongst both the national and ACT REU samples.
- Eighty percent of recent methamphetamine users in the ACT REU sample scored eight or higher in the AUDIT indicating hazardous and harmful alcohol use.
- Nationally a larger proportion of REU who had recently used methamphetamine reported 'very high' levels of psychological distress compared to those who had not recently used these substances.
- The rate of amphetamine related hospital admissions remained stable in the ACT.
- There was an increase in methamphetamine related arrests in the ACT.

## Methamphetamine Use and Associated Risks amongst Regular Ecstasy Users in the Australian Capital Territory and nationally

### Introduction

The Australian Federal Government recently released a National Drugs Campaign targeting young users of ice/crystal methamphetamine. The campaign consists of television and print advertisements which aim to reduce the motivation for young Australians to use methamphetamines. This campaign sparked increased interest in investigating methamphetamine use amongst regular drug using populations.

In recent years the use of methamphetamines has been decreasing amongst the general population (Australian Institute of Health and Welfare, 2008). A decrease has also been seen amongst a national sentinel population of regular injecting drug users (IDU) (Stafford et al., 2009) and regular ecstasy users (REU) (Sindicich et al., 2009). Use patterns have differed in the ACT. In 2008, recent use and median number of days of methamphetamine use amongst REU in the ACT increased whilst a decrease was observed amongst the IDU population. This bulletin examines patterns of methamphetamine use among REU in the ACT and associated risks.

### Risks and harms associated with methamphetamine use

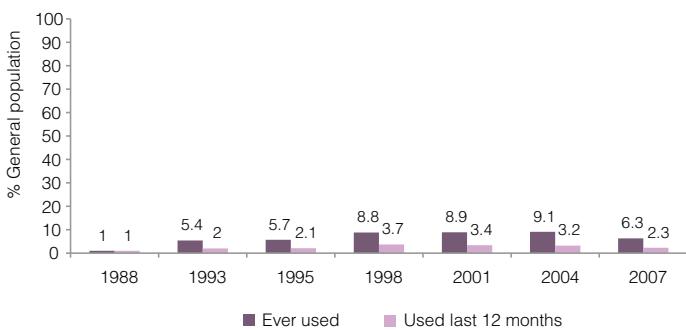
There are considerable risks and harms associated with methamphetamine use. In a previous study investigating regular methamphetamine users (McKetin, McLaren & Kelly, 2005) researchers found that the overall general health of methamphetamine users was below the general population average. Mental health was particularly poor with two-thirds of participants reporting a mental health problem. Some of the long term risks and harms are:

- |                            |                                 |
|----------------------------|---------------------------------|
| – Sleep disturbances       | – Depression and anxiety        |
| – Bruxism (teeth grinding) | – Panic attacks                 |
| – Weight loss              | – Seizures                      |
| – Paranoia                 | – Social and financial problems |

## Use of methamphetamines amongst the Australian population

Lifetime methamphetamine use amongst the Australian general population decreased between 2004 and 2007 (see Figure 1) (Australian Institute of Health and Welfare, 2008). In 2007, 6.3% of participants in the National Drug Strategy Household Survey (NDSHS) reported that they had ever used methamphetamine in comparison to 9.1 in 2004. The use of methamphetamines in the previous twelve months decreased from 3.2% in 2004 to 2.3% in 2007 (approximately 6,500 people from the ACT; see Figure 1).

**Figure 1: Prevalence of meth/amphetamine use in Australia, 1993-2007**

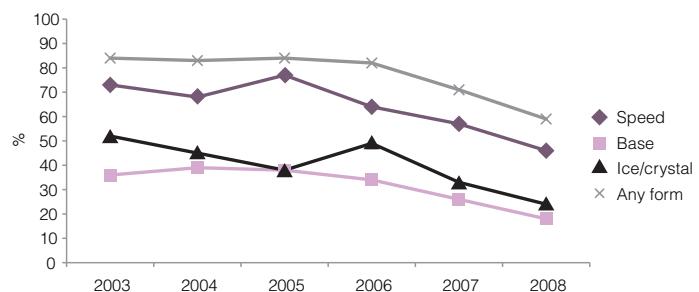


Source: NDSHS 1988-2007 (Australian Institute of Health and Welfare, 2005, Commonwealth Department of Community Services and Health, 1988)

## Regular ecstasy users in the ACT

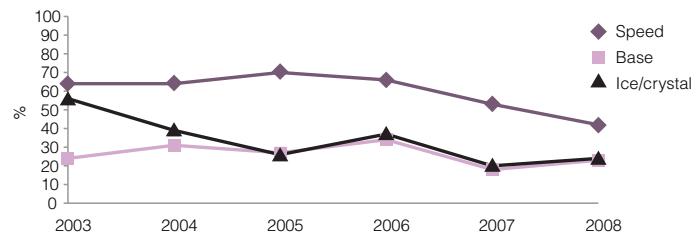
The proportion of participants from the national EDRS sample who had recently (in the previous six months) used any form of methamphetamine has also shown a decline (71% in 2007 to 59% in 2008; see Figure 2). Amongst the ACT sample the proportion of participants who had recently used speed decreased in 2008 (see Figure 3) whilst, the proportion of participants who recently used base methamphetamine (base) (18% in 2007; 23% in 2008) and ice/crystal (20% in 2007; 24% in 2008) increased.

**Figure 2: Proportion of national REU who reported recent (last six months) use of methamphetamine, 2003-2008**



Source: EDRS REU interviews

**Figure 3: proportion of ACT REU who reported recent use of methamphetamines, 2003-2008**



Source: EDRS ACT REU interviews

## Demographics

Recent methamphetamine users in the ACT were more likely to be male (61%) (similar to the national sample of REU where males comprised 60% of recent methamphetamine users). The majority of participants who had recently used methamphetamines in the ACT were between 17 and 25 years old (60%, 65% in the national sample). In both the ACT and national REU samples 78% of recent methamphetamine users had completed grade 12. Of those who had recently used methamphetamines 15% had used weekly or more.

The primary route of administration amongst REU for speed and base was swallowing (69%; 79%) followed by snorting (60%; 37%), whereas the primary route of ice/crystal administration was injecting (60%; 26%).

## Market characteristics

Market characteristics refer to the price, purity and availability of substances. The methamphetamine market in the ACT differentiates somewhat across the three forms of methamphetamine (speed, crystal/ice and base) however, some users report that they use speed and base interchangeably without differentiation (e.g. use the term 'meth' to refer to both speed and base). On closer inspection of data from those who differentiate, there appears to be subtle differences between the three forms, in terms of price, purity and locations whereby the substances are used. With respect to price a 'point' (approximately 0.1 or one-tenth of a gram) was the most popular purchase quantity that methamphetamines were bought in with the next most popular purchase quantity being grams. The price of speed is \$30 a 'point' and \$225 for a gram; base costs \$30 a 'point' and \$250<sup>^</sup> a gram; ice/crystal is more expensive at \$50 a 'point' and \$400<sup>^</sup> a gram. Purity may account largely for the price difference, with speed and base considered to be 'medium' purity and ice/crystal reported as 'high' purity. Places of usual use (intoxication) differed between the substances, with the majority of REU reporting speed use in nightclubs and private homes; base most commonly used at hotels and live music festivals and ice/crystal in private homes.

<sup>^</sup> small numbers (<10)

## Behaviours associated with methamphetamine use

### Bingeing

Participants were asked whether they had binged on ecstasy and related drugs in the six months prior to the EDRS interview. Bingeing was defined as using the drug on a continuous basis for more than 48 hours without sleep(Ovendon & Loxley, 1996). One-third (34%) of the national sample had binged on one or more drugs in the preceding six months. The median length of the longest binge was almost three days (60 hours). Bingeing on psychostimulants is dangerous as it may increase dysphoria and toxicity which can lead to behavioural and cardiovascular effects (Ovendon & Loxley, 1996).

Amongst those who had binged for over 48 hours in the national sample, ecstasy (91%) was the drug most commonly reported as being used in a binge session. However, speed (37%) and ice/crystal (28%) were also frequently reported as being used to binge. As displayed in Table 1 half of all REU in the ACT reported bingeing with similar findings to those of the national sample.

**Table 1: Recent (last six months) bingeing among REU, 2008**

	National REU N=678	ACT REU n=83
Binged* on any stimulant (%)	34	50
Drug binged on (%)		
Ecstasy†	91	85
Speed†	37	34
Base†	14	12
Ice/crystal†	28	20

Source: EDRS REU interviews

\* 'Binged' defined as the use of any stimulant for more than 48 hours continuously without sleep

† Of those who reported bingeing in the last six months

### Stimulant Overdose

Stimulant overdose is defined as symptoms from toxicity which may indicate a person has suffered an overdose including nausea and vomiting, chest pain, tremors, increased body temperature, increased heart rate, seizure, extreme paranoia, extreme anxiety, panic, extreme agitation, hallucinations and excited delirium.

Amongst REU in the ACT, 41 had overdosed on stimulants in their lifetime. Twenty-six participants had recently overdosed and of those, five participants attributed their overdose to the use of methamphetamines (four attributed it to ice/crystal and one to speed). Five participants reported that speed was a contributing drug in the stimulant overdose and one reported ice/crystal as a contributing drug.

### Methamphetamine use with ecstasy

Participants were asked if they had used ecstasy with other drugs. Patterns of use by REU in the ACT did not differ markedly from the national sample.

Amongst the ACT REU, 12% of participants had used speed with ecstasy (17% of the national sample) whilst 6% had used base or ice/crystal with ecstasy (8% of the national sample). Five per cent of both the national and ACT samples had used base with ecstasy.

### Alcohol Use Disorders Identification Test (AUDIT)

In 2008, the EDRS made use of the Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente & Grant, 1993). The AUDIT was designed by the World Health Organization (WHO) as a brief screening scale to identify individuals with alcohol problems, including those in early stages. It is a 10-item scale, designed to assess three conceptual domains: alcohol intake, dependence, and adverse consequences (Reinert & Allen, 2002). Total scores of eight or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence (Barbor, Higgins-Biddle, Saunders & Monteiro, 2001).

Amongst REU who had recently used methamphetamines in the ACT the mean on the AUDIT was slightly higher (14.18) than the total ACT REU sample (13.61). Eighty percent of recent methamphetamine users scored eight or more on the AUDIT compared to 78% of the REU sample.

## Health and psychological distress reported by recent methamphetamine users

### Mental health

In the ACT 35% of REU reported recently having a mental health problem. Amongst those who had recently used methamphetamines the proportion reporting mental health problems was slightly lower at 28%.

### Psychological Distress

The 2008 EDRS included the Kessler Psychological Distress Scale (K10), a questionnaire designed to yield a global measure of 'psychological distress' based on questions about the level of anxiety and depressive symptoms experienced in the most recent four-week period (Kessler, 2002). The minimum score was 10 and the maximum was 50. The scale was divided into four categories to describe distress. Those scoring between 10 and 15 were considered to have 'low' levels of psychological distress; scores of 16 to 21 were classed as reporting 'moderate' levels of psychological distress; 22 to 29 as 'high' levels of psychological distress; and 30 to 50 as 'very high' levels of psychological distress.

Table 2 shows the scores of the REU in Australia and the ACT in 2008 compared to the general population. The results show that a higher proportion of REU reported high to very high psychological distress.

**Table 2: Kessler 10 scores in the 2007 NSDHS Detailed Results and REU sample, 2008**

K10 Category	Australian Population >18 years	REU n=678	ACT REU N=83
% reporting low distress (score 10-15)	69	45	35
% reporting moderate distress (score 16-21)	21	32	30
% reporting high distress (score 22-29)	8	17	23
% reporting very high distress (score 30-50)	2	6	13

Source: AIHW, 2008b, NSDHS Detailed Results; EDRS REU interviews, 2008

Table 3 shows scores on the K10 of national REU who had recently (six months preceding interview) used methamphetamine. Results show that higher proportions of recent speed, base and ice/crystal users reported 'very high' psychological distress in comparison to those who had not recently used any form of methamphetamine.

**Table 3: Kessler 10 scores amongst recent and non recent methamphetamine use**

K10 category	Recent speed use (n=309)	Recent base use (n=119)	Recent ice/crystal use (n=162)	Non-recent methamphetamine use (n=275)
% reporting no or low distress (score 10-15)	39	36	3	54
% reporting moderate distress (score 16-21)	35	36	32	29
% reporting high distress (score 22-29)	18	20	24	14
% reporting very high distress (score 30-50)	8	7	11	3

Source: EDRS REU interviews 2008

### Methamphetamine dependence

Methamphetamine dependence impacts on physical and mental health (McKetin, McLaren & Kelly, 2005). In 2008 the Severity of Dependence Scale (SDS) was administered to participants who had recently used methamphetamines. An SDS score of four or greater is indicative of problematic amphetamine use (Topp & Mattick, 1997). In 2008, 12% of REU in the national sample and the ACT sample scored four or more on the SDS, indicating problematic and dependent use of methamphetamine.

### Hospital admissions for amphetamines

Hospital data do not differentiate between types of amphetamine and also include ecstasy related admissions. Figure 4 shows the rate of inpatient hospital admissions relating to a principle diagnosis of amphetamine per million persons by jurisdiction in 2006/2007.

NSW recorded the highest number of amphetamine-related hospital admissions in 2006/07 at 291 admissions per million persons, representing an increase from 237 admissions per million persons in 2005/06. Most other jurisdictions remained relatively stable over that time span.

**Figure 4: Number of principal amphetamine-related hospital admissions per million persons among people aged 15-54 years, by jurisdiction, 1999/00-2006/07**



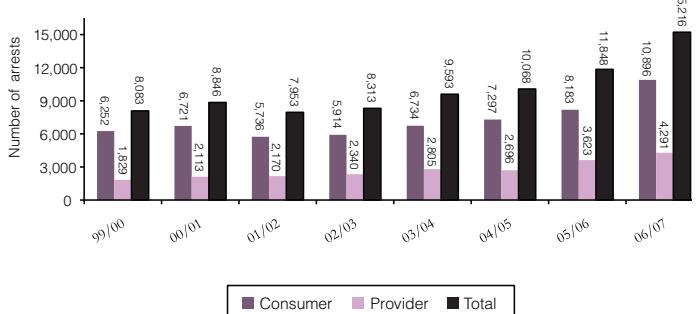
Source: AIHW, ACT, TAS, NT, QLD, SA, NSW, VIC and WA Health Departments, Roxburgh and Burns (in press)

\* from 2001, numbers in TAS included admissions from an additional drug withdrawal unit

## Criminal activities associated with methamphetamine

In a recent study, 45% of regular methamphetamine users in an Australian sample had committed a crime in the previous month (McKetin, McLaren & Kelly, 2005) and twelve percent had committed a violent crime in the previous 12 months. Methamphetamine users who had committed a violent crime had a previous history of antisocial behaviour e.g. a history of Childhood Conduct Disorder. Almost one-third of users who had committed a violent crime were under the influence of methamphetamine when they committed the crime (McKetin, McLaren & Kelly, 2005). The Australian Crime Commission collates national crime figures and classifies “consumers” as offenders who are charged with user-type offences (e.g., possession and use of illicit drugs), and “providers” as offenders who are charged with supply-type offences (e.g., trafficking, selling, manufacture or cultivation). Figure 5 shows the number of national consumer and provider methamphetamine arrests over time. An increase in numbers of offences has been observed since 2002/03.

**Figure 5: Amphetamine-type stimulants: consumer and provider arrests, 1999/00-2006/07**



Source: (Australian Crime Commission, 2003, Australian Crime Commission, 2004, Australian Crime Commission, 2005, Australian Crime Commission, 2006, Australian Crime Commission, 2007, Australian Crime Commission, 2008, Australian Bureau of Criminal Intelligence, 2000, Australian Bureau of Criminal Intelligence, 2001, Australian Bureau of Criminal Intelligence, 2002)

Note: Total may exceed the sum of the components – total includes those offenders for whom consumer/provider status was not stated. Data for 2007/08 were not available at the time of publication

With respect to REU, just over one-third (34%) of the 2008 ACT REU sample reported having engaged in some form of criminal activity in the month prior to interview (Table 4). The proportion of REU who reported that they had sold drugs in the preceding six months remained stable from 2007 (30%, 32% in 2007). The proportion reporting they had committed a property crime also remained stable (11%) and a slightly higher percent reported committing a violent crime (5% in 2008, 3% in 2007).

**Table 4: Criminal activity reported by ACT REU, 2003-2008**

	2003 (N=66)	2004 (N=116)	2005 (N=126)	2006 (N=100)	2007 (N=74)	2008 (N=83)
Criminal activity in the last month (%)						
Any crime	45	11	29	38	38	34
Drug dealing	42	9	25	29	32	30
Property crime	3	3	4	11	11	11
Fraud	3	1	2	1	0	2
Violent crime	0	0	2	8	3	5
Arrested in the past 12 months						
12 months	5	6	6	13	4	5

Source: EDRS REU interviews, 2003-2008

Table 5 presents the number of consumer and provider arrests for amphetamine-type stimulants made in the ACT between 1997 and 2007. The number of total arrests has been increasing since 2000/2001, from a total of 56 arrests to a total of 132 arrests in 2006/2007. In 2005/2006, the number of consumer arrests increased for both males (50 in 2005/6, 77 in 2006/7) and females (9 in 2005/6, 22 in 2006/7). In 2006/2007, the number of provider-related arrests decreased for males 46 in 2005/6, 30 in 2006/7).

**Table 5: Number of amphetamine-type stimulants consumer and provider arrests, ACT, 1997-2007**

Year	Consumer		Provider		Total arrests
	Male	Female	Male	Female	
1997/1998	8	3	5	2	18
1998/1999	15	2	6	0	23
1999/2000	- <sup>a</sup>				
2000/2001	37	10	6	3	56
2001/2002	44	4	9	3	60
2002/2003	41	11	8	4	64
2003/2004	60	16	19	4	99
2004/2005	51	7	27	9	94
2005/2006	50	9	46	1	106
2006/2007	77	22	30	3	132

Source: ABCI (1997-2002); ACC (2003-2007)

Note: Figures for ACT 1999/2000 were not available

Note: Arrest data from 1997/1998 to 1999/2000 exclude AFP data

Note: Data not available for the 2007/2008 financial year

## Summary and Implications

- The use of methamphetamine has been decreasing amongst the Australian population. In the ACT however, REU have been using methamphetamine more frequently.
- Most recent methamphetamine users were male and between the ages of 17 and 25 Reflecting the target audience for the Australian Federal Government's recent methamphetamine campaign.
- Half of participants in the ACT EDRS reported bingeing on any drug in the previous six months. Of those who had binged it was common to have binged on methamphetamine.
- It was uncommon for participants in the ACT to report methamphetamine as the drug contributing most to a stimulant overdose. Small proportions of REU reported using methamphetamine with ecstasy in the ACT.
- Eighty percent of recent methamphetamine users scored eight or

more on the AUDIT indicating that recent methamphetamine users had hazardous and harmful alcohol use, as well as possible alcohol dependence.

- More recent methamphetamine users scored in the 'very high' psychological distress category on the K10 compared to non-recent users. More non-recent methamphetamine users reported 'low' psychological distress.
- Twelve percent scored in the range for methamphetamine dependence on the SDS in the ACT in 2008.
- In the ACT approximately 130 people per million were admitted to hospital for methamphetamine related illness. This has remained stable since 2004/2005.
- The total number of arrests for methamphetamine related crime has increased both nationally and in the ACT. Thirty-four percent of REU in the ACT reported committing a crime in the previous month.
- Findings from this investigation show that methamphetamine use amongst the ACT REU is more frequent than the national REU sample. The increasing recent use and frequency of use show that the focus on methamphetamine by the National Drugs Campaign as targeting an appropriate demographic.

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