



Australian Government

Australian Institute of Health and Welfare

# Trends in methylamphetamine availability, use and treatment

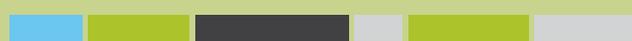


2003–04 to 2013–14

Drug treatment series no. 26



# Trends in methylamphetamine availability, use and treatment



2003–04 to 2013–14

Drug treatment series no. 26

The Australian Institute of Health and Welfare is a major national agency which provides reliable, regular and relevant information and statistics on Australia's health and welfare. The Institute's mission is *authoritative information and statistics to promote better health and wellbeing.*

© Australian Institute of Health and Welfare 2015 

This product, excluding the AIHW logo, Commonwealth Coat of Arms and any material owned by a third party or protected by a trademark, has been released under a Creative Commons BY 3.0 (CC BY 3.0) licence. Excluded material owned by third parties may include, for example, design and layout, images obtained under licence from third parties and signatures. We have made all reasonable efforts to identify and label material owned by third parties.

You may distribute, remix and build upon this work. However, you must attribute the AIHW as the copyright holder of the work in compliance with our attribution policy available at <[www.aihw.gov.au/copyright/](http://www.aihw.gov.au/copyright/)>. The full terms and conditions of this licence are available at <<http://creativecommons.org/licenses/by/3.0/au/>>.

Enquiries relating to copyright should be addressed to the Head of the Digital and Media Communications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601.

This publication is part of the Australian Institute of Health and Welfare's drug treatment series. A complete list of the Institute's publications is available from the Institute's website <[www.aihw.gov.au](http://www.aihw.gov.au)>.

ISSN 1447-6746 (PDF)

ISSN 2205-5088 (Print)

ISBN 978-1-74249-809-6 (PDF)

ISBN 978-1-74249-810-2 (Print)

#### **Suggested citation**

Australian Institute of Health and Welfare 2015. Trends in methylamphetamine availability, use and treatment: 2003–04 to 2013–14. Drug treatment series no. 26. Cat. no. HSE 165. Canberra: AIHW.

#### **Australian Institute of Health and Welfare**

Board Chair

Dr Mukesh C Haikerwal AO

Acting Director

Ms Kerry Flanagan PSM

Any enquiries about or comments on this publication should be directed to:

Digital and Media Communications Unit  
Australian Institute of Health and Welfare  
GPO Box 570  
Canberra ACT 2601

Tel: (02) 6244 1000

Email: [info@aihw.gov.au](mailto:info@aihw.gov.au)

Published by the Australian Institute of Health and Welfare.

Please note that there is the potential for minor revisions of data in this report.  
Please check the online version at <[www.aihw.gov.au](http://www.aihw.gov.au)> for any amendments.

# Contents

Acknowledgments .....	iv
Abbreviations .....	v
Summary .....	vi
1 Introduction .....	1
2 Availability and the illicit drug market .....	4
3 Use .....	7
4 Treatment.....	13
5 Trends in availability, use and treatment .....	19
6 Implications for policy .....	22
7 Data gaps and limitations .....	23
Glossary .....	26
References .....	27

## Acknowledgments

The authors of this report were Mr Mark Petricevic, Ms Simone Brown and Ms Melinda Petrie from the Tobacco, Alcohol and Other Drugs Unit of the Australian Institute of Health and Welfare. Ms Cathy Claydon and Ms Kristina Da Silva assisted with data analysis and Ms Moira Hewitt provided essential advice and guidance. The contributions, comments and advice of the Alcohol and Other Drug Treatment Services National Minimum Data Set Working Group, and Dr Jenny Chalmers for peer review of the report are gratefully acknowledged.

The Australian Government Department of Health provided funding for this report.

Thanks are extended to the data managers and staff in the following departments: Department of Health, Australian Government; Ministry of Health, New South Wales; Department of Health and Human Services, Victoria; Department of Health, Queensland; Mental Health Commission, Western Australia; Department of Health, South Australia; Department of Health and Human Services, Tasmania; Health Directorate, Australian Capital Territory; Department of Health, Northern Territory.

## Abbreviations

ACC	Australian Crime Commission
AIHW	Australian Institute of Health and Welfare
AOD	alcohol and other drug
AODTS NMDS	Alcohol and Other Drug Treatment Services National Minimum Data Set
ASCDC	Australian Standard Classification of Drugs of Concern
ATS	amphetamine-type stimulant(s)
EDRS	Ecstasy and Related Drug Reporting System
IDDR	Illicit Drug Data Report
IDRS	Illicit Drug Reporting System
MDMA	methylene-dioxy-meth-amphetamine
NDS	National Drug Strategy
NDSHS	National Drug Strategy Household Survey
PWID	people who inject drugs
UNODC	United Nations Office on Drug Crime

## Summary

Illicit drug use is associated with many risks of harm to the user and to their family and friends. The harms associated with methylamphetamine, especially its crystal (ice) form are particularly concerning, and can result in significantly harmful long-term psychological and physical effects. Changes in the use of methylamphetamine have been one area of increasing concern among health professionals and the Australian community.

Terminology for methylamphetamine—commonly referred to as methamphetamine or ‘meth’—varies across data sources. Not all data sources collect data on methylamphetamine specifically; some use the broader classes of drugs, amphetamines, amphetamine-type stimulants, or ‘meth/amphetamines’, in which methylamphetamine belongs. Box 2 provides a description of each of the terms used throughout this report.

### **Production and supply of amphetamine-type stimulants has been increasing.**

In recent years, arrest, seizure and detection data indicate that production and supply of amphetamine-type stimulants (ATS) is rapidly increasing, both in Australia and internationally. Over the four years since 2009–10, detections (the identification of illicit drugs at the Australian border) increased by 86% between 2011–12 and 2012–13, and a further 18% in 2013–14, and the total weight of these detections in 2013–14 was 27 times as high as it was in 2009–10. The total number of arrests for ATS increased—accounting for 15% of all arrests in 2009–10 and 23% in 2013–14.

### **Methylamphetamine is consistently reported as very accessible.**

As well as consistent prices, methylamphetamine purity has remained consistently high since 2008, particularly for crystal, and all forms of methylamphetamine have been consistently reported as ‘easy’ or ‘very easy’ to obtain since 2007.

### **The form of methylamphetamine used has changed from powder to crystal in recent years.**

While the proportion of the population who used meth/amphetamines in the last 12 months declined between 2004 and 2013 (from 3.2% to 2.1%), more recently there has been substantial change in the form of methylamphetamine used—from powder to crystal (ice). More of those who recently used methylamphetamine in 2013 reported crystal as the main form used (50% of recent users) compared with powder (29% of recent users).

### **Between 2010 and 2013, there has been an increase in new users of ‘meth/amphetamine’, especially crystal.**

In 2013, a larger proportion of recent users had first used ‘meth/amphetamines’ within the last 3 years (that is, they were ‘new users’ of the drug since the last data collection period)—34%, compared with 27% in both 2007 and 2010. This cohort of new users is opting mainly for crystal rather than the powder form of ‘meth/amphetamines’.

### **Since 2004, there has been a shift in the pattern of recent ‘meth/amphetamine’ use by socioeconomic status and remoteness area.**

In 2013, recent users of ‘meth/amphetamine’ were more commonly aged 20–29 and most likely to be male. In 2004, recent users were more likely to be in the more advantaged socioeconomic status quintiles, whereas in 2013, they were more likely to be in the lower quintiles. The middle quintile had consistently high numbers of users relative to other quintiles across the same period. Since 2004, Aboriginal and Torres Strait Islander people (hereafter referred to as ‘Indigenous Australians’) and, since 2007, people living in *Remote and very remote* areas have been more likely to be recent ‘meth/amphetamine’ users than their counterparts.

### **Since 2009–10 the number of episodes for clients injecting and smoking amphetamines has increased.**

Over the 5 years to 2013–14, the number of episodes for clients both injecting and smoking (clients who reported ‘smoking’ or ‘inhaling’) amphetamines increased, while use via other methods remained relatively stable. Clients who smoke amphetamines are most likely to have never injected drugs, indicating that these clients are a different type of user. While characteristically, injectors and smokers appear to be relatively similar, there are some noticeable differences—more young people smoke than inject and slightly more females and Indigenous Australians inject than smoke.

# 1 Introduction

Illicit drug use is associated with many risks of harm to the user and to their family and friends. People who use illicit drugs place themselves at risk of health problems, exposure to violence, family breakdown, crime and housing difficulties (NRHA 2012, Stafford & Burns 2015). In 2013, around 2.9 million people in Australia reported they had used illicit drugs in the previous 12 months (AIHW 2014). Both nationally and internationally, the proportion of people using illicit drugs has remained relatively stable over the last 10 years—15% of adults in Australia in 2013, and globally around 5% of the adult population in 2010 (AIHW 2014, UNODC 2012). However, usage patterns continue to change. Changes in the use of methylamphetamine have been one area of increasing concern among health professionals and the Australian community.

The harms associated with methylamphetamine, especially its crystal (ice) form, are particularly concerning. Crystal is highly addictive and causes disruption to an individual's brain function. Crystal use can also result in harmful long-term psychological and physical effects, such as paranoia, substance dependence, memory loss, liver damage and cardiovascular diseases (Darke et al. 2007).

In Australia, the National Drug Strategy (NDS) has provided the overarching framework for addressing licit and illicit drug use since 1985. The broad aims of the NDS are to prevent and reduce the uptake and misuse of drugs, the production and supply of illicit drugs and the negative social, economic and health consequences of drug use. The NDS addresses the production and use of methylamphetamine in a number of ways (see Box 1 for further details).

## Box 1: Policy context

### National Drug Strategy

Two iterations of the NDS cover most of the time period considered in this report; the *National Drug Strategy 2004–2009* and the *National Drug Strategy 2010–2015*. These strategies are underpinned by the principle of harm minimisation encompassing three components (pillars): demand reduction, supply reduction and harm reduction. Together, they aim to prevent/reduce: the uptake and misuse of drugs; the production and supply of illicit drugs; and the negative social, economic and health consequences of drug use. The *National Drug Strategy 2010–2015* identified that there is a continuing high domestic production of amphetamine-type stimulant (ATS) drugs, an increasing number of ATS-related arrests and that problematic behaviour and organised crime associated with ATS use are issues of concern.

There are a number of sub-strategies developed under the NDS to address illicit drugs, ATS drugs or precursor chemicals specifically. These may contribute to the reduction in demand, supply and harm patterns related to amphetamines observed over time.

### National Amphetamine-Type Stimulant Strategy 2008–2011 (ATS strategy)

The ATS strategy was released under the *National Drug Strategy 2004–2009* in response to increased production, use, purity and harms of ATS in Australia, observed over the prior 10–15 years (MCDS 2008). There is no current ATS strategy.

### National Strategy to Prevent the Diversion of Precursor Chemicals into Illicit Drug Manufacture (National Precursor Strategy)

The National Precursor Strategy was funded from 2003–2008 under the *National Drug Strategy 2004–2009* to reduce the supply of precursor chemicals used to produce illicit drugs in clandestine laboratories. In 2007, the Australian Government provided the National Precursor Strategy with recurrent annual funding.

### National initiatives

A number of national initiatives are funded and/or implemented under the NDS framework. These initiatives are aimed at building the capacity of health, education and law enforcement sectors and include interventions to prevent drug-related harm (Miller et al. 2009). Over the period of time from 2003, this has included phase two to five of the National Drugs Campaign and a grants program specifically for ATS.

Further information on national and complementary sub-strategies, national initiatives and state and territory policies are available online.

For more information on policies in Australia, see the supplementary document to this report, *Policy related to methylamphetamine in Australia between 2003–04 and 2013–14*.

Due to the significant negative consequences of methylamphetamine use (crystal specifically) on individuals and their families, the Australian Government has launched a National Ice Taskforce to develop the National Ice Action Strategy to address the use of ice and its impacts. The taskforce delivered an interim report to the Council of Australian Governments (COAG) on 23 July 2015 and the strategy will be delivered to COAG by the end of 2015 <<http://www.dpmpc.gov.au/taskforces/national-ice-taskforce>>.

Alcohol and other drug treatment services (AODTS) play an important role in efforts to reduce the recent trends in methylamphetamine use (AIHW 2011).

This report presents data on the use, availability and market activity of methylamphetamine over the period 2003–04 to 2013–14 and compares these with trends in drug treatment. The analyses presented in this report provide insights for policy makers and practitioners to tailor intervention strategies and services to reduce the harms associated with methylamphetamine. They also indicate possible areas for further, more targeted research. See Box 2 for an explanation of terminology used in this report.

## Data sources

There are several data sources that have been used in this report; see Table 1 for descriptions of each data source. Collectively these data present the most representative national picture of methylamphetamine.

The National Drug Strategy Household Survey (NDSHS) is the leading national survey of licit and illicit drug use in Australia and the main source for data on meth/amphetamine use at a national level. Data sources like the Illicit Drug Reporting System (IDRS) and the Ecstasy and Related Drugs Reporting System (EDRS) capture the characteristics of drug use among specific sub-populations; injecting drug users in the IDRS and psychostimulant users in the EDRS. The Australian Secondary Schools Alcohol and other Drug (ASSAD) Survey is a national survey of licit and illicit drug use among secondary school students. The Alcohol and Other Drug Treatment Services National Minimum Dataset (AODTS NMDS) is a comprehensive administrative dataset of people receiving services for their drug and alcohol-related issues.

Data used in this report are not exhaustive, nor is each data source without limitations. For example, some data sources did not collect annual data over the entire period (2003–04 to 2013–14). Differences exist across the data sources on terminology (see Box 2), analysis variables and population samples make the synthesis of findings from these multiple sources difficult. For more information on the limitations of each data source, refer to the 'Data gaps and limitations' section.

**Table 1: Description of data sources presented in this report**

Data Source	Description
National Drug Strategy Household Survey (NDSHS)	Survey that collects information on alcohol and tobacco consumption, and illicit drug use among the general population in Australia. It also surveys people's attitudes and perceptions relating to tobacco, alcohol and other drug use
Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS NMDS)	Administrative data on the treatment provided by publicly-funded AODTS in Australia
Illicit Drug Reporting System (IDRS)	National illicit drug monitoring system to identify emerging trends in illicit drug use, in particular heroin, methylamphetamine, cocaine and cannabis
Ecstasy and Related Drugs Reporting System (EDRS)	National monitoring system for ecstasy and related drugs used to identify emerging trends in ecstasy and related drugs markets
Drug Use Monitoring in Australia (DUMA)	Program which examines the relationship between drugs and crime, and monitors local drug markets and drug use patterns by detainees across time
Illicit Drug Data Report (IDDR)	The IDDR uses the National Illicit Drug Reporting Format system to process seizure, arrest and purity data
Australian Secondary School students Alcohol and Drug (ASSAD) Survey	Survey of secondary school students on their use of tobacco, alcohol, over-the-counter and illicit substances

## Box 2: Terminology

The literature on methylamphetamine and amphetamine contains a variety of terms; in some instances these terms cover similar, but not the same range of drugs. This can be confusing when interpreting results across different data sources. In this report, each section reflects the terminology used by the corresponding data source. Below is a description of each term used in these data sources and the types of drugs they encompass:

- **Amphetamine-type stimulants**—covers a large range of drugs, which includes **amphetamines**, **methylamphetamines** and **phenethylamines** (a class of drug that includes MDMA or 'ecstasy'). This term is used in the Illicit Drug Data Report (IDDR).
- **Amphetamine(s)**—refers to the broad category of amphetamines in the Australian Standard Classification of Drugs of Concern (ASCDC) (ABS 2011). This includes **amphetamine**, **methylamphetamine**, **dexamphetamine** and **amphetamine analogues**, and this term is used in the AODTS NMDS.
- **Meth/amphetamine** includes **methylamphetamine and amphetamine**, this is the term used in the National Drug Strategy Household Survey (NDSHS).
- Methylamphetamine also comes in different forms, including powder/pills (speed), crystal methylamphetamine (crystal meth or ice), a sticky paste (base), and a liquid form. These are referred to here as **powder, base, crystal and liquid**.

See 'Glossary' for definitions of the different types of drugs and drug forms.

## 2 Availability and the illicit drug market

The Australian heroin drought in the early 2000s generated much research into the causes and consequences of its reduced availability. Research from this, and a subsequent United Kingdom heroin drought, found that reduced supply and availability had an effect on purity, price, and patterns of use (for examples, see Degenhardt et al. 2006; Harris et al. 2015).

These aspects of the illicit drug market (supply, purity, price and use) are often used in analyses of drug availability; however, these factors are not independent and their relationships can be complex (Degenhardt et al. 2006; Bush et al. 2004; Caulkins 2005). For example, key seizures and arrests at the time of the Australian heroin drought are often cited as key to its reduced availability. Others have argued that a shift in the preference of suppliers to producing other drugs, such as methylamphetamine had more influence on availability (Bush et al. 2004).

More recently, trends in all factors related to the market of methylamphetamine indicate it is very accessible. And, despite cannabis dominating the illicit drug market (for example, see Figure 1) these trends have made ATS, and methylamphetamine specifically, the primary drug of concern of the Australian Crime Commission (ACC) in 2014 (ACC 2015).

The analyses presented here cover the following components of the illicit drug market:

- production and supply—as indicated through arrest, seizure and detection data
- price and purity—thought to be affected by the supply of a drug
- availability—as recorded by users, and affected by all of the above.

For further information on the data sources used in this section, see Table 1.

### Production and supply

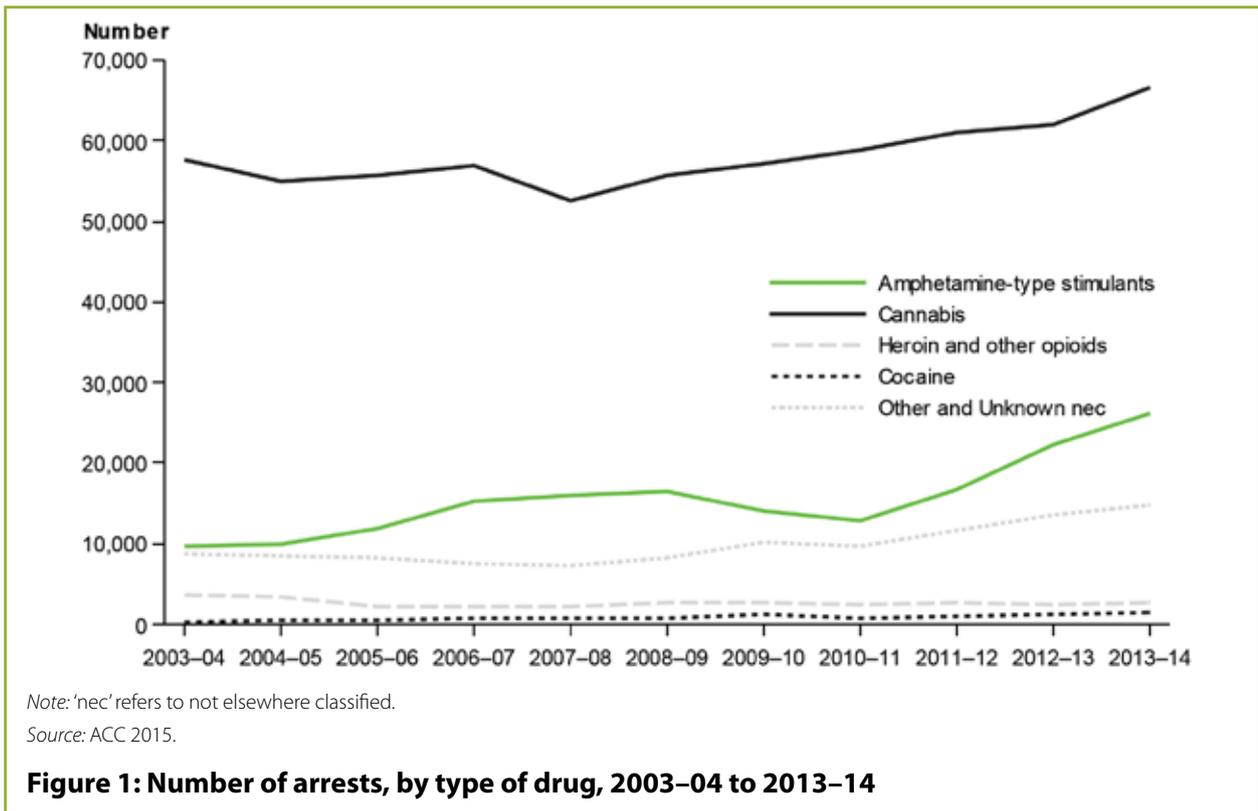
Reducing drug supply is one of the key pillars of the National Drug Strategy (NDS) (MCDS 2011). Disrupting the production and supply of illicit drugs generally falls to state, national and international policing and customs agencies. Two key reports quantify the efforts of such agencies, the Illicit Drug Data Report (IDDR), produced by the ACC, and the World Drug Report, produced by the United Nations Office on Drug Crime (UNODC). These reports generally provide information relating to ATS, which covers amphetamine, methylamphetamine and phenethylamine (which includes MDMA, or 'ecstasy'). Where this is referred to in this report as ATS (excluding MDMA), it covers amphetamine and methylamphetamine.

As mentioned above, analyses of drug market changes are complex and problematic, especially of drug production and supply. As Willis and others (2006) point out, available indicators—such as arrest, seizure and detection data—can be more indicative of law enforcement activity than changes in drug markets themselves.

In recent years, arrest, seizure and detection data indicate that production and supply of ATS is rapidly increasing, both in Australia and internationally—particularly in Asia (ACC 2015; UNODC 2012).

#### **■ ■ ■ In the last three years there have been record numbers of arrests, numbers and weight of seizures and border detections of ATS.**

In Australia, the number of ATS (excluding MDMA) detections has increased dramatically since 2008–09 (ACC 2015). Between 2011–12 and 2012–13, detections increased by 86%, and by a further 18% in 2013–14. The total weight of these detections increased by 516% from 2011–12 to 2012–13, and by a further 15% in 2013–14 (ACC 2015). The number of national seizures followed similar trends, with a 27% increase from 2012–13 to 2013–14, and although the national weight of seizures decreased by 37% over the same period, it was still the third highest on record. Over the last four years, the total number of arrests for ATS increased—accounting for 15% of illicit drug arrests in 2010–11 and 23% in 2013–14 (Figure 1). Consumers accounted for three-quarters (76%) of all ATS arrests in 2013–14 (see Glossary for definition of 'consumer').



The number of clandestine laboratories detected in Australia more than doubled from 2003–04 to 2013–14—from 358 to 744. Of these, the majority were identified as producing ATS (excluding MDMA) (ACC 2015). This mirrors international trends, with the UNODC reporting that ATS are the most common illicit drugs produced in clandestine laboratories globally (UNODC 2012).

## Price and purity

Studies examining the heroin droughts of both Australia and the United Kingdom found that a significant decrease in the availability of heroin led to large increases in its price, and big decreases in its purity (Degenhardt et al. 2006; Harris et al. 2015). In a study by Chalmers and others (2010), meth/amphetamine users reported they would reduce their use in response to a hypothetical increase in price, although, as the authors point out, intention does not always lead to behaviour.

In 2014, around three-quarters of people using the powder, base and crystal forms of methylamphetamine reported stable prices (NDARC 2015b). In fact, injecting users have reported a relatively stable price of all three forms since 2009. Powder has been the most stable form, remaining at \$50 per point (0.1 gram) and \$150 per half gram since 2009. Per gram and half-gram, users consistently report crystal as the most expensive form of methylamphetamine—between \$400 and \$600 per gram and between \$200 and \$300 per half-gram.

While these users are reporting relatively stable prices over time, using a purity-adjusted price of both powder and crystal based on Victorian data, Scott and others (2015) argue that the increasing purity of crystal means the price of both powder and crystal are effectively on par and the price of both has decreased over time.

**Consistently high levels of purity have been reported for all forms of meth/amphetamine since 2008, particularly for crystal.**

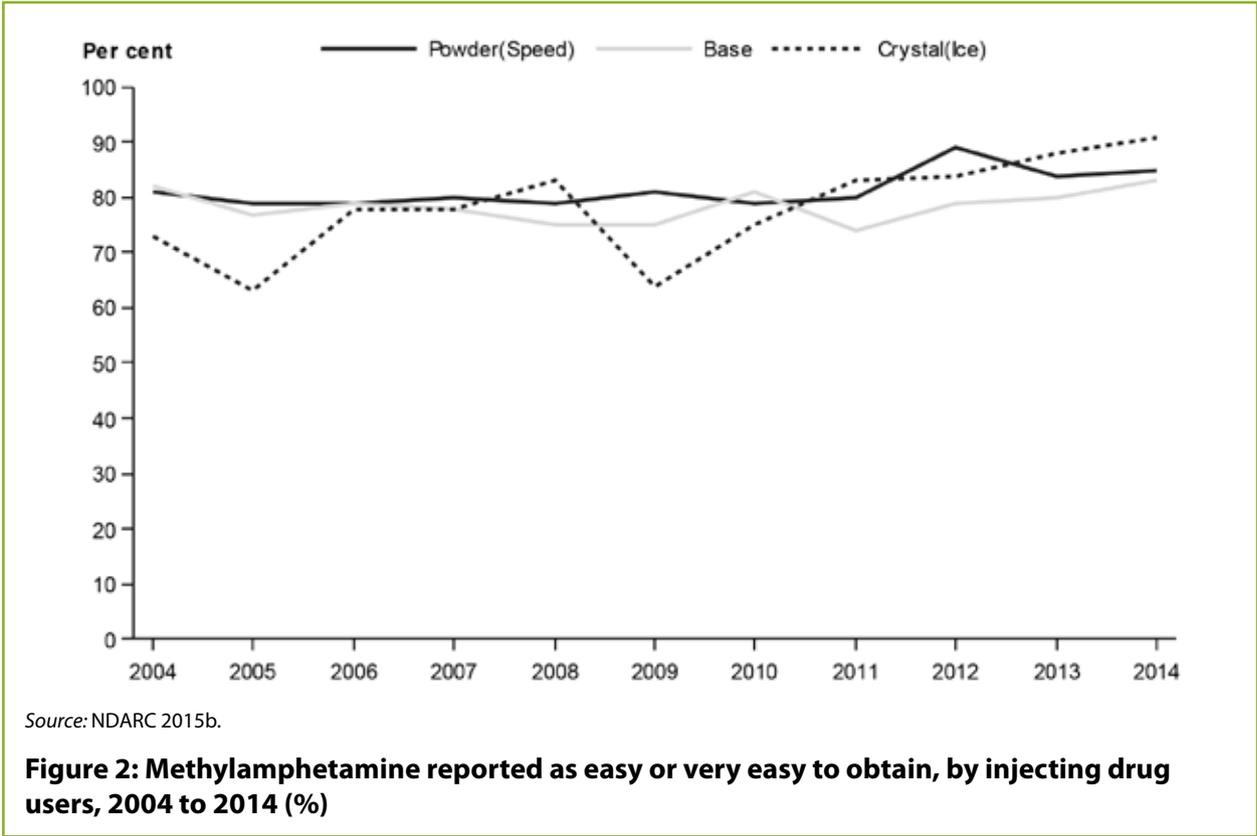
As well as consistent prices, methylamphetamine purity has remained consistently high since 2008. Depending on the form, its purity appears to be either increasing or remaining relatively stable over time. Both injecting drug users and psychostimulant users are reporting increasing levels of powder purity, with a 16 and 12 percentage point change, respectively, in users reporting high levels of purity from 2008 to 2014. The purity of base and crystal has been reported as more stable over the same period, although fewer psychostimulant users are reporting high levels of purity for crystal in recent years (62% of users in 2012 and 49% in 2014) (NDARC 2015b; NDARC 2015a).

# Availability

■ ■ ■ All forms of methylamphetamine are consistently reported as very accessible since 2007.

Given the picture presented so far, it is not surprising that users are reporting methylamphetamine as very easy to obtain, with injecting users, psychostimulant users and police detainees all reporting high availability (NDARC 2015b, NDARC 2015a, Coghlan & Goldsmid 2015). For example, in 2014, over 80% of injecting users who commented on availability reported powder, base and crystal as either easy or very easy to obtain (NDARC 2015b).

Since 2009, an increasing proportion of injecting users have reported crystal as either easy or very easy to obtain—from 64% of users in 2009 to 91% in 2014; a 27 percentage point increase in 5 years (NDARC 2015b). Since 2013, crystal has overtaken powder as the most obtainable form reported by injecting users (Figure 2). As these results were reported by injecting users only they may not reflect the experiences of all methylamphetamine users.



While the picture presented in this section is of broad-level analyses only, it indicates a concerning story about the market for methylamphetamine. User reports of easily accessible methylamphetamine are supported by evidence of high volumes being produced both nationally and internationally, at high levels of purity and relatively stable prices. Continued analysis of these trends will be essential to assess the impact of new strategies on limiting the availability for this drug.

### 3 Use

Use of meth/amphetamine refers to both illicit use of meth/amphetamine (use of illegal meth/amphetamine), and also to illicit use of legal meth/amphetamines (for example, Ritalin) for non-medical purposes.

Meth/amphetamine, as used in this section, covers both methylamphetamine and amphetamine. High doses of meth/amphetamine can have multiple negative consequences, including dependence, induced psychosis and violent behaviour. Methylamphetamine comes in many forms including powder/pills (speed), crystal methylamphetamine (crystal meth or ice) and a sticky paste (base). The 'high' experienced from the crystal and base form is much more intense, and generally accompanied by more powerful responses (DoH 2015).

Box 3 presents additional information related to the interpretation of this section.

#### Box 3: Technical information

Data in this section is drawn from the National Drug Strategy Household Survey (NDSHS). Recent use of meth/amphetamines is defined as use in the previous 12 months. Patterns of use over this period will vary among recent users, from those who have only tried meth/amphetamine once or twice, to frequent users of the drug (weekly or more often).

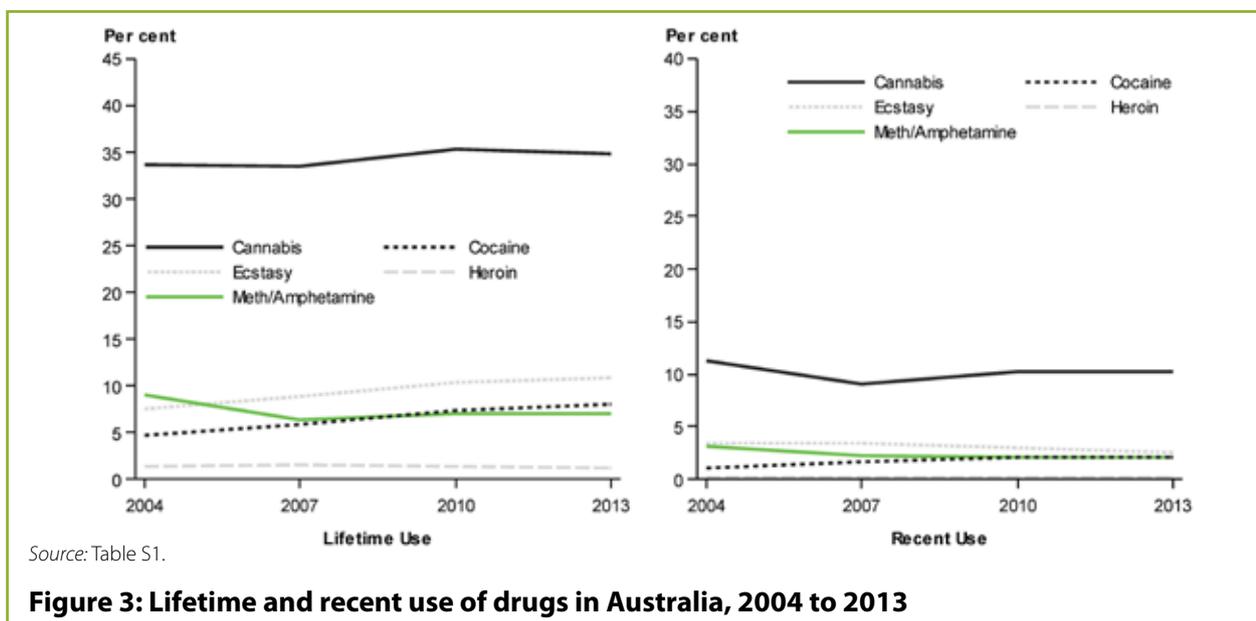
The term meth/amphetamine used in this section refers to both amphetamine and methylamphetamine. The data presented for crystal use only represents those people who reported that they used crystal as their main form in the previous 12 months; the number is likely to be higher as it does not represent all crystal users.

Some estimates have relative standard errors of 25% to 50% and should be used with caution. Estimates with relative standard errors greater than 50% have been suppressed. Please refer to *NDSHS supplementary tables* for further information.

Note, while data presented in this section cover the Australian population they may not be representative of particular population groups. See 'Data gaps and limitations' for a description of the coverage of each data source used in this section.

### Who uses meth/amphetamines?

In 2013, around 1.3 million (7.0%) Australians had used meth/amphetamine in their lifetime, and about 400,000 (2.1%) had used them recently (Figure 3; Table S1). Lifetime and recent use has declined over time, and between 2004 and 2013, there has been a reduction in the number of people using meth/amphetamine recently (by around 100,000 people) (Table S1). Compared with other illicit drugs, the number of lifetime and recent users of meth/amphetamine in Australia are lower than cannabis, ecstasy and cocaine, with substantially higher numbers of cannabis users than any other illicit substance (Figure 3).

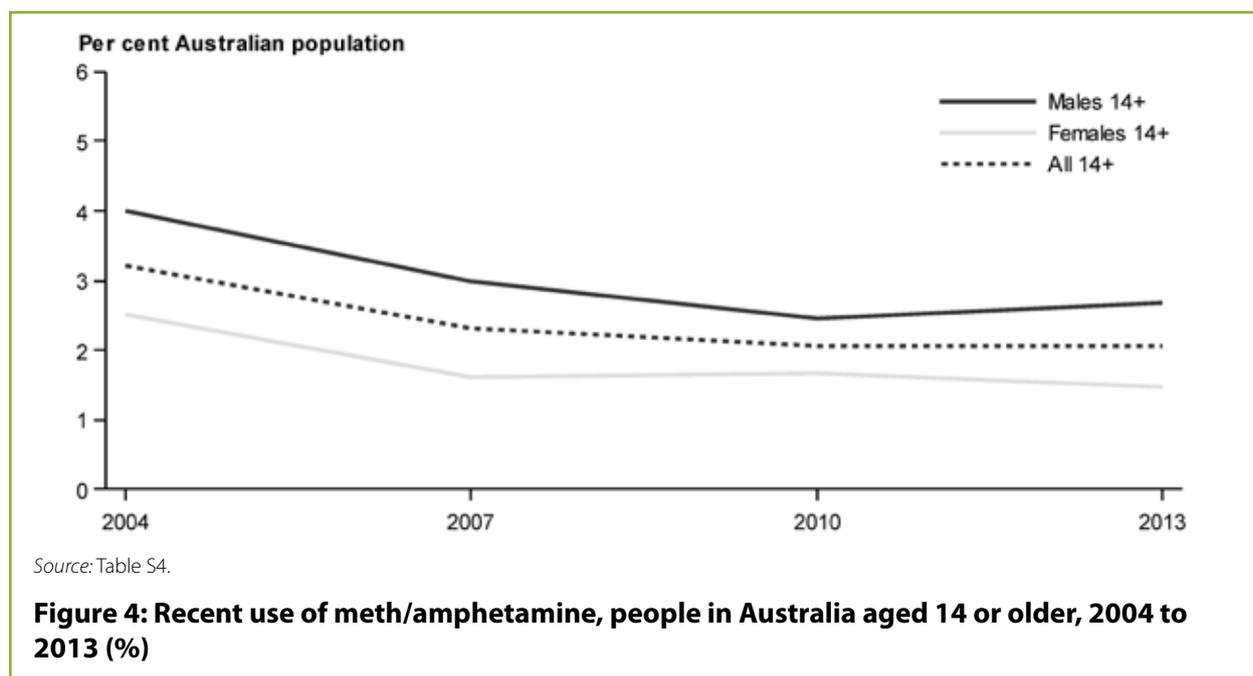


Data from the 2011 ASSAD survey indicate that 2.9% of secondary school students aged 12–17 had used amphetamines in their lifetime, a significant decline from 5.3% in 2005 (White & Bariola 2013). Recent use of amphetamines among secondary school students is similar to the general population—2.2% of 12–17 year old students had used amphetamines in the past year. Among this group, the likelihood of use increases with age, with 1.1% of 12 year olds being recent users, increasing to 4.5% for 17 year olds (White & Bariola 2013).

Poly drug use is common among recent meth/amphetamine users. In 2013, recent users also reported consuming alcohol (86%), tobacco (68%), cannabis (50%) and ecstasy (30%) at the same time as meth/amphetamine (Table S9). Overall, those mainly using crystal were more likely to use tobacco, cannabis and cocaine at the same time than those mainly using powder. Crystal users were 1.6 times as likely to misuse cannabis than those mainly using powder.

**In 2013, recent users of meth/amphetamine were more commonly aged 20–29 and most likely to be male.**

In 2013, males were more likely than females to have used meth/amphetamine in their lifetime (8.6% and 5.3% respectively) and recently (2.7% and 1.5% respectively), and this has remained the case over time (Figure 4).



In 2013, the largest age group of recent meth/amphetamine users was 20–29, for both males and females. Since 2004, those aged 20–29 have been more likely to use meth/amphetamine recently, although the proportion using has declined steadily over this time period (Table S4).

The next most common age group of users, after 20–29 year olds, was 30–39 year olds (3.1%); however, recent use has declined substantially over time for this group (from 4.1% in 2004) (Table S4).

**In 2013, for recent users of meth/amphetamine higher rates were reported among those unemployed/looking for work, living in Remote or Very remote areas, never married or single (with or without dependent children), or homosexual/bisexual\*.**

In 2013, recent meth/amphetamine users were 4.5 times more likely to report being homosexual/bisexual than heterosexual (Table S6) and 2.5 times more likely to report being unemployed/looking for work than employed (Table S5).

From 2004 to 2013, these groups were consistently more likely to use meth/amphetamine than their counterparts.

Given that recent meth/amphetamine use is more common among people aged 14–39 (mean age of use in 2013 was 30 years), higher rates observed for people who have never married or are single are consistent with the younger age profile of these groups (Table S6).

\* The characteristics of meth/amphetamine users described here are not mutually exclusive and often overlap with other characteristics. For example people with low SES are often unemployed, and/or do not have educational qualifications. In addition, people within disadvantaged groups may experience different levels of disadvantage and belong to one or multiple groups.

**In 2013, higher rates of recent use of meth/amphetamine were reported by those experiencing high or very high levels of psychological distress or having a mental illness.**

Compared with people who had not used in the previous 12 months, recent users of meth/amphetamine were 2.7 times more likely to experience high or very high levels of psychological distress and 2.1 times as likely to report having a mental illness in 2013 (Table S9). From 2004 to 2013, recent users were consistently more likely to report higher levels of psychological distress and mental illness than those who had not used meth/amphetamine recently. By themselves, these findings do not establish a causal link between mental illness and drug use—the mental illness may have preceded the drug use or vice versa (AIHW 2010).

**Since 2004, there has been a shift in the pattern of recent meth/amphetamine use by SES and remoteness area.**

Reflective of the patterns in recent use of meth/amphetamines, recent use in all SES quintiles declined overall from 2004 to 2013. However, while in 2004 the patterns of recent use were skewed towards the more advantaged users—4.1% and 3.1% of the top two quintiles (the 5<sup>th</sup> and 4<sup>th</sup> quintiles respectively), compared with 2.8% and 2.9% of the bottom two quintiles (the 1<sup>st</sup> and 2<sup>nd</sup> quintiles respectively)—by 2013, use was skewed to the lower quintiles (1.8% for the top two quintiles, compared with 2.2% and 2.1% in the bottom two quintiles). The middle quintile remained a high user group relative to other quintiles, with 3.2% in 2004 and 2.4% in 2013 (Table S5).

Since 2007, *Remote and very remote* areas were the regions with the highest rates of recent meth/amphetamine use (with the rate of use increasing substantially between 2004 and 2013, from 2.7% to 4.4%) (Table S8). Prior to 2007, people living in *Major cities* were more likely to be recent users (3.7% compared with 2.7% for *Remote and very remote* areas in 2004).

Between 2004 and 2013 the proportion of Indigenous Australians recently using meth/amphetamine went from 5.5% in 2004 to 3.1% in 2013 with fluctuations during this period (Table S7). Since 2004, Indigenous people have been more likely to be recent users of meth/amphetamine than non-Indigenous people—estimates for recent use of meth/amphetamines among Indigenous Australians in 2010 and 2013 should be interpreted with caution due to high relative standard error rates, see Box 3.

## What form of methylamphetamine are people using?

Methylamphetamine comes in many forms including powder/pills (speed), crystal methylamphetamine (crystal meth or ice) and a sticky paste (base). The 'high' experienced from crystal and base is much more intense, generally with more powerful responses including comedown, chronic, physical and mental problems and the potential for dependence (addiction) (DoH 2015).

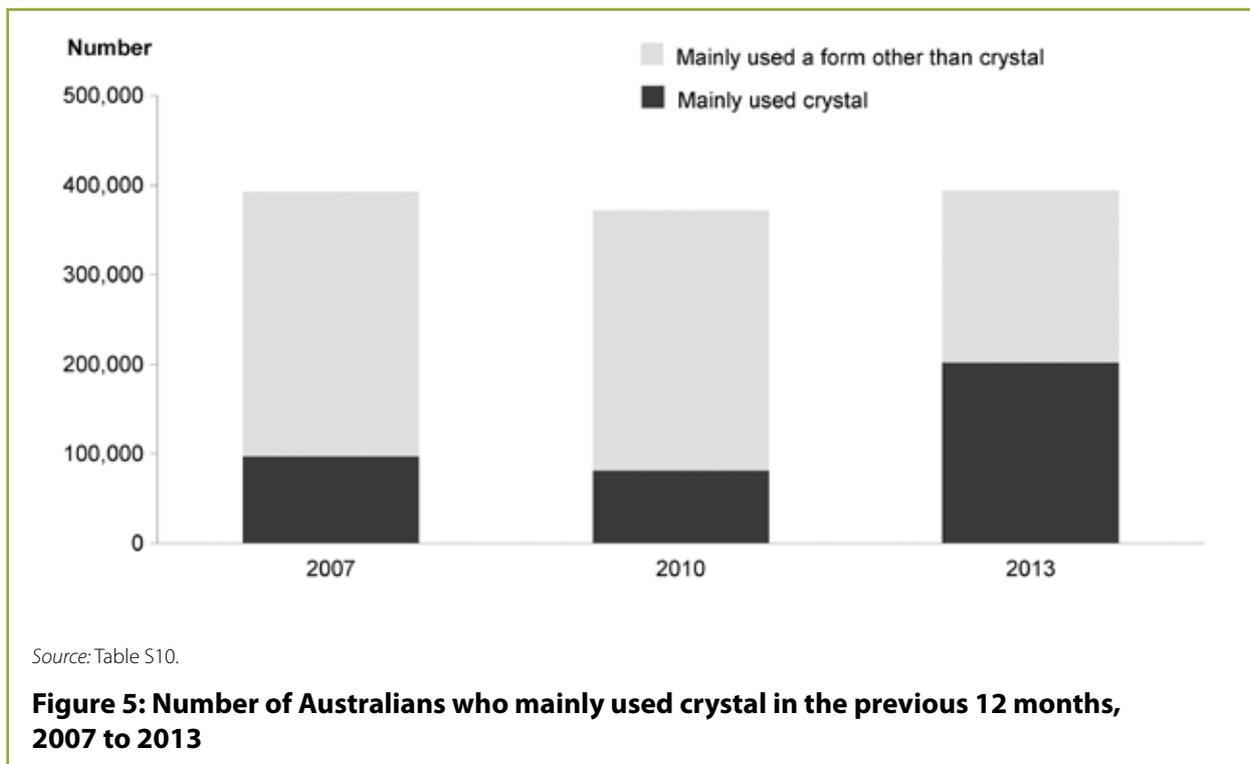
**While the proportion of the population who used meth/amphetamine in the last 12 months declined between 2004 and 2013 (from 3.2% to 2.1%), more recently there has been substantial change in the form of methylamphetamine used—from powder to crystal (ice).**

The NDSHS collects both the main form of methylamphetamine used and all forms used for both lifetime and recent use. From 2004 up until 2010, recent methylamphetamine users were more likely to have used powder rather than crystal. However, between 2010 and 2013, the proportion of recent users who ever used powder significantly decreased (from 83% to 65%) (Figure 5). Over the same period, recent users reporting powder as the main form of methylamphetamine used significantly decreased from 51% in 2010 to 29% in 2013 (or a reduction of around 80,000 recent users) while the use of crystal as the main form more than doubled (from 22% or around 80,000 people to 50% or around 200,000 people), making crystal the most common form of methylamphetamine ever used and mainly used by recent users in 2013 (Figure 5).

In 2013, while 50% of recent users reported crystal as the main form used, 72% had used it at some time in their lifetime—a statistically significant increase from 51% of recent users in 2010 having ever used crystal indicating a significant take up of crystal during that period (Figure 5).

In 2013, powder was most likely to be snorted (65%), while crystal was most likely to be smoked (78%). Between 2010 and 2013 there was a significant increase in the proportion of recent meth/amphetamine users smoking the drug (from 19% to 41%) (Table S11). The shift over time in method of use for all methylamphetamine forms—from mostly being swallowed or snorted to being smoked—reflects the shift in main form used from powder to crystal.

Data from the IDRS also indicates a shift in the main form of methylamphetamine used by people who inject drugs (PWID). Between 2003 and 2011, higher proportions of PWID using methylamphetamine in the previous six months reported using powder more than any other form (from 55% to 44%) (NDARC 2015b). However from 2011 onwards, more PWID reported using crystal than powder in the previous six months, and the gap between the two forms increased over that period (from 45% and 44% in 2011 to 61% reporting using crystal and 30% reporting using powder in 2014) (NDARC 2015b).



## New users

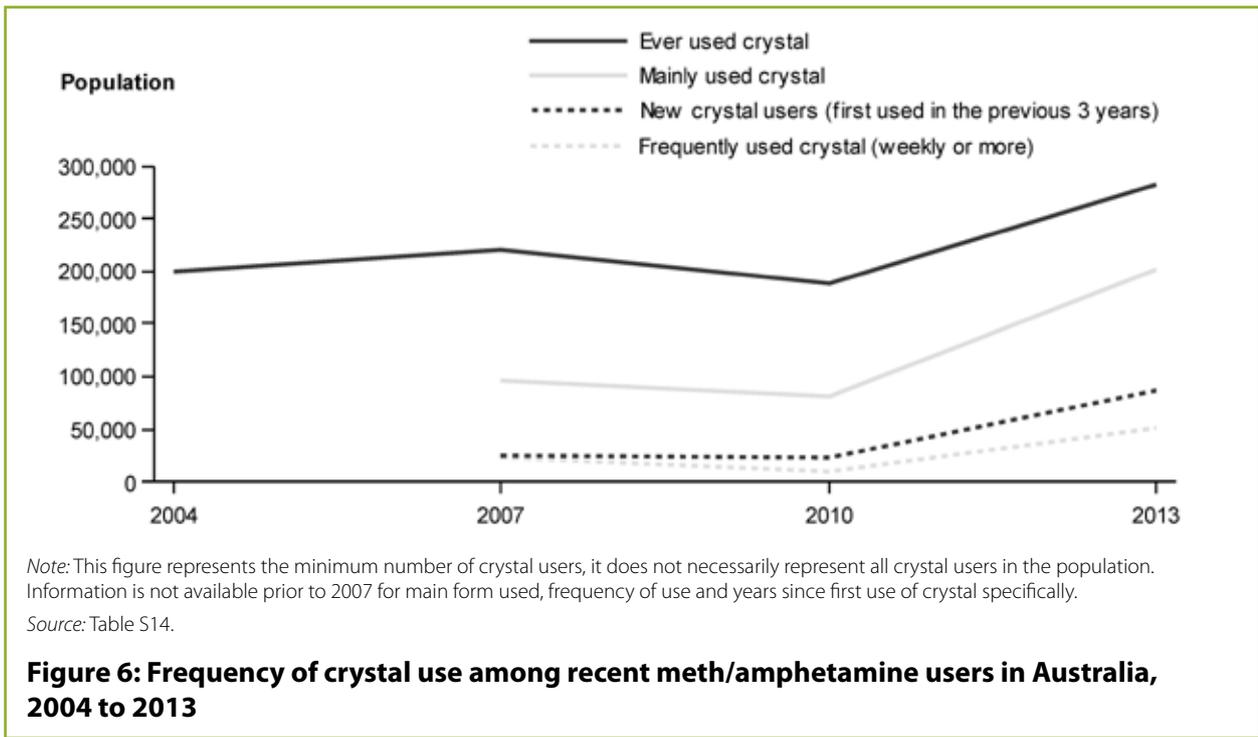
■ ■ ■ **Between 2010 and 2013, there was an increase in new users of meth/amphetamine, especially crystal.**

In 2013, a larger proportion of recent users had first used meth/amphetamine within the last 3 years (that is, they were 'new users' of the drug since the last data collection period)—34%, compared with 27% in both 2007 and 2010 (Figure 6). Among users who had first used meth/amphetamine more than 4 years ago—there was a decline from 73% in 2007 to 67% in 2013 (Table S12).

The shift from powder to crystal as the preferred form observed between 2010 and 2013 was not only fuelled by previous users switching main form, but also by new meth/amphetamine users opting for crystal. In 2013, 43% of recent meth/amphetamine users reporting crystal as the main form used were new users, up from 26% in 2007 and 29% in 2010 (Table S12).

Similarly, the increase in new users of crystal is reflected in the increase in the number of recent meth/amphetamine users who had ever used crystal in their lifetime between 2010 and 2013, which had remained fairly constant prior to 2010.

Using crystal as the main form decreased as age increased—those aged 14–19 were more likely to report mainly using crystal (61%), followed by 20–29 year olds (52%). This was a substantial change from 2007, with the proportion of users across both age categories mainly using crystal more than doubling (from 27 and 25% respectively) (Table S13). The younger profile of recent meth/amphetamine users mainly using crystal highlights that new users are predominantly younger—with an average age of 22 years for recent users' first use. The younger profile of crystal users also appears to be reflected among people receiving treatment—with half (50%) of the treatment episodes for people who are smoking or inhaling amphetamines aged 20–29 (see 'Treatment' section).

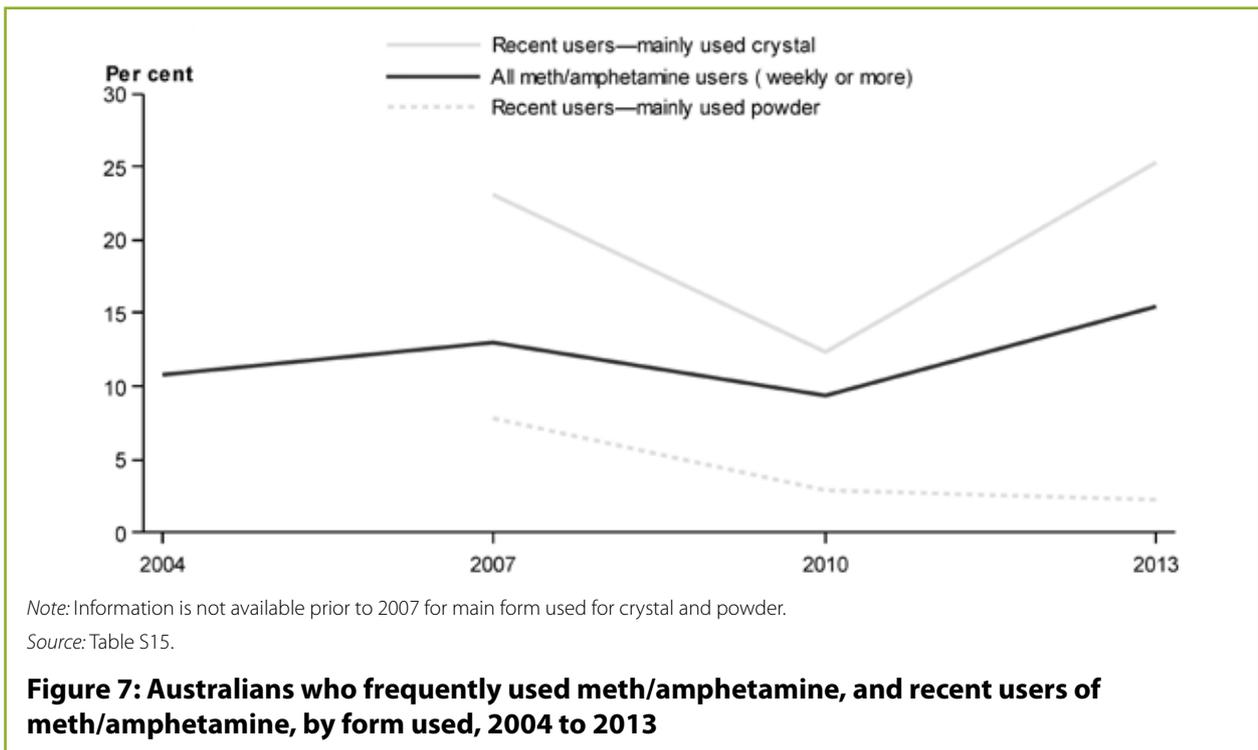


## Frequent users

High doses and frequent use of methylamphetamine can cause amphetamine-induced psychosis (characterised by symptoms similar to paranoid schizophrenia), increased risk of suicide, violent behaviour, diminished effects over time (leading to users increasing their dose to achieve intoxication), and methylamphetamine dependence (Campbell 2001).

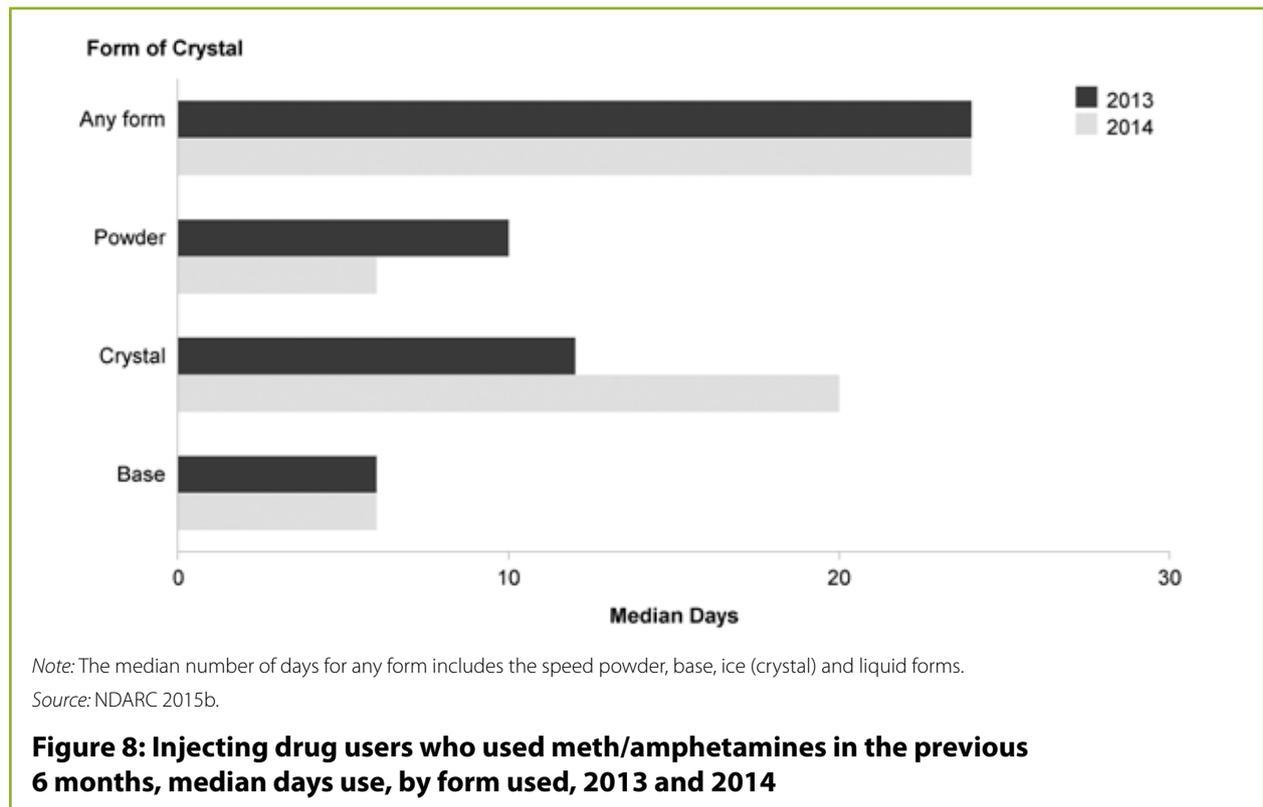
**Recent users of meth/amphetamine are using the drug more frequently—especially when crystal is the main form used.**

Between 2004 and 2010, the proportion of recent meth/amphetamine users using the drug at least once a week or more fluctuated between 13% and 9.3% (Table S15). However, between 2010 and 2013, the proportion using meth/amphetamine at least weekly significantly increased to 16%—the highest it has been since 2004 (Figure 7).



In 2013, people who reported mainly using crystal used the drug more frequently than powder users—46% and 19% respectively, using at least once a month. Similar to recent users of any meth/amphetamine, between 2007 and 2013, there was only a small difference in recent users whose main form was crystal who used weekly or more (23% and 25% respectively) (Table S15). However, a low of 12% in 2010 means that those using crystal at least once a week or more doubled by 2013.

Data from the IDRS indicates that the trend in frequency of crystal use has also been observed among the PWID population and it has continued past 2013. From 2010 to 2013, the median number of days use in the last six months for crystal use surpassed the number of days for powder use—10 days for powder and 7 days for crystal in 2010, compared with 10 days for powder and 12 for crystal in 2013 (NDARC 2015b). In 2014, the frequency of crystal use continued to increase, with the median number of days for crystal use increasing from 12 days in 2013 to 20 days in 2014. Conversely, the frequency of powder use decreased from 10 to 6 days (Figure 8).

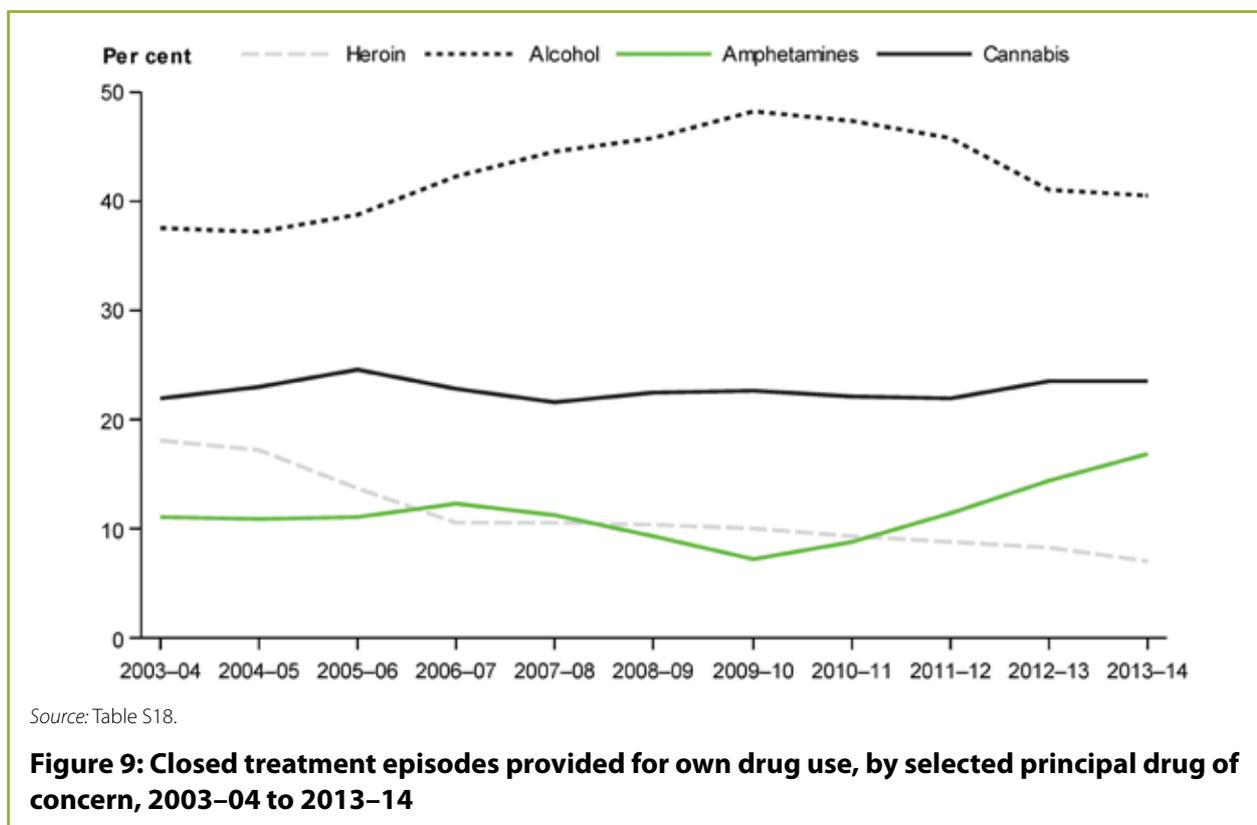


Unsuccessful efforts to cut down or control use of methylamphetamine, even with the desire to do so, is an indicator of methylamphetamine dependence (Campbell 2001). In 2013, recent users who mainly used crystal were more likely to report being unable to stop or cut down their use, even though they wanted to (15% compared with 12% of all meth/amphetamine users). They were also more likely to report the reason for continued crystal use as addiction/dependency or wanting to improve mood/stop feeling unhappy, compared with all recent meth/amphetamine users.

## 4 Treatment

Many types of treatment are available in Australia through alcohol and other drug (AOD) treatment services to assist people with problematic drug use. Most aim to reduce the harm of drug use, for example counselling and diversion programs, while others use a structured drug-free setting with abstinence-oriented interventions. This section presents information on treatment episodes delivered by publicly-funded treatment services for AOD use from the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS NMDS) (see 'Data gaps and limitations'). Information is presented on amphetamines, which includes methylamphetamine. Information on the different forms of amphetamines used is not captured in the AODTS NMDS. However, it does capture the client's usual method of administering their drug of concern which is a strong indicator of the form used.

In 2013–14, AOD treatment services provided a total of 180,713 closed treatment episodes, an increase of 32% since 2003–04 (136,869 episodes). While there are many different drugs people receive treatment for, the most common principal drugs of concern (the primary drug leading someone to seek treatment)—which are alcohol, cannabis, heroin and amphetamines—have accounted for the large majority of services over time (Figure 9).



### Who receives treatment for amphetamine use?

Amphetamines were the third most common principal drug of concern (17% of all episodes), behind alcohol (40%), cannabis (24%) in 2013–14. Heroin was the next main principal drug of concern (7.0% of episodes). Since 2003–04, the proportion of episodes where amphetamines were the principal drug of concern has increased (from 11% to 17%), despite falling to a low of 7.2% in 2009–10 (Table S18).

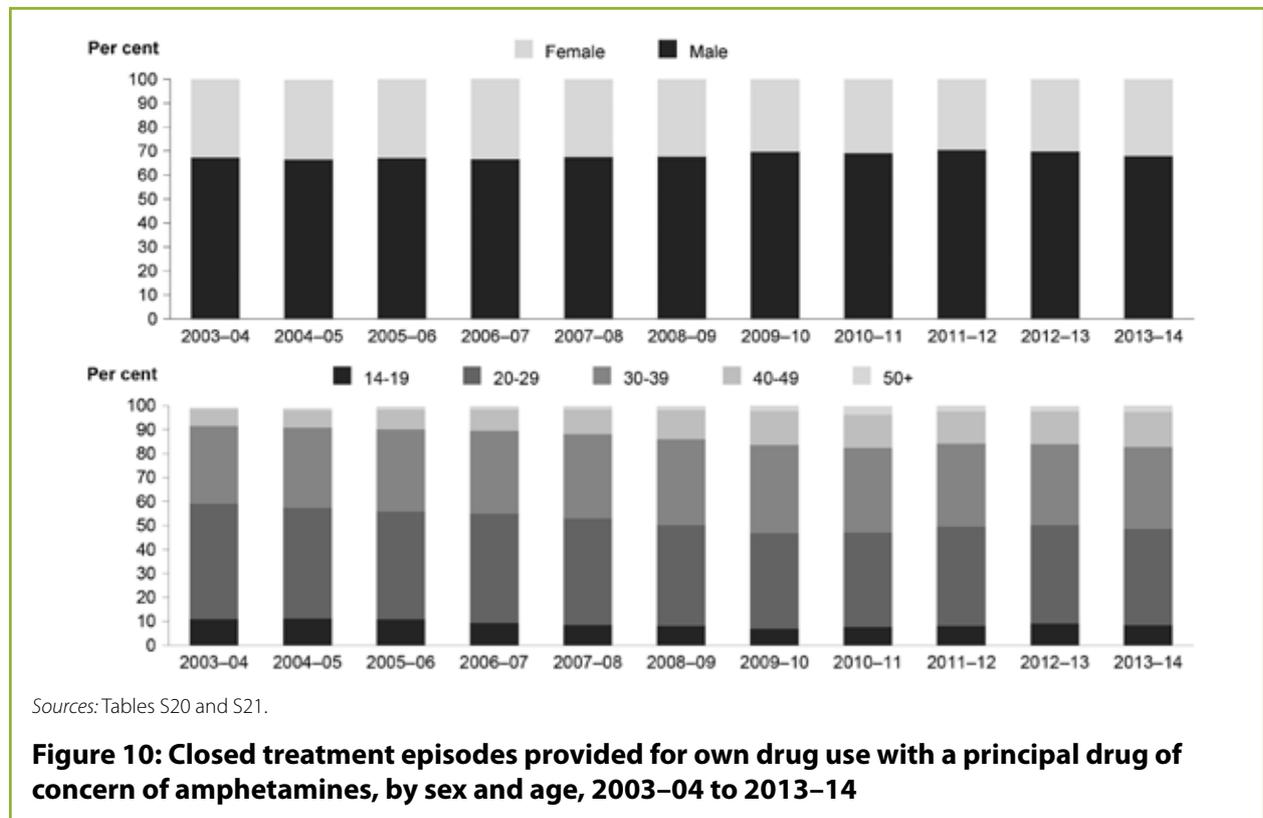
In almost two-thirds (63%) of episodes with a principal drug of concern of amphetamines, the client reported additional drugs of concern. These were most commonly cannabis (31%), alcohol (22%) and nicotine (20%).

**In 2013–14, treatment episodes for clients using amphetamines were most likely to be males and more commonly aged 20–29; the same profile seen for meth/amphetamine users.**

In 2013–14, in two-thirds of treatment episodes with a principal drug of amphetamines, the clients were male (68%). This has remained consistent since 2003–04 (Figure 10). While clients were more likely to be aged 20–29 (40% of episodes in 2013–14), there has been a decrease in this age group since 2003–04 when it accounted for

48% of episodes. Concurrently, there has been an increase in clients aged 40–49 over this time period—from 7.0% of episodes in 2003–04 to 15% in 2013–14. This pattern is consistent with the profile of all episodes for clients receiving treatment for AOD issues. Most clients with a principal drug of concern of amphetamines were aged 20–39 (75%) in 2013–14, followed by those aged 40–49 (15%) and 10–19 (8.4%) (Figure 10).

In 2013–14, around 1 in 10 (11%) clients receiving treatment reported being Indigenous Australians. The proportion of treatment episodes where amphetamines were the principal drug of concern was higher for non-Indigenous clients—17% compared with 14% for Indigenous Australians (Table S22).



**Counselling was the most common service for amphetamine-using clients and they spend a median duration in treatment of just over 4 weeks.**

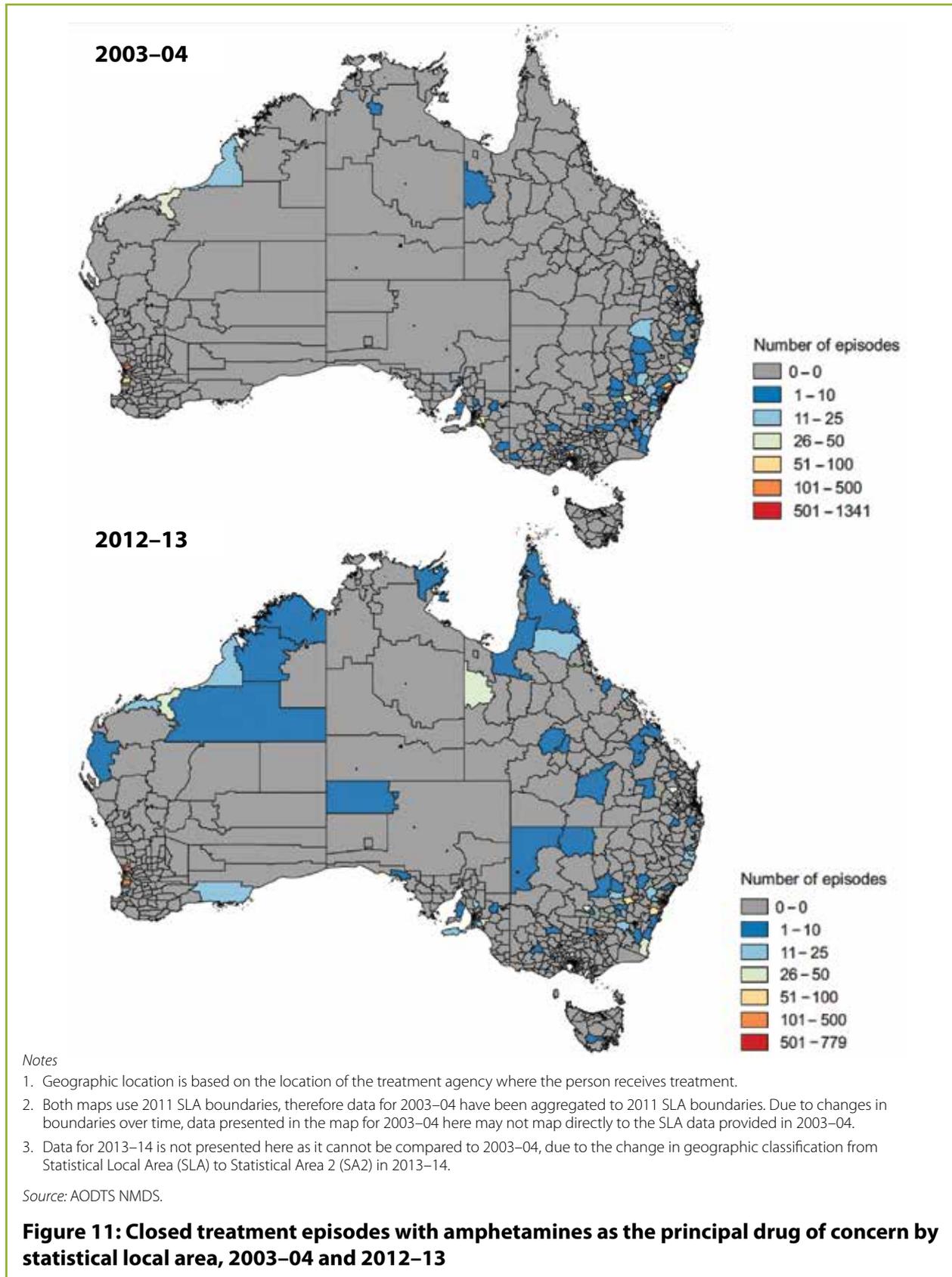
In 2013–14, the most common main treatment type (the primary activity used to treat the client’s AOD problem) for episodes where amphetamines was the principal drug of concern was counselling (45%), followed by assessment only (19%) and withdrawal management (11%) (Table S29). This distribution is similar to treatment episodes for other commonly reported drugs, especially for counselling, which is consistently the highest reported treatment type. Since 2003–04 the proportion of episodes where counselling was the main treatment type increased (from 38% to 45%). For Indigenous clients counselling was also the main treatment type received (46% of episodes in 2013–14) and this has also increased since 2003–04 (from 36% to 46% of episodes) (Table S29).

Treatment was most likely to take place in a non-residential treatment facility (70%) and last a median duration of just over 4 weeks (29 days)—longer when compared to all treatment episodes in 2013–14 (23 days) (Table S31). However, episode duration varied by the main treatment type—episodes for counselling had a median duration of 8 weeks (56 days), while episodes with withdrawal management ended within 1 week (7 days) and information and education only lasted a median duration of 1 day. The median days spent in treatment was very similar for Indigenous clients, with a median duration of 28 days overall, and a median of 53 days spent in counselling (Table S31).

For most treatment episodes where amphetamines were the principal drug of concern the referral source was self/family (43%), followed by diversion and health services (both 21%). Three-fifths (62%) of episodes ended with an expected cessation. Expected cessation was most common where diversion was the referral source (78%). One-quarter (25%) of episodes ended with an unexpected cessation (Table S31).

■ ■ ■ ■ ■ People are more likely to receive treatment for amphetamines in *Major cities*, but from 2003–04 to 2012–13 the number of treatment episodes in *Regional and remote areas* of Australia increased slightly.

From 2003–04 to 2012–13 there was an increase in the geographic spread of treatment episodes across Statistical Local Areas (SLA) in Australia (Figure 11). Overall, this represented a change of around two percentage points; with an increase in the number of episodes across *Regional and remote areas* (24% in 2003–04 to 26% in 2012–13) and a decrease across *Major cities* (76% to 74%) (Table S32).



## Method of use for clients receiving treatment

While information on the different forms of methylamphetamine is not captured in the AODTS NMDS, it does capture the client's usual method of administering their principal drug of concern. For amphetamines this can provide an indication of the form a client used. For example, those smoking (clients who report either smoking or inhaling amphetamines) will be using the crystal form and those ingesting or snorting are most likely to be using the powder form. For clients injecting amphetamines it is less clear as each of the base, crystal, powder, or liquid forms, can be injected. But, according to the most recent data from the IDRS, of injecting users who were injecting methamphetamines, crystal was the form most often used in the month preceding interview (NDARC 2015b).

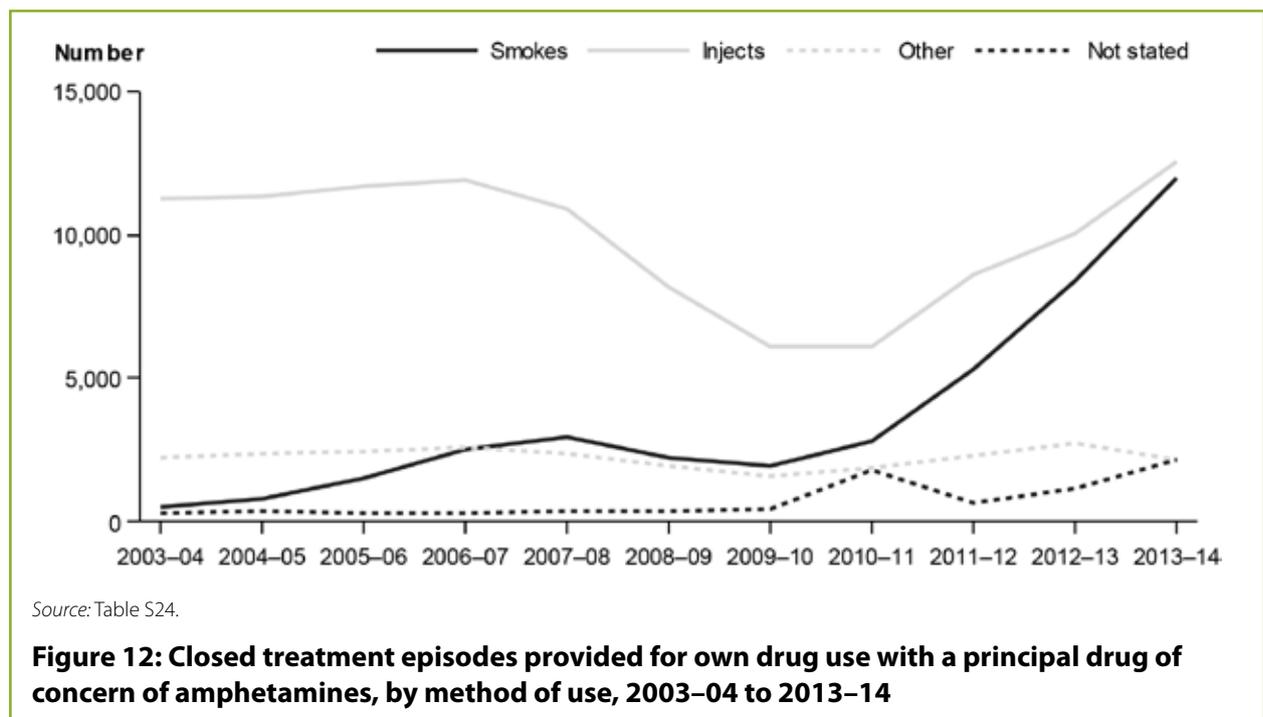
Note, where a client's usual method of use is referred to as smoking, this includes where a client reported smoking or inhaling as their usual method of use.

**■ ■ ■ Since 2009–10 the number of episodes for clients injecting and smoking amphetamines has increased.**

In 2013–14, injecting was the most common usual method of use (44% of episodes), closely followed by smoking (41%) (Figure 12). Over the 5 years to 2013–14, the number of episodes for clients who were injecting and smoking amphetamines both increased, while use by other methods did not change. Therefore, the increase in the number of amphetamine episodes is accounted for by these two methods of use. Across the 11 year period from 2003–04 however, clients were half as likely to be injecting in 2013–14, whereas over the same period clients were 12 times as likely to be smoking (Figure 12).

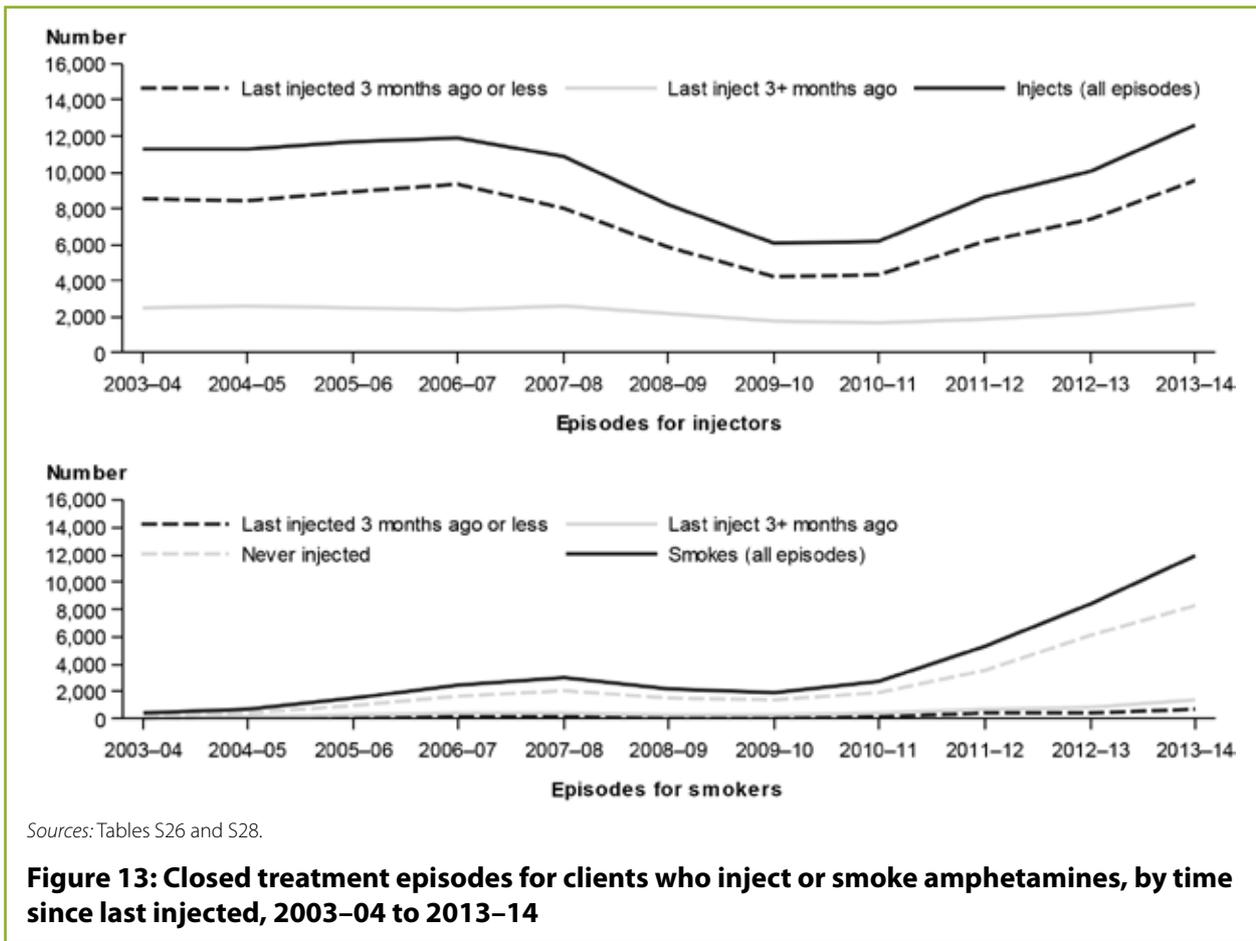
The increase in smoking also resulted in a substantial decrease in the difference between the number of episodes where injecting is the usual method of use and where smoking is the usual method (Figure 12). Proportionally, injectors comprised over two-thirds (79%) and smokers 3.5% of all amphetamines episodes in 2003–04, whereas, in 2013–14 this split was closer to even, with 44% of injectors and 41% of smokers (Figure 12).

These trends in method of use for treatment episodes parallel those seen in the population of recent meth/amphetamine users, where between 2010 and 2013 there was a substantial change in the main form of meth/amphetamine used—from powder to crystal (see 'Use' section).



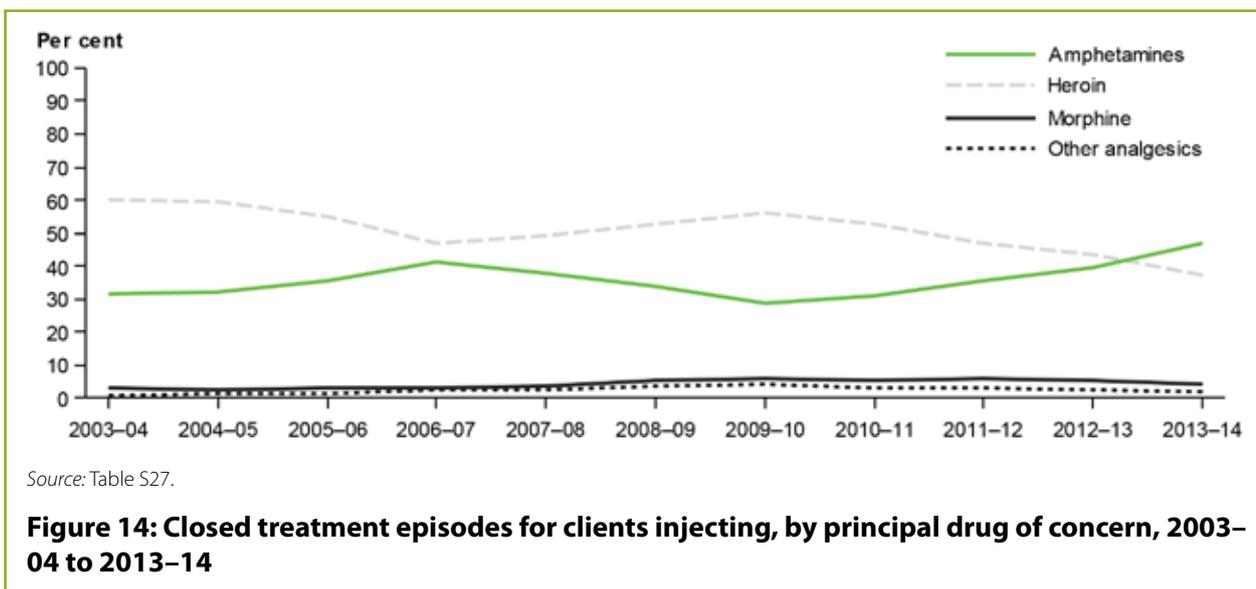
**■ ■ ■ Most clients who are smoking amphetamines have never injected drugs.**

Interestingly, most clients who smoke amphetamines report that they have never injected drugs in a large proportion of episodes (68% of episodes in 2013–14), and this is also relatively consistent over time (Figure 13). This pattern suggests that those who smoke amphetamines are a different type of user to those who inject amphetamines.



**Clients who inject drugs may be using amphetamines and heroin interchangeably.**

From 2003-04 to 2013-14, the consistent pattern found for amphetamines is also seen for injecting users. When comparing this pattern against other drugs of concern, a distinct relationship with heroin emerges, with complementary trends over the same time period (Figure 14). Perhaps most interestingly, where there were consistently more episodes for heroin use prior to 2013-14, in 2013-14 there were more episodes where amphetamine was the principal drug of concern now accounting for 47% of episodes, while heroin accounted for 37%. For Indigenous clients, this pattern is similar but less pronounced. What is clear, however, is that since 2009-10, treatment episodes for amphetamines have increased substantially (from 5.5% to 14% of episodes), whereas heroin has decreased over the same time (from 6.0% to 4.8%) (Figure 14).



**Younger users more commonly smoke than inject; slightly more females and Indigenous Australians inject than smoke.**

While characteristically, injectors and smokers appear to be relatively similar, there are some differences. The most noticeable difference is for Indigenous clients who are injecting, with the number of episodes nearly doubling from 2003–04 to 2013–14—from 8.9% to 16% (Table 2).

Slightly more females inject than smoke, which has been consistent over time—32% to 35% of episodes from 2003–04 to 2013–14 for injectors, compared with 28% to 30% for smokers (Table 2). There has also been a consistently greater proportion of Indigenous than non-Indigenous female clients injecting over the same period—ranging between 32%–43% of episodes for Indigenous female clients compared with 30%–34% of episodes for non-Indigenous female clients.

Clients who smoke are more commonly aged 20–29 (50%), whereas the largest proportion of clients who inject are aged 30–39 (41% of episodes)—although a large proportion of clients injecting are also aged 20–29 (31% of episodes) (Table 2). While for Indigenous clients, those who smoke or inject are more commonly aged 20–29 (51% and 39% of treatment episodes). However, as with all clients who inject, there is also a large proportion of injecting Indigenous clients who are aged between 30 and 39 (38% of treatment episodes) (Table 2).

**Table 2: Closed treatment episodes for clients who inject or smoke amphetamines, by selected characteristics, 2003–04 to 2013–14 (%)**

	03–04	04–05	05–06	06–07	07–08	08–09	09–10	10–11	11–12	12–13	13–14
<b>Smokes</b>											
Males	73.4	70.3	71.7	72.6	72.2	72.8	76.4	73.2	74.2	72.5	69.9
Females	27.6	29.7	28.1	27.4	27.8	27.2	23.5	26.6	25.8	27.4	30.0
10–19	26.8	29.3	24.1	19.8	15.8	16.0	10.2	12.8	12.8	14.6	12.3
20–29	49.3	47.5	51.7	54.5	54.3	51.3	48.5	49.9	49.9	49.8	49.7
30–39	18.8	18.4	19.8	20.4	22.2	24.2	29.6	26.9	26.9	25.8	27.2
40–49	4.7	3.9	3.9	4.2	6.6	7.4	10.2	9.0	9.0	8.2	9.3
50+	0.4	0.5	0.5	0.7	0.9	1.0	1.5	1.5	1.4	1.6	1.5
Indigenous	6.4	4.6	4.5	5.0	4.8	5.1	5.3	5.3	5.4	6.6	7.4
Non-Indigenous	87.2	92.1	92.0	91.8	91.6	89.9	88.8	89.8	90.3	80.1	83.0
<b>Injects</b>											
Males	67.9	66.7	66.9	65.5	66.3	65.2	67.0	65.9	67.2	66.6	65.2
Females	32.1	33.2	33.0	34.5	33.7	34.8	32.9	34.1	32.7	33.4	34.8
10–19	8.9	8.9	7.9	6.4	5.4	5.2	4.6	4.7	4.4	4.7	4.7
20–29	48.8	46.2	43.8	43.3	41.7	39.2	37.2	34.6	34.0	33.3	31.0
30–39	33.9	35.7	37.7	39.0	40.1	40.7	40.4	42.0	42.1	41.0	41.1
40–49	7.2	7.3	9.0	9.8	11.4	13.3	15.8	15.8	17.1	18.4	19.9
50+	0.5	0.9	1.2	1.3	1.2	1.5	1.9	2.4	2.4	2.5	3.3
Indigenous	8.9	10.9	10.5	10.4	10.7	11.9	12.4	13.2	12.9	15.0	16.4
Non-Indigenous	85.7	84.6	85.6	85.8	85.7	83.2	83.7	83.6	83.4	81.8	78.8

Source: AODTS NMDS.

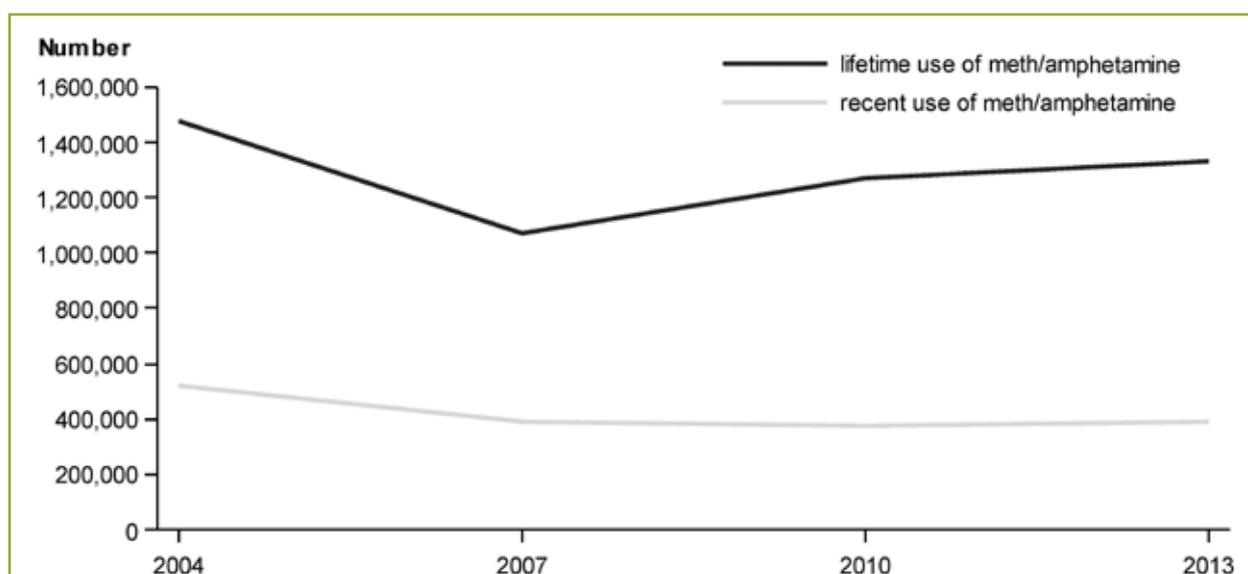
## 5 Trends in availability, use and treatment

Analysis of the trends in the drug market, use among the population and treatment received for methylamphetamine can provide useful insights into the full extent and impacts of methylamphetamine use. In turn, this can also provide researchers and policy makers with indicators of where to focus their efforts in future strategies and interventions to reduce the associated harms related to the use of methylamphetamine.

### ■ ■ ■ When comparing crystal users with clients in treatment for amphetamines, and other meth/amphetamine data sources, several concurrent patterns emerge.

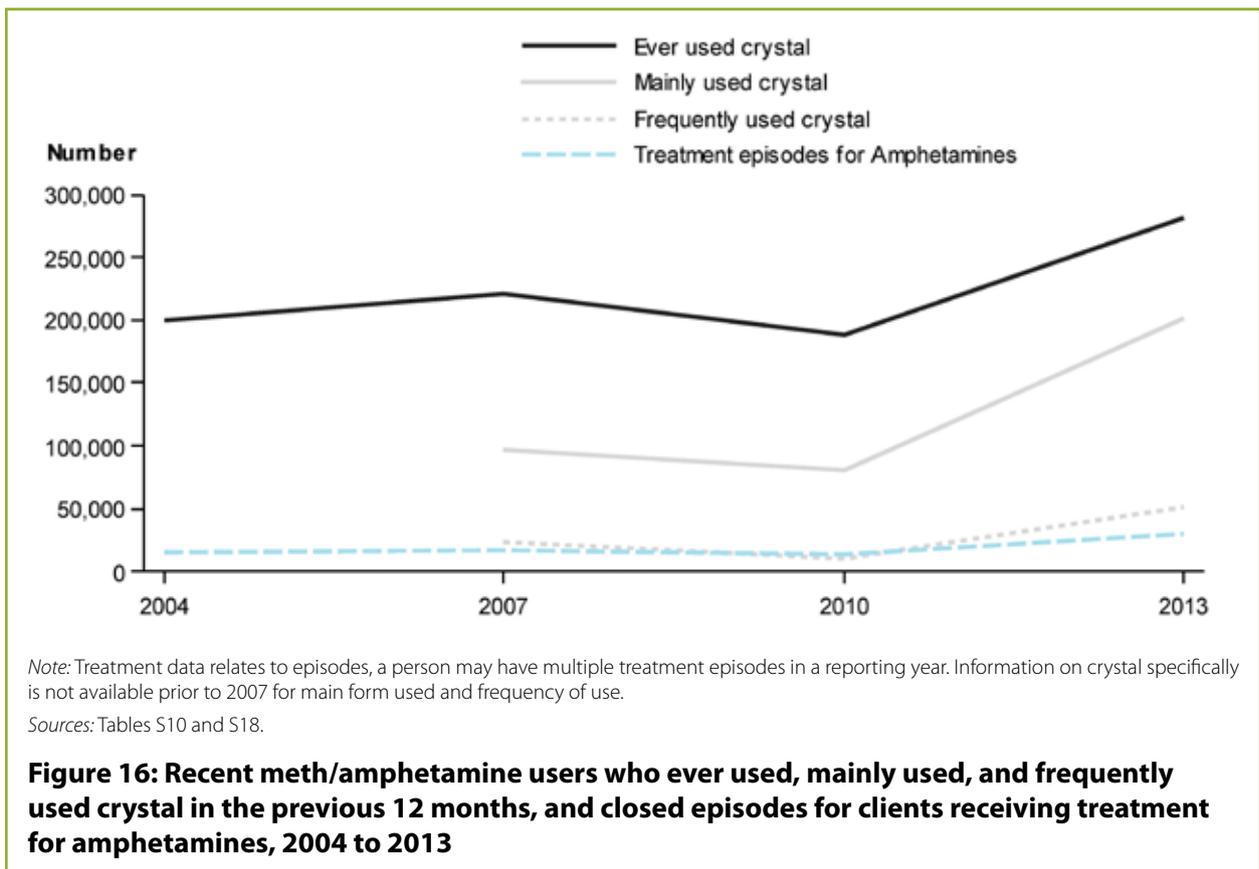
The prevalence in lifetime and recent use of any meth/amphetamine in Australia decreased between 2004 and 2013 (from 9.1% to 7.0% for lifetime use and 3.2 % to 2.1% for recent use in the population). While the number of recent users of meth/amphetamine has also declined and stabilised in this period, the number of lifetime users has fluctuated—decreasing from 2004 to 2007, but increasing from 2007 onwards (from around 1.1 million to 1.3 million people in 2013) (Figure 15).

However, during this same period, crystal use has increased. Among recent meth/amphetamine users, increases were seen in the number mainly and ever using crystal and in the number frequently using crystal (Figure 16). For example, there were around 105,000 more recent meth/amphetamine users who used crystal as their main form in 2013 compared with 2007. Note, this only represents those people who reported that they used crystal as their main form in the previous 12 months; the number is likely to be higher as it does not represent all crystal users.



Source: Table S1.

**Figure 15: Lifetime use of meth/amphetamine and recent use of meth/amphetamine (used in the previous 12 months), 2004 to 2013**



**The number of all crystal users and treatment episodes for amphetamines decreased between 2007 and 2010, then from 2010 onwards the use, treatment and availability of crystal increased.**

Analysis of data from several sources shows some major shifts in use, availability and treatment between 2004 and 2013.

Overall, between 2007 and 2010 there were decreases across use, availability and treatment. In 2007, crystal use among recent meth/amphetamine users and treatment for clients using amphetamines appeared to have reached a peak (220,000 recent users who had ever used crystal and 22,000 recent users whose main form was crystal using frequently; 17,000 treatment episodes).

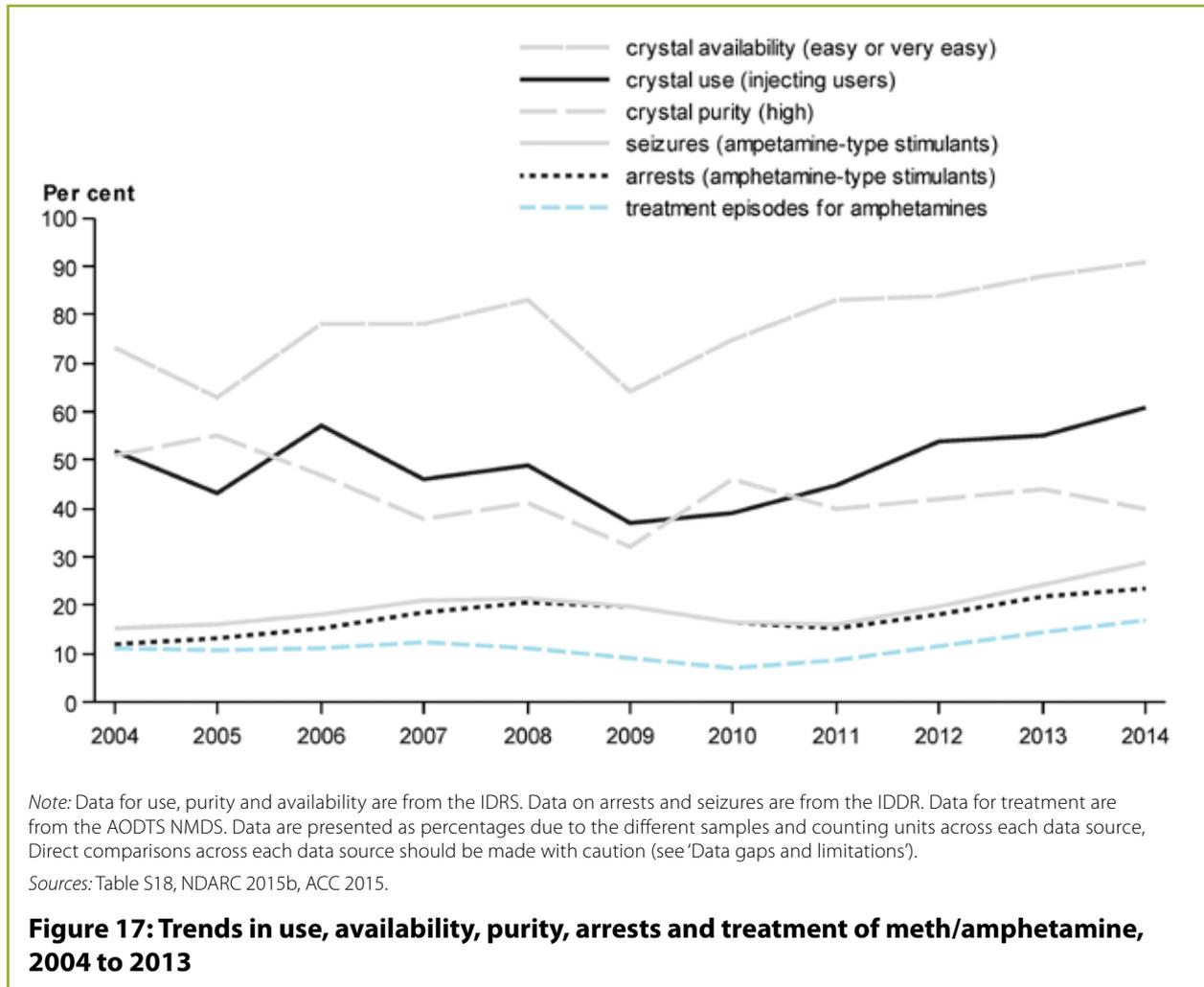
Following this, there was a distinct decrease to 2010 (189,000 who had ever used crystal and 10,000 recent users with a main form of crystal using frequently; 13,000 treatment episodes).

The reported availability of crystal also follows these patterns—as reported by injecting users (Figure 17), psychostimulant users and police detainees (NDARC 2015b, NDARC 2015a, Coghlan & Goldsmid 2015).

From 2010, the decline was reversed and consistent increases across all data sources occurred up to the most recent data available in 2014. The number of recent users who were mainly using and frequently using crystal in 2013 increased to 200,000 and 51,000, respectively, and the number of treatment episodes for amphetamines increased to 22,000.

■ ■ ■ ■ ■ Since 2010–11 the number of arrests, seizures and detections for amphetamine-type stimulants has increased substantially.

The number of arrests, seizures and detections of ATS has increased since 2010–11 (Figure 17). Record-breaking numbers were recorded for all three areas in the last 3 years (see 'Availability and the illicit drug market' section).



While this analysis has highlighted some significant trends, it is not able to identify the reasons behind the trends. The increases seen in availability and use from 2010 to present are likely to be influenced by a productive methylamphetamine market in Australia and overseas (see 'Availability and the illicit drug market' section). Additionally, government programs aimed at increasing the capacity of treatment services in 2007–08 and 2009 would have had an impact on the number of treatment episodes reported since these years (see 'Policy related to methylamphetamine in Australia between 2003–04 and 2013–14').

Similarly, the decline in availability and use from 2007 to 2010 would have been influenced by the concurrent decline in the number of seizures, detections and arrests over the same period. Plus, a substantial reduction in the weight of seizures and detections over the same period would also have had an impact on availability and use—in 2010 these were one-eighth and one-quarter the size of what was reported in 2007 (ACC 2015). However, a reduction in the reporting of these may not necessarily reflect a reduction of the availability of ATS (Willis et al. 2006). Similarly, media campaigns implemented in 2007 aimed at creating awareness of the negative consequences of powder and crystal may have had some influence in the decline in users and treatment in this period.

## 6 Implications for policy

From 2003 to 2014, several clear and related trends can be seen for the use, treatment, availability and 'criminal' activity relating to methylamphetamine. While only high-level analyses are presented here, they provide useful insight and direction for the focus of further, more detailed analyses that may guide work to reduce the use, supply and availability of methylamphetamine in Australia.

Further analysis of the factors that contributed to the decreases in use, treatment and availability from 2007 to 2010 may assist policy makers in developing interventions and strategies to slow and reverse the subsequent increases seen from 2010 to present. Concurrent implementation of strategies, such as the National Amphetamine-Type Stimulant Strategy 2008–2011, and media campaigns released through the National Drug Campaign suggest they may have had an impact leading to this decrease. Indeed, studies of the media campaign in 2007 found that young people who recognised the commercials were more likely to have a negative view of methylamphetamine (SRC 2008).

Additionally, gaining an in-depth understanding of the habits and needs of users and people receiving treatment can help inform the development of effective education and treatment to reduce the use of this drug. For example, understanding the reasons for the increase in use of crystal over other forms of methylamphetamine, and treatment clients who are smoking amphetamines will be invaluable to preventing the uptake of the drug. Data development to enable and improve the capture of the different forms of methylamphetamine in the AODTS NMDS and NDSHS will also enhance the capacity to monitor these kinds of trends into the future. Further research into understanding whether clients who inject drugs are replacing amphetamine use for heroin will help to tailor treatment programs to assist these clients.

Finally, evaluation of the impact that strategies implemented by the Australian Government's National Ice Taskforce have on future trends in use and treatment of methylamphetamine will provide further evidence for what can work.

## 7 Data gaps and limitations

The data sources examined in this report differ in their purpose, population, scope, counting units and information captured (for example, the questions asked and terminology used). These differences mean that data are not directly comparable across the data sources, and that results from each data source may not necessarily be indicative of the whole population. The patterns presented across data sources in this report are intended to indicate where further research and enhancements to data could help improve the understanding of methylamphetamine in Australia.

It is also important to note that the data sources used here are not exhaustive of the information available on this subject. Additional data sources available at AIHW include:

- National Opioid Pharmacotherapy Statistics Annual Data collection
- National Hospital Morbidity Database
- Online Services Report Database
- National Prisoner Health Data collection.

Table 3 provides a description of the data sources used in this report.

**Table 3: Detailed information of data sources, 2003 to 2014**

Data Source	Reference period	Sample/Scope	Counting Units
NDSHS	Conducted every 3 years since 1985. Certain data for meth/amphetamines are only available from 2007 onwards	Sample survey of Australian residents aged either 12–14 years or over (depending on state or territory) Sample size: around 24,000 in 2013 Residential households, excluding institutional settings, hostels, motels and homeless people. Foreign language interviews not conducted Households are selected in a multistage, stratified area random sample	People (users)
AODTS NMDS	Every financial year from 2003–04 onwards	AODTS that are publicly-funded—either by state and territory governments (the majority of AODTS), or by the Australian Government under the Non-Government Organisation Treatment Program (NGOTGP) 795 agencies in 2013–14 Includes clients aged over 10 years	Closed treatment episodes
IDRS	Conducted annually since 1997	Quantitative survey of people who inject drugs aged 16 years and over 898 clients in 2014 Semi-structured interview of experts Collation of indicator data on drug-related issues	People (users and experts) Drug Indicators
EDRS	Conducted annually since 2003	Interviews of regular ecstasy and psychostimulant users aged 16 years and over 800 clients in 2014 Semi-structured survey of experts Collation of indicator data on drug-related issues	People (users and experts) Drug Indicators
DUMA	Quarterly	Interviews and urine specimens of detainees held in custody in previous 48 hours. Nine sites across six jurisdictions	People (police detainees)
IDDR	Every financial year from 2002–03 onwards	Arrests, seizure and detection data are compiled from each state and territory policing agency, the Australian Federal Police (AFP) Border detections are handed to the AFP from the Australian Customs and Border Protection Service (ACBPS)	People (arrests) Drugs (seizures, detections), by number and weight
ASSAD	Every three years from 1984 to 2011	Students in years 7 to 12 are randomly sampled across Australia. Sampling techniques are designed to be representative of government, Catholic and independent schools Includes students aged 12 to 17 years Sample size: around 25,000 in 2011	People (secondary school students)

Further information on these data sources, including their scope and limitations, is outlined below.

## AODTS NMDS

It is difficult to fully quantify the scope of AOD services in Australia. There are a variety of settings in which people receive treatment for AOD-related issues that are not in scope for this collection. These include agencies that: do not receive any public funding; primarily provide accommodation (for example sobering-up shelters); are based in correctional institutions; provide services primarily concerned with health promotion; are located in acute care/psychiatric hospitals and only provide treatment to admitted patients; or have the sole function of prescribing or providing dosing services for opioid pharmacotherapy (these data are captured in the AIHW's National Opioid Pharmacotherapy Statistics Annual Data collection).

The AODTS NMDS does not cover all agencies providing substance-use services to Indigenous Australians. These agencies provide data to the Online Services Report collection.

Data from the AODTS NMDS presented in this report are based on information about closed treatment episodes and are therefore not directly comparable to data presented on people, as a person may have multiple treatment episodes in a reference period.

Data available for amphetamines correspond to the ASCDC for the general 'amphetamines' classification, in which, 'methylamphetamine' is a sub-classification. Since half (51%) of the responses to the sub-classifications of amphetamines in 2013–14 were for 'amphetamines general', data quality was not considered high enough to report on methylamphetamine specifically. This has improved significantly over time, though, with 'amphetamines general' accounting for 83% in 2003–04.

Data on the different forms of amphetamines, methylamphetamine specifically, are not separately available due to the nature of the classification structure used in this collection.

## NDSHS

The NDSHS is the leading national survey of licit and illicit drug use in Australia and the main source for data on meth/amphetamine use at a national level. While data cover a significant range of people, they do not represent all of the Australian population. For example, people in institutional settings, hostels, motels and homeless people are not included. Foreign language interviews are not conducted. The information completed in the survey is self-reported.

## Estimating the number of crystal (ice) users

It is not possible to calculate the exact number of crystal (ice) users as the series of questions in the survey are about meth/amphetamine use and the survey only asks the main form of meth/amphetamine used. It's possible to estimate the minimum number of people using crystal (ice) but not a definitive number of users. The main form of meth/amphetamine used was only added to the questionnaire in 2007 therefore trend data for crystal (ice) users is only available from 2007 onwards.

## Changes to meth/amphetamine questions in the NDSHS

The questionnaire is generally modelled on the previous versions of the survey to maintain maximum comparability. However, some refinements are made to ensure the questions remain relevant and useful.

Between 2004 and 2010, questions relating to meth/amphetamine use were refined to more accurately reflect substances used in Australia. More specifically in 2007 the term 'meth' was introduced and in 2010 clarification about non-medical use was added. Before 2004 the term 'meth' was not included.

## IDDR

The IDDR is the best source of arrest and seizure data in Australia. While there are some limitations (provided below), use of the National Illicit Drug Reporting Format (NIDRF) system to process arrest, seizure and purity data allows for more accurate analysis of the data and assists in the improvement and development of nationally standardised data holdings (ACC 2015).

Data presented on criminal activity in the IDDR are a synthesis of data received from several sources, including policing agencies from each state and territory, the Australian Federal Police and the Australian Customs and Border Protection Services. As such, there are certain limitations with this data. For example, differences in the recording and storing of information for some records, quality control resulting in missing information, differences in counting and data extraction methodology, differences in consumer and provider offences over time, differences in drug and offence coding, insufficient drug identification, and the inability to identify seizures resulting from joint operations (for example, those involving AFP and a state or territory agency) (ACC 2015).

The IDDR includes data on ATS that covers a range of drugs from amphetamine, methylamphetamine and phenethylamine (a class of drug that includes MDMA, 'ecstasy').

## IDRS/EDRS

Both the IDRS and EDRS consist of structured interviews of specific populations of illicit drug users, that is, people who inject drugs in the IDRS, and people who use ecstasy (MDMA) and other psychostimulants in the EDRS. While these groups have limitations in their generalisability to the Australian population, both data sources apply two tests to determine the validity of the responses provided by the users: firstly, key experts in the illicit drug field are interviewed, and secondly, analyses of indicator data sources related to illicit drug use are performed (NDARC 2015b, NDARC 2015a).

The IDRS and EDRS collect data on several factors, including use, availability, price and purity of methylamphetamine and distinguish between its forms—powder ('speed'), base, crystal ('ice' or 'crystal') and liquid.

## ASSAD Survey

The ASSAD survey is a national survey of secondary school students aged between 12 and 17 years which asks about their use of tobacco, alcohol and illegal and legal (for non-medical purposes) drugs and their attitudes toward these substances. The survey has been conducted every 3 years since 1984. The most recent published survey in 2011 included around 25,000 students in years 7 to 12. The information completed in the survey is self-reported and therefore should be treated with caution (White & Bariola 2013).

In the ASSAD survey amphetamines include: amphetamines or speed, uppers, MDA, goey, dex, Dexie's, dexamphetamine, ox blood, methylamphetamine or ice, other than for medical reasons.

## DUMA

DUMA collects data from police detainees who have been arrested in the previous 48 hours and are being held in custody. Interviews are conducted with detainees by trained local staff—interviewers cannot be police officers. Participation is voluntary and confidential. Urine specimens are also taken and tested by an independent laboratory. More than 80% of individuals agree to the interview and more than 70% agree to give urine specimens.

Data are collected across 9 sites in 6 jurisdictions. Several factors affect the randomness of the sample: detainees that are considered to be a risk to the interviewer are excluded; mechanisms such as diversion programs, notices to attend court (or equivalent) reduce the number of people brought into the station for processing; and as interviews are anonymous, there is no way to track individuals over time (AIC 2015).

In DUMA, amphetamines are classified as methylamphetamine, MDMA, or other amphetamines (including prescription amphetamines).

# Glossary

**amphetamine:** a synthetic stimulant drug that affects the central nervous system and speeds up the messages going from the brain to the body. Amphetamines as used in this report also refers to the broad category of amphetamines in the ASCDC, which includes both amphetamine and methylamphetamine (ABS 2011).

**amphetamine-type stimulants:** covers a range of drugs from amphetamine, methylamphetamine (methamphetamine) and phenethylamine (a class of drug that includes MDMA, 'ecstasy').

**arrest:** incorporates recorded law enforcement action against a person for suspected unlawful involvement in illicit drugs. It incorporates enforcement action by way of arrest, summons, diversion program, cannabis expiation notice (South Australia), cannabis intervention requirement (Western Australia), simple cannabis offence notice (Australian Capital Territory), drug infringement notice (Northern Territory), and notice to appear (Queensland). Some charges may have been subsequently dropped or the defendant may have been found guilty.

**base:** sticky paste form of methylamphetamine.

**crystal:** crystalline form of methylamphetamine, commonly referred to as 'ice'.

**cap:** small amount, typically enough for one injection (see 'point' below).

**closed treatment episode:** a period of contact between a client and a treatment provider or team of providers. Each treatment episode has 1 principal drug of concern and 1 main treatment type. If the principal drug or main treatment changes, then a new episode is recorded. An episode is closed when treatment is completed, there has been no further contact between the client and the treatment provider for 3 months or treatment is ceased (see reason for cessation).

**consumer:** offenders are classified as consumers or providers in order to differentiate between people who have been apprehended for trading in, as opposed to using, illicit drugs. Those charged with user-type offences (possessing or administering drugs for their own use) are classified as consumers.

**detection:** in the context of the border environment, the term 'detection' refers to the identification of illicit drugs by the Australian Customs and Border Protection Service (ACBPS).

**frequent users:** used weekly or more often.

**lifetime use:** used at least once in lifetime.

**liquid:** a liquid form of methylamphetamine, believed to be made by dissolving the powder form of methylamphetamine in water. It is generally described by users to be the most potent form of methylamphetamine.

**meth/amphetamine:** an abbreviated term inclusive of both amphetamine and methylamphetamine.

**methylamphetamine:** a synthetic stimulant drug related to amphetamine.

**new users:** they were 'new users' of the drug since the last data collection period.

**phenethylamine:** includes, 3,4-methylenedioxyamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA), 3,4-methylenedioxyamphetamine (MDA), dimethoxyamphetamine (MDA) and paramethoxyamphetamine (PMA).

**point:** 0.1 gram, although may also be used as a term referring to an amount for one injection (similar to a 'cap', see above).

**powder:** powder form of methylamphetamine, commonly referred to as 'speed'.

**purity:** the amount of the illegal substance contained in a drug sample, determined by quantitative analysis.

**recent use:** use in the previous 12 months.

**seizure:** is the confiscation by a law enforcement agency of a quantity of an illicit drug or regulated drug being used or possessed unlawfully, whether or not an arrest is made in conjunction with that confiscation.

**significant:** refers to a statistically significant increase or decrease between results reported across different NDSHS surveys, for example between the 2010 and 2013 surveys (relevant to the Use section only).

## References

- Australian Bureau of Statistics (ABS) 2011. Australian standard classification of drugs of concern, 2011 ABS. Cat. no. 1248.0. Canberra: ABS.
- Australian Crime Commission (ACC) 2015. Illicit Drug Data Report 2003–04 to 2013–14. Canberra: ACC. Viewed 28 July 2015, <<https://www.crimecommission.gov.au/publications/intelligence-products/illicit-drug-data-report>>.
- Australian Institute of Criminology (AIC) 2015. Drug use monitoring in Australia. Canberra: AIC. Viewed 28 July 2015, <[http://aic.gov.au/about\\_aic/research\\_programs/nmp/duma.html](http://aic.gov.au/about_aic/research_programs/nmp/duma.html)>.
- Australian Institute of Health and Welfare (AIHW) 2010. Australia's health 2010. Australia's health series no. 12. Cat. no. AUS 122. Canberra: AIHW.
- AIHW 2011. Drugs in Australia 2010: tobacco, alcohol and other drugs. Drug statistics series no. 27. Cat. no. PHE 154. Canberra: AIHW.
- AIHW 2014. National drug strategy household survey detailed report 2013. Drug statistics series no. 28. Cat. no. PHE 183. Canberra: AIHW.
- Bush W, Roberts M & Trace M 2004. Upheavals in the Australian drug market: heroin drought, stimulant flood. Oxford: Beckley Foundation.
- Campbell A 2001. The Australian illicit drug guide: Every person's guide to illicit drugs—their use, effects and history, treatment options and legal penalties. Melbourne: Black Inc.
- Caulkins J 2005. Price and purity analysis for illicit drug: Data and conceptual issues. RAND Drug Policy Research Centre (RDPR). Pittsburgh: Carnegie Mellon University.
- Chalmers J, Bradford D & Jones C 2010. The effect of methamphetamine and heroin price on polydrug use: A behavioural economics analysis in Sydney, Australia. *International Journal of Drug Policy* 21(5):381–389.
- Coghlan S & Goldsmid S 2015. Findings from the DUMA program: Impact of reduced methamphetamine supply on consumption of illicit drugs and alcohol. Canberra: AIC.
- Darke S, Kaye S, McKetin R & Duflou J 2007. Physical and psychological harms of psychostimulant use. Sydney: National Drug and Alcohol Research Centre.
- Degenhardt L, Day C, Gilmour S & Hall W 2006. The “lessons” of the Australian “heroin shortage”. *Substance abuse treatment, prevention and policy* 1(1):1–7.
- Department of Health (DoH) 2015. National Drugs Campaign. Canberra: Department of Health. Viewed 31 August 2015, <<https://comorbidity.edu.au/sites/default/files/Methamphetamine.pdf>>.
- Harris M, Forseth K & Rhodes T 2015. “It’s Russian roulette”: Adulteration, adverse effects and drug use transitions during the 2010/2011 United Kingdom heroin shortage. *International Journal of Drug Policy* 26(1):51–58.
- Ministerial Council on Drugs Strategy (MCDS) 2008. National Amphetamine-type stimulant strategy 2008–2011. Canberra: Commonwealth of Australia.
- MCDS 2011. National Drug Strategy 2010–2015. Canberra: Commonwealth of Australia.
- Miller S, Miller M, Siggins I, Hall W, Bush B, McDonald D et al. 2009. Evaluation and monitoring of the National Drug Strategy 2004–2009: Final report: Volume 1: Findings and recommendations. Canberra: Commonwealth of Australia.
- National Drug and Alcohol Research Centre (NDARC) 2015a. The Ecstasy and Related Drugs Reporting System (EDRS). Sydney: NDARC, University of New South Wales (UNSW). Viewed 28 July 2015, <<https://ndarc.med.unsw.edu.au/project/ecstasy-and-related-drugs-reporting-system-edrs>>.
- NDARC 2015b. Illicit Drug Reporting System (IDRS). Sydney: National Drug and Alcohol Research Centre, UNSW. Viewed 28 July 2015, <<https://ndarc.med.unsw.edu.au/project/illicit-drug-reporting-system-idrs>>.
- National Rural Health Alliance (NRHA) 2012. Illicit drug use in rural Australia. Fact sheet 33, June 2012. Canberra: NRHA. Viewed 28 July 2015, <<http://ruralhealth.org.au/sites/default/files/publications/fact-sheet-33-illicit-drug-use-rural-australia.pdf>>.

Scott N, Caulkins J, Ritter A, Quinn C & Dietze P 2015. High-frequency drug purity and price series as tools for explaining drug trends and harms in Victoria, Australia. *Addiction* 110(1):120–128.

Social Research Centre (SRC) 2008. Research report: national drugs campaign: evaluation of phase three. Melbourne: Social Research Centre. Viewed 28 July 2015, <[http://www.drugs.health.gov.au/internet/drugs/publishing.nsf/content/campaign/\\$file/SRC\\_NDC\\_Phase3\\_Evaluation\\_10April08\\_FINAL.pdf](http://www.drugs.health.gov.au/internet/drugs/publishing.nsf/content/campaign/$file/SRC_NDC_Phase3_Evaluation_10April08_FINAL.pdf)>.

Stafford J & Burns L 2015. Australian Drug Trends. 2014. Findings from the Illicit Drugs Reporting System (IDRS). Australian Drug Trends 2014 No. 127. Sydney: NDARC, UNSW.

United Nations Office on Drugs and Crime (UNODC) 2012. World Drug Report 2012. Vienna: UNODC.

White VB & Bariola E 2013. Australian secondary school students' use of tobacco, alcohol, and over-the counter and illicit substances in 2011. Report prepared for: Drug Strategy Branch Australian Government Department of Health and Ageing. December 2012. Canberra: Department of Health and Ageing.

Willis K, Homel P & Gray K 2006. Developing and implementing a performance measurement framework for drug law enforcement in Australia. National Drug Law Enforcement Research Fund. Payneham: Commonwealth of Australia.





There have been several corresponding trends in the availability, use and treatment of methylamphetamines since 2003–04. Following a decline between 2006–07 and 2009–10, there have been increases across many factors relating to methylamphetamines to 2013–14. Arrests, seizures and detections have all increased. Users are now favouring the crystal form of methylamphetamine. They are using it more frequently, and, there appear to be more new users of crystal. There are more people in treatment reporting smoking as their usual method of use for amphetamines than previously.