

South Australia

A. Karlsson

**South Australia DRUG TRENDS 2017
Findings from the
Illicit Drug Reporting System (IDRS)**

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South Australian Drug Trends 2017



Findings from the Illicit Drug Reporting System (IDRS)

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ABBREVIATIONS

ADHD	Attention deficit hyperactivity disorder
AIHW	Australian Institute of Health and Welfare
AUDIT-C	Alcohol Use Disorders Identification Test – Consumption
AVO	Apprehended Violence Order
BBVI	Blood-borne viral infection(s)
CNP	Clean Needle Program
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders IV
DMT	Dimethyltryptamine
EDRS	Ecstasy and related Drugs Reporting System
GP	General Practitioner
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
Hydro	Hydroponically grown cannabis
IDRS	Illicit Drug Reporting System
K10	Kessler Psychological Distress Scale
LSD	Lysergic acid diethylamide
MDMA	3,4-methylenedioxymethamphetamine
N (or n)	Number of participants
NDARC	National Drug and Alcohol Research Centre
NDSHS	National Drug Strategy Household Survey
NPS	New psychoactive substances
NSP	Needle and Syringe Program(s)
NSW	New South Wales
OCD	Obsessive compulsive disorder
OST	Opioid substitution treatment
OTC	Over the counter
PDI	Party Drug Initiative
ROA	Route of administration
SA	South Australia
SCID	Structured Clinical Interview for DSM
SDS	Severity of Dependence Scale
SPSS	Statistical Package for the Social Sciences
VIC	Victoria

GLOSSARY OF TERMS

Cap	Small amount, typically enough for one injection.
Daily use	Use occurring on each day in the past six months, based on a maximum of 180 days.
Half weight	0.5 grams.
Illicit	Illicit refers to drugs not legally permitted e.g. heroin, and pharmaceuticals obtained from a prescription in someone else's name, e.g. buying them from a dealer or obtaining them from a friend or partner.
Licit	Licit refers to pharmaceuticals (e.g. methadone, buprenorphine, morphine, oxycodone, benzodiazepines, antidepressants) obtained by a prescription in the person's name. This definition does not take account of 'doctor shopping' practices; however, it differentiates between prescriptions for self as opposed to pharmaceuticals bought on the street or those prescribed to a friend or partner.
Lifetime injection	Injection (typically intravenous) on at least one occasion in the participant's lifetime.
Lifetime use	Use on at least one occasion in the participant's lifetime via one or more of the following routes of administration: injecting, smoking, snorting and/or swallowing.
Point	0.1 grams.
Recent injection	Injection (typically intravenous) on at least one occasion in the last six months.
Recent use	Use in the last six months via one or more of the following routes of administration: injecting, smoking, snorting and/or swallowing.
Session	Period of continuous use.
*	Significant difference ($p < 0.05$) from previous year (2016) compared with current year (2017).
**	Significant difference ($p < 0.01$) from previous year (2016) compared with current year (2017).
***	Significant difference ($p < 0.001$) from previous year (2016) compared with current year (2017).

Guide to days of use/injection

180 days	Daily use/injection over preceding six months
90 days	Use/injection every second day
24 days	Weekly use/injection
12 days	Fortnightly use/injection
6 days	Monthly use/injection

EXECUTIVE SUMMARY

Demographic characteristics of IDRS participants

- Demographic characteristics for the 2017 Illicit Drug Reporting System (IDRS) in South Australia (SA) were similar to previous years.
- The median age of the 2017 sample was 45 years (44 years in 2016).
- Most of the sample was male (61%; 61% in 2016) and the majority were unemployed (77%; 86% in 2016).
- Forty-six per cent reported a previous history of imprisonment (54% in 2016).
- Thirty-six per cent of the sample had completed Year 11 and/or 12 (40% in 2016).
- Forty-three per cent of the sample had no tertiary qualifications, 49% had a trade/technical qualification and eight per cent had a university education.
- Thirty per cent reported being in current drug treatment, primarily opioid substitution treatment (33% in 2016).
- The majority of the sample (92%) received a government allowance/pension (95% in 2016).
- The majority of the sample (71%) lived in rental accommodation (79% on 2016).

Consumption patterns

- The median age of first injection was 19 years.
- The majority of participants reported that methamphetamine was the first drug injected.
- Methamphetamine remained the preferred drug of choice among participants, particularly due to crystal methamphetamine (31%) and speed powder (16%).
- Methamphetamine was the drug injected most often in the last month and the most recent drug injected.
- Polydrug use over the last six months remained widespread among the sample.
- In 2017, there were no significant changes in the lifetime use of certain drugs.
- Regarding recent use, there was a significant increase in the use of heroin ($p<0.05$). Conversely, there was a significant decrease in the use of OTC codeine ($p<0.05$).

Heroin

- In 2017, 52% reported recent use of heroin, a significant increase from 37% in 2016 ($p<0.05$).
- Heroin was used on a median of 61 days within a six-month period (75 days in 2016).
- Daily use remained stable at 21% (30% in 2016).
- White/off white powder or rock was the most commonly used form of heroin used by participants in 2017.

Price, perceived purity and availability

- The median price of heroin was reported to be \$50 for a cap and \$200 for a half weight.
- Seventy-eight per cent of participants reported the price had remained 'stable' in the six months preceding interview, though this was a significant decrease from 97% in 2016 ($p<0.05$).
- The largest percentage of those able to answer ($n=18$) reported that the current perceived purity of heroin was 'medium' (39%), with 37% reporting that the purity was 'low', and 20% reporting that the purity was 'high'. Forty-nine per cent of those able to answer perceived purity to have remained 'stable'.
- The vast majority of participants reported that heroin was either 'easy' or 'very easy' to obtain, and that availability had remained 'stable' over the preceding six months.

- Fifty-three per cent of the sample obtained heroin from a 'known dealer', most commonly at an 'agreed public location.'

Methamphetamine

- In 2017, 76% of participants had used 'any' form of methamphetamine in the six months preceding interview (77% in 2016).
- Recent use of crystal methamphetamine was reported by 72% of the sample (75% in 2016).
- The recent use of base (30%) and powder methamphetamine (18%) remained stable in 2017.
- Participants who had recently used any methamphetamine reported that they had used on a median of 81 days in the preceding six months, stable from 2016 (80 days).
- Twenty-two per cent of participants who had recently used methamphetamine reported using methamphetamine daily (17% in 2016).
- Participants using all forms of methamphetamine reported having done so by injection in the six months prior to interview.

Price, perceived purity and availability

- The median price for all three forms of methamphetamine was \$50 per point.
- The majority of participants reported the price of crystal and powder methamphetamine to have remained 'stable'. Nevertheless, significantly more participants reported the price of crystal methamphetamine to have 'increased' in 2017 ($p<0.01$), and significantly less participants reported that the price of crystal methamphetamine had decreased in 2017 ($p<0.001$). The majority of those who had purchased base methamphetamine reported the price to be 'increasing', a significant increase from 2016 ($p<0.05$).
- Regarding methamphetamine powder, the largest percentage of participants perceived current purity as 'low'. The largest percentage of those able to comment regarded methamphetamine base to be of 'medium' purity. In regard to crystal methamphetamine, over two-fifths of participants reported current purity as 'medium'. Significantly less participants reported purity of crystal methamphetamine to be 'high' in 2017 ($p<0.05$).
- The largest percentage of participants reported that perceived purity of base and crystal methamphetamine had remained 'stable' in the six months preceding interview, though powder was largely reported as having 'decreased' in purity.
- The availability of all forms of methamphetamine was reported as 'easy' or 'very easy' to obtain (66% for powder; 82% for base; 97% for crystal methamphetamine). This had remained 'stable' over the preceding six months.
- Participants reported mostly obtaining all forms of methamphetamine from 'friends', most commonly via 'home delivery'.

Cannabis

- Lifetime and recent use of cannabis remained stable in 2017.
- Cannabis was used on a median of 145 days in the past six-month period (175 days in 2016).
- Forty-seven per cent of participants who had recently used cannabis ($n=34$) stated that they had used cannabis daily in the previous six months (56% in 2016).
- Of the participants who had used cannabis recently, 87% reported the use of hydro and 68% reported the use of bush within that period.
- Thirty-one per cent reported the use of 'hash' (cannabis resin) which was a significant increase from nine per cent in 2016 ($p<0.05$) and 20% reported the use of 'hash oil', also a significant increase from six per cent in 2016 ($p<0.05$).
- The majority of participants reported smoking cannabis in 'cones' (67%) and eight participants reported smoking cannabis in 'joints' (11%).

Price, perceived purity and availability

- The price for both hydro and bush cannabis remained stable in 2017 at \$25 per bag.
- In 2017, the strength of hydro was reported as 'high' by the majority of participants, and most participants reported the potency of bush cannabis to be 'medium'. This has largely remained stable over the preceding six months.
- The majority of participants reported both types of cannabis as 'easy' or 'very easy' to obtain. Availability had remained 'stable' over the preceding six months.
- Participants obtained cannabis primarily from 'friends', most often from a 'friend's home'.

Cocaine

- Cocaine use remained low (10%) and infrequent among participants in 2017.

Price, perceived purity and availability

Due to low numbers of participants reporting on perceived price, purity and availability of cocaine, data will not be presented.

Opioids

- Heroin was the most commonly used opioid in the six months prior to interview (52%), which significantly increased from 2016 (37%; $p<0.05$). This was followed by 'other' opioids which also significantly increased from 16% in 2016 to 32% in 2017 ($p<0.05$). The use of OTC codeine decreased significantly in 2017 (16% in 2017 vs. 29% in 2016; $p<0.05$).
- When all the opioid substance categories were collapsed, it was revealed that 55% had used some type of illicit opioid substance in the six months preceding interview (34% in 2016).
- Twelve per cent of participants reported that they had used illicit morphine in the six months prior to interview on a median of 20 days.
- Seven participants reported recent use of illicit generic oxycodone on a median of three days; three participants reported use of illicit OP oxycodone on a median of two days; and six participants reported recent use of illicit 'other' oxycodone on a median of three days.
- Five participants reported using fentanyl on a median of six days.
- In 2017, 49% of participants reported ever using OTC codeine for non-medicinal purposes (50% in 2016). Sixteen per cent reported use within the preceding six months, a significant decrease from 2016 (29%; $p<0.05$) on a median of eight and a half days.
- Six participants reported having used illicit methadone syrup on a median of two and a half days, yet no participants reported having used illicit Physeptone® tablets in the last six months.
- Seven participants reported having used illicit buprenorphine on a median of two days and fourteen participants reported having used illicit buprenorphine-naloxone film on a median of nine days.
- Thirty-two participants reported that they had used 'other opiates' in the six months preceding interview. This was a significant increase from the 16 participants who had used 'other opioids' six months prior to interview in 2016 ($p<0.05$). Participants had used 'other opioids' on a median of five days.

Price and availability

- Less than ten participants were able to provide price information for any form of morphine.

- Eight participants reported illicit morphine as being 'easy' to obtain, though two participants reported it as being 'difficult' to attain. The majority of those able to answer reported that availability had remained 'stable'.
- Participants most commonly obtained illicit morphine through 'friends' at a 'friend's house'.
- The price of illicit Suboxone[®] film was predominantly reported as being 'stable' in the preceding six months.
- Six participants reported that illicit Suboxone[®] film was 'easy' to obtain, though two participants perceived it 'difficult' to obtain. The majority of those commenting reported that availability had remained 'stable' in the six months prior to interview.
- Illicit Suboxone[®] film was mainly obtained through 'friends', primarily from a 'friend's home'.
- The number of participants who answered questions relating to illicit oxycodone, illicit buprenorphine (Subutex[®]), illicit methadone, illicit tapentadol and fentanyl markets were low (n<10). Data from these sections are not presented.

Other drugs

- Seven participants had used ecstasy in the six months preceding interview on a median of four days.
- Three participants had used some type of hallucinogen in the six months prior to interview on a median of three days.
- Ten per cent of participants reported recent use of alprazolam on a median of four and a half days, and 23% reported illicit use of other benzodiazepines on a median of five days.
- Among participants who had recently used benzodiazepines (excluding alprazolam), the main brand used was diazepam (Valium[®]), which remained stable from 2016.
- Use of illicit pharmaceutical stimulants remained low, with eight participants reporting recent use on a median of five days.
- The consumption of Seroquel[®] was also low, with five participants reporting recent use on a median of five days.
- Sixty-six per cent of the sample (56% in 2016) had used alcohol in the six months preceding interview and had done so on a median of 24 days.
- Among participants who recently used alcohol, five participants reported daily use of alcohol.
- As in previous years, tobacco use remains highly prevalent among participants, with 96% reporting lifetime use and 90% reporting use within the six months preceding interview. Ninety-seven per cent of participants who had recently used tobacco reported smoking daily.
- Forty-four per cent of the sample reported lifetime use of e-cigarettes, with 29% reporting e-cigarette use in the last six months on a median of three days.
- The prevalence and frequency of steroids and inhalants remained low in 2017.
- Two participants reported recent use of 'new drugs that mimic the effects of amphetamines and cocaine'.
- Three participants reported recent use of synthetic cannabinoids in the six months preceding interview on a median of one day.
- No participants reported recent use of 'new drugs that mimic the effects of opioids'.
- The number of participants who answered questions relating to the price, perceived purity and availability of benzodiazepines, cocaine, ecstasy, hallucinogens, illicit antidepressants, illicit antipsychotics, illicit pharmaceutical stimulants and steroid markets were low (n<10). Data from these sections are not presented.

Health-related issues

Overdose

- Eight participants reported overdosing on heroin in the previous 12 months and one participant had overdosed in the past month.
- Eleven participants reported overdosing on 'other drugs' (excluding heroin, morphine, methadone and oxycodone) in the past 12 months and five participants had overdosed in the last month.

Drug Treatment

- Thirty per cent of the SA IDRS sample reported being in drug treatment at the time of interview, and they had been in treatment for a median of 27 months. The predominant form of treatment being received was maintenance pharmacotherapy treatment. Specifically, 16% reported being on a methadone program, and eight per cent reported being on a buprenorphine or buprenorphine/naloxone program.
- Five per cent of the sample reported a hospital admission for methamphetamine psychosis on a median of two occasions in the past year. Four per cent of the sample reported admission to hospital for other methamphetamine related issues on a median of one and a half occasions.
- Seven participants had tried to access treatment over the preceding six months but were unable to. Of these, three participants had tried to access treatment for methamphetamine and heroin use, respectively, and one participant had tried to access treatment for methadone use.

Opioid and Stimulant Dependence

- Of those who recently used a stimulant drug and commented (n=74), the median SDS score was three, with 47% scoring four or above, indicative of stimulant dependence. Of those who scored four or above (n=35), thirty-four participants attributed their responses to methamphetamine and one participant attributed their response to pharmaceutical stimulants.
- Of those who recently used an opioid drug and commented (n=67), the median SDS score was five, with 57% scoring five or above, indicative of opioid dependence. Of those who scored five or above (n=38), 58% reported specifically attributing their responses to heroin, 16% to methadone, 11% to morphine, and three per cent to oxycodone and buprenorphine, respectively.

Mental health

- Over two-fifths of the sample (41%) self-reported mental health problems in the six months preceding interview. Among those who had suffered from a mental health problem, depression and anxiety continued to be the most commonly reported disorders.
- Among those who had recently experienced a mental health problem, 62% reported that they had attended a professional for such problems.
- Forty-eight per cent of the IDRS sample was assessed as having 'high' to 'very high' levels of psychological distress, much higher than general population norms (11%).

Alcohol Use Disorders Identification Test

- Of those who commented (n=83), forty-nine per cent of the sample (71% males and 29% females) scored five or more on the AUDIT-C, indicating a need for further assessment.

Naloxone Program and Distribution

- Seventy-three per cent of the sample had heard of naloxone. Among those who had heard of naloxone, three-fifths reported that naloxone was used to 'reverse heroin' and 19% believed that it was used to 're-establish consciousness.'
- The majority (66%) reported that they had not heard of the take-home naloxone program.
- Three participants reported that they had completed training in naloxone administration and had received a prescription for naloxone. Of the three participants who had completed the course, two participants had used naloxone to resuscitate a person who overdosed on a median of one and a half times.
- Twenty per cent of the sample reported that they had heard about the rescheduling of naloxone. No participants reported that they had been resuscitated with naloxone which was obtained OTC at a pharmacy.
- One hundred per cent of those who commented (n=59) reported that they would stay with someone after giving them naloxone, 100% reported that they would administer naloxone after witnessing someone overdose, and 60% reported that they would carry naloxone on themselves.

Risk behaviours

- Receptive sharing (borrowing) and lending of needles/syringes remained low in 2017, at two per cent and ten per cent respectively, consistent with 2016 reports. Sharing of injecting equipment such as mixing containers (e.g. spoons), tourniquets and filters was more common (23%).
- Thirty-five per cent of the sample reported re-using their own needles in the last month (40% in 2016). Sterile needles and syringes were most commonly obtained from a NSP (96%), although a range of other sources were also used. The majority of participants reported that they had last injected in a private home (92%).
- Sixty-one per cent of the sample reported experiencing an injection-related problem in the preceding month (66% in 2016). The most common problems experienced were prominent scarring/bruising around the injection site and difficulty injecting (e.g. in finding a vein), consistent with 2016 reports.
- Thirty-five per cent of the sample reported injecting either a partner or friend after injecting themselves, and 19% reported that somebody else injected them after injecting themselves.
- Under half the sample (46%) reported that they had swabbed their injecting site 'every time' before injecting, though over one-fifth (21%) admitted to 'never' swabbing the injection site before injecting.

Driving

- Over half (53%) the participants had reported that they had driven a vehicle in the six months prior to interview, and of these participants, 35% reported no current driving license.
- Twenty-three per cent (n=12) of those who had recently driven reported driving while over the legal alcohol limit.
- Eighty-three per cent (n=43) of those who had recently driven reported driving within three hours of taking illicit or non-prescribed drug(s) in the six months preceding interview.

Law Enforcement

- Forty-one per cent of the sample reported committing 'any crime' in 2017 (41% in 2016), with drug dealing being the most commonly reported crime.

- The percentage of the sample who had been arrested in the preceding 12 months remained stable at 22% (24% in 2016).
- Lifetime prison history also remained relatively stable, with 46% of the sample reporting that they had been incarcerated at some point throughout their life.
- The median expenditure on illicit drugs the day before interview was \$50, which was of no significant difference from 2016 (\$100).

1 INTRODUCTION

The Illicit Drug Reporting System (IDRS) was trialled in 1997 under the coordination of the National Drug and Alcohol Research Centre (NDARC) to examine drug trends in three Australian jurisdictions. This work was commissioned and supported by the Australian Government Department of Health. The trial consisted of conducting the complete IDRS in New South Wales (NSW), Victoria (VIC) and South Australia (SA) (see Hando, Darke et al. (1998) for a national comparison; and Cormack, Faulkner et al. (1998) for the SA findings). The IDRS incorporated two data sources, consisting firstly of a survey of people who inject drugs, as well as secondary data sources or indicators relevant to drug use.

The IDRS process was repeated in 1998 in the same three jurisdictions, and in 1999 all states and territories were involved. For a review of the history and progression of the IDRS nationally up to 2000, see Darke (2000). 2017 marks the 21st year in which the IDRS has been conducted in SA, and the 19th year of including all states and territories (see Stafford and Breen (2017) for a national comparison of the 2016 findings).

The IDRS provides a co-ordinated and ongoing monitoring system predominantly focusing on heroin, methamphetamine, cocaine and cannabis. The IDRS is a sensitive and timely indicator of drug trends both nationally and by jurisdiction. As well as drug trends, the findings highlight areas where further research is required, or where changes may need to be made in terms of education, health promotion, treatment services and policy. The IDRS provides direction for more detailed data collection on specific issues such as those listed above.

The 2017 *South Australian Drug Trends Report* summarises information collected by the SA component of the national IDRS. The information comes from one source: a survey of people who inject drugs. It should be noted that participants are recruited as a sentinel group that are active in illicit drug markets. The information from the IDRS survey is not representative of illicit drug use in the general population, nor is it indicative of all illicit drug use or of all people who inject drugs, but identifies emerging trends that require further monitoring. The results are summarised by drug type in tables designed to provide the reader with a 'snapshot' overview of drug trends in SA.

1.1 Study aims

As in previous years, the specific aims of the 2017 SA IDRS were:

- To monitor the price, purity, availability and patterns of use of heroin, methamphetamine, cocaine, cannabis and other drugs; and
- To identify emerging trends in SA illicit drug markets that may require further investigation.

2 METHOD

The IDRS considers one main source of information when documenting drug trends:

- A quantitative survey of people who inject drugs.

Previous IDRS research has demonstrated that people who inject drugs located within known drug market areas are an appropriate sentinel group for detecting illicit drug trends and related issues, due to their high exposure to a variety of illicit drugs (Hando, Darke, O'Brien, Maher, and Hall, 1998). People who inject drugs also have first-hand knowledge of the price, purity and availability of the illicit drug classes considered.

Data from the 2017 IDRS were also compared with IDRS findings from previous years to determine changes in drug trends and related issues over time. Note that this year the key expert data and indicator data is not reported in the jurisdictional reports, nor the national reports.

2.1 Participants

The sample consisted of people who had regularly used illicit drugs and used injection as a route of administration (N=100) in the six months prior to interview. Participants were recruited through Clean Needle Program (CNP) sites across Adelaide. Clients of the service were invited to participate by a study flyer, displayed at CNP sites, or were recruited on site. Informed consent was sought and gained from all participants, who were interviewed individually. Ethics approval was obtained prior to commencement of the study.

2.2 Procedure

Participants were interviewed in mid-2017. Criteria for entry into the study were having injected drugs at least once a month in the previous six months, being over 17 years of age and living (not incarcerated) in the Adelaide metropolitan area for at least the 12 months prior to interview.

In order to be consistent with the IDRS data collection procedures in other jurisdictions, trained research interviewers conducted the interviews with participants. In 2017, five research interviewers with a sound working knowledge of issues related to illicit and injecting drug use were trained on administration of the survey instrument. The purpose and content of the survey was fully explained, and informed consent was obtained from participants prior to the interviews being conducted. Interviews were conducted at a time convenient to the participant and generally in a room provided by the agency associated with the CNP or at an agreed location nearby. Participants were compensated \$40 for their time and travel.

The structured interview was based on previous research conducted at NDARC (Darke, Hall et al. 1992; Darke 1994). The survey consists of sections designed to collect information including participant demographic details; lifetime and recent drug use; knowledge of price, purity and availability of drugs (e.g. heroin, methamphetamine, cocaine, cannabis, morphine and methadone); criminal behaviour patterns; engagement in risk-taking behaviours; health-related issues; and general trends in drug use. In general, participants were asked to consider changes on the above parameters over the six to 12 months prior to interview (mid-2016 to mid-2017).

2.3 Data analysis

Statistical analyses (descriptive and inferential) were performed using the IBM Statistical Package for the Social Sciences (SPSS) for Windows, Version 24.0. Continuous, normally distributed variables were analysed using *t*-tests and means reported. Where continuous variables were skewed, medians were reported and the Mann-Whitney *U*-test, a non-parametric analogue of the *t*-test (Siegel and Castellan 1988) was employed. Confidence intervals (CI) were calculated using an Excel spreadsheet available at

<http://www.cebm.net/index.aspx?o=1023> (Tandberg). This calculation tool was an implementation of the optimal methods identified by Newcombe (1998).

2.4 Notes

- 2.4.1 Methamphetamine

Prior to 2001, IDRS reports used the overarching term 'amphetamines' to refer to both amphetamine and methamphetamine. Amphetamine is used to denote the sulphate of amphetamine, which throughout the 1980s was the form of illicit amphetamine most available in Australia (Chesher 1993). Chemically, amphetamine and methamphetamine differ in molecular structure but are closely related. In Australia today, the powder traditionally known as 'speed' is almost exclusively methamphetamine rather than amphetamine. The more potent forms of this family of drugs – known by terms such as ice/crystal, shabu, crystal meth, base and paste – had been identified as becoming more widely available and used in all jurisdictions in the early years of the IDRS (Topp and Churchill 2002). These forms are also methamphetamine. Therefore, the term 'methamphetamine' was used from 2001 onward to refer to the drugs available that were previously termed 'amphetamines'. The terms are used interchangeably within this report unless specifically noted within the text. For a further discussion of this issue, see White, Breen et al. (2003).

- 2.4.2 Price, perceived purity and availability

It should be noted that the price, purity and availability sections of the participant survey were not restricted to people who used a particular drug but to those who felt confident of their knowledge of these parameters of the market. In addition, participants may answer any or all price, purity and availability sections, thereby the sample sizes (n) per section may fluctuate for any given drug. In addition, people who answered 'don't know' to the initial question for each of the price, purity and availability sections were eliminated from the sample for these sections to increase the validity of remaining categories. The sample sizes are therefore reported in each table. Furthermore, within the text of these sections, findings may also be expressed as a percentage of the entire sample to highlight the fact that the proportion answering was not equivalent to the whole IDRS participant sample. Care should be taken in interpreting category percentages that may be associated with small sample sizes.

3 DEMOGRAPHICS

Key Findings

- The median age of the 2017 sample was 45 years (44 years in 2016).
- The majority of the sample was male (61%; 61% in 2016) and the majority were unemployed (77%; 86% in 2016).
- Forty-six per cent reported a previous history of imprisonment (54% in 2016).
- Thirty-six per cent of the sample had completed Year 11 and/or 12 (40% in 2016). Forty-three per cent of the sample had no tertiary qualifications, 49% had a trade/technical qualification and eight per cent had a university education.
- Thirty per cent reported being in current drug treatment, primarily opioid substitution treatment (33% in 2016).
- The vast majority of the sample (92%) received a government allowance/pension (95% in 2016).
- The majority of the sample (71%) lived in rental accommodation (79% in 2016).

3.1 Overview of the IDRS participant sample

The demographic characteristics of the 100 participants interviewed in 2017 are summarised in Table 1.

The median age of the sample remained stable in 2017 at 45 years (range: 22–65 years). Over three-fifths of the sample was male (61%), 77% were unemployed and 46% had a history of previous imprisonment. Of those reporting a prison history, significantly more males (58%) than females (28%) reported a history of imprisonment ($p < 0.01$). The median number of years spent at school was 10 (range: 7–12 years), with 36% of the sample reporting completion of years 11 and/or 12. Forty-three per cent of the sample reported having no tertiary qualifications, consistent with 2016 findings (46%). Of those who did report having a tertiary qualification, most had completed a technical or trade qualification (49%), while eight per cent had completed a university qualification.

With regard to income, 92% of participants reported receiving some form of government pension, allowance or benefit (95% in 2016) in the previous month. Moreover, eight participants received income from a wage or salary, seven participants received income from criminal activity, four participants received income from child support and one participant received income from sex work. In 2017, 86% of participants specified that their main source of income was from a government pension, allowance or benefit. The median amount of income was \$400 per week (range: \$125 - \$1500).

The majority of the participant sample resided in rental accommodation (71%) (79% in 2016). Twelve participants reported residing in their own house/flat, six participants reported living at their family/parent's home, and a further six participants reported having no fixed address or were homeless. Four participants reported living in a boarding house/hostel and one participant did not specify their place of residence.

Fifty-six per cent of the sample was single at the time of interview (68% in 2016) and 17% were married or in a de facto relationship. Twenty per cent of participants had a regular partner, and five per cent were divorced. One participant reported being separated, and a further participant reported being widowed.

In 2017, 30% of the sample was in drug treatment at the time of the interview, with the majority of participants in maintenance pharmacotherapy treatment. More specifically, 16% reported being on a methadone program (21% in 2016) and eight per cent reported being on a buprenorphine program, including those receiving Suboxone® treatment (8% in 2016). Four participants were receiving drug counselling at the time of interview, and two participants did not specify what treatment they were receiving. The median amount of time spent in current treatment was 27 months (range: 1–360 months). Five per cent of the sample reported starting treatment for methamphetamine use in the past year, with four participants beginning treatment once in the past year, and one participant commencing treatment ten times in the past year. Furthermore, in the past year, nine participants had been admitted to a hospital or a psychiatric unit for methamphetamine use; five participants were admitted for methamphetamine psychosis and four participants were admitted for a different methamphetamine-related problem.

Table 1: Demographic characteristics of IDRS sample, 2013–2017

Characteristic	2013	2014	2015	2016	2017
	(N=100)	(N=106)	(N=102)	(N=101)	(N=100)
Age (median in years)	42	43	45	44	45
Range	(22-62)	(24-60)	(20-62)	(27-60)	(22-65)
Sex (% male)	56	59	66	61	61
Sexual Identity (%)					
Heterosexual	90	92	91	86	92
Gay male	2	0	1	2	0
Lesbian	1	0	3	1	4
Bisexual	6	8	5	10	3
Other	1	1	0	1	1
English speaking (%)	94	96	96	97	98
A&TSI (%)	9	9	14	7	7
Employment (%)					
Not employed	75	80	81	86	77
Full time	5	3	5	2	6
Part time/casual	6	5	6	4	4
Full time student	0	1	0	2	0
Both studying and employed	1	0	1	0	0
Home duties	9	9	0	6	8
Other	3	3	6	0	5
Median income per week (\$)	363	393	383	388	400
School education (median in years)	10	10	10	10	10
Range	(3-12)	(7-12)	(8-12)	(3-12)	(7-12)
Tertiary education (%)					
None	43	48	43	46	43
Trade/technical	50	46	46	48	49
University/college	7	6	11	7	8
Prison history (%)	52	51	46	54	46
Current drug treatment (%)*	31	27	31	33	30

Source: IDRS participant interviews.

*Includes all types of pharmacotherapy treatment and drug counselling, detoxification, therapeutic community and narcotics anonymous.

4. CONSUMPTION PATTERNS

Key Findings

- The median age of first injection was 19 years.
- The majority of participants reported that methamphetamine was the first drug injected (63%; 71% in 2016).
- Methamphetamine remained the preferred drug of choice among participants, particularly due to crystal methamphetamine (31%) and speed powder (16%).
- Methamphetamine was the drug injected most often in the last month (56%) and the most recent drug injected (57%).
- In 2017, 37% reported that heroin was the last drug injected, which was a significant increase from 22% in 2016 ($p<0.05$).
- Polydrug use over the last six months remained widespread among the sample.
- In 2017, there were no significant changes in the lifetime use of certain drugs.
- In regard to recent use, there was a significant increase in the use of heroin ($p<0.05$) compared to 2016. Conversely, there was a significant decrease in the use of OTC codeine ($p<0.05$) compared to 2016.

4.1 Lifetime and current drug use

As shown in Table 2, the median age of first injection by the participant sample was 19 years (range: 12–40 years). The drug most commonly first injected by the sample was methamphetamine (63%), followed by heroin (26%). When first injection of methamphetamine is examined according to type, methamphetamine powder (57%) was the most commonly first injected drug, with smaller numbers reporting first injection of crystal methamphetamine (6%).

Table 2: Injecting drug history, 2016-2017

	2016 (N=101)	2017 (N=100)
Median age first injected in years (range)	18 (8-39)	19 (12-40)
First drug injected (%)		
Heroin	24	26
Methamphetamine*	71	63
Cocaine	0	0
Morphine	2	3
Methadone	0	0
Buprenorphine**	0	1
Other	2	5

Source: IDRS participant interviews.

*Collapsed categories: powder, base and crystal forms.

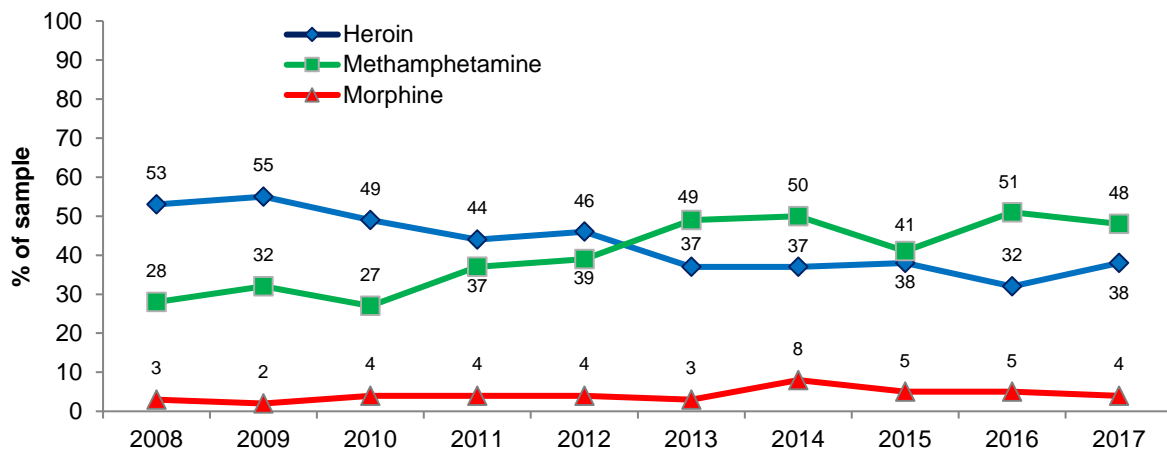
** Excludes buprenorphine-naloxone (Suboxone®).

4.1.1 Drug of choice

Methamphetamine continued to be the drug of choice for 48% of participants in 2017 (51% in 2016). Looking at Figure 1, it can be seen that this follows the long-term trends that have been observed from 2008 onwards. Since 2008, there has been a downward trend in the percentage of participants who nominated heroin as their drug of choice and an upward trend in those nominating methamphetamine as their drug of choice, mainly due to the increase in use of crystal methamphetamine, whereby 31% specified that crystal was their drug of choice.

Participants reporting morphine as their drug of choice has remained consistently low across the years.

Figure 1: Trend for drug of choice, 2008–2017



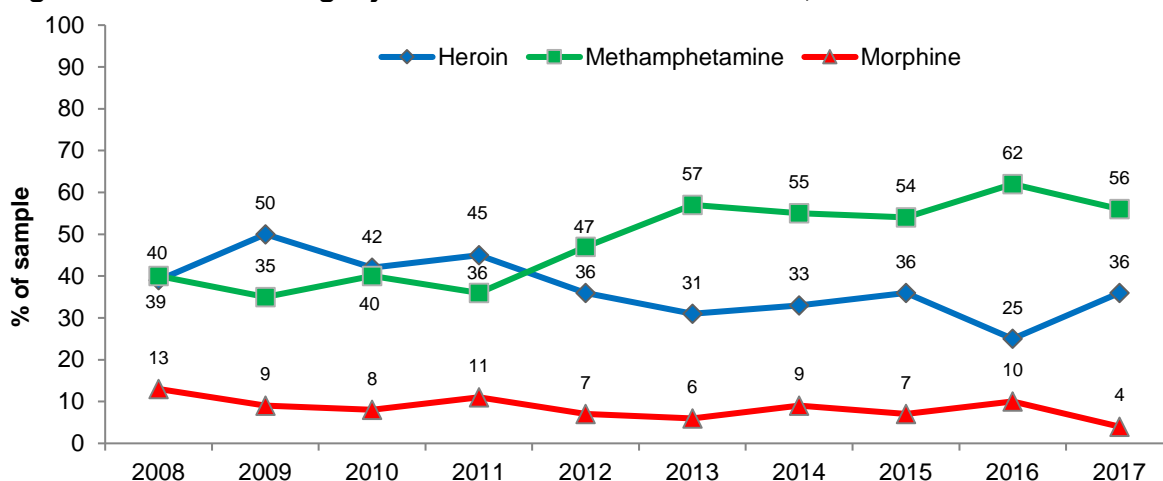
Source: IDRS Participant interviews.

4.1.2 Drug injected most often and last injected in the last month

Fifty-six per cent reported that methamphetamine was the drug most frequently injected in the month preceding interview, 47% of which was crystal methamphetamine. Thirty-six per cent reported heroin as the drug most frequently injected in the last month (see Figure 2). This remained stable from 2016.

Similarly, 57% of participants reported that methamphetamine was the drug they had injected most recently, 50% of which was crystal methamphetamine. Thirty-seven per cent reported that heroin was the last drug injected (see Table 3), which was a significant increase from 22% in 2016 ($p < 0.05$).

Figure 2: Trend for drug injected most often in last month, 2008–2017



Source: IDRS participant interviews.

Table 3: Injecting drug preferences, 2016–2017

	2016 (N=101)	2017 (N=100)
Drug injected most often in last month (%)		
Heroin	25	36
Methamphetamine^	62	56
Cocaine	0	0
Morphine	10	4
Methadone	2	0
Buprenorphine#	1	1
Oxycodone	0	0
Other	0	0
Most recent drug injected (%)		
Heroin	22	37*
Methamphetamine^	66	57
Morphine	8	3
Methadone	2	0
Buprenorphine#	1	1
Oxycodone	0	0
Other	1	1
Frequency of injecting in last month (%)		
Weekly or less	9	18
More than weekly but less than daily	52	36*
Once a day	13	19
2-3 times a day	25	23
>3 times a day	2	3

Source: IDRS participant interviews.

^Collapsed categories: powder, base and crystal forms.

Includes buprenorphine (Subutex®) and buprenorphine-naloxone (Suboxone®).

*Significant difference between 2016 and 2017 ($p < 0.05$).

Frequency of injecting any drug in the last month was greater than weekly (but not daily) for 36% of the sample, significantly less than what was reported in 2016 (52%; $p < 0.05$), with 45% reporting they had injected at least once a day during that period (40% in 2016). Eighteen per cent of the sample had reported injecting weekly or less in the last month (9% in 2016).

Polydrug use was common in 2017, and has remained consistently so across the years. In 2017, participants were asked about their history of use of 28 separate substances. These substances consisted of any heroin, any methadone, any buprenorphine, any buprenorphine-naloxone, any oxycodone, any morphine, fentanyl, any tapentadol, OTC codeine, 'other' opioids, any methamphetamine (including powder, base, liquid and crystal forms), any pharmaceutical stimulants, cocaine, hallucinogens, ecstasy, alcohol, cannabis, tobacco, e-cigarettes, inhalants, any benzodiazepines, any Seroquel®, steroids, 'other' drugs, any new psychoactive stimulant, synthetic cannabis, 'new' drugs that mimic the effects of opioids and 'new' drugs that mimic the effects of ecstasy or psychedelic drugs. Only illicit use of these drugs were analysed. In 2017, participants reported use of a median of 15 (range: 5–27) drug types across their lifetime and a median of six (range: 3–16) during the six months prior to interview (see Table 4).

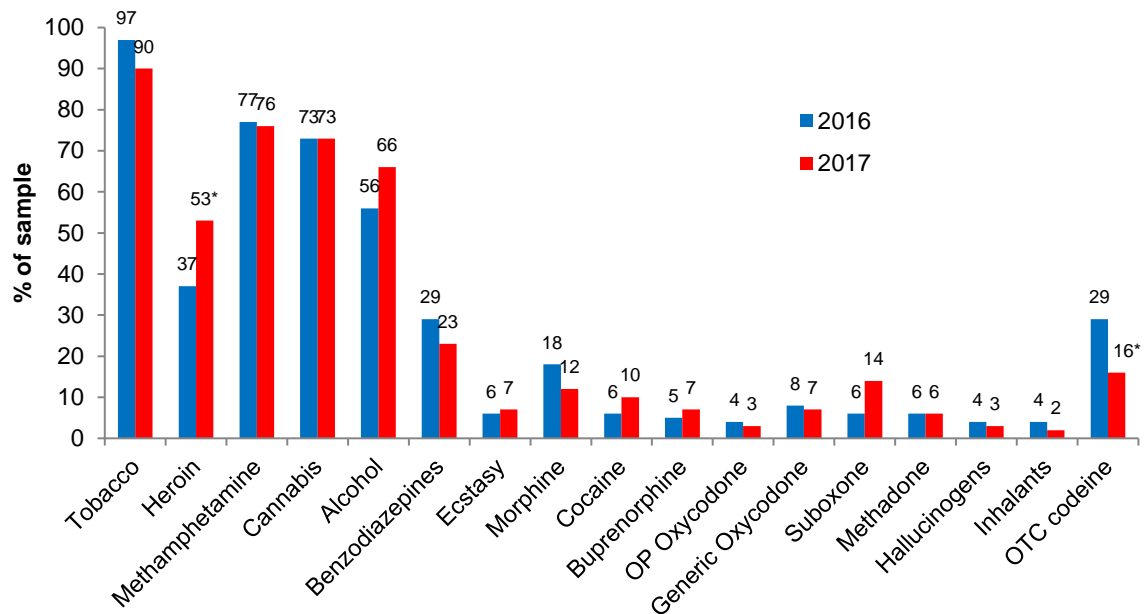
Table 4: Polydrug use, 2016–2017

Polydrug use (median)	2016 (n=97)	2017 (n=95)
Number of drug classes ever used (range)	15 (6-24)	15 (5-27)
Number of drug classes used in last 6 months (range)	8 (5-19)	6 (3-16)

Source: IDRS participant interviews.

The drugs most commonly used among the participants in the last six months were tobacco, ‘any’ methamphetamine, cannabis, alcohol and heroin (see Figure 3). This order remained stable from 2016.

Figure 3: Percentage of participants using each substance type in the last six months, 2016–2017



Source: IDRS participant interviews.

Note: use of pharmaceutical drugs (e.g. of methadone, morphine etc.) relates to illicit use.

*Significant difference between 2016 and 2017 ($p < 0.05$).

In 2017, there were no significant changes in the lifetime use of certain drugs. In regard to recent use, there was a significant increase in the use of heroin ($p < 0.05$). Conversely, there was a significant decrease in the use of OTC codeine ($p < 0.05$). A more detailed history of participants’ drug use can be found in Table 5.

Table 5: Drug use history and routes of administration of the sample, 2017 (% of total sample; N=100)

Drug Class	Ever used %	Ever inject %	Use last 6 months %	Inject last 6 months %	Smoke last 6 months %	Snort last 6 months %	Swallow last 6 months %	Days used last 6 months^#	Days inject last 6 months#
Heroin	81	80	52	52	6	0	1	61	60
Homebake	38	35	7	7	3	0	0	6	6
Any Heroin	82	80	53	53	6	0	1	48	48
Methadone - licit	43	14	17	1			17	180	6
Methadone – illicit	36	17	6	1			5	2.5	20
Physeptone – licit	7	3	0	0	0	0	0	0	0
Physeptone – illicit	22	17	0	0	0	0	0	0	0
Any Methadone	63	32	21	1	0	0	21	180	26
Buprenorphine – licit	24	7	1	1	0	0	1	90	90
Buprenorphine – illicit	30	16	7	5	1	0	3	2	2
Any Buprenorphine	47	20	8	6	1	0	4	2	8
Buprenorphine Naloxone – licit	28	10	9	1	1	0	9	180	4
Buprenorphine Naloxone – illicit	33	19	14	5	4	0	9	9	30
Any Buprenorphine Naloxone	50	21	22	6	5	1	17	30	27
Generic Oxycodone – licit	4	1	0	0	0	0	0	0	0
Generic Oxycodone – illicit	25	19	7	5	0	0	4	3	4
OP Oxycodone – licit	11	4	3	0	0	0	3	14	0
OP Oxycodone – illicit	19	15	3	2	0	0	3	2	16
Other Oxycodone – licit	24	9	3	1	0	0	2	5	4
Other Oxycodone – illicit	31	25	6	4	0	1	2	3	3
Any Oxycodone	63	41	18	9	0	1	13	6.5	4
Morphine – licit	33	20	9	5	0	0	6	60	35
Morphine – illicit	54	47	12	11	0	0	2	20	20
Any Morphine	69	52	19	14	2	2	8	40	38
Tapentadol SR licit	0	0	0	0	0	0	0	0	0
Tapentadol SR illicit	0	0	0	0	0	0	0	0	0
Any Tapentadol SR	0	0	0	0	0	0	0	0	0
Other Opioids	69	6	32	1	0	0	32	5	30
OTC Codeine	49	9	16	0	1	0	16	8.5	0
Methamphetamine Powder	94	83	18	17	3	3	2	6	10
Methamphetamine Base	54	52	30	29	9	2	2	24.5	24
Methamphetamine Crystal	87	84	72	68	30	4	9	72	72
Any form Methamphetamine	98	91	76	73	32	7	10	81	78
Pharmaceutical Stimulants – licit	7	4	0	0	0	0	0	0	0
Pharmaceutical Stimulants – illicit	33	14	8	2	0	1	7	4.5	5
Any Pharmaceutical Stimulants	36	14	8	2	0	1	7	4.5	5
Cocaine	56	37	10	5	1	7	0	2.5	3
Hallucinogens	79	29	3	0	1	1	3	3	0
Ecstasy	77	41	7	3	1	2	4	4	5
Alprazolam – licit	18	3	6	0	0	0	6	22	0

Alprazolam – illicit	38	4	10	0	0	0	10	4.5	0
Other Benzodiazepines – licit	57	8	32	0	0	0	32	180	0
Other Benzodiazepines – illicit	49	5	23	0	0	0	23	5	0
Any Benzodiazepines (including Alprazolam)	74	13	46	0	0	0	45	30	0
Seroquel – licit	16	0	3	0	0	0	3	180	0
Seroquel – illicit	25	0	5	0	0	0	5	5	0
Any Seroquel	39	0	8	0	0	0	8	10	0
Alcohol	96	9	66	0			66	24	0
Cannabis	99		73		72		9	145	
Tobacco	96		90					180	
E-Cigarettes	44		29					3	
Inhalants	25		2					1.5	
Steroids	7	4	1	0	0	0	1	28	0
Fentanyl	29	19	5	4	0	0	0	6	7
New drugs mimic amphetamines	5	4	2	2	1	1	1	18	10
Synthetic Cannabis	10	0	3	0	3	0	0	1	0
New drugs mimic opioids	1	1	0	0	0	0	0	0	0
New drugs mimic ecstasy	4	2	1	0	1	1	1	60	60

Source: IDRS Participant Interviews.

^ Refers to any ROA, i.e. includes use via injection, smoking, swallowing and snorting.

Among those who used/injected.

4.2 Heroin

Key Findings

- In 2017, 52% reported recent use of heroin, a significant increase from 37% in 2016.
- Heroin was used on a median of 61 days within a six-month period (75 days in 2016).
- Daily use remained stable from 2016 (21%; 30% in 2016).
- White/off white powder or rock was the most commonly used form of heroin used by participants in 2017.

4.2.1 Heroin use among participants

Fifty-two per cent of the IDRS participants interviewed in 2017 had used heroin in the six months prior to interview, a significant increase from 37% in 2016 ($p<0.05$) (see Table 6). The percentage of participants who nominated heroin as their drug of choice (38%) and the drug injected most often in the past month (36%) remained stable from 2016 (see Figure 4). Nevertheless, there was a significant increase in the percentage of participants who nominated heroin as the last drug injected ($p<0.05$).

Heroin was used on a median of 61 days in the preceding six months, stable from 2016, unlike the sharp downward trend which was observed from 2014 to 2015 (see Figure 4). All participants who recently used heroin reported injecting heroin within the preceding six months (100%), and the median number of injection days was 60 (range: 1–180 days). Among participants who recently used heroin, daily use slightly decreased from 30% in 2016 to 21% in 2017.

Table 6: Recent[#] heroin use of IDRS participants, 2016–2017

	2016	2017
Recent use (%)	37	52*
Median days of use[^]	75	61
Daily use[^] (%)	30	21

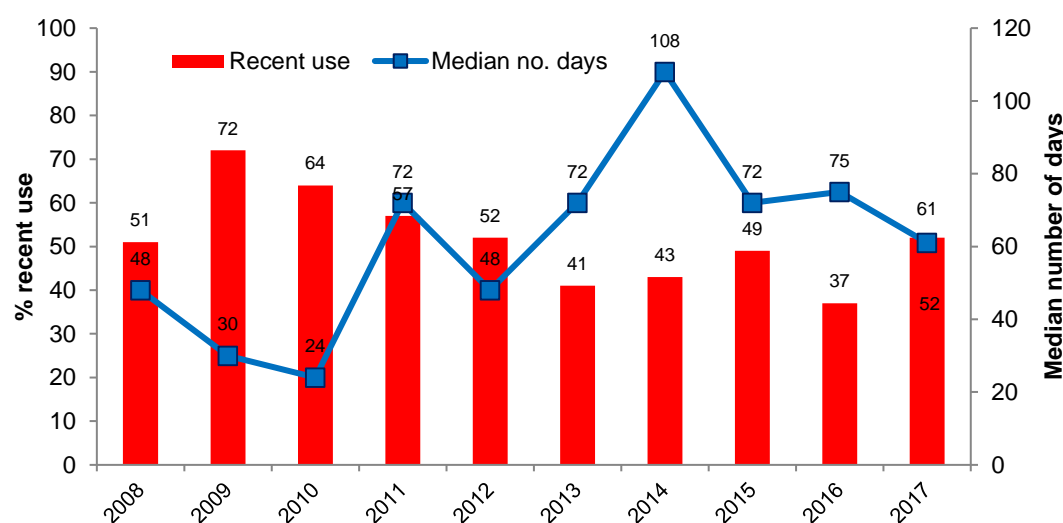
Source: IDRS participant interviews.

[#] Of those who reported use in the last six months.

[^] Among those who had used. Maximum number of days, i.e. daily use, is 180. See page vii for guide to days of use/injection.

*Significant difference between 2016 and 2017 ($p<0.05$).

Figure 4: Heroin: recent[#] use and median number of days used, 2008–2017



Source: IDRS participant interviews.

[#] Of those who reported use in the last six months.

4.2.2 Forms of heroin used

As in previous years, participants were asked about the forms of heroin they had used over the preceding six months (Table 7). Of the 52 participants who had recently used heroin, 81% (n=42) reported use of a white/off-white powder or rock form of heroin, and 48% (n=25) reported using a brown powder or rock. This was stable from 2016. The forms most used in the last six months remained stable from 2016, with 71% using mostly white/off-white powder or rock (68% in 2016) and 25% using brown powder or rock most often (32% in 2016).

Homebake is a form of heroin made from pharmaceutical products and involves the extraction of diamorphine from pharmaceutical opioids such as codeine and morphine. In 2017, 38% of participants reported that they had used homebake heroin at least once in their lifetime (34% in 2016). Seven per cent reported the use of homebake heroin in the six months preceding interview, stable from 2016. All participants who reported recent use of homebake heroin had injected it. In 2017, homebake heroin was used for a median of six days (range: 1–30 days) in the preceding six months.

Table 7: Forms of heroin used in the last six months among those who had recently used heroin, 2016–2017

	2016	2017
Used last 6 months (%)[^]	(n=37)	(n=52)
White/off-white powder or rock	81	81
Brown powder or rock	57	48
Form most used last 6 months	(n=37)	(n=49)
White powder or rock	68	71
Brown powder or rock	32	25
Homebake	0	2
Other colour	0	2

Source: IDRS participant interviews.

[^] Multiple response options allowed

4.2.3 Quantity of heroin use

Participants were asked about the quantity of heroin used on an average day in the last six months. The most common measure reported was points (n=37; 71%). Among participants who had used points, the median amount used on an average day was one point (range: 0.5-4 points) in the last six months.

4.3 Methamphetamine

Key Findings

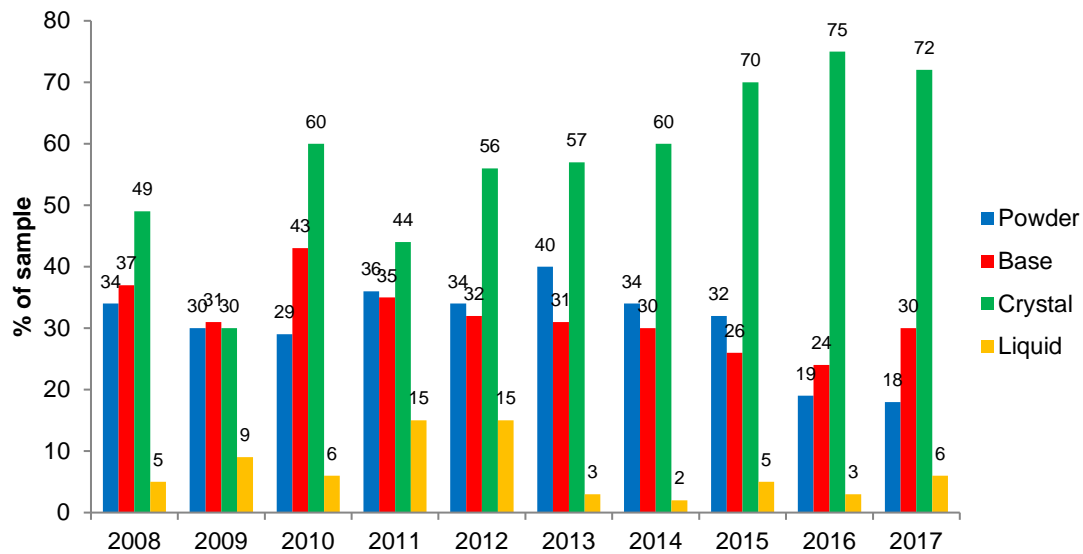
- In 2017, 76% of participants had used 'any' form of methamphetamine in the six months preceding interview (77% in 2016).
- Recent use of crystal methamphetamine was reported by 72% of the sample (75% in 2016).
- The recent use of base (30%) and powder methamphetamine (18%) remained stable in 2017.
- Participants who had recently used any methamphetamine reported that they had used on a median of 81 days in the preceding six months, stable from 2016 (80 days).
- Twenty-two per cent of participants who recently used methamphetamine reported using methamphetamine on a daily basis (17% in 2016).
- Participants using all forms of methamphetamine reported having done so by injection in the six months prior to interview.

Data is collected for three different forms of methamphetamine: methamphetamine powder (referred to here as 'speed' or 'speed powder'); methamphetamine base ('base'); and crystal methamphetamine ('crystal'). 'Speed' can sometimes be used as a generic term for methamphetamine; however, here it refers only to the powder form. It is typically a fine-grained powder, generally white or off-white in colour, but may range from white through to beige or pink due to differences in the chemicals used to produce it. 'Base' (which can also be known as 'pure', 'wax' or 'point') is the paste methamphetamine that is 'moist', 'oily' or 'waxy' and is often brownish in colour. It can be difficult to dissolve for injection due to its oily consistency. 'Crystal' methamphetamine comes in crystalline form, in either translucent or white crystals (sometimes with a pink, green or blue hue) that vary in size. A fourth form, liquid amphetamine or 'oxblood', has also been identified, and is typically red/brown in colour. However, as it is used infrequently, participants are not surveyed regarding its price, purity or availability. Previous research indicated that participants were able to differentiate between these forms when surveyed (Breen, Degenhardt et al. 2003), and clarification was made with participants that they and the interviewer were referring to the same forms of methamphetamine.

4.3.1 Use of methamphetamine

In 2017, 76% of participants had used any form of methamphetamine in the six months preceding interview (77% in 2016). Considered separately, the most commonly used form of methamphetamine was crystal methamphetamine (72%; 75% in 2016), followed by base (30%; 24% in 2016) and then speed (18%; 19% in 2016). Liquid amphetamine (also known as 'oxblood') remained considerably less common, with six participants reporting use in the last six months (three participants in 2016) (see Figure 5).

Figure 5: Methamphetamine, percentage of participants that used in the last six months, 2008–2017



Source: IDRS participant interviews.

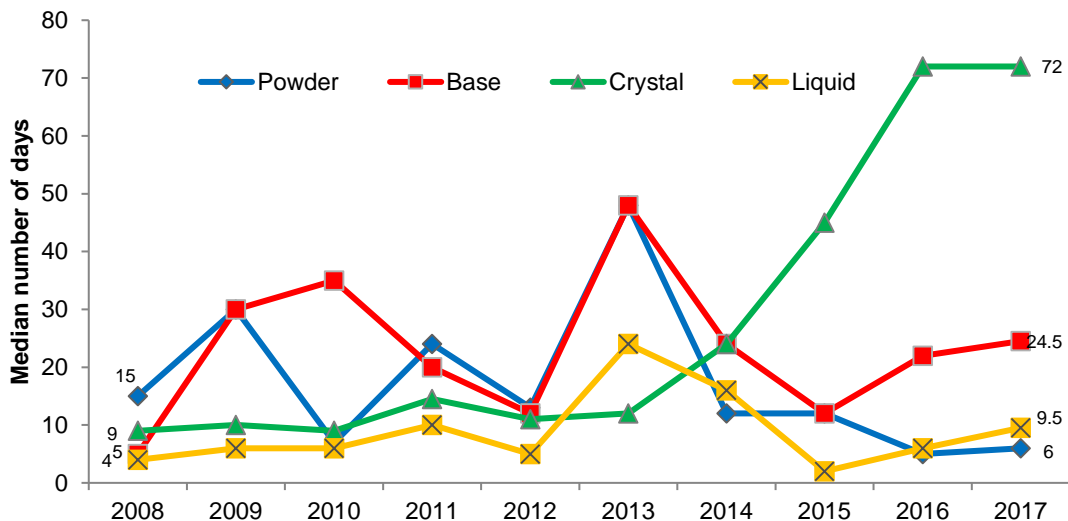
Note: Liquid methamphetamine; n<10 results should be interpreted with caution.

4.3.2 Methamphetamine frequency of use

Participants reported using methamphetamine powder on a median of six days (range: 1–180 days) (five days in 2016). Base was used on a median of 24.5 days in 2017 (range: 2-180 days) (22 days in 2016) and liquid was used on a median of nine and a half days (range: 1-170 days) (five days in 2016). Crystal methamphetamine was reportedly used on a median of 72 days (range: 2-180 days), stable from 2016 (72 days).

As can be seen from Figure 6, there have been changes in the median days of different forms of methamphetamine over time. The decline in the frequency of powder and base from 2013 corresponds with the increase in the frequency of crystal use.

Figure 6: Methamphetamine, median number of days used in the last six months, 2008–2017



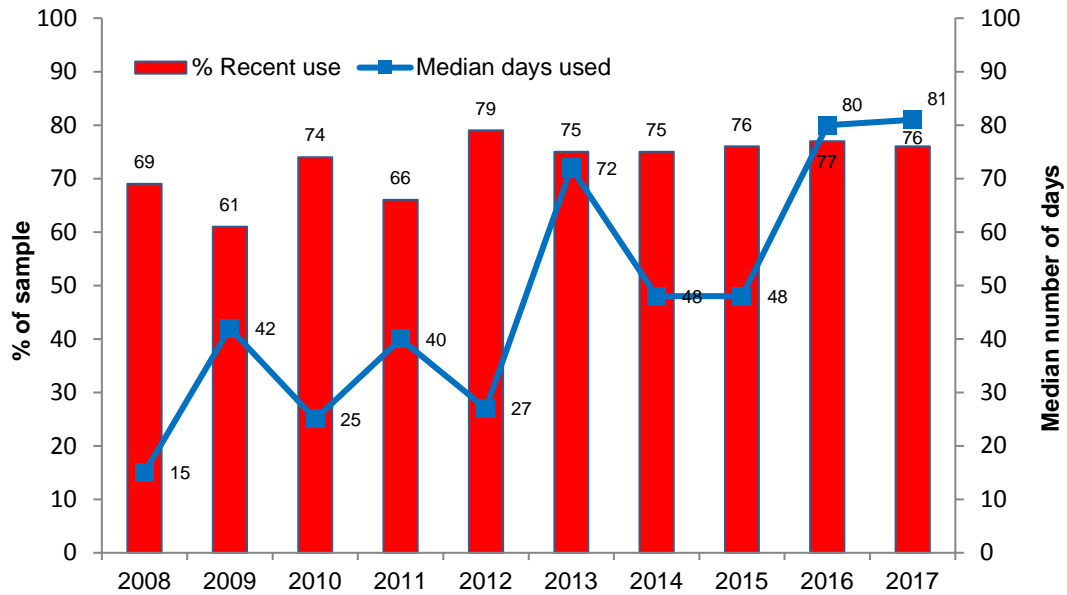
Source: IDRS participant interviews.

Note: Used by those participants who reported use of each form in the six months prior to interview.

Note: Liquid methamphetamine; n<10 results should be interpreted with caution.

The long-term trend in the use any form of methamphetamine is depicted in Figure 7. Overall in 2017, 76% of participants had used some form of methamphetamine (powder, base, crystal, and/or liquid) in the six months prior to interview; this remained stable from 2016 (77%). Participants who recently used methamphetamine reported that they had used on a median of 81 days (range: 1-180 days) in a six-month period, also stable from 2016 (80 days).

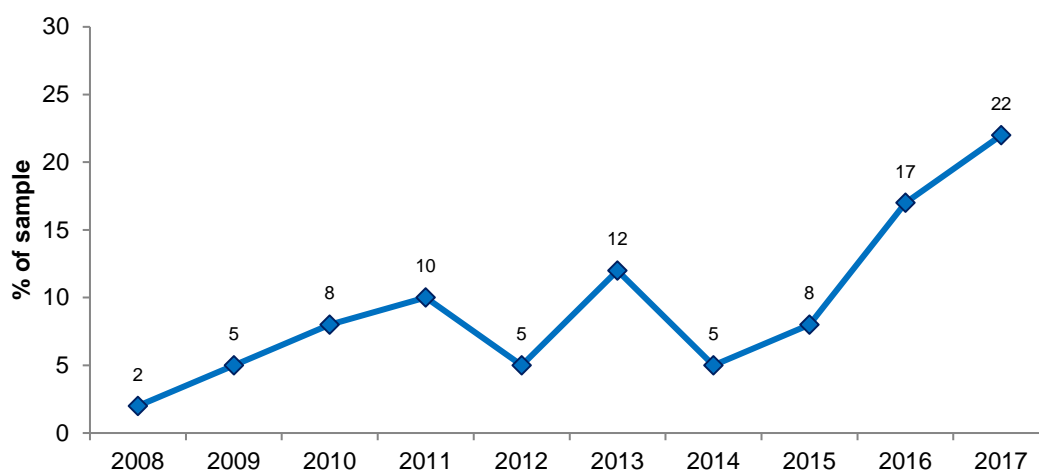
Figure 7: Recent use and median number of days used of any form of methamphetamine, 2008–2017



Source: IDRS participant interviews.
Note: Results of those reporting recent use in the previous six months.

Of the 76 participants who reported using some form of methamphetamine in the last six months, seventeen participants (22%) reported daily use during that period (17%, n=13 in 2016). The long-term trend for the percentage of participants using some form of methamphetamine on a daily basis is depicted in Figure 8. As shown, the prevalence of daily methamphetamine use has fluctuated over the years, though a sharp increase was detected between 2015 and 2016. The highest percentage reporting daily use was observed in 2017.

Figure 8: Methamphetamine, percentage that used daily in the last six months[#], 2008–2017



Source: IDRS participant interviews.

[#] Among those who had used methamphetamine in the past six months.

All participants using any form of methamphetamine reported having done so by injecting in the six months prior to interview. In addition to injecting, of those who commented (n=18), three per cent of participants reported smoking and snorting powder, respectively, and two per cent had swallowed powder in the preceding six months. This was stable from 2016. Of those who commented (n=30), nine per cent of the sample reported smoking base methamphetamine (five per cent in 2016), and two per cent had snorted and swallowed it, respectively, in the preceding six months. In addition to injecting, 30% of participants who commented (n=72) reported smoking crystal methamphetamine in the past six months, while the percentage of participants who reported snorting and swallowing crystal remained low (four per cent and nine per cent, respectively) (see Table 5).

4.3.3 Quantity of methamphetamine use

Participants were asked about the quantity of the different forms of methamphetamine used in the last six months on an average day. Points were the most common measure reported by participants for all three forms of methamphetamine.

4.3.3.1 Speed

Among participants who reported using points (n=15; 83%), the median amount used on an average day in the last six months was one point (range: 0.25-6 points).

4.3.3.2 Base

Among the 24 (80%) participants who reported using points, the median amount used on an average day in the last six months was two points (range: 0.5-8 points).

4.3.3.3 Crystal

Among participants who reported using points (n=65; 90%), the median amount used on an average day in the last six months was two points (range: 0.10-6 points).

4.4 Cannabis

Key Findings

- Lifetime (99%) and recent use (73%) of cannabis remained stable in 2017.
- Cannabis was used on a median of 145 days in the past six-month period (175 days in 2016).
- Forty-seven per cent of participants who recently used cannabis (n=34) stated that they had used daily in the previous six months (56% in 2016).
- Of the participants who had used cannabis recently (73%), 87% reported the use of hydro and 68% reported the use of bush within that period.
- Thirty-one per cent reported use of 'hash' (cannabis resin) which was a significant increase from nine per cent in 2016 ($p<0.05$) and 20% reported use of 'hash oil', also a significant increase from six per cent in 2016 ($p<0.05$).
- The majority of participants reported smoking cannabis in 'cones' (67%) and eight participants reported smoking cannabis in 'joints' (11%).

The current legal approach to cannabis use in SA is one of 'prohibition with civil penalties'. Under this approach, the production, possession or use of cannabis is illegal. Any cultivation of a cannabis plant by hydroponic means (hydro) will result in the accused being arrested/reported and required to attend court. A single cannabis plant grown in the ground, i.e. not grown hydroponically, and/or 20 grams of resin, will attract an expiation fee. In cases where more than one cannabis plant is grown outdoors (bush cannabis), the accused is arrested and required to attend court. There are varying penalties for possession of cannabis offences and these penalties are dependent on the amount the person is located with. Under the Cannabis Expiation Notice Scheme, police issue the offender with an 'on-the-spot' fine notice. If the offender disagrees with any aspect of the charge, he or she can elect to go to court and defend the case rather than pay the expiation fee. Failure to pay the prescribed fee within the expiation period results in a summons being issued for the offender to appear in court. The original expiation fee becomes the fine, with the additional court costs. Changes to the legislation were introduced in 2007 codifying trafficking offences.

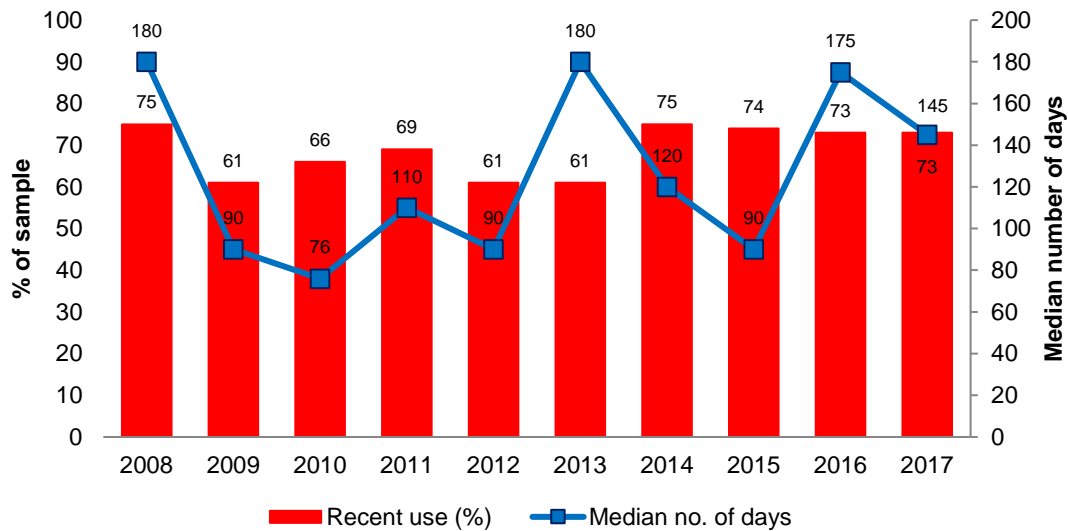
4.4.1 Current patterns of cannabis use

It is worth noting that participants were recruited on the basis of their injecting drug use (rather than use of illicit drugs in general), therefore the following data may not be representative of those who had used cannabis in general. That is, the IDRS reports on cannabis use by a sample of people who inject drugs.

In 2017, the percentage of participants who reported lifetime use of cannabis remained stable at 99% (97% in 2016). Of those who had ever used cannabis, 73% reported having used cannabis in the preceding six months (73% in 2016). Cannabis was used on a median of 145 days (range: 1–180 days), indicating use almost every day in the previous six months (175 days in 2016) (see Figure 9).

Forty-seven per cent of participants who recently used cannabis (n=34) stated they had used on a daily basis in the last six months (56% in 2016).

Figure 9: Cannabis, recent use and median number of days used, 2008–2017



Source: IDRS participant interviews.

Note: Results from those reporting recent use in the previous six months.

4.4.2 Cannabis forms used

Among participants who had used cannabis recently, 87% reported use of hydro (89% in 2016) and 68% reported use of bush (67% in 2016). In addition, 31% reported use of ‘hash’ (cannabis resin) which was a significant increase from nine per cent in 2016 ($p < 0.05$) and 20% reported use of ‘hash oil’, also a significant increase from six per cent in 2016 ($p < 0.05$). Seventy-five per cent of participants who recently used cannabis reported that hydro was the form they had used the most (73% in 2016), and 23% reported that bush was the form they had used most in the six months preceding interview (27% in 2016).

4.4.3 Quantity of cannabis use

Participants who recently used cannabis were asked how much cannabis they had smoked on an average day, as measured by the number of cones or joints. The most common measure reported by participants was cones ($n = 48$; 67%). Among those who had smoked cones, on an average day, the median number used was four (range: 1-75 cones). Among those who used cannabis daily, the median number of cones smoked in the last six months was nine (range: 1-75 cones).

4.5 Cocaine

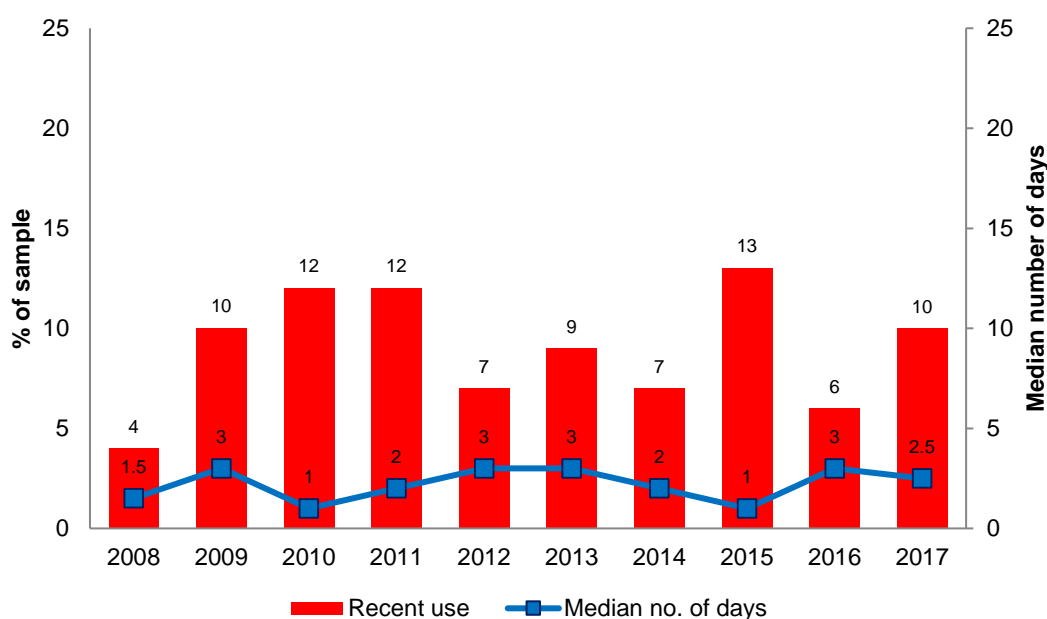
Key Findings

- Cocaine use remained low (10%) and infrequent among participants in 2017.

4.5.1 Use of cocaine

Ten participants reported the use of cocaine on a median of two and a half days (range: 1–12 days) in the six months prior to interview (six participants in 2016) (Figure 10). Five participants reported that they had injected cocaine during that time. The main forms of cocaine used by participants were powder (n=6), followed by rock (n=4). These results indicate that cocaine use among people who inject drugs in Adelaide remains relatively rare.

Figure 10: Cocaine, recent use and median number of days used, 2008–2017



Source: IDRS participant interviews.

Note: Results from those reporting recent use in the previous six months.

4.5.2 Quantity of cocaine use

Participants were asked about the quantity of cocaine used on an average day in the six months prior to interview. The most common measure reported was in grams (n=5). Among participants who had used grams, the median amount used on an average day was one gram (range: 0.5-2.5 grams).

4.6 Opioids

Key Findings

- Heroin was the most commonly used opioid in the six months prior to interview (52%), which significantly increased from 2016 (37%; $p < 0.05$). This was followed by 'other opioids' which also significantly increased from 16% in 2016 to 32% in 2017 ($p < 0.05$). The use of OTC codeine decreased significantly in 2017 (16% in 2017 vs. 29% in 2016; $p < 0.05$).
- When all the opioid substance categories are collapsed, 55% had used some type of illicit opioid substance in the six months preceding interview (34% in 2016).
- Twelve per cent of participants reported they had used illicit morphine in the six months prior to interview on a median of 20 days.
- Seven participants reported recent use of illicit generic oxycodone on a median of three days; three participants reported recent use of illicit OP oxycodone on a median of two days; and six participants reported recent use of illicit 'other oxycodone' on a median of three days.
- Five participants reported using fentanyl on a median of six days.
- In 2017, 49% of participants reported ever using OTC codeine for non-medicinal purposes (50% in 2016). Sixteen per cent reported use within the preceding six months, a significant decrease from 2016 (29%; $p < 0.05$) on a median of eight and a half days.
- Six participants reported having used illicit methadone syrup on a median of two and a half days, yet no participants reported having used illicit Physeptone[®] tablets in the last six months.
- Seven participants reported having used illicit buprenorphine on a median of two days and fourteen participants reported having used illicit buprenorphine-naloxone film on a median of nine days.
- Thirty-two participants reported that they had used 'other opioids' in the six months preceding interview. This was a significant increase from the 16 participants who had used 'other opioids' six months prior to the interview in 2016 ($p < 0.05$). Participants reported to have used 'other opioids' on a median of five days.

The IDRS investigates the use patterns, harms and market characteristics of a number of pharmaceutical opioids including methadone, buprenorphine, buprenorphine-naloxone, morphine, oxycodone, fentanyl, over the counter codeine, and other opioids (not specified elsewhere). Use of these substances is broadly split into the following categories:

Use

1. Use of licitly obtained opioids, i.e. use of opioids obtained by a prescription in the person's name, through any ROA (includes the use of these medications as prescribed).
2. Use of illicitly obtained opioids, i.e. those obtained from a prescription in someone else's name, through any ROA ('illicit use').
3. Use of 'any' opioids, i.e. includes both licit and illicit obtained opioids.

Injection

1. Injection of licitly obtained opioids.
2. Injection of illicitly obtained opioids.
3. Injection of 'any' opioids.

Note on interpretation: The IDRS documents the use of opioid medications, licitly obtained or otherwise, among a sentinel sample of people who inject drugs. These include opioids prescribed for opioid substitution treatment (OST) – i.e. methadone, buprenorphine and buprenorphine-naloxone maintenance treatments – in addition to opioids prescribed for pain relief (including morphine and oxycodone). It is important to note that while a percentage of the 2017 sample were in treatment at the time of interview, responses are not representative of clients engaged in drug treatment services.

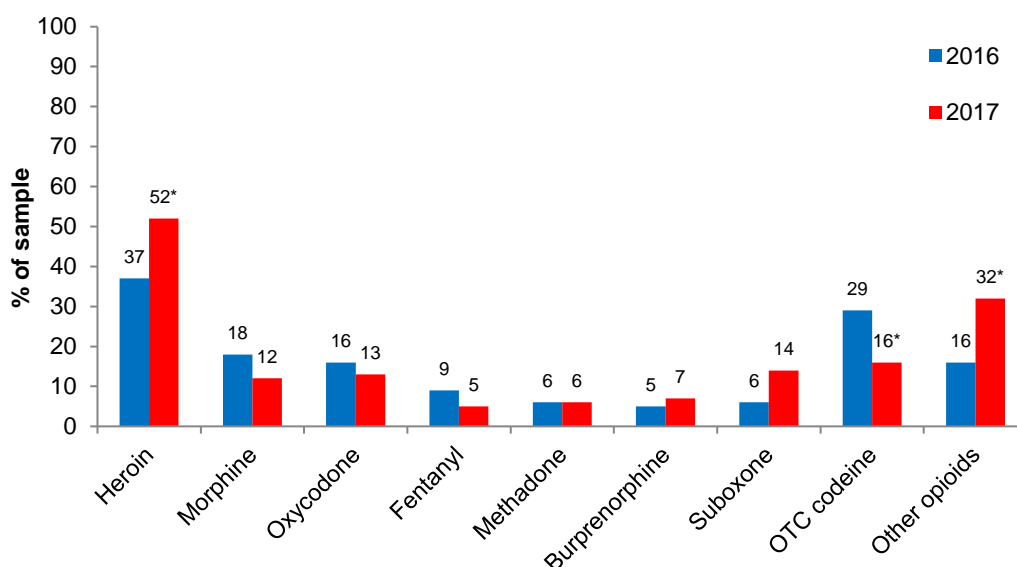
4.6.1 Overview of opioid use among participants

Table 5 provides data on the recent use and route of administration of opioids for the 2017 participant sample.

Heroin use among participants is described in detail in section 4.2, with the focus on the use of other opioids described in this section. Data is presented for illicit use only, except for fentanyl and ‘other opioids’ which do not distinguish between licit and illicit use. It should be noted that some of the sample sizes for these sections were relatively small and should be interpreted with caution.

As can be seen in Figure 11, heroin was the most commonly used opioid in the six months prior to interview (52%) which significantly increased from 2016 (37%; $p<0.05$). This was followed by ‘other opioids’ which also significantly increased from 16% in 2016 to 32% in 2017 ($p<0.05$). The use of OTC codeine decreased significantly in 2017 (16% in 2017 vs. 29% in 2016; $p<0.05$).

Figure 11: Recent use of illicit opioids amongst IDRS participants, 2016-2017



Source: IDRS participant interviews.

Note: these figures include illicit use only, except for other opioids, fentanyl and OTC codeine which include illicit/non-medical use only.

Note: Other opioids include opioids not specified elsewhere (e.g. Panadeine Forte®).

*Significant difference between 2016 and 2017 ($p<0.05$).

When all the opioid substance categories are collapsed (i.e. methadone, morphine, other opioids, OTC codeine, oxycodone, tapentadol, fentanyl, buprenorphine and buprenorphine-naloxone), 55% of participants had used some type of opioid substance (excluding licit use) in the six months prior to interview (34% in 2016).

4.6.2 Use of illicit morphine

Twelve per cent of participants reported they had used illicit morphine in the six months prior to interview on a median of 20 days (range: 1–180 days), and the average amount of illicit morphine used per day in the last six months amounted to a median of 125mg (range: 60–200mg). Eleven participants reported that they had injected illicit morphine in the preceding six months, and they had done so on a median of 20 days (range: 1–180 days).

The majority of participants who recently used morphine (58%, n=11) reported that the type they had used most during the last six months was illicit. Of those who commented (n=15), the main brand of morphine used was Kapanol® (73%, n=11).

4.6.3 Use of illicit Oxycodone

Similar to 2016, in 2017, the use of oxycodone was divided into the generic form of oxycodone, oxycodone 'OP' and 'other' forms of oxycodone¹.

Almost two-thirds (63%) of the sample reported lifetime use of any form of oxycodone (67% in 2016) and 18% reported recent use (21% in 2016). Eighteen participants reported using any form of oxycodone on a median of six and a half days (range: 1–180 days) in the six months preceding interview (10 days in 2016). Nine participants reported recent injection of any form of oxycodone on a median of four days (range: 1–180 days).

4.6.3.1 Generic Oxycodone

Seven participants reported recent use of illicit generic oxycodone on a median of three days (range: 1–30 days). Of those, five participants reported injecting illicit generic oxycodone on a median of four days (range: 1–30 days) in the preceding six months. The average amount of illicit generic oxycodone used per day in the last six months was a median of 40mg (range: 5–200mg).

4.6.3.2 OP Oxycodone

Three participants reported recent use of illicit OP oxycodone on a median of two days (range: 1–31 days). Of those, two participants reported injecting illicit OP oxycodone on a median of 15.5 days (range: 1–30 days) in the six months prior. The average amount of illicit OP oxycodone used per day in the last six months was a median of 40mg (range: 40–160mg).

4.6.3.3 Other Oxycodone

Six participants reported recent use of illicit 'other oxycodone' on a median of three days (range: 1–180 days). Of those, four participants reported injecting illicit 'other oxycodone' on a median of three days (range: 2–180 days) in the six months preceding interview. The main brand of 'other oxycodone' used was Endone (n=4; 57%). The average amount of illicit 'other oxycodone' used per day in the last six months was a median of 45mg (range: 5–300mg).

The form most used for all participants who recently used oxycodone was illicit (n=7, 100% for Generic Oxycodone; n=3, 50% for OP Oxycodone; and n=5, 63% for 'Other Oxycodone').

¹ In April 2014 'Reformulated OxyContin®' (branded with an 'OP' on each tablet) was introduced designed to be tamper resistant. The 'original oxycodone' OxyContin® (branded with an 'OC') was withdrawn. In September 2014 generic 'non-tamper-resistant oxycodone' was made available in Australia.

4.6.4 Use of fentanyl (licit and illicit)

Five participants reported using fentanyl on a median of six days (range: 3–12 days) in the six months preceding interview, and the average amount used per day was a median of 50mg. Four participants who reported recent use of fentanyl had done so by injection on a median of seven days (range: 3–12 days). Four participants had used prescribed fentanyl and one participant had used illicit fentanyl in the six months preceding interview.

4.6.5 Over the counter (OTC) codeine

Codeine is a mild opioid. In Australia, over the counter (OTC) codeine is readily available in pharmacies. It is mainly used for the relief of mild to moderate pain. OTC codeine medications vary in codeine quantity and are only available in combination (usually with analgesics or decongestants). There are associated health concerns with the prolonged use of OTC codeine, most notably the risk of liver damage. There are also health risks associated with the overdose of combination drugs such as paracetamol.

Since 2009, participants have been asked about their use of OTC codeine (from 2012 onwards participants were asked about non-medicinal use only). These questions were included to investigate the extra-medical use of OTC codeine, frequency of use, main brands used and the number of tablets/capsules used per dose. For more information on the harms associated with OTC codeine use, see Dutch (2008) and Dyer, Martin et al. (2004).

In 2017, 49% of participants reported ever using OTC codeine for non-medicinal purposes (50% in 2016). Sixteen per cent reported use within the preceding six months, a significant decrease from 2016 (29%; $p < 0.05$) on a median of eight and a half days (range: 3–180 days). No participants reported recent injection of OTC codeine. The main brand of OTC codeine used by participants was Nurofen Plus and Panadeine (21%; $n=3$, respectively).

4.6.6 Use of illicit methadone

In 2017, for the 15th year running, IDRS survey participants were asked to provide separate information on the use of licit and illicit methadone syrup and Physeptone[®] tablets.

Six participants reported having used illicit methadone syrup on a median of two and a half days (range: 1–20 days) in the last six months and the average amount used per day in the last six months was a median of 40ml (range: 5–100ml). Of those, one participant reported injecting illicit methadone syrup on a median of 20 days.

No participants reported having used illicit Physeptone[®] tablets in the last six months.

4.6.7 Use of illicit buprenorphine²

Seven participants reported having used illicit buprenorphine on a median of two days (range: 1–60 days) in the six months prior to interview. Of these, five participants reported injecting illicit buprenorphine and had done so on a median of two days

² Buprenorphine has been available for opioid substitution therapy (OST) in Australia since 2001. Initially mono-buprenorphine sublingual tablets (marketed as Subutex[®]) were introduced, followed by buprenorphine-naloxone sublingual tablets (marketed as Suboxone[®]) from 2006, and buprenorphine-naloxone (Suboxone[®]) sublingual film from October 2011. There is jurisdictional variation in the policy regarding prescribing and uptake of the different forms (Larance, B., P. Dietze, et al. (2015).

(range: 1–60 days). The average amount used per day in the last six months was a median of 10mg (range: 2–50mg).

The majority of participants who had used buprenorphine (88%, n=7) reported that the type they had used most during the last six months was illicit.

4.6.8 Use of illicit buprenorphine-naloxone (Suboxone®)

In 2017, participants were asked about the use of buprenorphine–naloxone film. In previous years, participants were asked about any buprenorphine-naloxone, which included tablets and film.

Fourteen participants reported having used illicit buprenorphine-naloxone on a median of nine days (range: 1–180 days) in the six months prior to interview. Of these, five participants reported injecting illicit buprenorphine-naloxone and had done so on a median of thirty days (range: 8–180 days). The average amount used per day in the last six months was a median of 8mg (range: 1–70mg). Of those able to comment (n=22), more than half of the participants who had used Suboxone® (59%; n=13) reported that the type they had used more during the last six months was illicit Suboxone® film.

4.6.9 Use of ‘other opioids’ (not elsewhere specified) (licit and illicit)

Thirty-two participants reported that they had used ‘other opioids’ in the six months preceding interview. This was a significant increase from the 16 participants who had used ‘other opioids’ six months prior to the interview in 2016 ($p<0.05$). Participants reported to have used ‘other opioids’ on a median of five days (range: 1–180 days). One participant reported recent injection of ‘other opioids’ on a median of 30 days. The average amount of ‘other opioids’ used per day in the last six months was a median of 120mg (range: 60–3000mg).

Among those who recently used ‘other opioids’, the form most used was licit (63%; 38% illicit), and the majority of participants reported that Panadeine Forte® (n=26, 84%) was the main brand used.

4.7 Other drugs

Key Findings

- Seven participants had used ecstasy in the six months preceding interview on a median of four days.
- Three participants had used some type of hallucinogen in the six months prior to interview on a median of three days.
- Ten per cent of participants reported recent illicit use of alprazolam on a median of four and a half days, and 23% reported illicit use of other benzodiazepines on a median of five days.
- Among participants who had recently used benzodiazepines (excluding alprazolam), the main brand used was diazepam (Valium®), which remained stable from 2016.
- Use of illicit pharmaceutical stimulants remained low, with eight participants reporting recent use on a median of five days.
- The consumption of Seroquel® was also low, with five participants reporting recent use on a median of five days.
- Sixty-six per cent of the sample (56% in 2016) had used alcohol in the six months preceding interview and had done so on a median of 24 days.
- Among participants who had recently used alcohol, five participants reported daily use of alcohol.
- As in previous years, tobacco use remains highly prevalent among participants, with 96% reporting lifetime use and 90% reporting use within the six months preceding interview. Ninety-seven per cent of participants who had recently used tobacco reported smoking daily.
- Forty-four per cent of the sample reported lifetime use of e-cigarettes, with 29% reporting e-cigarette use in the last six months on a median of three days.
- The prevalence and frequency of new psychoactive substances (NPS), steroids and inhalants remained low in 2017.
- Three participants reported recent use of synthetic cannabinoids in the six months preceding interview on a median of one day.
- No participants reported recent use of 'new drugs that mimic the effects of opioids'.
- One participant reported the recent use of 'new drugs that mimic the effects of ecstasy or psychedelic drugs' on sixty days in the six months prior to interview.

4.7.1 Ecstasy and Hallucinogens

Details regarding the use of ecstasy (3,4-methylenedioxymethamphetamine – MDMA), hallucinogens, lysergic acid diethylamide (LSD) or 'trips', and naturally occurring compounds such as magic mushrooms, are provided in Table 5.

The majority of participants reported that they had used ecstasy (77%; n=77) and hallucinogens (79%; n=79) within their lifetime. Seven participants had used ecstasy and three participants had used some type of hallucinogen in the six months prior to interview, although neither had been consumed frequently. Ecstasy had been consumed on a median of four days (range: 1–30 days) and hallucinogens on a median of three days (range: 1–7 days). Three participants who had recently used ecstasy also reported that they had injected ecstasy on a median of five days (range: 1–30 days). The main forms of ecstasy used by participants were pills (n=3), followed by

capsules (n=2) and powder (n=1). One participant reported using LSD/trips, one participant used mushrooms and one participant used 'other' hallucinogens. No participants reported injecting hallucinogens during the past six months.

As noted above, use of ecstasy and related drugs among people who inject drugs regularly is low and infrequent. Since 2000, the use of ecstasy and related drugs among a separate sample of primarily non-injecting people who use drugs has been examined on an annual basis. This is currently conducted as a separate study known as the Ecstasy and Related Drugs Reporting System (EDRS) – formerly the Party Drugs Initiative (PDI). State and national reports are produced annually: see <http://ndarc.med.unsw.edu.au/group/drug-trends>.

4.7.2 Pharmaceutical stimulants

Since 2004, participants have been asked about their use of pharmaceutical stimulants. This includes drugs such as Dexamphetamine® and methylphenidate, which are medications most commonly prescribed for attention deficit hyperactivity disorder (ADHD) and have the potential for misuse. From 2006, the IDRS has asked about licit and illicit forms of pharmaceutical stimulants.

In 2017, 33% of the sample reported using illicit pharmaceutical stimulants at least once in their lifetime (39% in 2016). However, eight participants reported use within the preceding six months (n=6 in 2016) on a median of five days (range: 1–120 days). Recent injection of illicit pharmaceutical stimulants was reported by two participants on a median of four and a half days (range: 3–6 days).

Among those who had used illicit pharmaceutical stimulants, most participants reported that the most common brand used was Dexamphetamine® (n=5).

4.7.3 Illicit benzodiazepines³

In 2017, participants were again asked to distinguish between their use of alprazolam (Xanax®) and 'other' benzodiazepines. Ten per cent of participants reported recent illicit use of alprazolam on a median of four and a half days (range: 1–48 days); and 23% reported illicit use of 'other' benzodiazepines on a median of five days (range: 1–60 days) within the preceding six months.

All participants who had used illicit alprazolam and 'other' illicit benzodiazepines reported use by swallowing in the preceding six months.

Among those who had used 'other' benzodiazepines in the preceding six months, the main brand used was diazepam (Valium®) (50%; n=20). This remained stable from 2016 (46%; n=23).

4.7.4 Seroquel® (quetiapine)

In 2017, participants were asked about their use of Seroquel®; an antipsychotic which is used to treat major psychotic and depression disorders. Twenty-five per cent of the sample reported lifetime use of illicit Seroquel®, whilst five participants reported using illicit Seroquel® on a median of five days (range: 1–14 days) in the six months preceding interview. Swallowing was the only ROA for illicit Seroquel®, with no participants reporting injection within the preceding six months.

³ It was recognised that alprazolam was a benzodiazepine that was potent and may be prone to abuse. The IDRS research team decided to collect data separately for alprazolam from 2011. The abuse liability was recognised nationally with the rescheduling of alprazolam from Schedule 4 to Schedule 8 from February 1 2014 <http://www.tga.gov.au/book/part-scheduling-proposals-referred-march-2013-meeting-acms>

4.7.5 Alcohol, tobacco and e-cigarettes

The majority of participants reported that they had consumed alcohol within their lifetime (96%). Sixty-six per cent of the sample (56% in 2016) had used alcohol in the six months preceding interview; and they had done so on a median of 24 days (range: 1–180 days). Among participants who had recently used alcohol, five participants reported daily use of alcohol (eight participants reported daily use in 2016).

Tobacco remains highly prevalent among participants, with 96% of the sample reporting lifetime use and 90% reporting use in the six months preceding interview. The median days of use among those who had recently used tobacco was 180 days (range: 90–180 days). The vast majority (97%) of participants who had recently used tobacco reported daily use of tobacco and this greatly exceeds the daily smoking prevalence rate in the general South Australian population aged 14 years and over (10.8%; AIHW, 2017).

Forty-four per cent of the sample reported lifetime use of e-cigarettes, and 29% reported using e-cigarettes on a median of three days (range: 1–180 days) in the six months preceding interview.

4.7.6 Steroids

Seven participants reported lifetime use of steroids, and one participant reported using steroids on a median of 28 days in the past six months. No participants reported injecting steroids in the six months preceding interview.

4.7.7 Inhalants

Twenty-five per cent of the sample reported lifetime use of inhalants, such as amyl nitrate, petrol, glue and/or lighter fluid. Two participants reported using inhalants on a median of one and a half days (range: 1–2 days) in the preceding six months.

4.7.8 New psychoactive substances

Five participants reported lifetime use of new psychoactive substances (NPS) such as synthetic cathinones (e.g. mephedrone), tryptamines (e.g. dimethyltryptamine [DMT]) and phenethylamines (e.g. 2C-x class). Two participants reported recent use of NPS on a median of 18 days (range: 6–30 days) and two participants reported injecting NPS in the six months preceding interview on a median of ten days (range: 6–14 days).

4.7.9 Synthetic cannabinoids

Ten participants reported lifetime use of synthetic cannabinoids (e.g. K2, Spice). Three participants reported recent use of synthetic cannabinoids on a median of one day (range: 1–2 days) in the six months preceding interview.

4.7.10 New drugs that mimic the effects of opioids

One participant reported lifetime use of new drugs that mimic the effects of opioids such as W-18, carfentanil and U-447700. No participants reported recent use.

4.7.11 New drugs that mimic the effects of ecstasy or psychedelic drugs

Four participants reported lifetime use of new drugs that mimic the effects of ecstasy or psychedelic drugs. One participant reported recent use of these drugs on 60 days in the past six months.

5 PRICE, PURITY AND AVAILABILITY

5.1 Heroin

Key Findings

- The median price of heroin was reported to be \$50 for a cap and \$200 for a half weight. Seventy-eight per cent of participants reported the price had remained 'stable' in the six months preceding interview, though this was a significant decrease from 97% in 2016 ($p<0.05$).
- The largest percentage of those able to answer ($n=18$) reported that the current perceived purity of heroin was 'medium' (39%). Thirty-seven per cent reported that the purity was 'low', and 20% reported that the purity was 'high'. Forty-nine per cent of those able to answer reported that purity had remained 'stable'.
- The vast majority of participants reported that heroin was either 'easy' or 'very easy' to obtain, and that availability had remained 'stable' over the preceding six months.
- Fifty-three per cent of the sample obtained heroin from a 'known dealer', most commonly at an 'agreed public location'.

5.1.1 Price of heroin

Among those who could comment on the price of heroin, the majority of participants reported price per cap/point, or per half weight. The median price at last purchase for a cap of heroin was \$50 (range: \$20–\$240; $n=34$) and the last purchase price for a half weight of heroin was \$200 (range: \$120–\$350; $n=23$). This remained stable from 2016.

Of those participants who were confident to report on the recent price change of heroin ($n=45$), 78% reported the price as 'stable' over the last six months (see Table 8); this was a significant decrease from 97% in 2016 ($p<0.05$).

Table 8: Change in price of heroin over last six months, 2016–2017

Reported price status	2016	2017
	($n=34$)	($n=45$)
	% able to answer	
Increasing	3	7
Stable	97	78*
Decreasing	0	7
Fluctuating	0	9

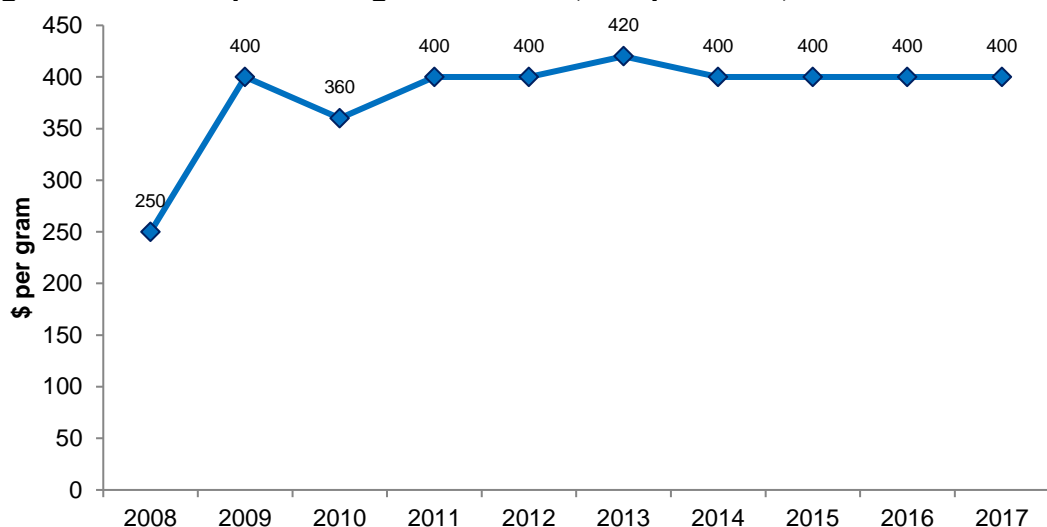
Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

*Significant difference between 2016 and 2017 ($p<0.05$).

Long-term trends in the median price paid for a gram of heroin are shown in Figure 12. Since the increase observed in 2009, it can be seen that the median price paid for a gram of heroin at last purchase has remained relatively stable over time. Data on price for 'grams' of heroin have generally been based on small sample sizes ($n=12$ in 2017), with most participants buying heroin in 'caps' ($n=34$).

Figure 12: Median price of a gram of heroin, last purchase, 2008–2017



Source: IDRS participant interviews.
 Note: n<10 results should be interpreted with caution.

5.1.2 Perceived purity of heroin

Table 9 and Table 10 summarise the current perceived purity of heroin and the changes in heroin purity over the last six months, as reported by participants. In 2017, the largest percentage of those able to answer (n=18) reported that the current purity of heroin was ‘medium’ (39%), 37% reporting that the purity was ‘low’, and 20% reporting that the purity was ‘high’. This remained relatively stable from 2016. Of those able to answer (n=45), 49% reported that the purity of heroin had remained ‘stable’ over the preceding six months, with almost one-third reporting that it had ‘decreased’ and four per cent reporting that it had ‘increased’ in purity. Under one fifth of participants perceived that the purity had ‘fluctuated’ in the last six months.

Table 9: Current perceived purity/strength of heroin, 2016–2017

How pure would you say heroin is at the moment?	2016 (n=34)	2017 (n=46)
	% able to answer	
High	21	20
Medium	41	39
Low	35	37
Fluctuates	3	4

Source: IDRS participant interviews.
 Note: ‘Don’t know’ was excluded.

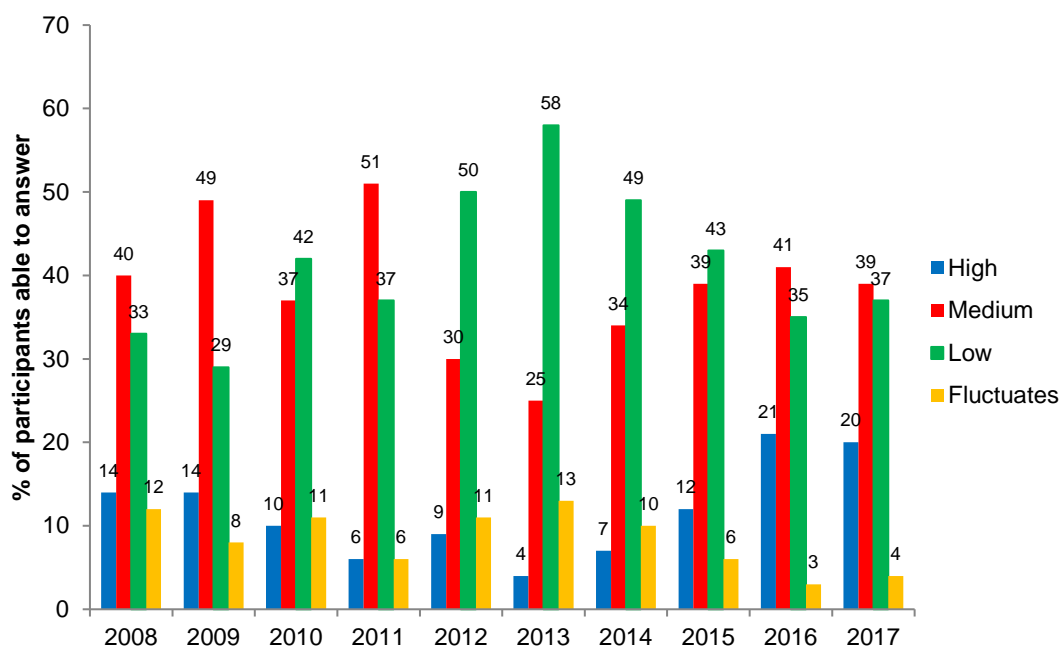
Table 10: Change in purity/strength of heroin in last six months, 2016–2017

Has the purity of heroin changed in the last 6 months?	2016 (n=34)	2017 (n=45)
	% able to answer	
Increasing	12	4
Stable	44	49
Decreasing	24	29
Fluctuating	21	18

Source: IDRS participant interviews.
 Note: ‘Don’t know’ was excluded.

Figure 13 shows the trend in purity of heroin, as perceived by participants, from 2008 onwards. Despite various fluctuations over the years, it can be seen that purity has generally been reported as 'medium' or 'low'.

Figure 13: Perception of current purity of heroin, 2008–2017



Source: IDRS participant interviews.
 Note: 'Don't know' was excluded from 2009 onwards.

5.1.3 *Availability of heroin* Table 11 and Table 12 summarise the current availability of heroin and changes in heroin availability over the last six months, as perceived by participants. Of those who were able to answer questions regarding the availability of heroin (n=48), the majority reported it was either 'easy' or 'very easy' to obtain (98%), with only two per cent reporting that heroin was 'very difficult' to obtain. The vast majority (96%) of those able to answer (n=47) perceived that heroin availability had remained 'stable' in the six months preceding interview.

Table 11: Availability of heroin currently, 2016–2017

How easy is it to get heroin at the moment?	2016 (n=35)	2017 (n=48)
	% able to answer	
Very easy	46	69
Easy	46	29
Difficult	9	0
Very difficult	0	2

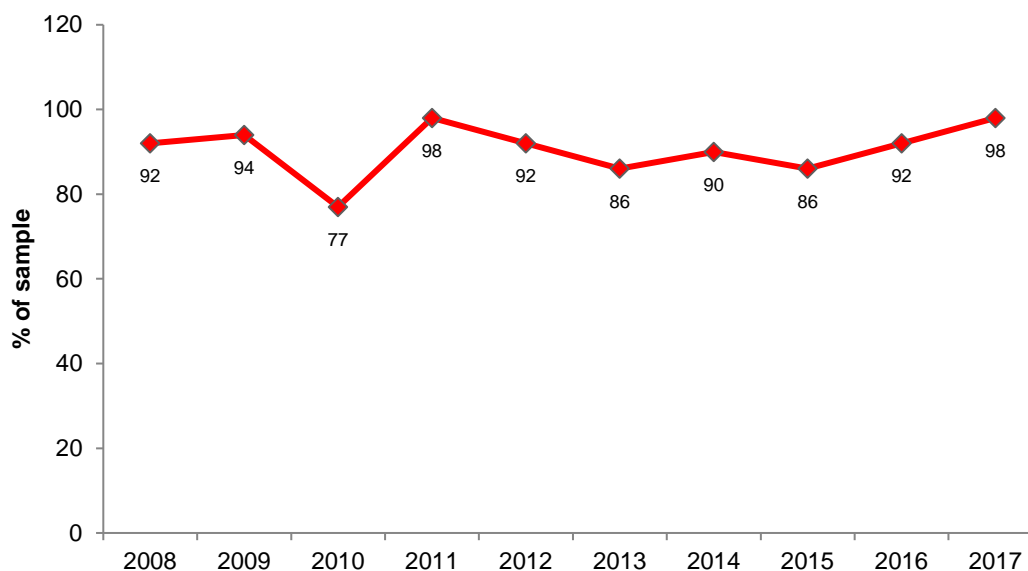
Source: IDRS participant interviews.
 Note: 'Don't know' was excluded.

Table 12: Change in availability of heroin over the last six months, 2016–2017

Has availability changed in the last 6 months?	2016 (n=35)	2017 (n=47)
	% able to answer	
More difficult	3	0
Stable	94	96
Easier	3	4
Fluctuates	0	0

Source: IDRS participant interviews.
Note: 'Don't know' was excluded.

Long-term trend data for the availability of heroin are presented in Figure 14. As can be seen, the percentage of participants who reported that heroin was 'very easy' or 'easy' to obtain in the six months prior to interview has remained relatively high and stable over the past decade. In 2017, 98% of participants able to answer reported that heroin was 'easy' or 'very easy' to obtain (92% in 2016).

Figure 14: Availability of heroin as easy or very easy in the last six months, 2008–2017

Source: IDRS participant interviews.
Note: 'Don't know' was excluded from 2009 onwards.

5.1.4 Purchasing patterns of heroin

Participants were also asked about the person from whom and the location from where they had last obtained heroin (see Table 13). The largest percentage of participants who provided information on the source of their heroin in the six months prior to interview (n=24) reported that they usually obtained heroin from a 'known dealer' (53%). Over one quarter (27%) obtained heroin from 'friends' in 2017.

An 'agreed public location' was the most commonly reported last purchase venue (40%) and almost one third (31%) reported heroin being 'delivered to their home'.

Table 13: Source person and source venue last time obtained heroin in the last six months, 2016–2017

Last source person and venue	2016 (n=33)	2017 (n=45)
Person		
Street dealer	9	4
Known dealer	58	53
Friends	24	27
Acquaintances	6	11
Mobile dealer	0	0
Unknown dealer	0	2
Partner	0	0
Venue	(n=34)	(n=45)
Home delivery	9	31
Dealer's home	58	13
Friend's home	24	7
Acquaintance's home	6	2
Agreed public location	0	40
Street market	0	7
Other	0	0

Source: IDRS participant interviews.

5.2 Methamphetamine

Key Findings

- The median price for base and crystal methamphetamine was \$50 per point, respectively.
- The majority of participants reported the price of crystal and powder methamphetamine had remained 'stable'. Nevertheless, significantly more participants reported the price of crystal methamphetamine to have 'increased' in 2017 ($p<0.01$), and significantly less participants reported that the price of crystal methamphetamine had decreased in 2017 ($p<0.001$). The majority of those who had purchased base methamphetamine reported the price to be 'increasing', a significant increase from 2016 ($p<0.05$).
- In regard to methamphetamine powder, the largest percentage of participants perceived current purity as 'low' and the largest percentage of those able to comment regarded methamphetamine base to be of 'medium' purity. Over two-fifths of participants reported current purity of crystal methamphetamine as 'medium'. Significantly less participants reported purity of crystal methamphetamine to be 'high' in 2017 ($p<0.05$) compared to 2016.
- The largest percentage of participants reported that purity of base and crystal methamphetamine had remained 'stable' in the six months preceding interview, though powder was largely reported as having 'decreased' in purity.
- The availability of all forms of methamphetamine was reported as 'easy' or 'very easy' to obtain (67% for powder; 86% for base; and 97% for crystal methamphetamine). This had remained 'stable' over the preceding six months.
- Participants reported last obtaining all forms of methamphetamine from 'friends' via 'home delivery'.

5.2.1 Price of methamphetamine

5.2.1.1 *Methamphetamine – powder*

Less than ten participants were able to comment on the price of a point, a half weight or gram of powder and therefore the data is not presented.

5.2.1.2 *Methamphetamine – base*

The last reported price paid for a point of base was a median of \$50 (range: \$25–\$100, $n=19$) (\$50 in 2016). Less than ten participants were able to comment on the price of a half weight or gram of base and therefore the data is not presented (see Table 14).

5.2.1.3 *Methamphetamine – crystal*

The last reported price paid for a point of crystal was a median of \$50 (range: \$0–\$100; $n=51$) (\$50 in 2016). Crystal methamphetamine was the only form where more than ten participants were able to comment on price of quantities other than a point. The median price for a half weight of crystal was \$200 (range: \$100–\$500; $n=23$), and \$325 for a gram (range: \$100–\$500; $n=10$) (see Table 14).

Table 14: Reported price of all forms of methamphetamine, 2016–2017

	2016	2017
Price (\$) SPEED		
Per point	50	-
Per gram	-	-
Price (\$) BASE		
Per point	50	50
Per gram	-	-
Price (\$) CRYSTAL		
Per point	50	50
Per gram	400	325

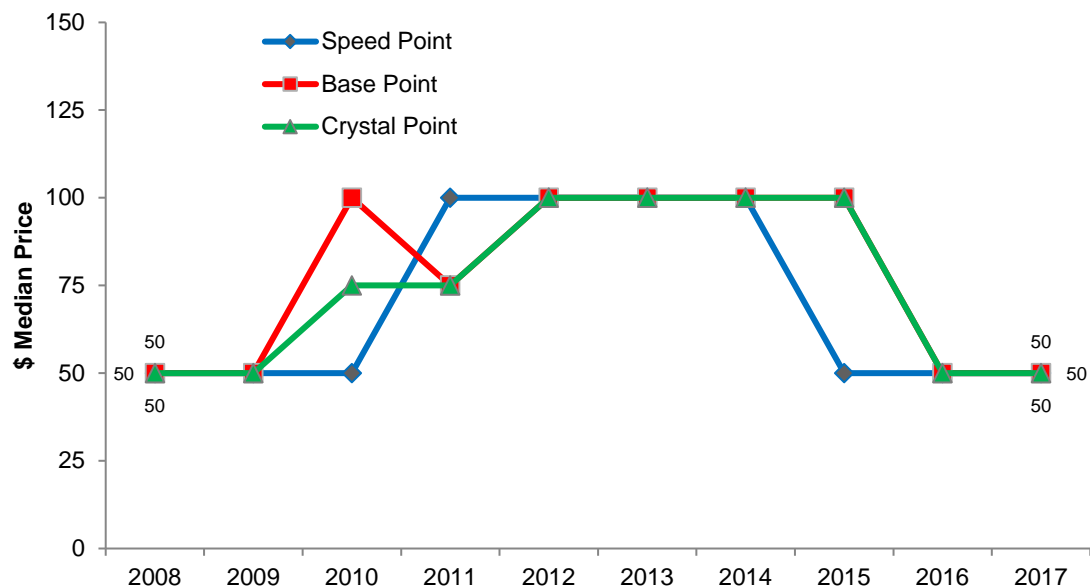
Source: IDRS participant interviews.

- Small numbers (n<10) were able to comment; data not reported.

Note: 'Don't know' was excluded.

Table 14 shows price data for 2016 and 2017. It is important to note that long-term changes in the last purchase price of a gram for the different forms of methamphetamine have been difficult to gauge, mainly due to the fact that few participants have been able to comment.

Figure 15: Median price of points per form of methamphetamine, 2008-2017



Source: IDRS participant interviews.

Note: Small numbers (n<10) were able to comment; interpret with caution.

Figure 15 shows median price data from 2008 to 2017 for three forms of methamphetamine by points. It can be seen that crystal methamphetamine and base commenced an upward trend from 2009, with speed powder following in 2010 and all forms plateauing from 2012 to 2014, until the median price of speed powder decreased in 2015, with base and crystal methamphetamine following in 2016. Median prices remained stable for all three forms of methamphetamine in 2017.

Table 15 summarises participant reports of recent changes in the price of the three forms of methamphetamine. In 2017, the majority of participants answering this section reported the price of crystal and powder methamphetamine to be 'stable'.

Nevertheless, significantly more participants reported the price of crystal methamphetamine as ‘increasing’ in 2017 ($p<0.01$), and significantly less participants reported that the price of crystal methamphetamine as ‘decreasing’ in 2017 ($p<0.001$) compared to 2016. The majority of those who had purchased base methamphetamine reported the price to be ‘increasing’, a significant increase from 2016 ($p<0.05$).

Table 15: Change in price of methamphetamine over last six months, 2016–2017

Reported price status	Powder		Base		Crystal	
	2016	2017	2016	2017	2016	2017
	(n=14)	(n=11)	(n=21)	(n=28)	(n=75)	(n=70)
% able to answer						
Increasing	7	18	5	36*	5	26**
Stable	79	36	52	25	37	50
Decreasing	14	27	19	25	41	11***
Fluctuating	0	18	24	14	16	13

Source: IDRS participant interviews.

Note: ‘Don’t know’ was excluded.

*Significant change between 2016 and 2017 ($p<0.05$).

**Significant change between 2016 and 2017 ($p<0.01$).

***Significant change between 2016 and 2017 ($p<0.001$).

5.2.2 Perceived purity of methamphetamine

Table 16 and Methamphetamine powder, on the other hand, was largely reported as having ‘decreased’ in purity in the preceding six months.

Table 17 summarise the current perceived purity of the three forms of methamphetamine and the changes in methamphetamine purity over the last six months. As can be seen, participant reports were quite varied. In regard to methamphetamine powder, the largest percentage of participants perceived current purity as ‘low’, unlike 2016 reports. In 2017, the largest percentage of those able to comment regarded methamphetamine base to be of ‘medium’ purity, similar to 2016. Over two-fifths (44%) of participants reported current purity of crystal methamphetamine as ‘medium’, whereas the largest percentage of those able to comment in 2016 (40%) reported current purity as being ‘high’. Significantly less participants reported perceived purity of crystal methamphetamine to be ‘high’ in 2017 ($p<0.05$) compared to 2016.

Table 16: Perceived purity/strength of methamphetamine currently, 2016–2017

How pure would you say powder/base/crystal is at the moment?	Powder		Base		Crystal	
	2016	2017	2016	2017	2016	2017
	(n=14)	(n=11)	(n=22)	(n=29)	(n=76)	(n=69)
% able to answer						
High	50	18	27	10	40	22*
Medium	43	27	55	41	33	44
Low	0	36	14	31	15	16
Fluctuates	7	18	5	17	13	19

Source: IDRS participant interviews.

Note: ‘Don’t know’ was excluded.

*Significant difference between 2016 and 2017 ($p<0.05$).

Across base and crystal methamphetamine, the largest percentage of participants reported that purity had remained ‘stable’ in the six months preceding interview, as can be seen in Table 17. Methamphetamine powder, on the other hand, was largely reported as having ‘decreased’ in purity in the preceding six months.

Table 17: Change in purity/strength of methamphetamine in last six months, 2016–2017

Has the purity of powder/base/crystal changed in the last 6 months?	Powder		Base		Crystal	
	2016	2017	2016	2017	2016	2017
	(n=13)	(n=11)	(n=21)	(n=28)	(n=75)	(n=66)
	% able to answer					
Increasing	15	0	10	4	16	9
Stable	62	27	48	39	39	38
Decreasing	8	46	29	32	23	24
Fluctuating	15	27	14	25	23	29

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

5.2.3 Availability of methamphetamine

Table 18 and

Table 19 summarise the current availability of the three main forms of methamphetamine and the changes in availability over the last six months, as reported by participants. In 2017, crystal methamphetamine was largely reported as 'easy' (45%) or 'very easy' (52%) to obtain. The majority of those able to comment also reported that the availability of all three forms of methamphetamine had remained 'stable' over the preceding six months.

Table 18: Availability of methamphetamine currently, 2016–2017

How easy is it to get powder/base/crystal at the moment?	Powder		Base		Crystal	
	2016	2017	2016	2017	2016	2017
	(n=14)	(n=12)	(n=22)	(n=28)	(n=76)	(n=73)
	% able to answer					
Very easy	29	33	41	46	61	52
Easy	43	33	36	39	34	45
Difficult	29	17	23	11	5	3
Very difficult	0	17	0	4	0	0

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

Table 19: Change in availability of methamphetamine over the last six months, 2016–2017

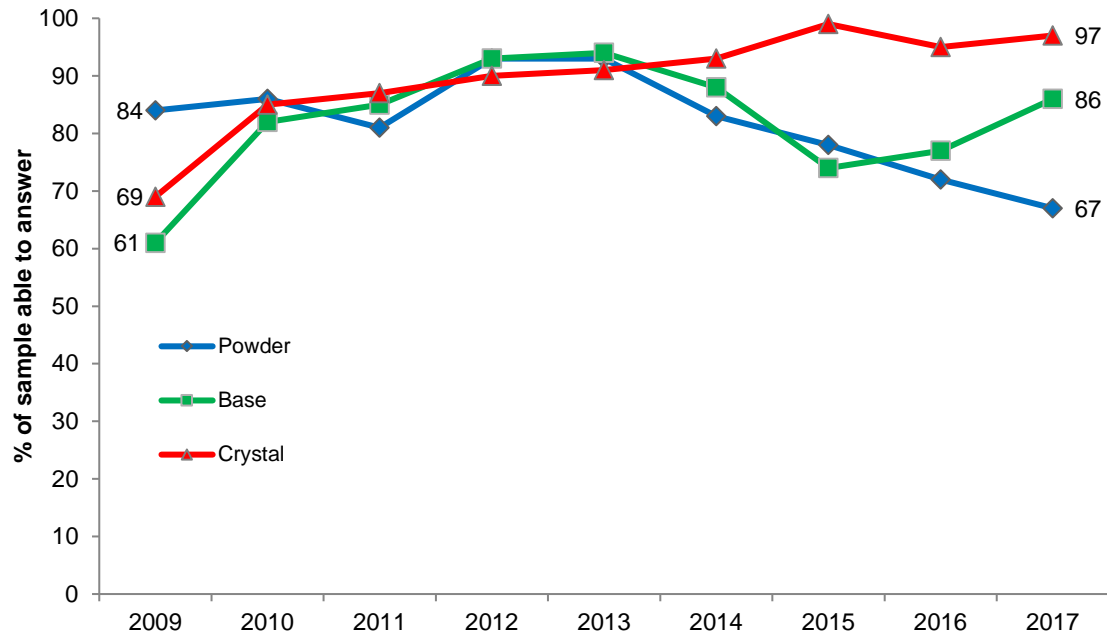
Has availability changed in the last 6 months?	Powder		Base		Crystal	
	2016	2017	2016	2017	2016	2017
	(n=14)	(n=12)	(n=23)	(n=28)	(n=77)	(n=73)
	% able to answer					
More difficult	21	17	9	18	3	8
Stable	71	83	74	68	78	80
Easier	7	0	13	14	18	11
Fluctuates	0	0	4	0	1	1

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

Long-term trend data depicting the availability of methamphetamine from 2009 onwards, as reported by participants, are presented in Figure 16. As shown, methamphetamine has generally been considered 'easy' or 'very easy' to obtain across all years and for all forms. Nevertheless, powder methamphetamine has begun a slow yet steady decline in the ease of access since 2014 (for figures prior to 2009, please see previous editions of the IDRS SA report).

Figure 16: Availability of methamphetamine in the last six months, easy or very easy, 2009–2017



Source: IDRS participant interviews.
Note: 'Don't know' was excluded.

5.2.4 Purchasing patterns of methamphetamine

Participants were asked about both the source and location from which they had last obtained the various forms of methamphetamine.

Table 20 shows that the majority of participants who recently used methamphetamine and were able to answer reported obtaining all forms of methamphetamine from 'friends' and a 'known dealer'.

The location/venue from which participants most commonly obtained all forms of methamphetamine was via 'home delivery'.

Table 20: Last source and venue used for obtaining various forms of methamphetamine in the last six months, 2017

Last source and venue of those able to answer (%)	Powder	Base	Crystal
Source#	n=10	n=29	n=69
Street dealer	10	0	1
Friends	30	52	49
Known dealer	20	38	35
Workmates	0	0	0
Acquaintances	20	3	9
Unknown dealer	10	3	3
Mobile dealers	0	0	0
Other	10	3	1
Venue#	n=9	n=28	n=69
Home delivery	22	32	36
Dealer's home	22	29	20
Friend's home	11	29	23
Acquaintance's home	11	7	9
Street market	11	0	1
Agreed public location	22	4	10
Work	0	0	0
Other	0	0	0

Source: IDRS participant interviews.

Only one response allowed.

5.3 Cannabis

Key Findings

- The price for both hydro and bush cannabis remained stable in 2017 at \$25 for a bag.
- In 2017, the strength of hydro was reported as 'high' by the majority of participants, and most participants reported the potency of bush cannabis to be 'medium'. This has largely remained stable over the preceding six months.
- The majority of participants reported both types of cannabis as 'easy' or 'very easy' to obtain. Availability had remained 'stable' over the preceding six months.
- Participants obtained cannabis primarily from 'friends', most often from a 'friend's home'.

From 2003, to ensure more detailed information was collected on the different forms of cannabis, the cannabis section was separated into hydro (hydroponically grown) and bush (grown outdoors).

The following sections refer to a bag as a standard measure (particular to the SA cannabis market). A detailed investigation of the weight/content of a bag of cannabis was undertaken in 2002 (Longo et al. 2003). Briefly, in the 2002 survey, 33 participants gave a single value of the average weight of cannabis bags sold in SA; the results yielded a median of two grams and a mean of two and a half grams. A further 19 participants gave both a lower and upper weight range for cannabis bags. The median lower range was two grams (mean=2.1) and the median upper range was three grams (mean=2.9). It can be understood, therefore, that the amount of cannabis in a bag may fluctuate, but that a bag in SA generally conveys a weight of cannabis between two and three grams.

5.3.1 Price of cannabis

Participants reported the price for their last purchase to be a median of \$200/ounce for hydro (range: \$180–\$250, n=15). Less than ten participants commented on the price of grams. Regarding bush cannabis, less than ten participants reported the price of grams and ounces. The most common amount purchased in the last six months was a bag and the reported median price paid by participants at last purchase was \$25, for both hydro (range: \$20–\$30, n=17) and bush (range: \$20–\$25, n=12). As such, there was no difference in the reported price of a bag of hydro compared to bush cannabis (see Table 21).

Table 21: Price of last cannabis purchases, 2016–2017

	2016	2017
Price (\$) HYRDO		
Per quarter ounce	60	60
Per ounce	220	200
Per bag	25	25
Price (\$) BUSH		
Per quarter ounce	60	-
Per ounce	-	-
Per bag	25	25

Source: IDRS participant interviews.

-Small numbers (n<10) were able to comment - data not reported.

The price of both hydro and bush cannabis was generally reported as 'stable' over the last six months (see Table 22).

Table 22: Change in price of cannabis over the last six months, 2016–2017

Reported price status	Hydro		Bush	
	2016 (n=52)	2017 (n=41)	2016 (n=31)	2017 (n=31)
	% able to answer			
Increasing	8	10	0	13
Stable	87	85	94	81
Decreasing	0	2	0	3
Fluctuating	6	2	7	3

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

5.3.2 Perceived potency of cannabis

Table 23 and Table 24 summarise the current potency of cannabis and the changes in cannabis potency over the last six months, according to participant reports. In 2017, the strength of hydro was reported as 'high' by the majority of participants, and most participants reported the potency of bush cannabis to be 'medium', much the same as 2016 reports. The majority of participants reported that the potency of both hydro and bush cannabis had remained 'stable' over the last six months, consistent with 2016 reports.

Table 23: Perceived current potency/strength of cannabis, 2016–2017

How potent would you say cannabis is at the moment?	Hydro		Bush	
	2016 (n=53)	2017 (n=44)	2016 (n=32)	2017 (n=30)
	% able to answer			
High	51	68	38	37
Medium	32	23	53	50
Low	8	2	9	3
Fluctuates	9	7	0	10

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

Table 24: Change in potency/strength of cannabis in last six months, 2016–2017

Has the potency of cannabis changed in the last 6 months?	Hydro		Bush	
	2016 (n=54)	2017 (n=43)	2016 (n=31)	2017 (n=31)
	% able to answer			
Increasing	4	7	10	7
Stable	56	65	65	74
Decreasing	15	5	7	3
Fluctuating	26	23	19	16

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

5.3.3 Availability of cannabis

Table 25 and Table 26 summarise the current availability of cannabis and the changes in cannabis availability over the last six months, according to participant reports. In 2017, the majority of participants reported both types of cannabis as ‘easy’ or ‘very easy’ to obtain; 91% for hydro and 85% for bush. The majority of participants who were able to answer reported that the availability of hydro (89%) and bush (69%) remained ‘stable’ in the last six months.

Table 25: Availability of cannabis currently, 2016-2017

How easy is it to get cannabis at the moment?	Hydro		Bush	
	2016 (n=53)	2017 (n=46)	2016 (n=31)	2017 (n=32)
	% able to answer			
Very easy	43	54	39	47
Easy	47	37	42	38
Difficult	9	9	16	9
Very difficult	0	0	3	6

Source: IDRS participant interviews.
Note: ‘Don’t know’ was excluded.

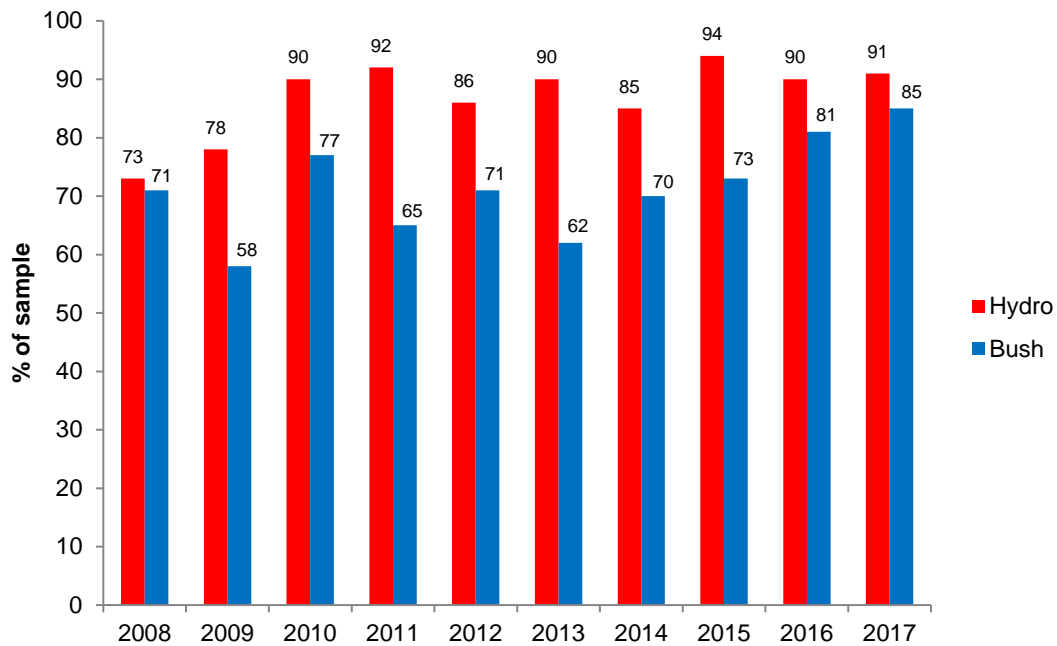
Table 26: Change in availability of cannabis over the last six months, 2016–2017

Has availability changed in the last 6 months?	Hydro		Bush	
	2016 (n=54)	2017 (n=46)	2016 (n=32)	2017 (n=32)
	% able to answer			
More difficult	11	7	6	13
Stable	83	89	81	69
Easier	2	2	6	19
Fluctuates	4	2	6	0

Source: IDRS participant interviews.
Note: ‘Don’t know’ was excluded.

Table 17 shows the long-term trend in the percentage of participants reporting availability of cannabis as ‘easy’ or ‘very easy’, from 2008 onwards. As can be seen, the reported ease of availability has generally remained high. In 2017, the majority of the sample reported that both hydro and bush cannabis were ‘easy’ or ‘very easy’ to obtain. This was mostly stable from 2016.

Figure 17: Availability of cannabis in the last six months, easy or very easy, 2008–2017



Source: IDRS participant interviews.
 Note: 'Don't know' was excluded from 2009 onwards.

5.3.4 Purchasing patterns of cannabis

Table 27 presents information collected from participants on the source and venue from which participants had last obtained cannabis. In 2017, the majority of participants who were able to comment reported that they last obtained cannabis from 'friends' (hydro: 68%; bush: 73%) in the six months prior to interview. Participants reported that the venue they had last obtained cannabis from was a 'friend's home' (hydro: 47%; bush: 55%) or 'home delivery' (hydro: 33%; bush: 31%).

Table 27: Source and venue of last purchase of hydro and bush cannabis, 2017

Last source and venue of those able to answer (%)	Hydro	Bush
Person#	n=44	n=30
Street dealer	2	0
Friends	68	73
Known dealer	18	10
Mobile dealer	0	0
Acquaintances	7	7
Unknown dealer	0	0
Partner	0	0
Other	2	10
Venue#	n=43	n=29
Home delivery	33	31
Dealer's home	5	3
Friend's home	47	55
Acquaintance's home	2	3
Street market	5	0
Agreed public location	9	3
Other	0	3

Source: IDRS participant interviews.

Only one response allowed.

5.4 Morphine

Key Findings

- Less than ten participants were able to provide price information for any form of morphine.
- Eight participants reported illicit morphine as being 'easy' to obtain though two participants reported it as being 'difficult' to attain. The majority of those able to answer reported that availability had remained 'stable'.
- Participants most commonly obtained illicit morphine through 'friends' at a 'friend's home'.

In 2017, 12% of the sample was confident enough to complete survey items relating to the illicit morphine market.

5.4.1 Price of morphine

In 2017, few participants (n<10) were able to provide price information for any form of morphine; therefore, data will not be reported.

Eleven participants were able to comment on whether the price of morphine had changed in the six months prior to interview. Eight participants (73%) reported that the price had remained 'stable' and three participants reported that the price had 'increased' (27%). Comparisons were not made with 2016 due to small numbers.

5.4.2 Availability of morphine

Table 28 and Table 29 summarise the current availability of morphine and the changes in its availability over the last six months, according to participant reports. Among those able to comment (n=12), eight participants reported that illicit morphine was 'easy' to obtain whereas two participants reported that illicit morphine was 'difficult' to obtain. Among those able to comment (n=12), 75% (n=9) reported that the availability of morphine had remained 'stable' over the past six months.

Table 28: Availability of illicit morphine currently, 2016–2017

How easy is it to get morphine at the moment?	2016 (n=15)	2017 (n=12)
	% able to answer	
Very easy	20	17
Easy	40	67
Difficult	33	17
Very difficult	7	0

Source: IDRS participant interviews.

Note: 'Don't know' was excluded.

Table 29: Change in availability of illicit morphine over the last six months, 2016–2017

Has availability changed in the last 6 months?	2016 (n=15)	2017 (n=12)
	% able to answer	
More difficult	33	0
Stable	67	75
Easier	0	17
Fluctuates	0	0

Source: IDRS participant interviews.
Note: 'Don't know' was excluded.

5.4.3 Purchasing patterns of morphine

Table 30 presents information collected from participants on the person(s) from whom they had last bought morphine from, and the venues from which they had last obtained morphine in the six months prior to interview. Of those who were able to answer (n=11), the majority of participants reported that they had obtained morphine from 'friends' (n=6; 55%). Four participants (36%) reported that the venue they had last obtained morphine from was a 'friend's home', followed by 'home delivery' and an 'agreed public location' (n=2; 18%, respectively).

Table 30: Last source and venue used to obtain illicit morphine in the last six months, 2016–2017

Last source and venue of those able to answer (%)	2016	2017
Source#	n=12	n=11
Street dealer	8	0
Friends	75	55
Known dealer	0	9
Mobile dealer	0	0
Acquaintances	8	27
Unknown dealer	0	0
Partner	8	0
Other	0	0
Venue#	n=12	n=11
Home delivery	25	18
Dealer's home	0	9
Friend's home	58	36
Acquaintance's home	0	0
Street market	0	9
Agreed public location	17	18
Other	0	9

Source: IDRS participant interviews.
Only one response allowed.

5.5 Buprenorphine-Naloxone (Suboxone®)

Key Findings

- The price of illicit Suboxone® film was predominantly reported as being 'stable' in the preceding six months.
- Six participants reported that illicit Suboxone® film was 'easy' to obtain, though two participants perceived it 'difficult' to obtain. The majority of those commenting reported that availability had remained 'stable' in the six months prior to interview.
- Illicit Suboxone® film was mainly obtained through 'friends', and primarily from a 'friend's home'.

In 2017, 12% of the sample were confident enough to complete survey items relating to the illicit buprenorphine-naloxone market. Due to the decline in use of buprenorphine-naloxone 'tablet' form, participants from the 2017 sample were asked questions in relation to buprenorphine-naloxone 'film' (Suboxone®) only.

Three participants commented on the price of Suboxone® 2mg 'film', reporting a median price of \$2.50 (range: \$1.50-\$5.00). The median price for Suboxone® 8mg 'film' was \$12.50 (range: \$10 - \$25; n=6). As all price results are based on small numbers, interpret with caution. Among those able to comment (n=7), five participants reported that the price of Suboxone® film had remained 'stable', and two participants reported an 'increase' in the preceding six months.

With regards to the current availability of Suboxone® film, 55% (n=6) of those who commented (n=11) said that it was 'easy' to obtain. Two participants reported that it was 'difficult' to obtain (18%). When asked whether availability had changed over the preceding six months, the majority of those commenting (64%; n=7) reported that it had remained 'stable', whilst 18% (n=2) reported that it had become 'more difficult' to access. Two participants reported that it had become 'easier' to obtain.

Among those that had recently bought Suboxone® film, seven participants reported purchasing from 'friends' and one participant had purchased from 'acquaintances'. Five participants reported that the venue they had usually obtained Suboxone® film was from was a 'friend's home', followed by 'home delivery', an 'acquaintances' house' and a 'street market' (n=1; respectively).

5.6 Other drugs

The number of participants who answered questions relating to benzodiazepines, cocaine, ecstasy, hallucinogens, illicit oxycodone, illicit buprenorphine (Subutex®), illicit methadone, illicit tapentadol, illicit antidepressants, illicit antipsychotics, illicit pharmaceutical stimulants, steroids and fentanyl markets were extremely low (n ≤10). Data from these sections will not be presented.

6 HEALTH-RELATED TRENDS ASSOCIATED WITH DRUG USE

Key Findings

Overdose

- Eight participants reported overdosing on heroin in the previous 12 months and one participant had overdosed in the past month.
- Eleven participants reported overdosing on 'other drugs' (excluding heroin, morphine, methadone and oxycodone) in the past 12 months and five participants had overdosed in the last month.

Drug Treatment

- Thirty per cent of the SA IDRS sample reported being in drug treatment at the time of interview, and they had been in treatment for a median of 27 months. The predominant form of treatment being received was maintenance pharmacotherapy treatment. Specifically, 16% reported being on a methadone program, and eight per cent reported being on a buprenorphine or buprenorphine/naloxone program.
- Five per cent of the sample reported a hospital admission for methamphetamine psychosis on a median of two occasions in the past year. Four per cent of the sample reported admission to hospital for other methamphetamine related issues on a median of one and a half occasions.
- Seven participants had tried to access treatment over the preceding six months but were unable to. Of these, three participants had tried to access treatment for methamphetamine and heroin use, respectively, and one participant had tried to access treatment for methadone use.

Opioid and Stimulant Dependence

- Of those who recently used a stimulant drug and commented (n=74), the median SDS score was three, with 47% scoring four or above, indicative of stimulant dependence. Of those who scored four or above (n=35), thirty-four participants attributed their responses to methamphetamine and one participant attributed their response to pharmaceutical stimulants.
- Of those who recently used an opioid drug and commented (n=67), the median SDS score was five, with 57% scoring five or above, indicative of opioid dependence. Of those who scored five or above (n=38), 58% reported specifically attributing their responses to heroin, 16% to methadone, 11% to morphine, and three per cent to oxycodone and buprenorphine, respectively.

Mental Health

- Over two-fifths of the sample (41%) self-reported mental health problems in the six months preceding interview. Among those who had suffered from a mental health problem, depression and anxiety continued to be the most commonly reported disorders.
- Among those who had recently experienced a mental health problem, 62% reported that they had attended a professional for such problems.
- Forty-eight per cent of the IDRS sample was assessed as having 'high' to 'very high' levels of psychological distress, much higher than general population norms (11%).

Alcohol Use Disorders Identification Test

- Forty-nine per cent of the sample (71% males and 29% females) scored five or more on the AUDIT-C, indicating a need for further assessment.

Naloxone Program and Distribution

- Seventy-three per cent of the sample had heard of naloxone. Among those who had heard of naloxone, three-fifths reported that naloxone was used to 'reverse heroin'; and 19% believed that it was used to 're-establish consciousness'.
- The majority (66%) reported that they had not heard of the take-home naloxone program.
- Three participants reported that they had completed training in naloxone administration and had received a prescription for naloxone. Of the three participants who had completed the course, two participants had used the naloxone to resuscitate a person who overdosed on a median of one and a half times.
- Twenty per cent of the sample reported that they had heard about the rescheduling of naloxone. No participants reported that they had been resuscitated with naloxone which was obtained OTC at a pharmacy.
- One hundred per cent of those who commented (n=59) reported that they would stay with someone after giving them naloxone, 100% reported that they would administer naloxone after witnessing someone overdose, and 60% reported that they would carry naloxone on themselves.

6.1 Overdose

6.1.1 Heroin and other opioids

6.1.1.1 Non-fatal overdose

Of the eighty-one participants who reported lifetime use of heroin, 34% of participants reported that they had overdosed on heroin in their lifetime. Among participants who had ever overdosed on heroin, they had done so on a median of three occasions (range: 1–35 occasions). Of those who had ever overdosed on heroin, 53% had overdosed three or more times in their lifetime (n=18). Twenty-four per cent reported that they had overdosed once in their lifetime (n=8) and similar percentages reported having overdosed twice in their lifetime (see Table 31).

Table 31: Lifetime experience of heroin overdose*, 2012–2017

Heroin overdose variable	2012 (n=34)	2013 (n=36)	2014 (n=30)	2015 (n=30)	2016 (n=30)	2017 (n=34)
Overdosed once (%)	35	53	40	37	10	24
Overdosed twice (%)	21	22	30	10	43	24
Overdosed 3 times or more (%)	44	25	30	53	47	53

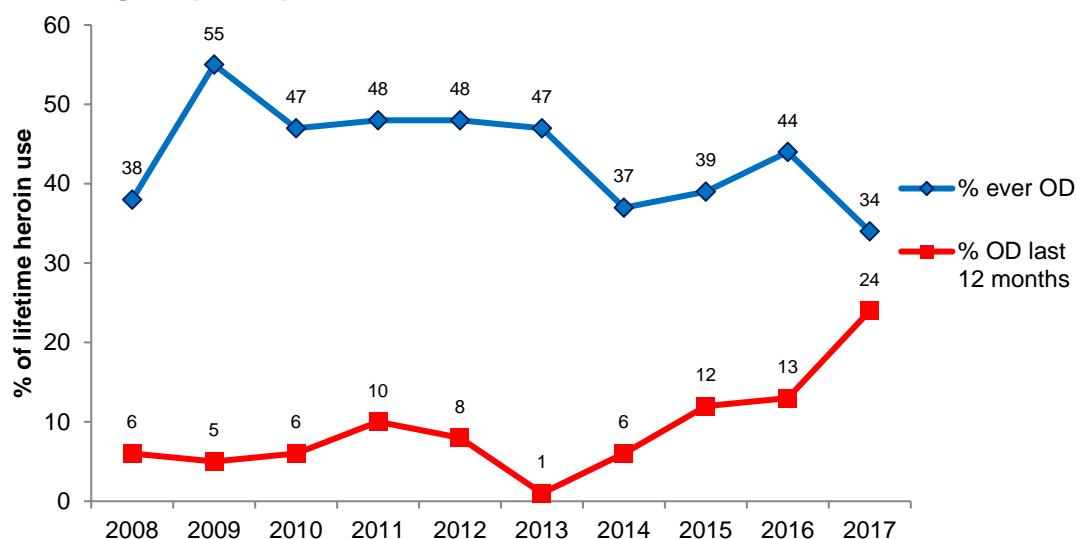
Source: IDRS participant interviews.

*Of those who had ever overdosed on heroin.

Among the entire sample, eight participants had overdosed on heroin in the past 12 months (24% among those who had ever overdosed) and one participant had overdosed in the past month (three per cent among those who had ever overdosed).

Long-term trends in the experience of lifetime and past 12-month overdose, among those who had ever overdosed on heroin, is depicted in Figure 18. As can be seen, heroin overdoses in the past 12 months remained fairly low and stable until 2012. A decline in overdoses was noted again in 2013 and the number of overdoses doubled from 2014 to 2015, and remained stable in 2016 but increased almost twofold for the second time in 2017.

Figure 18: Experience of lifetime and past 12-month heroin overdose, as a percentage of participants that had ever overdosed on heroin, 2008–2017



Source: IDRS Participant interviews.

Participants were also asked about the treatment they received following a recent (past year) heroin overdose; multiple responses were accepted. Eight participants commented; five participants had an ambulance attend, four participants attended the hospital emergency department, two participants received CPR from a friend/partner/peer, two participants received Narcan®, one participant received oxygen, and one participant visited a GP.

Participants were also asked about the treatment or information they received following their most recent heroin overdose. Of the seven participants who commented, six participants did not receive any information or treatment after the recent overdose, and one participant received information from a counsellor, a generalist health service, a phone information service and a drug health service.

6.1.1.2 Accidental overdose (other drugs)

Participants were asked to specify how many times they had accidentally overdosed on any other drug (excluding heroin, morphine, methadone or oxycodone), how long since that had happened, and which drugs were involved. Twenty-eight per cent (n=28) reported that they had accidentally overdosed on another drug within their lifetime, and they had done so on a median of four occasions (range: 1–100 occasions). Of these, 11 participants had overdosed in the past 12 months, including five participants that had overdosed in the last month.

6.2 Drug treatment

6.2.1 IDRS participant survey

As mentioned in section 3.1, 30% of the sample was in drug treatment at the time of the interview, with the majority of participants in maintenance pharmacotherapy treatment. The median amount of time spent in any current treatment was 27 months (ranging from one month to 30 years). Those in current methadone treatment (16% of the sample) reported being in treatment for a median of 120 months (ranging from two months to 30 years). Seven per cent of the sample reported being in current buprenorphine-naloxone treatment, four per cent reported drug counselling and one per cent reported buprenorphine treatment.

Participants were asked what forms of treatment they had been in over the last six months. Of those participants who commented (n=23), fourteen participants reported previous methadone treatment; six participants reported drug counselling; four participants reported buprenorphine-naloxone treatment and one participant reported other unspecified treatment.

In 2017, participants were specifically asked about opioid and methamphetamine treatment in the past year. Thirty-one per cent of the IDRS sample had been in opioid substitution treatment in the past year. Of this sample, 74% (n=23) had started opioid substitution treatment once in the past year (range: 0-10 times).

Among those who commented (n=98), five participants started treatment for methamphetamine use in the past year on a median of one occasion (range:1-10 occasions). Of those who started treatment in the past year, two participants underwent counselling, three participants underwent assessment, one underwent detoxification and one entered rehabilitation (multiple responses allowed). Five participants reported a hospital admission for methamphetamine psychosis in the past year (two participants reported one hospital admission; median 2; range: 1-3 times). Four participants reported hospital admission for other methamphetamine related issues in the past year (two participants reported one hospital admission; median 1.5; range: 1-3 times).

All participants were asked if they had tried to get into treatment, but were unable to in the last six months. Seven participants responded 'yes' and of these, three participants reported that they had tried to access treatment for heroin use, three participants had tried to access treatment for methamphetamine use, and one participant had tried to access treatment for methadone use. Noting that multiple responses were allowed, four participants reported that they had tried to access a rehabilitation service, two participants tried to access detoxification, two participants tried to access a counsellor and one participant tried to access a GP, a psychiatrist and OST, respectively.

There were mixed reports regarding the availability of treatment. Of the entire sample, 36% reported that it was 'easy' to get into treatment at the moment, 26% reported that it was 'difficult', 12% 'very difficult' and 10% 'very easy'. Sixteen per cent were not sure.

6.3 Opioid and stimulant dependence

In 2017, the participants in the IDRS were asked questions from the Severity of Dependence Scale (SDS) for the use of stimulants and opioids. Understanding whether participants are dependent is an important predictor of harm, and provides information to complement quantity and frequency of use measures.

The SDS is a five-item questionnaire designed to measure the degree of dependence on a variety of drugs. The SDS focuses on the psychological aspects of dependence, including impaired control of drug use, and preoccupation with and anxiety about use. The SDS appears to be a reliable measure of the dependence construct. It has demonstrated good psychometric properties with heroin, cocaine, amphetamine, and methadone maintenance patients across five samples in Sydney and London (Dawe, Loxton et al. 2002).

Previous research has suggested that a cut-off of four is indicative of dependence for those who had used methamphetamine (Topp and Mattick 1997) and a cut-off value of three for cocaine (Kaye and Darke 2002). No validated cut-off for opioid dependence exists; however, researchers typically use a cut-off value of five as indicative of dependence.

Of those who had recently used a stimulant and commented (n=74), the median SDS score was three (mean 4.1, range: 0–15), with 47% scoring four or above, indicative of stimulant dependence. Females reported a mean stimulant SDS score of 4.2, similar to males; 4.1. Of those who scored four or above (n=35), thirty-four participants attributed their responses to methamphetamine and one participant attributed their response to pharmaceutical stimulants.

Of those who had recently used an opioid and commented (n=67), the median SDS score was five (mean 5.8, range: 0–15), with 57% scoring five or above, indicative of opioid dependence. There were no gender differences in the percentages of males (63%) and females (37%) who scored five or above. Of those who scored five or above (n=38), 58% reported specifically attributing their responses to heroin, 16% to methadone, 11% to morphine, five per cent to 'other' and no particular opioid, respectively, and three per cent to oxycodone and buprenorphine, respectively.

6.4 Mental and physical health problems and psychological distress

6.4.1 Self-reported mental health problems

In 2017, 41% of participants who commented (n=95) self-reported having had a mental health problem other than drug dependence in the six months preceding interview. Of those who self-reported a mental health problem and commented (n=39), the most common problems were depression (80%) and anxiety (54%).

Most (62%) of those who self-reported mental health problems reported that they had attended a mental health professional in the previous six months. Of those who reported attending a mental health professional (n=24), 67% reported visiting a GP, 29% visited a psychiatrist, 25% visited a psychologist, and 17% visited a counsellor. Participants were asked whether they were prescribed any medication from the mental health professional for their self-reported mental health problems. Of those who reported attending a mental health professional in the previous six months (n=24), over two-thirds (67%) reported they had been prescribed an anti-depressant, 28% reported being prescribed an anti-psychotic, and 50% reported being prescribed a benzodiazepine (see Table 32).

Table 32: Mental health problem reported by participants, 2016–2017

	2016	2017
Self-reported mental health problems last six months (%)	49	41
Self-reported mental health problems (%)[^]	(n=49)	(n=39)
Depression	63	80
Mania	2	5
Manic depression	10	13
Anxiety	43	54
Panic	16	10
Obsessive compulsive disorder (OCD)	4	5
Paranoia	12	13
Personality disorder	4	8
Drug-induced psychosis	16	10
Schizophrenia	10	8
Post-traumatic stress disorder	16	5
Attended mental health professional (%)[^]	65	62
No medication [#]	51	53
Prescribed anti-depressant [#]	73	67
Prescribed anti-psychotic [#]	46	28
Prescribed benzodiazepine [#]	64	50

Source: IDRS participant interviews.

Note: Percentages in each column do not total 100% as participants could report more than one mental health problem.

[^] Of those who reported a mental health problem in the preceding six months.

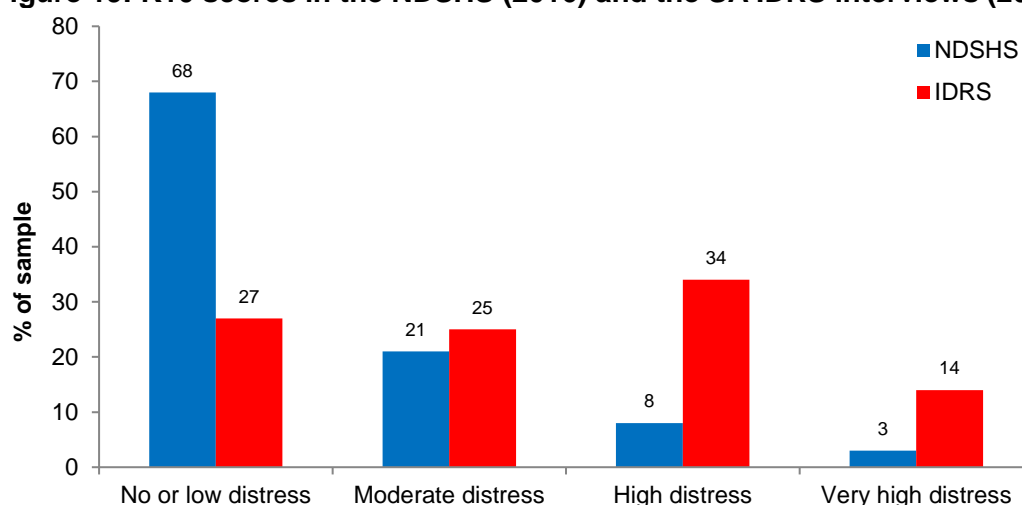
[#] Of those who attended a mental health professional (n=24).

6.4.2 Psychological distress

The Kessler Psychological Distress Scale (K10) was administered to participants in order to obtain a measure of psychological distress. The K10 is a 10-item standardised measure with good psychometric properties that identifies clinical levels of psychological distress as measured by the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) and the Structured Clinical Interview for DSM disorders (SCID) (Andrews and Slade 2001; Kessler, Andrews et al. 2002). The K10 asks about the level of anxiety and depressive symptoms that a person may have experienced in the preceding four week period (Australian Institute of Health and Welfare 2014). It should be noted that the K10 does not require that individuals give reasons for the psychological distress reported in the previous month, nor whether this was an unusual or normal month for the individual.

The minimum score that can be obtained is 10 (indicating no distress) and the maximum is 50 (indicating very high psychological distress) (Andrews and Slade 2001). The 2016 National Drug Strategy Household Survey (NDSHS) (Australian Institute of Health and Welfare 2017) provided the most recent Australian population norms available for the K10, and used four categories to describe degree of distress: scores from 10–15 were considered to be 'low', 16–21 as 'moderate', 22–29 as 'high' and 30–50 as 'very high'. Using these categories, IDRS participants reported greater levels of 'high' and 'very high' distress compared to the general population (nationally) (see Figure 19).

Figure 19: K10 scores in the NDSHS (2016) and the SA IDRS interviews (2017)



Source: IDRS participant interviews; (Australian Institute of Health and Welfare 2017).

Note: The extent to which cut-offs derived from population samples can be applied to the IDRS population is yet to be established and, therefore, these findings should be taken as a guide only. NDSHS findings refer to participants aged 18 and older.

Twenty-seven per cent of the IDRS sample had scores between 10 and 15 on the K10 (low risk), 25% scored between 16 and 21 (moderate distress), 34% scored from 22 to 29 (high distress), and 14% scored from 30 to 50 (very high distress). The median total score for the sample was 21 (range: 10–41).

6.5 Alcohol Use Disorders Identification Test

People who inject drugs are at particular risk of alcohol-related harms due to a high prevalence of the hepatitis C virus (HCV). Data from the Australian NSP Survey, annually undertaken by the Kirby Institute suggest HCV antibody prevalence is stable among people who inject drugs at between 51% and 57% over the period 2012 to 2016

(Memedovic et al. 2017). Given that the consumption of alcohol has been found to exacerbate HCV infection and to increase the risk of both non-fatal and fatal opioid overdose and depressant overdose (Darke, Ross et al. 1996; Schiff and Ozden 2004; Coffin, Tracy et al. 2007), it is important to monitor risky drinking among people who inject drugs.

The information on alcohol consumption available from the IDRS includes the prevalence of lifetime and recent use, and number of days of use over the preceding six months. Ninety-six per cent of participants had used alcohol in their lifetime, and 66% had consumed alcohol in the six months preceding interview, on a median of 24 days (range: 1-180 days). Participants of the IDRS were asked the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) as a valid measure of identifying heavy drinking (Bush, Kivlahan et al. 2005). The AUDIT-C is a three item measure, derived from the first three consumption questions in the AUDIT. Dawson, Grant et al. (2005) reported on the validity of the AUDIT-C, finding that it was a good indicator of alcohol dependence, alcohol use disorder and risky drinking.

Among IDRS participants who drank alcohol in the past year and commented (n=80), 36% reported drinking monthly or less. Over two-thirds (68%) of those who drank alcohol in the past year reported drinking six or more standard drinks in the past year. In 2017, the overall mean score on the AUDIT-C was 5.0 (SD=3.3, range: 0–12). There was no significant difference between male and female scores. According to Dawson, Grant et al. (2005) and the Australian Government Department of Health’s Guidelines for the Treatment of Alcohol Problems (Haber, Lintzeris et al. 2009), a cut-off score of five or more indicates the need for further assessment.

Forty-nine per cent of the sample scored five or more on the AUDIT-C (53% in 2016). Almost three-fifths of males (57%) and two-fifths (38%) of females scored five or more, indicating the need for further assessment (Table 33).

Table 33: AUDIT-C among IDRS participants, 2016–2017

	2016 (n=64)	2017 (n=83)
Mean AUDIT-C score* (SD; range)	5.3 (3.3; 1-12)	5.0 (3.3;0-12)
Score of 5 or more* (%)	53	49
Males	45	57
Females	65	38

Source: IDRS participant interviews.

* Amongst participants who had consumed alcohol in the past 12 months.

6.6 Naloxone program and distribution

Naloxone is a short-acting opioid antagonist that has been used for over 40 years to reverse the effects of opioids, particularly in the case of overdose. In Australia, naloxone has largely only been available for use by medical doctors (or those auspiced by medical doctors such as nurses and paramedics) for overdose response. In 2012, a take-home naloxone program commenced in the ACT through which naloxone was made available to peers and family members of people who inject drugs for the reversal of opioid overdose as part of a comprehensive overdose response package. This program was shortly followed by similar programs in NSW, VIC, and WA. In early 2016, the Australian Therapeutic Goods Administration (TGA) effectively placed ‘naloxone when used for the treatment of opioid overdose’ on a dual listing of Schedule 3 and Schedule 4, meaning naloxone can be purchased over-the-counter (OTC) at

pharmacies without a prescription (Lenton et al., 2016) but dual listing means it is still available at a reduced cost via prescription.

Since 2013, the IDRS has included a series of questions about take-home naloxone and naloxone more broadly. In 2017, 73% of the SA IDRS sample had heard of naloxone. Three-fifths of those who had heard of naloxone (n=41) reported that naloxone was used to 'reverse heroin', while 19% reported the use of naloxone to 're-establish consciousness'. Seven participants said naloxone was used to 'help someone start breathing' and 38% (n=26) gave 'other' reasons.

Participants were also asked if they had heard about take-home naloxone programs. Thirty-four per cent of the sample reported that they had heard of take-home naloxone programs. One participant reported that they had been resuscitated with naloxone by somebody who had been trained through the take-home naloxone program.

Three participants reported that they had completed training in naloxone administration and had received a prescription for naloxone. Of the three participants who had completed the course, two participants had used the naloxone to resuscitate a median of one and a half persons (range: 1-2 people) who had overdosed.

In 2017, participants were asked if they had heard about the rescheduling of naloxone (which is now available OTC without a prescription). Twenty per cent of the sample had heard about the rescheduling and no participants reported that they had ever been resuscitated with naloxone obtained OTC at a pharmacy. One participant obtained naloxone OTC without a prescription from a pharmacy, though had never resuscitated someone who had overdosed.

Participants who had not obtained naloxone OTC without a prescription from a pharmacy were asked if they would purchase it from a pharmacy. Of those who commented (n=96), 63% reported that they would purchase naloxone OTC. Sixty per cent of those who commented (n=58) reported that they would carry naloxone on themselves and 100% reported that they would administer naloxone after witnessing someone overdose and that they would stay with the person after giving the naloxone, respectively.

7 RISK BEHAVIOURS

Key Findings

- Receptive sharing (borrowing) and lending of needles/syringes remained low in 2017, at two per cent and ten per cent respectively, consistent with 2016 reports. Sharing of injecting equipment such as mixing containers (e.g. spoons), tourniquets and filters was more common (23%).
- Thirty-five per cent of the sample reported re-using their own needles in the last month (40% in 2016). Sterile needles and syringes were most commonly obtained from a NSP (96%), although a range of other sources were also used. The majority of participants reported that they had last injected in a private home (92%).
- Sixty-one per cent of the sample reported experiencing an injection-related problem in the preceding month (66% in 2016). The most common problems experienced were prominent scarring/bruising around the injection site and difficulty injecting (e.g. in finding a vein), consistent with 2016 reports.
- Thirty-five per cent of the sample reported injecting either a partner or friend after injecting themselves, and 19% reported that somebody else injected them after injecting themselves.
- Under half the sample (46%) reported that they had swabbed their injecting site 'every time' before injecting, though over one-fifth (21%) admitted to 'never' swabbing the injection site before injecting.
- Over half (53%) of the participants had reported that they had driven a vehicle in the six months prior to interview, and of these participants, 35% reported no current driving license.
- Twenty-three per cent (n=12) of those who had recently driven reported driving while over the legal alcohol limit.
- Eighty-three per cent (n=43) of those who had recently driven reported driving within three hours of taking illicit or non-prescribed drug(s) in the six months preceding interview.

7.1 Injecting risk behaviour

7.1.1 Access to needles and syringes

Participants reported that they had obtained new sterile needles and syringes on a median of two occasions in the month preceding interview (range: 0–50 occasions; n=99). In addition, the median number of new sterile needles and syringes obtained within the preceding month was 80 (range: 0–600; n=95), with participants reporting that they had given away or sold a median of eighteen needles or syringes (range: 0–400; n=97). The median number of new sterile needles and syringes collected for oneself the last time they were obtained was 40 (range: 1–800; n=96) and the median number of new sterile needles and syringes participants had stored away was 13 (range: 0–700; n=99). Twelve participants reported that they had experienced difficulty in obtaining new sterile needles/syringes in the preceding month. Participants had injected on a median of 20 days in the preceding month (range: 1–160 days; n=99), which remained stable from 24 days in 2016.

In 2017, participants were also asked if they were able to access filters from the same place from which they obtained their needles and syringes. The vast majority (94%) of those who answered reported that they were able to obtain filters if they wanted them. The main filters comprised of wheel filters (51%), followed by cotton filters (42%) and

cigarette filters (16%). Twenty-two per cent of those who commented (n=82) did not know what filters they were able to access.

NSPs were by far the most common source of needles and syringes in the preceding six months (96%), followed by NSP vending machines (17%) and friends (14%). As can be seen in Table 34, a range of other sources were also used.

Table 34: Main sources of needles and syringes in the preceding six months, 2017

Accessing from (%)	2017 (n=100)
NSP	96
NSP vending machine	17
Chemist	11
Partner	1
Friend	14
Dealer	4
Hospital	0
Outreach/peer worker	4

Source: IDRS participant interviews.

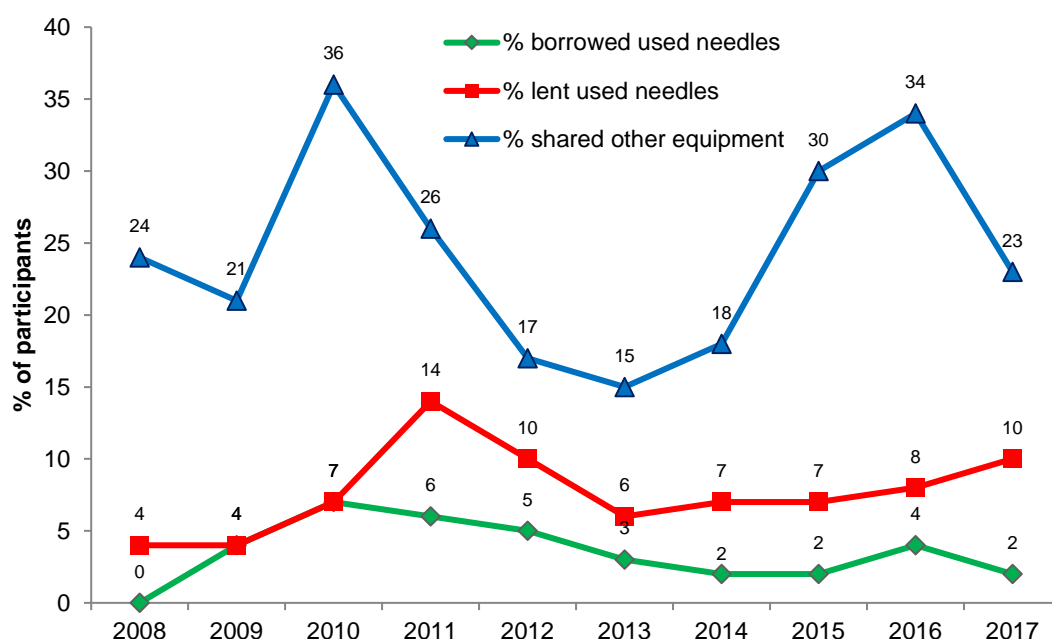
Note: Multiple responses allowed.

7.1.2 Sharing of injecting equipment

The sharing of injecting equipment remains an issue of concern due to the risk of transmission of blood-borne viral infections (BBVI) such as HIV and HCV. In 2017, two participants reported that they had used a needle *after* someone else ('borrowed'). This was stable from 2016 (n=4). In comparison, ten participants reported that they had used a needle *before* someone else in the month prior to interview (i.e. 'lent'). This was stable from 2016 (n=8) (see Figure 20). Participants who had used a needle after someone else in the last month (n=2) had used after a regular partner (n=1) or a relative (n=1).

Over one-third (35%) of the sample reported injecting either a partner or friend after injecting themselves with either a new or used needle in the last month (32% in 2016). Less than one-fifth (19%) reported that somebody else injected them after injecting themselves with either a new or used needle in the last month (24% in 2016).

Figure 20: Sharing of needles and injecting equipment by participants in the month preceding interview, 2008–2017



Source: IDRS participant interviews.

Twenty-three per cent of the sample reported that they had shared injecting equipment other than needles and syringes in the preceding month, a non-significant decrease from 34% in 2016. As can be seen from Figure 20, the sharing of used needles remained low and relatively stable in 2017. Spoons/mixing containers (n=16) and tourniquets (n=10) remained the most commonly shared items in 2017 (Table 35).

Table 35: Sharing of injecting equipment (other than needles) among participants who shared equipment in the month preceding interview, 2016–2017

Injecting equipment (%)	2016 (n=34)	2017 (n=23)
Spoons/mixing container	44	70
Filters	15	13
Tourniquet	44	44
Water	27	39
Swabs	6	9
Other	0	0

Source: IDRS participant interviews.

Note: Multiple responses allowed.

Thirty-five per cent of the sample had re-used their own needle in 2017 (40% in 2016). Nine participants had re-used their needle once, twelve participants had re-used their own needle twice, nine participants re-used 3-5 times and three participants re-used their own needle 6-10 times. The most common syringe size used in the last month was 1ml (84%; n=81), which, not surprisingly, was also the most common syringe size re-used in the last month (29%; n=29).

7.1.3 Location of injecting

In 2017, the majority of participants reported that the last location in which they had injected drugs was a private home (92%), with very small percentages reporting use

in public locations (see Table 36). The last location of injecting was unchanged compared to 2016.

Table 36: Location when last injected in the month preceding interview, 2016–2017

Location when injecting (%)	2016 (n=98)	2017 (N=100)
Private home	88	92
Street / car park / beach	1	2
Car	7	3
Public toilet	3	0
Other	1	3

Source: IDRS participant interviews.

The majority of participants reported that their last injection ‘site’ was their arm (78%) (84% in 2016), followed by their hand/wrist (10%), their neck (7%) their leg (4%) and their foot (1%). The last injection ‘site’ remained unchanged compared to 2016.

7.1.4 Swabbing practices

In 2017, IDRS participants were asked a number of questions related to their swabbing practices. Of those who commented (n=99), under half the sample (46%) reported that they had swabbed the injection site ‘every time’ before injecting. Sixteen per cent admitted to swabbing the injection site ‘more than half of the time but not every time’, and 17% reported ‘less than half the time’. Over one-fifth (21%) of the sample admitted to ‘never’ swabbing the injection site before injecting.

Sixty-five per cent of those who commented (n=99) reported that they had used an alcohol swab the last time they injected. Participants most commonly reported obtaining the swab from an NSP (91%). Of those who did not use an alcohol swab the last time and commented (n=34), ‘no particular reason’ was the most common reason for not using a swab among 35% of the sample. Other reasons included ‘don’t bother using swabs’ (29%), and 18% reported that they ‘didn’t have a swab on me’ for not using a swab.

7.1.5 Self-reported injecting-related health problems

Participants were asked if they had experienced any of six different injecting-related health problems in the last month (Table 37). In 2017, 61% of the sample reported experiencing at least one type of injection-related health problem in the month prior to interview (66% in 2016). By far the most commonly experienced problems were prominent scarring or bruising around the injection site (48%) and difficulty injecting (34%), both of which were stable with 2016 reports.

Table 37: Injecting-related health problems experienced in the month preceding interview, among entire sample, 2016–2017

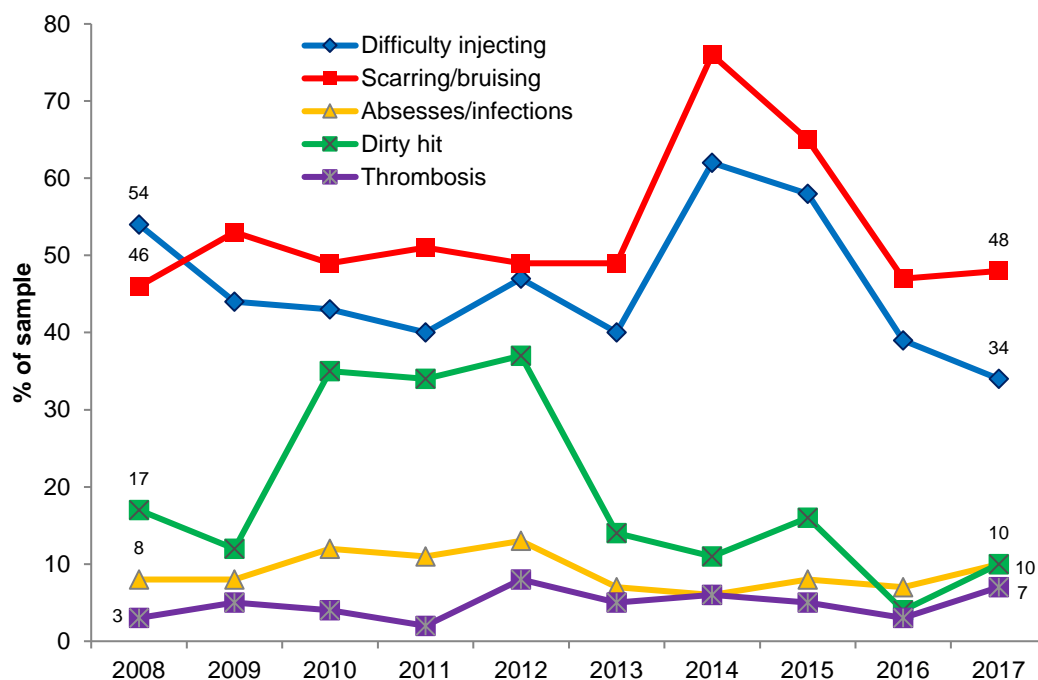
Reported injection related health problems (%)	2016 (N=101)	2017 (N=100)
Overdose	8	5
Dirty hit	4	10
Abscesses/infections	7	10
Prominent scarring/bruising	47	48
Difficulty injecting	39	34
Thrombosis	3	7
Any problems (%)	66	61

Source: IDRS participant interviews.

Among those who had experienced an overdose in the last month (n=5), three participants had overdosed on methamphetamine, one participant had overdosed on morphine and one participant had overdosed on heroin. Among those who had experienced a ‘dirty’ hit in the last month (n=10), five participants attributed it to heroin, three participants attributed it to methamphetamine and one participant attributed it to oxycodone and buprenorphine, respectively.

Figure 21 depicts the long-term trends for experience of injection-related problems from 2008 onwards. It can be seen that, despite some fluctuations over the years, particularly for a ‘dirty’ hit, prominent scarring/bruising and difficulty injecting have remained the most common across all years, while thrombosis and abscesses/infections have remained relatively low.

Figure 21: Experience of injection-related problems by participants in the month preceding interview, 2008–2017



Source: IDRS participant interviews.

7.2 Driving

7.2.1 Self-reported driving under the influence of alcohol and illicit drugs

Of the entire sample, over half (53%) had driven a car, motorcycle or vehicle in the last six months. Of those who had driven recently (n=52), 58% had a full driving licence and 35% reported no current driving licence. Twenty-three per cent (n=12) of those who had recently driven reported driving while over the legal limit of alcohol on a median of two and a half days (range: 1-24 days) in the last six months.

Eighty-three per cent (n=43) of those who had recently driven a car drove within three hours of using an 'illicit' or 'illicitly' obtained drug on a median of 81 days (range: 1-180 days). Participants reported driving a median of ten minutes after taking an illicit drug (range: 1-301 minutes). The drugs most commonly reported (not including prescribed) were crystal methamphetamine (56%), followed by cannabis (47%) and heroin (35%). The main drugs taken on the 'last' occasion before driving were crystal methamphetamine (44%), cannabis (33%) and heroin (30%).

Random breath testing measures blood alcohol content and roadside saliva drug testing looks for the presence of cannabis, methamphetamine and MDMA. Drivers undergo confirmatory laboratory testing if found to be positive. Random breath testing (RBT) for alcohol has been widely implemented in Australia for some time and saliva drug testing is becoming more common. In 2017, 65% (n=34) of those who had driven in the last six months had been breath tested for alcohol. Of those tested, five participants reported a positive result over the legal limit of alcohol.

Participants who drove in the last six months were also asked about experience with drug driving testing. Forty-two per cent (n=22) of those who had driven recently reported having been saliva drug tested on the roadside at least once. Seven participants reported a positive result and amphetamines were detected 100% of the time.

8 LAW ENFORCEMENT-RELATED TRENDS ASSOCIATED WITH DRUG USE

Key Findings

- Forty-one per cent reported committing 'any crime' in 2017, with drug dealing being the most commonly reported crime.
- The percentage of the sample who had been arrested in the preceding 12 months remained stable at 22%.
- Lifetime prison history also remained relatively stable, with 46% of the sample reporting that they had been incarcerated at some point throughout their life.
- The median expenditure on illicit drugs the day before interview was \$50, which was of no significant difference from 2016 (\$100).

8.1 Reports of criminal activity among participants

In 2017, 41% reported involvement in any type of crime during the last month, stable from 2016 (41%). The most commonly reported types of crime remained stable from 2016, with participants primarily reporting involvement in drug dealing (34%), followed by property crime (13%). Small numbers reported violent crime (8%) and no participants reported fraud. In 2017, the number of participants who reported having ever been in prison remained stable (46%; n=45).

Similarly, the percentage of participants who reported being arrested in the 12 months prior to interview also remained stable at 22% (see Table 38). Of the 22 participants who had been arrested in the preceding 12 months, ten participants were arrested for a driving offence (including 'alcohol and driving' and 'drugs and driving') and four for property crime and violent crime, respectively. Two participants reported being arrested for use/possession of drugs and one participant was arrested for use/possession of weapons. One participant was arrested for dealing/trafficking drugs, fraud and breaching an AVO, respectively. Other reasons for arrest included resisting arrest, manufacturing and breach of warrant, and begging.

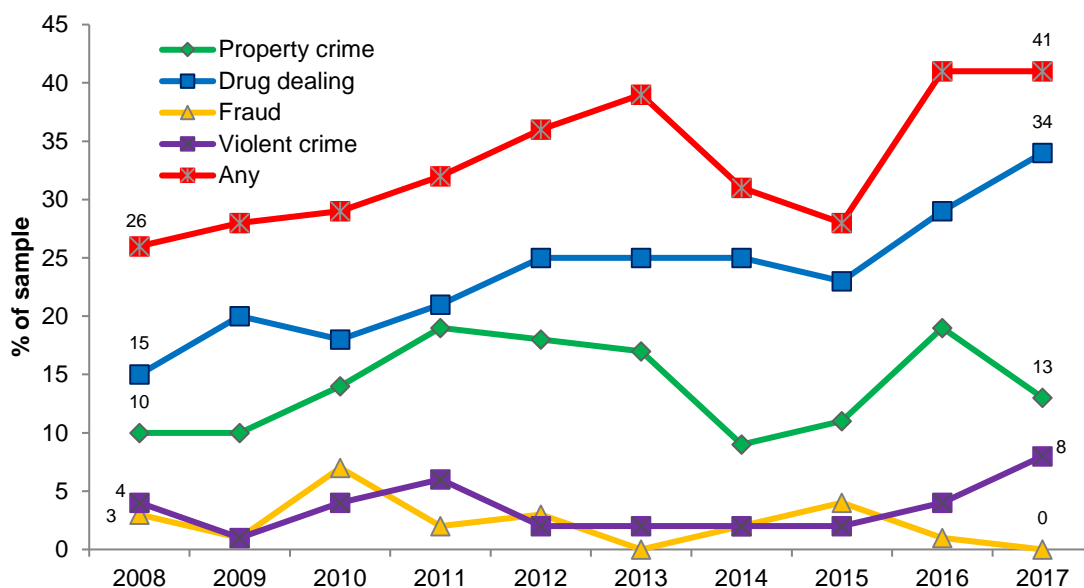
Table 38: Criminal activity as reported by participants, 2016–2017

Criminal behaviour (%)	2016 (n=99)	2017 (n=98)
Criminal activity in last month		
Property crime	19	13
Drug dealing	29	34
Fraud	1	0
Violent crime	4	8
<i>Any crime</i>	41	41
Arrested in last 12 months	24	22
Ever in prison	55	46

Source: IDRS participant interviews.

Figure 22 shows the long-term trends in criminal activity, by offence type, from 2008 onwards. From 2013, there has been a declining trend in the prevalence of ‘any’ past month criminal activity among participants, which ended the gradual upward trend observed from 2008. However, an increase in ‘any crime’ was observed in 2016 which remained stable in 2017. Drug dealing and property crime continued to be the two most prominent types of criminal activity across all years, regardless of a small decrease in property crime in 2017. Despite a slight increase in 2017, violent crime remained consistently low, as did fraud.

Figure 22: Self-reported involvement in crime, by offence type, in the month prior to interview, 2008–2017



Source: IDRS participant interviews.

8.2 Expenditure on illicit drugs

Sixty-two participants had purchased illicit drugs on the day prior to interview. Among these participants, the median amount spent on illicit drugs was \$50 (range: \$10–\$900). Table 39 presents the breakdown of the amounts spent on illicit drugs (i.e., excluding alcohol, tobacco and licit supplies of prescription medications) by the whole sample on the day before interview.

Table 39: Expenditure on illicit drugs on the day preceding interview, 2016–2017

Expenditure (%)	2016 (N=101)	2017 (N=100)
Nothing	52	38
Less than \$20	2	1
\$20-\$49	8	7
\$50-\$99	11	24
\$100-\$199	16	22
\$200-\$399	10	5
\$400 or more	2	3
Median expenditure* (\$)	\$100	\$50

Source: IDRS participant interviews.

*Among those who had spent money on drugs.

9 REFERENCES

Andrews, G. and T. Slade (2001). "Interpreting scores on the Kessler Psychological Distress Scale (K10)." Australian and New Zealand Journal of Public Health 25(6):

Australian Institute of Health and Welfare (2014). National Drug Strategy Household Survey detailed report 2013. Drug supplementary tables. Drug statistics series no. 28. Cat. no. PHE 183. Canberra, AIWH.

Australian Institute of Health and Welfare 2017. National Drug Strategy Household Survey 2016: detailed findings. Drug Statistics series no. 31. Cat. no. PHE 214. Canberra: AIHW.

Breen, C., L. Degenhardt, et al. (2003). Australian Drug Trends 2002: Findings from the Illicit Drug Reporting System (IDRS). Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Bush, K., D. R. Kivlahan, et al. (2005). "The AUDIT alcohol consumption questions (AUDIT-C). An effective brief screening test for problem drinking." Archives of Internal Medicine 158: 1789–1795.

Chesher, G. B. (1993). Pharmacology of the sympathomimetic psychostimulants. Illicit Psychostimulant Use in Australia. D. Burrows, B. Flaherty and M. MacAvoy. Canberra, Australian Government Publishing Service: 9–30.

Coffin, P. O., M. Tracy, et al. (2007). "Identifying Injection Drug Users at Risk of Nonfatal Overdose." Academic Emergency Medicine 14(7): 616–623.

Cormack, S., C. Faulkner, et al. (1998). South Australian Drug Trends, 1997: Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report no.57. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Darke, S. (1994). "The use of benzodiazepines among injecting drug users." Drug and Alcohol Review, 13: 63–69.

Darke, S., W. Hall, et al. (1992). "Development and validation of a multi-dimensional instrument for assessing outcomes of treatment among opiate users: The Opiate Treatment Index." British Journal of Addiction 87: 733–742.

Darke, S., Hall, W. & Topp, L. (2000). The Illicit Drug Reporting System (IDRS): 1996-2000. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Darke, S., J. Ross, et al. (1996). "Overdose among heroin users in Sydney, Australia: I. Prevalence and correlates of non-fatal overdose." Addiction 91(3): 405–411.

Dawe, S., N. J. Loxton, et al. (2002). Review of diagnostic screening instruments for alcohol and other drug use and other psychiatric disorders. Canberra, Commonwealth Department of Health and Ageing. 2nd ed.

Dawson, D. A., B. F. Grant, et al. (2005). "Effectiveness of the Derived Alcohol Use Disorders Identification Test (AUDIT-C) in Screening for Alcohol Use Disorders and Risk Drinking in the US General Population." Alcoholism: Clinical and Experimental Research 29(5): 844–854.

Dutch, M. (2008). "Nurofen Plus misuse: An emerging cause of perforated gastric ulcer." Medical Journal of Australia 188: 56–57.

Dyer, B., J. Martin, et al. (2004). "Hypokalaemia in ibuprofen and codeine phosphate abuse." International Journal of Clinical Practice 58: 1061–1062.

Haber, P., N. Lintzeris, et al. (2009). Guidelines for the Treatment of Alcohol Problems. Canberra, Australian Government Department of Health and Ageing.

Hando, J., S. Darke, et al. (1998). Drug Trends 1997. A Comparison of Drug Use and Trends in Three Australian States: Results from a National Trial of the Illicit Drug Reporting System (IDRS). Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Hando, J., S. Darke, et al. (1998). "The development of an early warning system to detect trends in illicit drug use in Australia: the Illicit Drug Reporting System." Addiction Research 6: 97–113.

Kaye, S. and S. Darke (2002). "Determining a diagnostic cut-off on the Severity of Dependence Scale (SDS) for cocaine dependence." Addiction 97: 727–731.

Kessler, R. C., G. Andrews, et al. (2002). "Short screening scales to monitor population prevalences and trends in non-specific psychological distress." Psychological Medicine 32: 959–976.

Larance, B., P. Dietze, et al. (2015). "The introduction of buprenorphine-naloxone film in opioid substitution therapy in Australia: Uptake and issues arising from changing buprenorphine formulations." Drug and Alcohol Review 34: 603–610 DOI: 610.1111/dar.12277.

Lenton, S., Dietze, P. & Jauncey, M. 2016. Australia reschedules naloxone for opioid overdose. *The Medical Journal of Australia*, 204, 146–147.

Longo, M., Christie, P., Humeniuk, R., & Ali, R. (2003). South Australian Drug Trends 2002: Findings of the Illicit Drug Reporting System. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Memedovic, S., Iversen, J., Geddes, L., & Maher, L (2017). Australian Needle Syringe Program Survey National Data Report 2012-2016: Prevalence of HIV, HCV and injecting and sexual behaviour among NSP attendees. Sydney: Kirby Institute, UNSW Sydney; ISSN: 1448-5915.

Newcombe, R., G (1998). "Interval Estimation for the Difference Between Independent Proportions: Comparison of Eleven Methods." Statistics in Medicine 17: 873–890.

Schiff, E. R. and N. Ozden (2004). Hepatitis C and Alcohol. Publications. Bethesda, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health.

Siegel, S. and N. J. Castellan (1988). Nonparametric Statistics for the Behavioural Sciences. Singapore, McGraw-Hill.

Stafford, J. and C. Breen (2017). Australian Drug Trends 2016. Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trends Series. No.163. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.

Tandberg, D. Improved confidence intervals for the difference between two proportions and number needed to treat (NNT).

Topp, L. and A. Churchill (2002). "Australia's dynamic methamphetamine market." Drug Trends Bulletin June.

Topp, L. and R. Mattick (1997). "Choosing a cut-off on the Severity of Dependence Scale (SDS) for amphetamine users." Addiction 92(7): 839–845.

White, B., C. Breen, et al. (2003). New South Wales Party Drugs Trends 2002: Findings from the Illicit Drug Reporting System (IDRS) Party Drugs Module. NDARC Technical Report Number 162. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.