Western Australia

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WA TRENDS IN ECSTASY AND RELATED DRUG MARKETS 2016

Findings from the Ecstasy and related Drugs Reporting System (EDRS)

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WEST AUSTRALIAN TRENDS IN ECSTASY AND RELATED DRUG MARKETS 2016

FINDINGS FROM THE ECSTASY AND RELATED DRUGS REPORTING SYSTEM (EDRS)

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Please note that, as with all statistical reports, there is the potential for minor revisions to data in this report over its life. Please refer to the online version at www.ndarc.med.unsw.edu.au.

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ABBREVIATIONS

2C-B	2,5-dimethoxy-4-bromophenethylamine
2C-E	2,5-dimethoxy-4-ethylphenethylamine
2C-I	2,5-dimethoxy-4-iodophenethylamine
5MEO-DMT	5-methoxy-dimethyltryptamine
6-APB	6-(2-aminopropyl)benzofuran
ABCI	Australian Bureau of Criminal Intelligence
ACC	Australian Crime Commission
ADIS	Alcohol and Drug Information Service
AGDH	Australian Government Department of Health
AIHW	Australian Institute of Health and Welfare
ATS	amphetamine-type stimulants
AUDIT	Alcohol Use Disorders Identification Test
BZP	benzylpiperazine
CI	confidence interval
CNS	central nervous system
DMT	dimethyltriptamine
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders IV
DSM 5	Diagnostic and Statistical Manual of Mental Disorders 5
DOI	'death on impact'; 2,5-dimethoxy-4-iodoamphetamine
DXM	dextromethorphan
EDRS	Ecstasy and Related Drugs Reporting System
EPS	Emerging psychoactive substances
GHB	gamma-hydroxy-butyrate
GP	general practitioner
IDDR	Illicit Drug Data Report
IDRS	Illicit Drug Reporting System
K10	Kessler Psychological Distress Scale
KE	key expert/s
LSD	*d*-lysergic acid
MDA	3,4-methylenedioxyamphetamine
MDAI	5,6-Methylenedioxy-2-aminoindane
MDEA	3,4-methylenedioxyethylamphetamine
MDMA	3,4-methylenedioxymethamphetamine
MDPV	3,4-methylenedioxypyrovalerone; ivory wave; 'bath salts'
MXE	methoxetamine or 3-MeO-2-Oxo-PCE
NBOMe	4-idio-2,5-dimethoxy-N-(2-methoxybenzyl) phenethylamine
NDARC	National Drug and Alcohol Research Centre
NDLERF	National Drug Law Enforcement Research Fund
NDSHS	National Drug Strategy Household Survey
NPS	new psychoactive substance
NSP	needle and syringe program
OTC	over-the-counter
PDI	Party Drugs Initiative
PMA	paramethoxyamphetamine
REU	regular ecstasy user/s
ROA	route of administration
RPU	regular psychostimulant user/s
SDS	Severity of Dependence Scale
STI	sexually transmitted infection
WA	Western Australia
WHO	World Health Organization

GLOSSARY

1,4-B	Acronym for 1,4-butanediol. It is a GHB precursor and substitute, which metabolises into GHB in the stomach
2-CB	Street term for 4-bromo-2,5-dimethoxyphenethylamine. It is a synthetic psychedelic of moderate duration
2-CI	Street term for 2,5-dimethoxy-4-iodophenethylamine. It is a short-acting synthetic psychedelic
Bump	A bump refers to a small amount of powder, typically measured and snorted from the end of a key, the corner of a plastic card or a 'bumper'
Bumper	A bumper is a small glass nasal inhaler, purchased from tobacconists, used to store and administer powdered substances such as ketamine
Cap	Capsule
Cocaine	A central nervous system stimulant, obtained from the cocoa plant. Cocaine hydrochloride, the salt, is the more common form used in Australia. The freebase form is called 'crack'; little or no crack is available or used in Australia
Crystal	Street term for crystal methamphetamine, a potent form of methamphetamine. Also known as 'ice'
Daily use	Use occurring on each day in the past six months, based on a maximum of 180 days
Ecstasy	Street term for MDMA (3,4-methylenedioxymethamphetamine), which may contain a range of other substances. It is an hallucinogenic amphetamine
GBL	Acronym for gamma butyrolactone. It is a GHB precursor and substitute, which metabolises into GHB in the stomach
GHB	Acronym for gamma-hydroxy butyrate. It is a central nervous system depressant. Other known terms include 'GBH' and 'liquid ecstasy'; however, the latter is misleading as GHB is a depressant, not a stimulant
Ketamine	It is a dissociative psychedelic used as a veterinary and human anaesthetic
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 ROAs: inject; smoke; snort; swallow; and/or shaft/shelve
LSD	Acronym for *d*-lysergic acid diethylamide. It is a powerful hallucinogen

MDA	Acronym for 3,4-methylenedioxyamphetamine. It is classed as a stimulant hallucinogen. It is closely related to MDMA (and is sometimes found in ecstasy tablets); however, its effects are said to be slightly more psychedelic
Mephedrone	Mephedrone (2-methylamino-1-p-tolylpropane-1-one), also known as 4-methylmethcathinone (4-MMC) or 4-methylephedrone, is a stimulant and entactogen drug of the phenethylamine, amphetamine, and cathinone chemical classes
Methamphetamine	An analogue of amphetamine, it is a central nervous system stimulant. The three main forms of methamphetamine in Australia are methamphetamine powder ('speed'), methamphetamine base ('base') and crystalline methamphetamine ('crystal', 'ice')
PMA	Acronym for para-methoxyamphetamine. It is an amphetamine-type drug with both stimulant and hallucinogenic properties
Point	0.1 gram
Recent injection	Injection (typically intravenous) in the last six months
Recent use	Use in the last six months via one or more of the following ROAs: inject; smoke; snort; swallow; and/or shaft/shelve
Shaft/shelve	Vaginal/anal administration
Tab/s	The most common form of LSD is paper blotter divided into about 1/4" squares called 'tabs'. A single tab usually contains between 30-100 micrograms (ug) of LSD. Paper blotters are created by taking a sheet of absorbent paper (usually decorated and perforated) and soaking it in a dilution of lysergic acid diethylamide. The dilution can vary greatly from one batch to another, or one chemist to another

EXECUTIVE SUMMARY

This report presents the results of the WA EDRS (formerly the PDI), an ongoing study monitoring ecstasy and related drug markets within WA. It is part of a nationwide study, which commenced in New South Wales, Queensland and Victoria in 2000, with the addition of other states and territories in 2003. The survey design was informed by and modelled upon the pre-existing IDRS, designed to monitor use of the main illicit drugs in Australia, developing a new survey for monitoring trends in the ecstasy and related drugs (ERD) markets.

The findings from each year not only provide a snapshot of the drug markets in WA, but also help to provide an evidence base for policy decisions, inform harm reduction messages, and provide directions for further investigation when issues of concern are detected. Continued monitoring of the ERD markets in WA will help add to our understanding of the use of these drugs; the price, potency and availability of these drugs and how these may impact on each other; and the associated harms which may stem from the use of these drugs.

It needs to be noted that the EDRS is not a representative sample of ecstasy/psychostimulant drug users, but rather comprises annual samples of sentinel groups of users with similar characteristics, which allow trends in drug markets to be tracked over time. The EDRS cannot provide information on rates of drug use among REU/RPU in the general population.

The current report provides findings for the 14th year of data collection in WA, obtained from three sources:

1. Quantitative interviews with 100 current RPU residing in the Perth metropolitan area;

2. Qualitative interviews with 13 KE who have regular contact with ecstasy/psychostimulant users and are employed in areas of, health, outreach, and law enforcement; and research; and

3. Analysis of various indicator data from health and law enforcement sources.

I. Demographic characteristics

For the purpose of this study, REU is a population defined by the use of ecstasy on at least six occasions over the preceding six-month period. This population was recruited until 2011. In 2012, the WA EDRS expanded its selection criteria for recruitment of participants. This change was made in WA, and some other jurisdictions, in response to difficulties experienced in the 2011 EDRS recruitment process. The selection criteria expanded to include both REU and RPU. For the purpose of this study, RPU is a population defined by the use of ecstasy or any psychostimulant drug/s (e.g. MDA, cocaine, ketamine, GHB, LSD, or NPS such as 2C-B and 2C-I) on at least six occasions over the preceding six-month period.

In 2016 in WA, while the expanded criteria were employed, there were no difficulties recruiting participants who had used ecstasy on at least six occasions in the preceding six months. Consequently, the 2016 sample comprised only REU. However, given that the expanded criteria was used, and to allow for standardisation across jurisdictions, 2016 WA EDRS participants are referred to as RPU in this report.

In the 2016 WA EDRS:

- The sample comprised 100 RPU;
- There were a greater proportion of males (73%) than females (27%);
- The mean age of the sample was 21.5 years;
- The vast majority (96%) of RPU were of English speaking background;
- The mean number of high school years completed was 11.7;
- Two-fifths (40%) of the sample had completed a tertiary qualification;
- The median weekly income was $590;
- The proportion of participants who reported being employed full-time was 29%;
- The proportion of participants who reported being employed part-time was 14%, a significant decrease from 47% in 2015;
- Two-fifths (40%) of respondents reported that they were 'working and studying' a significant increase from 40% in 2015;
- Four per cent of the sample reported currently being in drug treatment; and
- These demographics have remained relatively stable across WA EDRS data collection periods, aside from mild variations in age, employment status, years of tertiary education completed and income.

II. Patterns of drug use

- Consistent with previous data collection years, the majority of the sample reported recent use of alcohol (95%), cannabis (87%) and tobacco (79%).
- Rates of traditional drug use largely remained stable in the current sample compared to 2015, with some significant differences;
    - Less than half (46%) of the sample reported lifetime use of e-cigarettes, a significant decrease from 63% in 2015.
    - Just more than two-fifths (41%) of the sample reported lifetime use of methamphetamine powder (speed), and 18% reported recent use, significant increases from 23% and 6% respectively in 2015.
    - More than three-quarters (78%) of the sample reported lifetime use of LSD and 50% reported recent use, significant increases from 58% and 24% respectively in 2015.
    - One-third (33%) of the sample reported lifetime ketamine use and 18% reported recent use. These proportions significantly increased from 16% and 11% respectively in 2015.
    - Less than two-thirds (64%) of the sample reported lifetime use of nitrous oxide, a significant increase from 45% in 2015.

III. Drug consumption patterns and markets

i. Ecstasy

The 2015 EDRS distinguished between three four different forms of methamphetamine: pills, powder, capsules and crystal/MDMA rock.

Consumption patterns

- In 2016, the proportion of participants who reported that ecstasy was their 'drug of choice' was 47%, not significantly different from 39% in 2015.
- Almost one-third (31%) of the sample reported 'weekly or more' ecstasy use, not significantly different from 23% in 2015.
- The mean number of days that ecstasy was used in the preceding six-month period was 20 (i.e. less than once a week), the same mean reported in 2015.

- On a 'typical' occasion of use, the average number of ecstasy pills used was 2.7, not significantly different from 2.5 pills in 2015.
- The majority (88%) of the sample reported using more than one pill on a 'typical' occasion of use, the same proportion reported in 2015.
- Pills were the most commonly reported form of ecstasy used recently (98%), followed by capsules (54%), crystal (59%) and powder (13%), not significantly different from the 2015 results.

Market Characteristics

Ecstasy pills, powder and capsules

- *Price*: A median of $25 per pill, a significant decrease from $30 in 2015. Median of $200 per gram of powder, not significantly different from $300 in 2015. A median of $30 per capsule, a significant decrease from $35 in 2015. While price was most commonly perceived as stable, a significantly smaller proportion of participants in the current sample (38%) reported the price as stable in the preceding six months compared to 2015 (56%) and a significantly larger proportion perceived it as decreasing in 2016 (37%) compared to 2015 (18%). These results suggest the price of ecstasy pills, powder and capsules may be decreasing.
- *Potency:* Mixed perceptions of current potency; most commonly reported as fluctuating (44%) and medium (26%). Mixed perceptions of recent changes in potency; most frequently reported as stable (33%).
- *Availability*: Most frequently rated as easy or very easy to obtain (98%) and to have been stable over the preceding six months (58%).

Ecstasy crystal/MDMA rock

- *Price*: A median of $350 per gram, not significantly different from $300 in 2015. A median of $30 per cap, significantly lower than $35 in 2015. Most commonly reported as stable over the preceding six months (57%).
- *Potency:* Most frequently rated as high (61%) and stable over the preceding six months (51%), not significantly different from the 2015 findings.
- *Availability:* Almost three-quarters (72%) of the respondents reported it as easy or very easy to obtain currently, significantly more than 53% in 2015. Availability was most commonly rated as stable over the preceding six months (57%), not significantly different from 60% in 2015.
- Overall, compared to ecstasy pills, powder and capsules, ecstasy crystal/MDMA rock tended to be perceived more potent and more difficult to obtain, although the availability of ecstasy crystal/MDMA may be increasing.

ii. Methamphetamine

The 2016 EDRS distinguished between three different forms of methamphetamine: methamphetamine powder (speed); methamphetamine base (base); and crystal methamphetamine (crystal).

Consumption patterns

Speed

- Approximately two-fifths (41%) of the respondents reported lifetime use of speed, a significant increase from 23% in 2015.
- Recent use of speed was reported by 18% of the current sample, a significant increase from 6% in 2015.
- There was a decline in speed use in 2015. The 2016 results suggest that rates of use have returned to levels seen prior to 2015.
- Speed was used on a median of 12 days over the preceding six months.
- Snorting and swallowing were the most common ROAs reported (each 50%).

Base

- Less than one-tenth (8%) of the sample reported lifetime use of methamphetamine base, not significantly different from 2% in 2015. Recent use was reported by 1%, not significantly different from 0% in 2015.
- No further analyses were performed due to the small sample size.

Crystal

- Just less than one-third (29%) of the sample reported lifetime use of crystal methamphetamine, not significantly different from 31% in 2015.
- Recent use of crystal methamphetamine was reported by 12% of the sample, not significantly different from 16% in 2015.
- Crystal methamphetamine was used on a median of four days in the preceding six months, not significantly different from two days in 2015.
- Smoking remained the most commonly reported ROA (83%).
- The median amount used on a 'typical' occasion was two points, not significantly different from 2015.
- The most commonly cited location where participants spent the most time while intoxicated on the last occasion was 'friend's home' (50%), not significantly different from 2015.
- Several KE considered crystal methamphetamine to be the most problematic drug at present.

Market characteristics

Speed

- These findings should be interpreted with caution given the small number of participants able to comment.
- *Price*: One participant commented on the price per point; $100. Price was most commonly rated as stable over the preceding six months (67%), not significantly different from the 2015 findings.
- *Potency:* Mixed perceptions of potency; most commonly rated as medium (50%). Most commonly rated as decreasing over the preceding six months (67%).
- *Availability*: Mixed perceptions of availability; most commonly rated as very difficult to obtain (67%) and stable over the preceding six months (67%).

Base

- These findings should be interpreted with caution given the small number of participants able to comment.
- *Price*: One participant reported the price of methamphetamine base per gram as $200 and stable over the preceding six months.
- *Potency*: One participant rated current potency as fluctuating currently and also fluctuating over the preceding six months.
- *Availability*: One participant reported that methamphetamine base was very easy to obtain current. No participants commented on changes to availability over the preceding six months.

Crystal

- *Price*: A median of $100 per point, unchanged from 2015. Mixed perceptions of price changes over the preceding six months, with most respondents reporting that it was decreasing (51%). Compared to 2015, in 2016 a significantly larger proportion of participants rated price as decreasing and a significantly smaller proportion rated it as stable. These results suggest that the price of crystal may be decreasing.
- *Potency*: Mixed perceptions of current potency; most commonly reported as high (50%). Mixed perceptions of recent changes in potency; most commonly reported as fluctuating (40%).

- *Availability*: Most commonly rated as very easy to obtain (80%) and most frequently rated as stable over the preceding six months (70%).
- Most KE reported that methamphetamine potency was high.

iii. Cocaine

Consumption patterns

- Two-thirds (67%) of the participants reported lifetime use of cocaine, not significantly different from 58% in 2015.
- Recent use was reported by more than one-third (38%) of the sample, not significantly different from 29% in 2015.
- Cocaine was used on a mean of five days in the preceding six months, a significant increase from two days in 2015.
- Not significantly different from the 2015 findings, snorting was overwhelmingly the most commonly reported ROA (97%).
- The median amount used on a 'typical' occasion was 0.5 grams, the same median amount reported in 2015.
- Not significantly different from the 2015 findings, the most commonly reported location where participants spent the most time while intoxicated on the last occasion was 'friend's home' (29%).
- Most KE reported that they very rarely encountered cocaine in their fields.

Market characteristics

- *Price*: This finding should be interpreted with caution given the small number of participants able to comment (n=9). A median of $400 per gram, not significantly different from $375 in 2015. Perceptions of price changes over the preceding six months was mixed, but was most commonly perceived as stable (46%).
- *Potency*: Mixed perceptions of current potency; most commonly reported as low (43%). Mixed perceptions of recent changes in potency; most commonly reported as stable over the preceding six months (50%).
- *Availability*: Mixed perceptions of current availability; most commonly rated as difficult to obtain (40%). Mixed perceptions of changes in availability over the preceding six months; most commonly reported to be stable (47%).

iv. Ketamine

Consumption patterns

- Lifetime use of ketamine was reported by 33% of the current sample, a significant increase from 16% in 2015. Recent use was reported by 18%, a significant increase from 4% in 2015.
- Ketamine was used on a mean of six days over the preceding six months, not significantly different from five days in 2015.
- Snorting was the most common recent ROA (86%).
- The median number of 'bumps' used on a 'typical' occasion was 3.5, not significantly different from 0.5 in 2015.
- KE reported that ketamine use was very rarely encountered in their fields.

Market characteristics

- These findings should be interpreted with caution given the small number of participants who were able to comment (n<10).
- *Price*: A median price of $175 per gram with mixed perceptions of price changes recently; rated as stable and decreasing (each 50%).
- *Potency*: Most commonly rated as high (67%) and stable over the preceding six months (87%).

- *Availability*: Mixed perceptions of current availability; most commonly rated as easy and very difficult (each 50%). Mixed perceptions of availability changes recently; most commonly as stable and easer (each 44%).

v. GHB

Consumption patterns

- More than one-tenth (13%) of the current sample reported lifetime use of GHB, not significantly different from 6% in 2015.
- Recent use was reported by 4% of respondents, not significantly different from 2% in 2015.
- GHB was used on a median of one day over the preceding six months.
- Swallowing was the only recent ROA reported (100%).
- Findings on recent consumption patterns for GHB should be interpreted with caution given the very small number of participants able to comment (n=4).
- KE reported that GHB use was rarely encountered in their fields

Market characteristics

- *Price*: No data available.
- *Potency*: No data available.
- *Availability*: No data available.

vi. LSD

Consumption patterns

- More than three-quarters (78%) of the current sample reported lifetime use of LSD, a significant increase from 58% in 2015. Recent use was reported by half (50%) of the sample, a significant increase from 24% in 2015. These results suggest the proportion of use of LSD has returned to levels seen in 2014.
- LSD was used on a mean of four days in the preceding six months, not significantly different from two days in 2015.
- The median amount used on a 'typical' occasion was one tab, the same median amount reported in 2015.
- Not significantly different from 2015, swallowing or sublingual use was the most commonly reported recent ROA (98%).
- A range of public and private venues were cited as locations where participants spent the most time intoxicated on the last occasion. The most common were 'home' and 'friend's home' (each 28%).
- Most KE reported that LSD was not commonly encountered in their fields.

Market characteristics

- *Price*: A median of $25 per tab, consistent with previous years. Most commonly rated as stable over the preceding six months (79%).
- *Potency*: Most frequently rated as high (51%) and stable over the preceding six months (70%).
- *Availability*: Most commonly rated as easy or very easy to obtain (80%). Mixed perceptions of recent changes to availability; most commonly rated as stable over the preceding six months (58%).

vii. Cannabis

Consumption patterns

- Consistent with previous years, almost the entire sample (98%) reported lifetime use of cannabis.

- Recent use was reported by 87% of the sample, not significantly different from 86% in 2015.
- Cannabis was used on a median of 24 days (i.e. approximately once per week) over the preceding six months, a non-significant increase from 48 days in 2015.
- A median of three cones were consumed on the last occasion of use, not significantly different from 2.5 cones in 2015.
- KE reported that cannabis use was widespread in their fields.

Market characteristics

Hydro

- *Price*: A median of $25 per gram and $350 per ounce, consistent with previous years. Most frequently reported as stable over the preceding six months (80%).
- *Potency*: Mixed perceptions of current potency; most commonly rated as high (58%). Most frequently reported to be stable over the preceding six months (54%).
- *Availability*: Most commonly rated as easy or very easy to obtain (90%) and stable over the preceding six months (82%).

Bush

- *Price*: A median of $25 per gram and $300 per ounce, consistent with previous years. Most frequently rated as stable over the preceding six months (76%).
- *Potency*: Mixed perceptions of current potency; most commonly rated as medium (51%). Most commonly reported to be stable over the preceding six months (59%).
- *Availability*: Most frequently rated as easy or very easy to obtain (93%) and stable over the preceding six months (67%).

viii. Consumption patterns of other drug use

- Consistent with previous years, the entire sample (100%) reported lifetime use of alcohol and the vast majority (95%) reported recent use.
- KE reported that alcohol continued to be one of the most problematic drugs among RPU.
- Consistent with previous years, the majority (92%) of the sample reported lifetime tobacco use. Recent use was reported by 79%, not significantly different from 82% in 2015.
- Lifetime use of e-cigarettes was reported by more than two-fifths (46%) of the sample, a significant decrease from 63% in 2015. Recent use was reported by one-quarter (25%) of the sample, not significantly different from 34% in 2015.
- Lifetime use of MDA was reported by almost one-third (30%) of the sample, not significantly different from 20% in 2015. Recent use was reported by 13%, not significantly different from 11% in 2015.
- The majority (85%) of the sample reported the lifetime use of licit or illicit pharmaceutical stimulants, not significantly different from 91% in 2015. Recent use was reported by 67% of the sample, not significantly different from 78% in 2015. The majority of use was illicit.
- Lifetime use of licit or illicit benzodiazepines was reported by more than half (55%) of the sample, not significantly different from 54% in 2015. Recent use was reported by 37% of respondents, not significantly different from 45% in 2015. The majority of use was illicit.
- Lifetime use illicit antidepressants was reported by more than half (53%) of the sample, not significantly different from 49% in 2015. Recent use was reported by 34% of the sample, not significantly different from 38% in 2015.
- Almost one-quarter (24%) of the sample reported lifetime use of amyl nitrate, a non-significant increase from 20% in 2015. Recent use was reported by 14% of respondents, not significantly different from 11% in 2015.

- Nitrous oxide continued to be the more popular inhalant, with almost two-thirds (64%) of the sample reporting lifetime use, a significant increase from 49% 2015. Recent use was reported by 45% of the sample, not significantly different from 37% in 2015.
- Consistent with previous years, the use of heroin was uncommon. In 2015, lifetime use was reported by just 4% of the sample, not significantly different from 3% in 2015. Recent use was reported by 2% of the sample, not significantly different from 1% in 2015.
- Just 2% of the sample reported lifetime use of methadone, not significantly different from 3% in 2015. Recent use was reported by 1% of respondents, not significantly different from 2% in 2015.
- Both lifetime and recent use of buprenorphine was reported by 2% of the participants, the same proportions reported in 2015.
- Lifetime use of licit or illicit other opiates was reported by more than one-third (36%) of the sample, not significantly different from 33% in 2015. Recent use was reported by 24% of the respondents, a non-significant increase from 16% in 2015. The majority of use was illicit.
- Lifetime use of OTC codeine was reported by 32% of the sample, not significantly different from 26% in 2015. Recent use was reported by more than one-fifth (23%) of the sample, not significantly different from 20% in 2015.
- Lifetime use of psilocybin/hallucinogenic mushrooms was reported by almost two-thirds (62%) of the sample, not significantly different from 57% in 2015. Recent use was reported by 27% of the sample, not significantly different from 21% in 2015.
- Just more than one-tenth (11%) of the sample reported lifetime use of OTC stimulants, a non-significant increase from 20% in 2015. Recent use was reported by 4% of the sample, the same proportion reported in 2015.
- Consistent with previous years, steroid use remained very low. In 2016, 2% of respondents reported lifetime use and no respondents reported recent use.

IV. New psychoactive substances (NPS)

Since 2010, the EDRS has attempted to systematically investigate a group of drugs commonly referred to as ‘research chemicals’, ‘analogues’, ‘legal highs’, ‘herbal highs’, ‘party pills’ and ‘emerging psychoactive substances’. For the purpose of this report, these drugs are referred to as ‘new psychoactive substances’ (NPS).

- In 2016, more than two-thirds (67%) of the sample reported lifetime use of an NPS, not significantly different from 69% in 2015. Approximately one-third (32%) reported recent use, a significant decrease from 46% in 2015.
- The NPS most commonly reported to have been used recently were DMT (18%), capsule with unknown contents (7%) and 2C-B and NBOMe (each 5%).
- Four KE noted that use of synthetic cannabis had decreased recently, with two KE stating that this may be attributed to a decrease in FIFO work.

V. Health-related issues

i. Overdose, deaths and hospital admissions

- Less than one-quarter (23%) of the sample reported having overdosed on a stimulant drug at some point in their lifetime, not significantly different from 27% in 2015.
- More than one-tenth (14%) of the sample reported having overdosed on a stimulant drug in the preceding 12 months, not significantly different from 22% in 2015.
- Less than one-quarter (23%) of the sample reported having overdosed on a depressant drug in their lifetime, not significantly different from 28% in 2015.

- Fifteen per cent of the sample reported having overdosed on a depressant drug in the preceding 12 months, not significantly different from 19% in 2015.
- Not significantly different from the 2015 findings, ecstasy was the most commonly reported main drug implicated in stimulant overdoses (61%) and alcohol was the most commonly reported main drug implicated in depressant overdoses (54%).

ii. Service usage

- Almost one-tenth (9%) of the sample reported having accessed a service of health professional in relation to their drug or alcohol use in the preceding six months, not significantly different from 10% in 2015.
- In the 2015/16 period, there were 86 calls to ADIS for which ecstasy was the primary drug of concern, compared to 73 calls in 2014/15. These calls comprised 0.36% of all calls received by ADIS during the 2015/16 period.
- In the 2015/16 period, there were 3,122 calls to ADIS for which (meth)amphetamine was the primary drug of concern, an increase from 1,917 in 2014/15. These calls comprised 13.1% of all calls received by ADIS during the 2015/16 period. Calls to ADIS involving (meth)amphetamine as the primary drug of concern appear to have returned to the higher numbers seen before the second quarter of 2015
- In the 2015/16 period, there were 162 calls to the ADIS involving cocaine the primary drug of concern, compared to 42 calls in 2014/15. These calls comprised 0.68% of all calls received by ADIS during the 2015/16 period. The spike in calls in 2015/16 is attributed to multiple calls from a single caller rather than an overall increase in calls. Calls to ADIS involving cocaine as the primary drug of concern have been low and stable across survey years.
- In 2014/15, hospital admissions in which amphetamine was the principal diagnosis increased at both the national and state level; rates for cocaine increased at the national level and remained low and stable at the state level; and rates for cannabis increased at the national and state level.

iii. Mental health

- Participants completed the K10. Participants most commonly scored in the 'moderate' distress category (36%) and less than one-third (31%) scored in either the 'high' or 'very high' distress categories. There were no significant differences in the proportion of participants who scored in each category between 2015 and 2016.
- More than two-fifths (42%) of the sample reported having experienced a mental health problem in the preceding six months, not significantly different from with 33% in 2015.
- Not significantly different from the 2015 findings, among participants reported recent mental health problems, the most commonly reported problems were anxiety (75%) and depression (55%).

VI. Risk behaviours

i. Injecting risk behaviour

- Two per cent of the sample reported having injected a drug at some point in their lifetime, not significantly different from 4% in 2015.
- Two participants (2%) reported having injected a drug in the last six months.
- The downward trend in injecting behaviours among WA EDRS participants seen in 2014 has been maintained into 2016.

ii. Sexual risk behaviour

- Penetrative sex with a casual partner in the preceding six months was reported by 62% of the sample, not significantly different from 61% in 2015.

- Just more than half (53%) of the sample reported engaging in recent casual sexual activity while under the influence of alcohol or other drugs, not significantly different from 52% in 2015. Among these participants, 44% reported that they had not used a protective barrier on the last occasion, not significantly different from 58% in 2015.
- Not significantly different from the 2015 findings, the drugs most commonly implicated in casual sexual behaviour on the last occasion were alcohol (74%), ecstasy (55%) and cannabis (47%).
- Less than three-fifths (57%) of the sample reported engaging in recent casual sexual activity while sober, not significantly different from 56% in 2015. Among these participants, 43% reported using no protective barrier on the last occasion, not significantly different from 59% in 2015.
- Among participants who reported not using a protective barrier on the last occasion, the most commonly reported reason was 'using the contraceptive pill' for sexual activity while under the influence of alcohol and other drugs (43%) and while sober (33%).

iii. Driving risk behaviour

- Among participants who reported driving a car or other vehicle in the preceding six months, 48% reported driving over the legal alcohol limit in that time period, not significantly different from 44% in 2015.
- Among those who reported driving in the preceding six months, 65% reported driving under the influence of illicit drugs in that time period, not significantly different from 68% in 2015.

iv. Poly drug use

- The vast majority (93%) of the sample reported having used more than one drug on the last occasion of psychostimulant use. The most commonly used drugs in this context were ecstasy (81%), alcohol (71%), tobacco (47%) and pharmaceutical stimulants (18%).

v. Bingeing behaviour

- Bingeing on ERD in the previous six months was reported by less one-third (30%) of the sample, not significantly different from 28% in 2015.
- Not significantly different from the 2015 findings, the drugs most commonly implicated in recent bingeing were ecstasy (77%) alcohol (70%), tobacco (60%), cannabis (50%) and pharmaceutical stimulants and energy drinks (47%).

vi. Alcohol risk behaviour

- Participants completed the AUDIT. The majority of the sample (79%) scored within the 'hazardous or harmful' range for alcohol use, not significantly different from 81% in 2015.
- Mean AUDIT scores were significantly higher for males than females.

vii. Ecstasy and methamphetamine dependence

- Participants were administered the SDS in regard to both their ecstasy and methamphetamine use.
- For ecstasy, more than one-fifth (22%) of the sample scored at or above the SDS cut-off score of four, suggesting ecstasy dependence, not significantly different from 21% in 2015. There was no significant difference between the proportion of males and females who reached the cut-off score.
- Among recent methamphetamine users, more than one-third (35%) of respondents scored at or above the SDS cut-off score, suggesting methamphetamine dependence, not significantly different from 29% in 2015. There was no significant difference between the proportion of males and females who reached the cut-off

score. However, this result should be interpreted with caution given the small number of participants who reached the cut-off (n=7).

VII. Criminal and police activity

- Involvement in any criminal activity in the preceding months was reported by more than two-fifths (45%) of the sample, the same proportion reported in 2015. However, these are the largest proportions reported since WA EDRS data collection began in 2003.
- Consistent with previous years, the most commonly reported criminal activity in the preceding months was drug dealing (42%).
- Seven per cent of the sample reported having been arrested in the preceding 12 months, not significantly different from with 6% in 2015.
- Fourteen per cent of the sample reported having been the victim of a violent crime in the preceding month, a non-significant increase from 7% in 2015. Among these participants, more than one-third (75%) reported that they believed that the perpetrator was under the influence of alcohol or other drugs on the last occasion of violence.
- According to police statistics, both provider and consumer arrests increased in this reporting period, with a total of 18,403 in 2014/15, compared to 16,302 in 2013/14.
- According to police statistics, there were 84 clandestine laboratories detected in WA during 2014/15, a decrease from 96 in 2013/14. The majority were manufacturing non-MDMA ATS using the Nazi/Birch method of production.

VIII. Special topics of interest

i. NPS supply, purchasing patterns and adverse effects

- Among participants who had used an NPS in the last 12 months, 43% reported having supplied an NPS to others in that time period. The most commonly reported person to whom NPS were supplied in the last 12 months was friend (100%), followed by acquaintance and relative (each 12%). The most frequently reported method of supply was ‘gave it away for free’ (50%), followed by ‘shared with other’ and ‘provided it at cost price’ (each 31%).
- Among participants who had used NPS in the preceding 12 months, 46% reported experiencing an adverse effect on the last occasion of use, not significantly different from 47% in 2015. The most commonly reported adverse effect was ‘seeing things that were not there (14%).

ii. Online purchasing

- Fourteen percent of the sample reported having purchased a drug online in their lifetime and 11% reported having done so in the preceding 12 months, the same proportions reported in 2015.
- Not significantly different from 2015, purchases of illicit drugs online were primarily made from dark net marketplaces (82%).
- Among participants who reported purchasing a drug online in the last 12 months, ecstasy was the most commonly purchased drug (54%), followed by LSD, cannabis and any NPS (each 36%).

iii. Video gaming and gambling

- More than three-quarters (77%) of the sample reported playing video games in the last six months, on a median of 24 days in that time period. Among these participants, 14% believed they had an issue with video gaming.
- Almost half (48%) of the sample had gambled in the last six months, on a median of three days in that time period. Among these participants, 6% believed they had an issue with gambling.

IMPLICATIONS FROM THE 2016 WA EDRS FINDINGS

The WA arm of the EDRS ultimately aims to monitor trends in the Perth ERD markets and investigate harms associated with ERD use. The 2016 WA EDRS revealed ongoing fluctuations in drug markets and signs of drug-related harms which are discussed below.

Drug use trends

The findings from the 2015 EDRS suggested that the WA ecstasy market had maintained its recovery from declines seen in the 2010/2011 data collection period. The results from the current data collection period indicate that this recovery has remained stable into 2016.

Data from the 2012 and 2013 WA EDRS indicated that the resurgence in the ecstasy market at that time was driven by increases in the use of non-pill forms of ecstasy; capsules, powder and crystal. Upward trends in the use of non-pill forms of ecstasy continued into 2014, with significant increases in the proportion lifetime and recent crystal ecstasy use compared to the previous year. In 2015, proportions of use of ecstasy capsules and powder remained stable compared to the previous year, but the proportion of lifetime ecstasy capsule use significantly increased, with a non-significant increase in recent use. These higher proportions of all non-pill forms of ecstasy, including ecstasy capsules, remained stable in 2016. It will be interesting to see if this trend continues into 2017.

The 2015 EDRS identified a number of additional drug use trends to be examined into the future. The 2015 findings saw a significant increase in lifetime use of e-cigarettes, while the proportion of recent use remained stable from the previous year. In 2016, lifetime use of e-cigarettes significantly decreased while recent use remained stable. The proportion of lifetime use of e-cigarettes appears to have peaked in 2015 but have returned to the lower proportions seen prior to this peak. The 2015 WA EDRS saw a significant decrease in recent methamphetamine powder (speed) use compared to the previous year. In the 2016 sample there were significant increases in both lifetime and recent speed use compared to 2015. The current results suggest that proportions of speed use among RPU may have returned to the larger proportions seen prior to 2015. Finally, in the 2015 sample there was a significant increase in lifetime use of other (pharmaceutical) opioids compared to the previous year. In the 2016 sample the proportions of both lifetime and recent use of other opioids remained stable. These results suggest that the larger proportion of lifetime opioid use seen in 2015 have been maintained into 2016.

Findings from the 2016 WA EDRS sample provide some evidence of a decrease in the price of ecstasy pills and ecstasy crystal/MDMA rock capsules; there were relatively small but significant decreases in the participant reported current price of these forms of ecstasy in 2016 compared to the 2015 sample. Further, compared to the 2015 sample, in 2016 a significantly smaller proportion of participants rated the price of ecstasy pills, powder and capsules as stable over the preceding six months and a significantly larger proportion rated it as decreasing over that time period. The 2016 findings also provide some evidence of an increase in availability of ecstasy pills, powder and capsules as well ecstasy crystal/MDMA rock in the preceding six months. In 2016, 98% of the sample reported that ecstasy pills, powder and capsules were either easy or very easy to obtain currently, a significant increase from 92% in 2015. Further, almost three-quarters (72%) of the 2016 sample reported that ecstasy crystal/MDMA rock was currently easy or very easy to obtain, again a significant increase from 53% in 2015. Findings from the 2016 sample also provide some evidence of a possible decrease in the price of crystal methamphetamine; compared to the 2015 sample, in 2016 a significantly greater proportion of participants reported that the price of crystal methamphetamine was decreasing over the preceding six months and a significantly smaller proportion reported that the price was stable in that time period. A KE who worked in law enforcement also noted that while the price of small street deals of crystal

methamphetamine had been stable in the six to 12 months preceding interview, the price of 'bulk deals' had decreased in that time period. While rates of use of ecstasy and crystal methamphetamine remained stable in the 2016 WA EDRS sample compared to 2015, decreases in the price of ecstasy and crystal methamphetamine and increases in ecstasy availability may increase rates of use of these drugs among RPU. Market trends in ecstasy and methamphetamine price and availability should continue to be monitored to see if they persist into 2017. Particular attention should be given to whether these trends are associated with increases in rates of use of these drugs and/or their associated harms among RPU.

There are additional drug trends findings in the 2016 EDRS, which will be looked at with interest in 2017 and beyond to see whether they continue. These include: (1) increasing reports of lifetime and recent LSD use; (2) increasing reports of lifetime and recent ketamine use; and (3) increasing reports of lifetime nitrous oxide use.

Harms

The high level of alcohol use among the sample continues to be of concern. The majority of the sample (79%) obtained AUDIT scores that indicated hazardous and harmful use of alcohol. Consistent with previous years' findings, males obtained significantly higher risky drinking scores than females. Half (50%) of the respondents in the current sample reported consuming alcohol on a 'more than weekly' basis. Again consistent with previous years, alcohol was the most common main drug to which depressant overdoses were attributed (54%) and the use of alcohol in combination with psychostimulants was common. The vast majority of the sample (93%) reported using at least one concurrent drug on the last occasion of any psychostimulant use; alcohol was used on the last occasion by 71% of these participants. Aligned with previous years, alcohol was also the most commonly reported concomitant drug implicated in stimulant overdoses (75%). Among participants who reported recent bingeing behaviour, alcohol was the second most commonly implicated drug behind ecstasy. Further, among participants reporting either polydrug use on the last occasion of psychostimulant use or recent bingeing behaviour, alcohol was most commonly combined with ecstasy, tobacco, cannabis and pharmaceutical stimulants. Overall, these findings indicate that harm reduction efforts targeting RPU should continue address risky drinking behaviours, particularly among males. Focus should be placed on the concomitant use of alcohol and stimulant drugs and the role of alcohol in overdoses and bingeing behaviour.

The increase in ketamine use in the current sample is a potential area of concern. The proportion of lifetime and recent ketamine use significantly increased in the 2016 sample, reported by 33% and 18% of the sample respectively. A small proportion of participants (10%) also anecdotally reported increases in ketamine use among themselves or their friends in the preceding six months. Chronic frequent ketamine use is associated with an increased risk of ketamine-induced ulcerative colitis; a thickening and inflammation of the bladder resulting in frequency and urgency of urination and bladder incontinence. Ketamine-induced ulcerative colitis does not always resolve after cessation of ketamine use. Ulcerative colitis is most likely to occur with very frequent (daily or almost daily) ketamine use (Morgan & Curran, 2011). In 2016, RPU reported using ketamine on a mean of six days in the preceding six months (i.e. once a month), a non-significant increase from five days in 2015. The amount of ketamine used on 'typical' and the 'heaviest' occasion in the preceding six months also increased compared to the 2015 sample, although non-significantly so. The frequency of ketamine use reported by the current sample is unlikely to substantially increase the risk of ulcerative colitis among these users; this is supported by the fact that in 2016 KE continued to report that ketamine was very rarely encountered in their fields. However, given the potential for ulcerative colitis to be severe and permanent, ketamine use

among RPU should continue to be closely monitored for further increases in rates and frequency of use among this population.

The possibility of 2C-type drugs or NBOMe being sold on the Perth market as LSD was first indicated by the 2013 and 2014 WA EDRS findings. This was concerning because of the increased risk of acute harm posed by 2C-type drugs and NBOMe compared to LSD; 2C-type drugs and NBOMe are highly potent at low doses and can cause cardiovascular complications (Caldicott, Bright & Barratt, 2013). A number of findings from the 2015 WA EDRS indicated a possible decline in this behaviour. However, findings from the current sample suggest that the possibility that 2C-type drugs or NBOMe continue to be sold on the Perth market as LSD or ecstasy, namely (1) significant increases in lifetime and recent self-reported LSD use compared to 2015, with the highest proportions of use since the beginning of the WA EDRS in 2003 (2) some KE reports that NBOMe may be being sold as ecstasy or LSD (3) among participants who reported purchasing drugs online in the past year, 2C-type drugs were the most commonly purchased NPS, with a very small proportion reporting having purchased NBOMe; and (4) among RPU who had used an NPS in the preceding 12 months, 2C-type drugs were second most common NPS used in that time period. While these results provide some evidence that 2C-type drugs or NBOMe may be being sold as ecstasy or LSD, this behaviour appears to be on the decline since 2013 and 2014. However, service providers managing patient presentations involving LSD or ecstasy should continue to consider a diagnosis of an inadvertent 2C-type or NBOMe overdose. Harm reduction interventions targeting RPU should continue to increase awareness of 2C-type drugs and NBOMe on the Perth market, the fact that these drugs may be sold as something else, namely LSD or ecstasy, and the acute harms associated with them.

The large proportion of recent illicit pharmaceutical stimulant use seen in the current sample remains an issue of concern. While the harms associated with recreational use of pharmaceutical stimulants remain largely unknown (Kaye & Darke, 2011), these drugs may facilitate heavy drinking by masking the effects of alcohol intoxication. This may increase the risk of acute alcohol-related harms, such as alcohol toxicity or driving while intoxicated (Green & Moore, 2009). Both ecstasy and pharmaceutical stimulants also increase serotonergic activity. When used in combination with ecstasy, pharmaceutical stimulants may increase the risk of serotonin syndrome, a potentially fatal drug-induced syndrome caused by elevated serotonin levels (Buckley, Dawson & Isbister, 2014; Silins, Copeland & Dillon, 2007). In 2016, alcohol, ecstasy and pharmaceutical stimulants continued to be frequently implicated in bingeing behaviour and poly drug use. Harm reduction interventions with RPU should continue to consider targeting pharmaceutical stimulant use, particularly the concomitant use of alcohol and ecstasy.

Driving while intoxicated continues to be an issue of concern. In 2016, almost half (48%) of participants who had driven a vehicle in the preceding six months reported having driven under the influence of alcohol in that time period and just less than two-thirds (65%) reported having driven under the influence of illicit drugs. Cannabis and alcohol have been shown to produce dose-dependent impairment of cognitive and psychomotor functions required for driving and increase the risk of driving accidents. While research on the effect of other illicit drugs, including ecstasy and pharmaceutical stimulants, is less equivocal, it is clear that these drugs impair at least some driving-related cognitive functions and increase accident risk; impairment and accident risk also increase when illicit drugs are combined with alcohol (EMCDDA, 2014). REU may perceive cannabis, ecstasy and other illicit drugs as less likely than alcohol to cause driving impairment or increase accident risk, which may increase the likelihood of driving under the influence of illicit drugs (Danton, Misselke, Bacon, & Done, 2003; Matthews, Bruno, Dietze, Butler, & Burns, 2014). Harm reduction interventions with RPU should continue to target intoxicated driving, with particular focus on the impairment and accident risk associated with driving under the influence of illicit drugs as well as alcohol.

Sexual risk behaviour among RPU continues to be an issue of concern. In 2016, 62% of the sample reported engaging in casual sexual behaviour in the preceding six months. The majority (85%) of these participants had also engaged in casual sexual behaviour while under the influence of alcohol and/or other drugs in this time period; aligned with previous years' findings, the drugs most commonly reported to have been used in this context were alcohol, ecstasy, cannabis and pharmaceutical stimulants. Among participants who reported recent casual sexual activity, more than two-fifths reported that they had not used a protective barrier on the last occasion both while sober (43%) and while under the influence of alcohol and/or other drugs (44%). The most commonly reported reason for not using a protective barrier on the last occasion was 'using the contraceptive pill' for both casual sexual behaviour while sober and under the influence of alcohol and/or other drugs. These findings suggest that a sizeable proportion of RPU likely continue to be at risk of contracting STIs, both while under the influence of drugs and while sober. While just 4% of the sample reported being diagnosed with an STI within the last 12 months, less than two-fifths (37%) of the respondents reported having had a sexual health check-up within that time period. Educational harm reduction efforts with RPU should therefore seek to increase awareness of the importance of protective barriers for preventing STIs in addition to pregnancy, as well as the importance of obtaining regular sexual health check-ups.

1. INTRODUCTION

The EDRS is an ongoing project funded by the AGDH and modelled on the more established IDRS. As the focus of the IDRS was on injecting drug users, it did not directly acknowledge the distinct population regularly using ecstasy and related drugs (ERD). Consequently, in 2000, NDLERF funded a two-year, two-state trial of the feasibility of monitoring emerging trends in the markets for ERD using the extant IDRS methodology. In 2016, the EDRS was supported by funding from the Australian Government under the Substance Misuse Prevention and Service Improvement Grants Fund.

The EDRS terms of reference are the drugs that are routinely associated in the context of entertainment venues such as nightclubs, festivals or dance parties. This includes drugs such as MDMA (ecstasy), amphetamines, cocaine, LSD, ketamine, MDA and GHB. This marked the beginning of the PDI, which became a national survey in 2003, and was re-named the EDRS in 2006.

This report presents the findings of the 14th year of data collection for the PDI/EDRS in WA. Like the IDRS, results are based on three data sources: interviews with current illicit drug users – in this case RPU; KE interviews with people who have regular contact with these users; and the collation of secondary indicator data. Also consistent with the paradigm of the IDRS as an early warning system, participants resided in the capital city, reflecting the likelihood that emerging trends in illicit drug markets are more likely to occur initially in large cities rather than regional centres or rural areas.

1.1. Study aims

The specific aims of the WA EDRS 2016 were to:

1. Describe the characteristics of a sample of current RPU in Perth;
2. Examine patterns of ecstasy and other drug use among this sample;
3. Document market aspects of ERD in Perth, such as price, potency and availability;
4. Examine participants' experiences of the nature and incidence of ecstasy-related harm including physical, psychological, social and legal harms;
5. Compare key findings of this study with those reported in previous years; and
6. Identify emerging trends in the ERD markets that may require further investigation.

2. METHOD

A triangulated approach was used for the EDRS to provide an indication of emerging trends in use of ERD markets. Using multiple data sources minimises the impact of biases inherent in each source and permits validation of observed trends across the different data sources. The three main sources of information used to document trends were:

1. A survey of RPU consisting of face-to-face interviews;
2. A KE survey of professionals working in the field using semi-structured qualitative interviews; and
3. An examination of existing indicator data, such as statistical data collected from legal and health services.

2.1. Survey of REU/RPU

There is an established market for ecstasy, i.e. tablets that are purported to contain MDMA, which has existed for more than two decades. According to the AIHW, between 1995 and 2010, recent ecstasy use (use in the previous 12 months) among Australians over 14 years of age peaked at 3.5% in 2007, then, for the first time since 1995, ecstasy use declined between 2007 and 2010 (3%) (AIHW, 2011). In WA, 2.5% of the general population reported use of ecstasy in 2013 (AIHW, 2014). The entrenchment of ecstasy in Australia's illicit drug markets, relative to other related drugs, underpinned the decision that regular use of ecstasy could be considered the defining characteristic of the target population of the EDRS. Therefore, from 2003 to 2011, the sentinel population for the EDRS consisted of regular users of pills, powder or capsules sold as ecstasy. However, in some previous years, recruitment based on this criteria alone has proved challenging for some jurisdictions, including WA. It was speculated that this may have been a result of declines in the potency and availability of ecstasy in WA and across Australia at that time.

As in other parts of the world, there was evidence for a decline in ecstasy purity first seen in 2010 report by the ACC. This declining purity provided potential for an expanding market of NPS as existing ecstasy users sought alternative substances (Bruno et al., 2012). Essentially, due to a decline in the purity and availability of ecstasy, people may have been seeking out and using alternative psychoactive substances. In order to capture these users, in 2012 the decision was made by the EDRS chief investigators to broaden the selection criteria for the study in those jurisdictions where the decline in ecstasy availability had made the samples too small to undertake meaningful analysis. Consequently, in 2012, the WA EDRS selection criteria were expanded to include RPU in addition to REU. It was intended that an annual review of this strategy be undertaken in those jurisdictions where these changes were made, in order to decide on the future of these recruitment criteria. In 2016 in WA, while the expanded criteria were in employed, there were no difficulties recruiting participants who had used ecstasy on at least six occasions in the preceding six months. Consequently, the 2016 sample comprised only REU. However, given that the expanded criteria was employed, and to allow for standardisation across jurisdictions, 2016 WA EDRS participants are referred to as RPU in this report.

2.1.1. Recruitment

For the 2016 WA EDRS, 100 RPU were interviewed, all of whom reported that they had lived in the Perth metropolitan area for more than 12 months. Participants were recruited via an advertisement on the Facebook website of entertainment street press, as well as participant snowballing techniques as described by Barnard (1995).

Ethics approval was granted from the Curtin University Human Research Ethics Committee (HR27/2015) with a stipulation that interviews be conducted with participants aged 16 years or older.

2.1.2. Procedure

In 2016, potential participants contacted the research co-ordinator by either telephone, SMS (trialled for the first time in 2009), or by a generic email address and were then screened for eligibility only over the telephone. Participants were asked to leave either a first name or pseudonym and a contact phone number if they contacted the co-ordinator via SMS or email. Three criteria were to be met for participation:

1. Use of ecstasy (pills, powder, capsules or crystals) or a psychostimulant drug (e.g. methamphetamine, MDA, cocaine, ketamine, GHB, LSD, mephedrone, or NPS such as 2C-B, 2C-I) at least monthly or on six separate occasions over the preceding six months;
2. Aged 16 years or older; and
3. Resident in the Perth metropolitan area for a minimum of 12 months prior to the interview.

Participants meeting these criteria were informed that the study consisted of a confidential face-to-face interview conducted at a public place of convenience for both parties. It was explained that the structured interview would take approximately 60 minutes to complete, and that all data would be collected anonymously. In 2016, participant reimbursement remained at $40 to cover participants' time and travel expenses to attend the interview. Upon meeting the interviewer, the nature and purpose of the study was again explained to participants, and informed consent was obtained. All interviewers were trained in administration of the specific interview schedule and had a range of interviewer materials contained in a display folder to assist them.

2.1.3. Measures

Participants were administered a structured interview schedule based on a national study of ecstasy users conducted by NDARC in 1997 (Topp et al., 1998; Topp et al., 2000). The original survey incorporated items from a number of previous NDARC studies of users of ecstasy (Solowij, Hall & Lee, 1992) and amphetamines (Darke et al., 1994; Hando & Hall, 1993; Hando, Topp & Hall, 1997) and has been revised over successive years of PDI/EDRS data collection. The interview schedule focused primarily on the six months preceding the interview. The survey allowed assessment of sample characteristics related to demographic information; ecstasy and other drug use history, including frequency and quantity of use and ROA; physical and psychological side effects of ecstasy; price, potency and availability of different drugs; sexual and health-related behaviours; self-reported criminal activity; and general trends in the ERD markets such as new drug types and new drug users.

2.1.4. Data analysis

Quantitative data from the RPU survey were analysed using SPSS Statistics 22 for Windows. For continuous, normally distributed variables, *t*-tests were employed. Where continuous variables were skewed, the Mann-Whitley *U*-test, a non-parametric analogue of the *t*-test, was employed. Non-parametric median difference tests were used to calculate median differences between groups. Differences between proportions were analysed by calculating Newombe-Wilson Hybrid Score Intervals, using an Excel spreadsheet available at http://www. cebm.net/index.aspx?o=1023; all CIs based on these scores presented in this report are at 95%. Differences in the spread of frequencies across multiple responses were analysed using Pearson's Chi Square tests. All quantitative analysis employed an α of 0.5. Qualitative data collected from RPU and KE were analysed using the word processing and table-making options of Microsoft Word 2010.

2.2. Survey of KE

To maintain consistency with the central IDRS, eligibility criterion for KE participating in the EDRS was regular contact in the course of employment with a range of ecstasy/psychostimulant drug users. Regular contact was defined as average weekly contact and/or contact with 10 or more ecstasy/psychostimulant drug users throughout the past six months. Thirteen KE from areas of law enforcement and health participated in the 2016 WA EDRS.

2.3. Other indicators

Secondary data sources were examined to complement and validate the data collected from both the REU and KE interviews. Data sources included in this report are from:

- The 2013 NDSHS;
- ACC drug potency and seizure data, and arrest data;
- Hospital admissions data; and
- Telephone advisory service data from ADIS.

3. DEMOGRAPHICS

3.1. Overview of the REU/RPU sample

Interviews were conducted with 100 RPU in the Perth metropolitan area in April and May of 2016. Table 1 presents key demographic data for the samples of REU/RPU recruited in WA since 2005.

The sample comprised 73 males and 27 females with a mean age of 21.5 years (range 17-37). There was no significant difference in the mean age of males and females. The majority of participants identified as coming from an English speaking background (96%) and as having been born in Australia (80%). None of the participants identified as Aboriginal or Torres Strait Islander. The mean number of years of high school education completed was 11.7 (range 8-12). Forty per cent had a tertiary qualification; 26% held a trade or technical qualification and 14% held a university degree. The majority (95%) identified as heterosexual and more than half (55%) reported their current relationship status as single. The mean income was $590 per week (range $80-$1,923).

As shown in Table 1, the overall demographic characteristics of the 2016 sample were very similar to the 2015 sample. However, there were two significant differences between the groups. The proportion of participants in 2016 who reported they were employed part-time (14%) was significantly smaller than in 2015 (47%; CI: -0.20 to -0.44). The proportion of participants who reported 'working and studying' was significantly larger in the 2016 sample (40%) compared to 2015 (2%; CI: -0.28 to -0.48).

Table 1: Demographic characteristics of WA REU/RPU samples, 2007-2016

	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Mean age (years)	26.4	22.9	23.1	23.4	26.8	23.7	20.8	20.7	21.7	**21.5**
Male (%)	55	48	65	48	68	60	63	69	64	**73**
English speaking background (%)	95	98	97	99	96	97	96	98	99	**96**
ATSI (%)	1	0	2	4	4	2	2	0	0	**0**
Heterosexual (%)	88	97	84	86	100	96	90	93	95	**95**
Mean number school years	11.5	11.8	11.5	11.7	11.4	11.6	11.6	11.9	11.8	**11.7**
Tertiary qualifications (%)	52	59	46	48	36	67	32	29	38	**40**
Full-time students (%)	3	3	13	8	7	4	5	4	8	**6**
Employed full-time (%)	24	55	22	31	14	28	16	23	22	**29**
Employed part-time (%)	38	12	23	29	21	22	29	16	47	**14***
Both studying and employed	-	24	27	17	18	21	22	39	2	**40***
Unemployed (%)	25	5	15	13	25	21	20	16	12	**10**
Mean income per week	-	-	$425	$467	$471	$634	$524	$590	$503	**$590**
Current drug treatment (%)	8	3	5	3	7	3	3	0	1	**4**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

4. DRUG CONSUMPTION PATTERNS

4.1. Drug use history and current drug use

Participants were asked about lifetime (ever used) and recent use (last six months) of a variety of drugs. Participants were asked how often they had used an ERD in the last month. The most common response was 'fortnightly' (38%), followed by 'weekly' (28%), 'more than weekly' (17%), 'monthly' (8%), 'more than daily' (6%), 'daily' (2%) and 'not in the last month' (1%) Consistent with previous data collection years, the majority of the 2016 sample reported recent use of alcohol (95%), cannabis (87%) and tobacco (79%). A more thorough analysis of each drug class can be found in later sections of this report.

Table 2 presents the rates of lifetime and recent use of a variety of traditional drugs among REU/RPU since 2007. The EDRS began to systematically investigate other less commonly used drugs in 2010 (e.g. mephedrone, MDPV, DMT and synthetic cannabis). These drugs are currently referred to as NPS and are reported separately (see section 3.10 'New psychoactive substances' for a detailed analysis).

While rates of traditional drug use largely remained stable from 2015, there were some significant differences in 2016. These were:

- A significant decrease in lifetime use of e-cigarettes;
- A significant increase in lifetime and recent use of methamphetamine powder (speed);
- A significant increase in lifetime and recent use of LSD;
- A significant increase in lifetime and recent use of ketamine; and
- A significant increase in lifetime use of nitrous oxide.

Table 2: Lifetime and recent polydrug use of WA REU/RPU samples, 2007-2016

	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever inject any drug (%)	27	10	11	10	36	10	10	2	4	**2**
Ecstasy pills										
ever used (%)	100	100	100	100	100	100	100	100	100	**100**
used last 6 months (%)	100	100	100	100	100	100	99	98	99	**98**
Ecstasy powder										
ever used (%)	23	24	19	18	29	42	32	27	29	**29**
used last 6 months (%)	11	9	10	6	7	26	25	20	18	**13**
Ecstasy capsules										
ever used (%)	-	47	42	41	61	58	62	61	79	**72**
used last 6 months (%)	-	28	15	14	11	32	48	51	65	**54**
Ecstasy crystal										
ever used (%)	-	-	-	-	-	-	46	67	64	**66**
used last 6 months (%)	-	-	-	-	-	-	34	58	51	**59**
Alcohol										
ever used (%)	97	100	100	100	100	100	100	100	98	**100**
used last 6 months (%)	92	98	99	98	93	96	96	98	97	**95**
Cannabis										
ever used (%)	96	100	99	99	100	99	98	98	97	**98**
used last 6 months (%)	80	85	85	81	86	77	92	86	86	**87**
Tobacco										
ever used (%)	79	90	92	84	89	96	88	91	91	**92**
used last 6 months (%)	52	69	76	67	89	67	75	77	82	**79**
E-cigarettes										
ever used (%)	-	-	-	-	-	-	-	47	63	**46***
used last 6 months (%)	-	-	-	-	-	-	-	33	34	**25**
Methamphetamine powder (speed)										
ever used (%)	72	72	63	60	67	62	36	36	23	**41***
used last 6 months (%)	46	38	37	38	44	27	17	19	6	**18***
Methamphetamine base (base)										
ever used (%)	22	22	13	8	36	8	9	3	2	**8**
used last 6 months (%)	10	5	3	4	11	1	0	0	0	**1**
Crystal methamphetamine (crystal)										
ever used (%)	69	62	41	40	64	58	32	24	31	**29**
used last 6 months(%)	52	36	20	22	46	33	22	17	16	**12**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

- Data not collected

Table 2: Lifetime and recent polydrug use of WA REU/RPU samples, 2007-2016 (continued)

	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Pharmaceutical stimulants										
ever used (%)	71#	85#	82#	83#	89#	93#	77#	91#	91#	**85#**
used last 6 months (%)	53#	53#	60#	58#	68#	64#	64#	81#	78#	**67#**
Cocaine										
ever used (%)	56	66	52	51	82	71*	54	56	58	**67**
used last 6 months (%)	27	40	24	26	32	31	34	30	29	**38**
LSD										
ever used (%)	49	47	55	48	71	57	66	67	58	**78***
used last 6 months (%)	23	21	31	35	36	33	41	45	24	**50***
MDA										
ever used (%)	22	16	9	11	25	17	18	19	20	**30**
used last 6 months (%)	3	5	2	5	14	4	12	13	11	**13**
Ketamine										
ever used (%)	22	21	18	14	18	18	20	25	16	**33***
used last 6 months (%)	2	3	6	4	0	3	7	11	4	**18***
GHB										
ever used (%)	8	7	7	3	14	4	9	4	6	**13**
used last 6 months (%)	0	2	2	0	0	1	3	3	2	**4**
Amyl nitrate										
ever used (%)	27	21	20	20	29	24	14	11	20	**24**
used last 6 months (%)	7	3	6	5	7	10	7	4	11	**14**
Nitrous oxide										
ever used (%)	46	48	39	39	50	53	46	43	49	**64***
used last 6 months (%)	20	21	13	16	18	26	32	32	37	**45**
Mushrooms										
ever used (%)	46	45	50	43	79	70	44	57	57	**62**
used last 6 months (%)	14	10	15	12	11	26	17	25	21	**27**
Benzodiazepines										
ever used (%)	48#	36#	41#	44#	61#	56#	55#	52#	54#	**55#**
used last 6 months (%)	37#	24#	22#	28#	39#	25#	33#	35#	45#	**37#**
Anti-depressants										
ever used (%)	26#	17#	21#	24#	29#	29#	31#	14#	18#	**-**
used last 6 months (%)	13#	9#	6#	10#	4#	8#	18#	6#	9#	**-**

Source: WA EDRS REU/RPU interviews, 2007-2016

Includes licit and illicit use

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

Table 2: Lifetime and recent polydrug use of WA REU/RPU samples, 2007-2016 (continued)

	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Heroin										
ever used (%)	16	3	6	4	25	6	6	4	3	**4**
used last 6 months (%)	10	2	2	3	11	1	2	0	1	**2**
Methadone										
ever used (%)	12	5	4#	3#	7	2	1	2	3	**2**
used last 6 months (%)	6	0	1#	2#	0	0	0	2	2	**1**
Buprenorphine										
ever used (%)	10	3	2#	2#	11#	3#	3	2	2	**2**
used last 6 months (%)	4	2	-#	1#	11#	0#	0	0	2	**2**
Other opiates										
ever used (%)	35	24	20	27	43#	46#	29#*	18#	33#	**36#**
used last 6 months (%)	21	12	10	10	14#	20#	15#	8#	16#	**24#**
OTC codeine										
Ever used (%)	-	-	20	29	57	20	23	26	26	**32**
Used last 6 months (%)	-	-	15	22	43	14	15	17	20	**23**
OTC stimulants										
ever used (%)	-	-	19	36	43	8	7	10	20	**11**
used last 6 months (%)	-	-	8	26	11	2	5	5	10	**4**
Steroids										
ever used (%)	-	-	-	1	0	2	1	1	4	**2**
used last 6 months (%)	-	-	-	0	0	1	1	1	0	**0**

Source: WA EDRS REU/RPU interviews, 2007-2016

Includes licit and illicit use

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

- Data not collected

4.2. Ecstasy use

'Ecstasy' is the term used in popular street culture for the drug MDMA. This drug is classed as an hallucinogenic amphetamine and commonly associated with what was previously termed the 'party drug' scene. Tablets (pills), powder, caps and crystals sold as ecstasy may include a range of substances, perhaps in combination with a hallucinogenic such as ketamine. They may also contain other illicit chemicals like MDA, PMA or MDEA, or licit substances such as caffeine or paracetamol. The results presented in this section relate to the participants' use and knowledge of pills, powder, capsules and crystals sold as ecstasy.

4.2.1. Ecstasy use among REU/RPU

Presented in Table 3 are key findings regarding ecstasy use collected from WA REU/RPU samples recruited since 2007.

As in previous years, pills were the most commonly reported form of ecstasy used in the 2016 sample. All participants (100%) reported lifetime use of ecstasy pills and 98% reported recent use. Lifetime use of ecstasy capsules was reported by almost three-quarters (72%) of the sample, with recent use reported by 54%. Lifetime use of ecstasy crystal/MDMA rock was reported by approximately two-thirds (66%) of the sample, with recent use reported by 59%. Lifetime use of ecstasy powder was reported by 29% of the sample and recent use was reported by 13%. These results were not significantly different from the 2015 findings.

The mean number of days that any form of ecstasy was reported to have been used in the preceding six month period was 20 (i.e. less than once a week, range 1-90), the same mean reported in 2015. Forty-seven percent of respondents reported that ecstasy was their 'favourite' drug, not significantly different from 39% in 2015. Just less than one-third (31%) of the sample reported using ecstasy 'weekly or more' in the six months preceding the interview, not significantly different from 23% in 2015. The mean number of ecstasy tablets reported to have been used on a 'typical' occasion in the preceding six months was 2.7 (range 1-10), not significantly different from 2.5 in 2015. The majority (88%) of the sample reported using more than one ecstasy pill on a 'typical' occasion in the last six months, the same percentage reported in 2015. The mean number of ecstasy tablets reported to have been used on the 'heaviest' occasion in the preceding six months was 5.4 (range 1-24), not significantly different from 4.6 in 2015. The median number of ecstasy crystal/MDMA rock caps used on both a 'typical' and the 'heaviest' occasion in the last six months was two, the same figures reported in 2015. Just less than one-third (30%) of the sample reported 'bingeing' on an ERD (i.e. using ERD(s) for more than 48 hours continuously without sleep) in the last six months, not significantly different from 28% in 2015.

Participants were asked about the ROA they had used in the preceding six months for all four forms of ecstasy. Among those who commented on pills (n=98), the most common ROA was swallowing (n=97, 99%), followed by snorting (n=55, 56%), smoking (n=2, 2%) and then shelving/shafting (n=1, 1%). Among those who commented on powder (n=13), the most common ROA was snorting (n=10, 77%), followed by swallowing (n=4, 31%). Among those who commented on capsules (n=54), the most common recent ROA was swallowing (n=53, 98%), followed by snorting (n=16, 30%). Among those who commented on crystal/MDMA rock (n=59), the most common ROA was swallowing (n=51, 86%), followed by snorting (n=35, 59%) and smoking (n=1, 2%). These findings were not significantly different from the 2015 sample.

Table 3: Patterns of ecstasy use, 2007-2016

Ecstasy	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 REU n=65	2012 REU/RPU N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ecstasy pills											
ever used (%)	100	100	100	100	100	100	100	100	100	100	**100**
used last 6 months (%)	100	100	100	100	100	100	100	99	98	99	**98**
Ecstasy powder											
ever used (%)	23	24	19	18	29	54	42	32	27	29	**29**
used last 6 months (%)	11	9	10	6	7	34	26	25	20	18	**13**
Ecstasy capsules											
ever used (%)	-	47	42	41	61	63	58	62	61	79	**72**
used last 6 months (%)	-	28	15	14	11	42	32	48	51	65	**54**
Ecstasy crystal/MDMA rock	-	-	-	-	-	-	**-**	46	67	64	**66**
ever used (%)	-	-	-	-	-	-	**-**	34	58	51	**59**
used last 6 months (%)											
Mean age first used ecstasy (years)	20	18	18	18	18	18	18	18	17	18	**-**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

- Data not collected.

Table 3: Patterns of ecstasy use, 2007-2016 (continued)

Ecstasy	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 REU n=65	2012 REU/RPU N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Mean days used ecstasy last 6 months	16	13	12	14	17	13	11	20	18	20	**20**
Ecstasy 'favourite' drug (%)	46	38	42	45	26	39	36	38	40	39	**47**
Use ecstasy weekly or more (%)	27	10	29	14	29	14	12	30	23	23	**31**
Mean ecstasy tablets in typical session	1.8	2.1	2.5	2.1	2.3	2	1.8	2.2	2.4	2.5	**2.7**
Median amount ecstasy crystal used in a typical session (caps)	-	-	-	-	-	-	-	-	2	2	**2**
Median amount ecstasy crystal used in a heavy session (caps)	-	-	-	-	-	-	-	-	2	2	**2**
Typically use >1 ecstasy pill (%)	54	74	86	81	75	77	66	72	86	88	**88**
Recently binged~ on ecstasy or related drugs (%)	29	22	40	27	54	29	26	38	37	28	**30**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

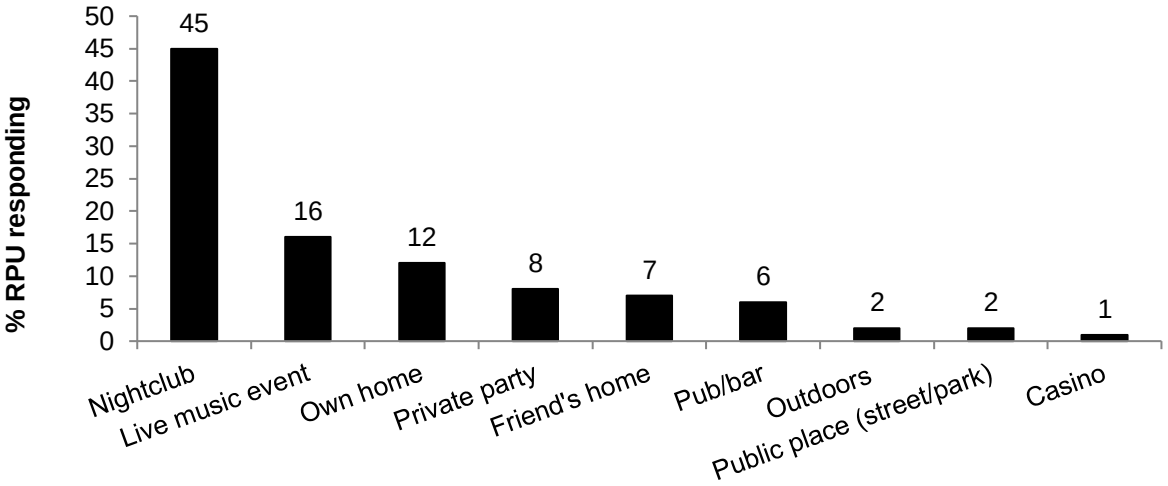
~ 'Binge' defined as use of ecstasy for more than 48 hours continuously without sleep

4.2.2. Location of ecstasy use

Ecstasy pills

As shown in Figure 1, among those who commented (N=94), the most commonly cited location where participants reported spending the most time while intoxicated on the last occasion that they used ecstasy pills was 'nightclub' (n=42, 45%). This was followed by 'live music event' (n=15, 16%), 'own home' (n=11, 12%), 'private party' (n=8, 8%), 'friend's home' (n=7, 7%), 'outdoors' and 'public place (street/park)' (each n=2, 2%) and 'casino' (n=1, 1%). These results were not significantly different from the 2015 findings.

Figure 1: Location of most recent ecstasy pill use, 2016 (N=94)

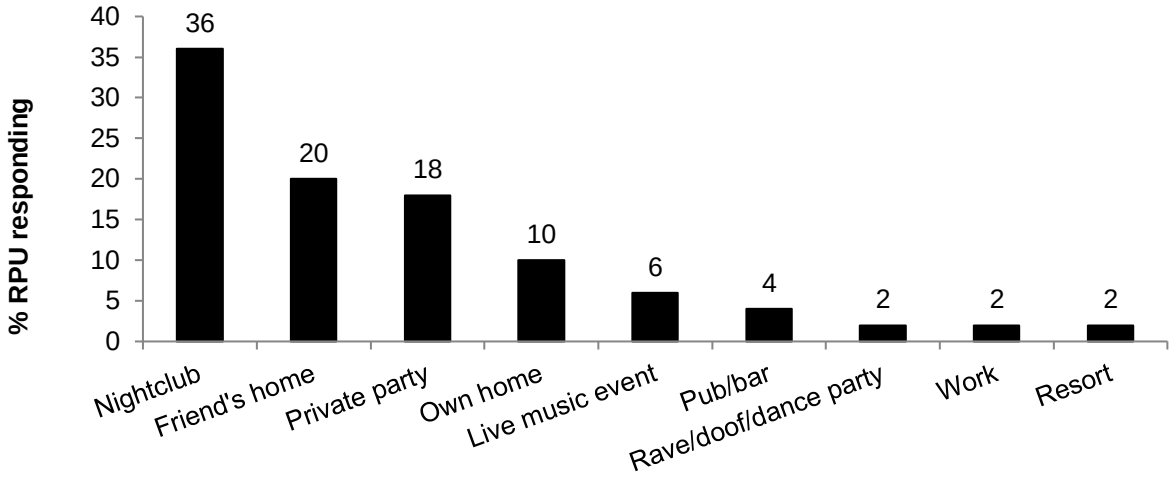


Source: WA EDRS RPU interviews, 2016

Ecstasy crystal/MDMA rock

As shown in Figure 2, among those who commented (N=50), the most commonly cited location where participants reported spending the most time while intoxicated on the last occasion of ecstasy crystal/MDMA rock use was 'nightclub' (n=18, 36%). This was followed by 'friend's home' (n=10, 20%), 'private party' (n=9, 18%), 'own home' (n=5, 10%), 'live music event' (n=3, 6%), 'pub/bar' (n=2, 4%) and then 'rave/doof/dance party', 'work' and 'resort' (each n=1, 2%). These findings were not significantly different from the 2015 results.

Figure 2: Location of most recent ecstasy crystal/MDMA rock use, 2016 (N=50)

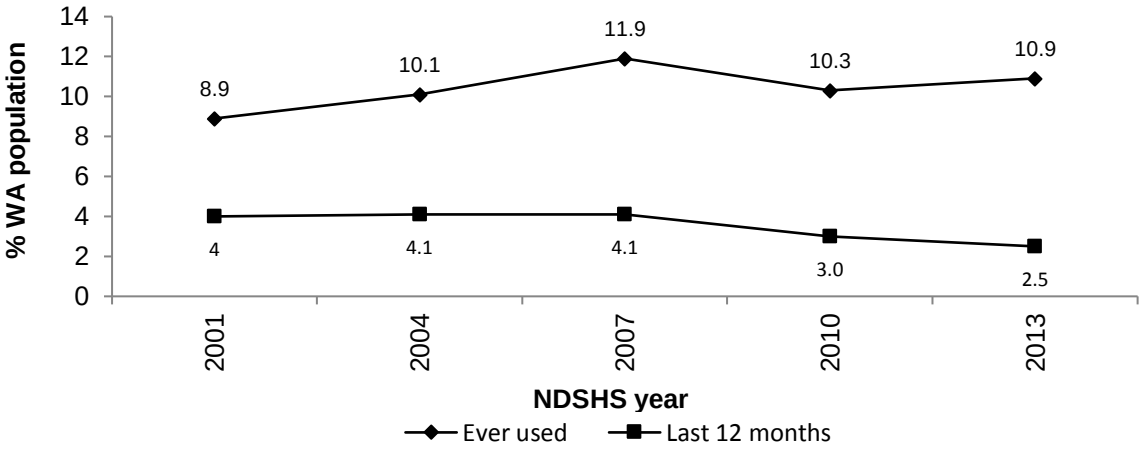


Source: WA EDRS RPU interviews, 2016

4.2.3. Use of ecstasy in the general population

The NDSHS has conducted research on drug use at various intervals in Australia since 1988. As shown in Figure 3, in WA, lifetime use of ecstasy reported in this survey steadily increased from 2001 to 2007, whereas recent use has remained comparable. In WA in 2013, ecstasy was reported as a drug used in the last 12 months by 2.5% of those aged 14 years and over. WA was the state with the fourth highest proportion of use of ecstasy in the last 12 months in those 14 years and over, behind Tasmania, Northern Territory, and South Australia (AIHW, 2014).

Figure 3: Prevalence of ecstasy use among the population aged 14 years and over in Western Australia, 2001-2013



Source: NDSHS supplementary tables, 2001 to 2013
Note: Data concerning lifetime use of ecstasy refers to the Australian population; WA specific data was not available at time of writing.

KE comments

- KE noted that that ecstasy continued to be commonly used recreationally among young people in Perth, particularly at weekends and music festivals.
- A KE who worked in outreach noted that ecstasy crystal/MDMA rock and powder were more commonly used than pills.
- A KE who worked in law enforcement reported that ecstasy pills often contained substances other than MDMA, including NBOMe. This KE noted that ecstasy pills containing NBOMe were referred to as 'tripping' ecstasy pills by users.
- A KE who worked in law enforcement noted that the use of ecstasy powder in gel caps had increased recently.
- A KE who worked in research noted that antihistamines were sometimes sold as ecstasy pills as a ploy.

4.2.4. Summary of ecstasy consumption

- Consistent with previous data collection years, pills were the most common form of ecstasy used in participants' lifetimes (100%), followed by capsules (72%), crystal/MDMA rock (66%) and powder (29%).
- Any form of ecstasy was used on a mean of 20 days (i.e. less than once a week) in the preceding six months, not significantly different from the 2015 findings.
- The proportion of participants reporting ecstasy as their 'drug of choice' was 47%, not significantly different from 39% in 2015.
- The average number of ecstasy tablets used on a typical occasion was 2.7, not significantly different from 2.5 in 2015.
- Less than one-third (31%) of the sample reported 'weekly or more' ecstasy use, not significantly different from 23% in 2015.
- The proportion reporting typically using more than one tablet in a single session was 88%, the same figure reported in 2015.
- Consistent with previous years, the most common ROA used in the preceding six months was swallowing for pills, capsules and crystal/MDMA rock and snorting for powder.
- The most commonly cited last location of last ecstasy use was 'nightclub' for both ecstasy pills (45%) and ecstasy crystal/MDMA rock (36%).
- KE reported that recreational ecstasy use was common among young people and that ecstasy pills commonly contained substances other than MDMA, particularly NBOMe.

4.3. Methamphetamine use

Methamphetamine became a primary focus of the IDRS in 2001, in recognition of its increasing prevalence over amphetamine during the 1990s. These drug types differ in molecular structure but have a similar effect of stimulating the release of monoamines such as dopamine, noradrenaline, adrenaline and serotonin in the body (Seiden, Sobol & Ricaurte, 1993). Throughout the 1980s, amphetamine sulfate was the dominant form of illicit amphetamine in Australia, but due to legislative controls on the availability of primary precursor chemicals, there was a shift toward alternative recipes for cooking amphetamine (Wardlaw, 1993). During the 1990s, the proportion of amphetamine-type substance seizures that were methamphetamine (rather than amphetamine) steadily increased, until methamphetamine clearly dominated the market (Australian Bureau of Criminal Intelligence [ABCI], 1999, 2000, 2001). Across Australia today, the powder traditionally known as speed

is almost exclusively methamphetamine rather than amphetamine. For example, in the 2006/07 financial year, of the 4,396 seizures of (non-phenethylamine) amphetamine-type seizures analysed for potency in Australia, 97.9% (by number) were methamphetamine rather than amphetamine (ACC, 2008).

As methamphetamine markets across the country have expanded over the past few years, it has become apparent that there is a diversity of forms, or presentations, of methamphetamine sold in the Australian illicit drug market.

Powder form methamphetamine is the presentation of the drug which has traditionally been available in Australia. This is commonly a powder that can range from fine to more crystalline or coarse, and may take different colours (commonly white, yellow, brown, orange or pink), depending on the chemical process used in its production and the quality of that process. It is typically produced within Australia, most commonly in small, portable laboratories, and is usually based on pharmaceutical pseudoephedrine (extracted from, e.g., Sudafed tablets). Because of its powder form, it is fairly easy to cut (dilute) and is commonly sold at fairly low purity/potency, although this can vary substantially.

The two other forms of methamphetamine are traditionally higher in potency (at least partially due to being more difficult to cut) (Topp et al., 2002). The first, referred to in some jurisdictions as base or paste, is commonly a gluggy, waxy, oily, 'wet' powder. This form of the drug appears oily because the conversion process from pseudoephedrine to methamphetamine produces the alkaline (base) form of methamphetamine, which is oily. To convert this to a more easily usable form (methamphetamine hydrochloride crystals, which may take the appearance of powder or, when no impurities are present, and carefully crystallised, may take the form of the 'ice' crystals – discussed below) requires a high level of skill and, when not completed correctly, the result of this process is an oily powder that often has a yellow or brownish tinge due to the presence of iodine and other impurities (Topp & Churchill, 2002).

The final form of methamphetamine examined in the current study is often referred to as ice or crystal meth(amphetamine). This is the product of a careful production process, and is believed to be chiefly imported into Australia from Asian countries (Topp & Churchill, 2002), although there are also indications of local production (ACC, 2007). It commonly appears as clear, ice-like crystals, and, as such, is difficult to cut, resulting in a relatively high purity/potency product.

4.3.1. Methamphetamine powder use among REU/RPU

Table 4 presents patterns of use of methamphetamine powder, or speed, among REU/RPU since 2007. Approximately two-fifths (41%) of the 2016 sample reported lifetime use of speed, a significant increase from 23% in 2015 (CI: 0.05 to 0.30). Recent use was reported by 18% of the sample, a significant increase from 6% in 2015 (CI: 0.03 to 0.21). While there was a decline in speed use in 2015, these results suggest that speed use has returned to proportions seen in 2014.

Among participants reporting recent use in 2016 (n=18), it was used on a mean of 12 days (median 1.5, range 1-180) over the preceding six-month period. The median amount of speed used on a 'typical' occasion in the last six months was 0.5 grams (range 0.1-1.5) and on the 'heaviest' occasion also 0.5 grams (range 0.1-3). Snorting and swallowing were the most common recent ROAs (each n=9, 50%) followed by smoking (n=3, 17%). None of the participants reported injecting or shelving/shafting methamphetamine powder. Comparisons with the 2015 sample regarding recent speed use patterns were not made due to the small number of participants who were able to comment.

Table 4: Patterns of methamphetamine powder (speed) use, 2007-2016

Speed	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	72	72	63	60	67	62	36	36	23	**41***
Used preceding six months (%)	46	38	37	38	44	27	17	19	6	**18***
Of those who had used										
Mean days used last 6 months	19	15	7	6	44	4	11	15	8	**12**
Median amount used (grams)										
Typical	0.1	0.4	1	0.5	0.5	0.25	1	0.5	1^	**0.5^**
(range)	(0.1-1)	(0.2-.50)	(0.25-1)	(0.1-1)	(0.1-1)	(0.2-2)	(1-1)	(0.1-6)	(-)	**(0.1-1.5)**
Heavy	0.3	0.5	1	1.5	1	0.5	1	0.5	2.5^	**0.5^**
(range)	(0.1-7)	(0.25-7)	(0.25-10)	(0.25-4)	(0.2-2)	(0.2-4)	(1-1)	(0.1-11)	(-)^	**(0.1-3)**

Source: WA EDRS REU/RPU interviews, 2007-2016
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$
^ n<10. Results should be interpreted with caution

4.3.2. Methamphetamine base use among RPU

Less than one-tenth (8%) of the 2016 sample reported lifetime use of methamphetamine base, a non-significant increase from 2% in 2015. Recent use was reported by just one participant (1%), not significantly different from 0% in 2015. Given that just one participant in the 2016 sample reported recent use, further analyses were not performed on data concerning methamphetamine base.

4.3.3. Crystal methamphetamine use among REU/RPU

Table 5 presents patterns of use of crystal methamphetamine among REU/RPU since 2007. Lifetime use of crystal methamphetamine was reported by 29% of the sample, not significantly different from 31% in 2015. Recent use was reported by 12% of the sample, not significantly different from 16% in 2015. These results suggest that the downward trend in crystal methamphetamine use in WA EDRS samples that began in 2012 was maintained into 2016.

Crystal methamphetamine used on a median of four days in the preceding six months (mean 24, range 1-96), a non-significant difference from two days (mean 19) in 2015. The median amount used on a 'typical' occasion in the preceding six months was two points (range 0.25-5), the same figure reported in 2015. The median amount used on the 'heaviest' occasion in the preceding six months was four points (range 0.25-11), again the same figure reported in 2015. Aligned with the 2015 findings, the most commonly reported ROA over the preceding six months was smoking (n=10, 83%). This was followed by snorting (n=5, 42%), injecting (n=2, 17%) and swallowing (n=1, 8%).

Table 5: Patterns of crystal methamphetamine use, 2007-2016

Crystal methamphetamine	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 REU n=65	2012 REU/RPU N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	69	62	41	40	64	52	58	32	24	31	**29**
Used last six months (%)	52	36	20	22	46	29	33	22	17	16	**12**
Of those who had used recently											
Mean days used last 6 months	28	12	9	8	19	12	10	20	26	19	**24**
Median quantities used (points)											
Typical	1	1	2	1	1	1	1	2	1	2	**2**
(range)	(0.1-5)	(0.1-3)	(0.25-5)	(0.1-4)	(0.5-2.5)	(0.2-7)	(0.2-7)	(0.5-6)	(0.5-5)	(0.3-4)	**(0.25-5)**
Heavy	2	1	2	2	1	2	2	3	1.5	4	**4**
(range)	(0.2-5)	(0.1-8)	(0.25-8)	(0.4-8.5)	(0.5-2.5)	(0.2-14)	(0.2-14)	(0.5-10)	(0.5-5)	(1-4)	**(0.25-11)**

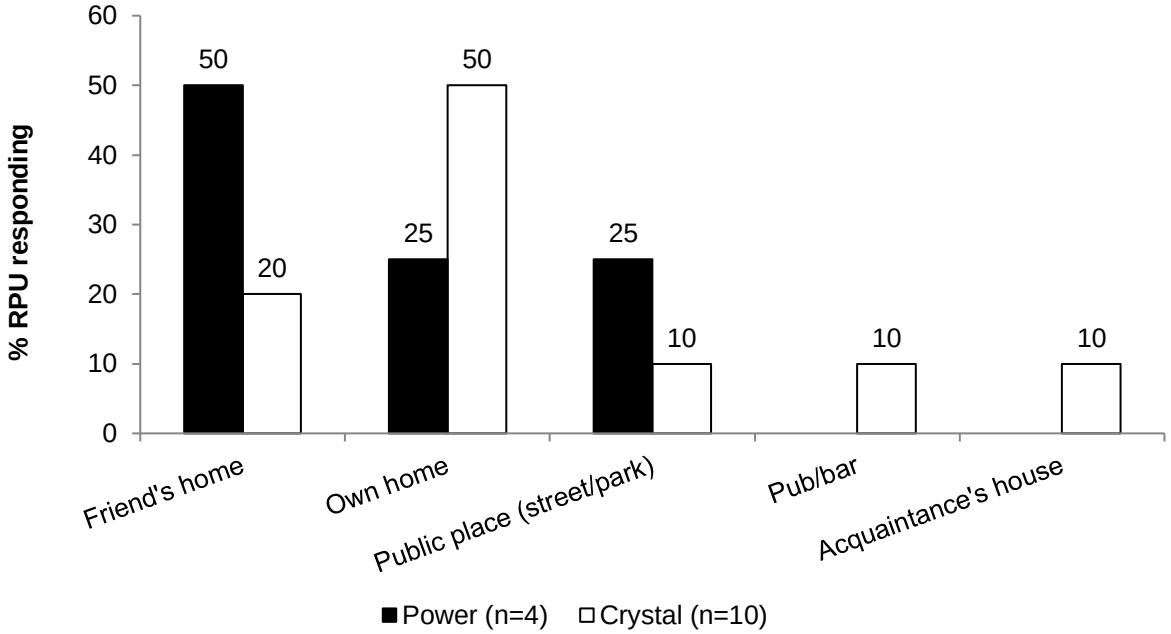
Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

4.3.4. Locations of methamphetamine use

Participants reporting recent use were asked to report the location where they spent the greatest amount of time while intoxicated on the last occasion. Of the 18 participants who reported recent speed use, only four were able to comment. As shown in Figure 4, the most commonly reported location was 'friend's home' (n=2, 50%), followed by 'own home' and 'public place (street/park') (each n=1, 25%). For crystal methamphetamine, among those who commented (n=10), 'own home' was the most frequent location (n=5, 50%), followed by 'friend's home' (n=2, 20%) and then 'public place (street/park)', 'pub/bar', and 'acquaintance's house' (each n=1, 10%). While these findings were not significantly different from the 2015 results, they should be interpreted with caution given the small number of participants who were able to comment.

Figure 4: Location of most recent crystal and power methamphetamine use, 2016



Source: WA EDRS RPU interviews, 2016

4.3.5. Methamphetamine use in the general population

Figures from the 2013 NDSHS showed that along with cocaine, (meth)amphetamine was the equal third most common illicit drug reported to have been used in the last 12 months in Australia by those 14 years or over, preceded by cannabis and ecstasy. Among the general population in Australia aged 14 years and over, 7% reported lifetime use of (meth)amphetamine and 2.1% reported use in the last 12 months. In WA, (meth)amphetamine was the second most common illicit drug reported to have been used in the last 12 months, following cannabis. In 2013, WA continued to be the jurisdiction with the highest rates of recent use of (meth)amphetamine, with recent use reported by 3.8% of the population aged 14 years or older (AIHW, 2014).

KE comments

- Several KE reported that methamphetamine was the main drug used by people they encountered in their fields.
- Most KE also reported that it was one of the main drugs they perceived to be most problematic at this point in time.
- KE who worked in outreach and law enforcement noted that methamphetamine use was common across multiple demographic populations; use was not confined to particular age groups, genders or ethnicities.
- Most KE reported that crystal was the most common form of methamphetamine, and that it was most frequently smoked, but also snorted or injected.
- Several KE reported that crystal methamphetamine users that they saw in their fields experienced physical health problems, such as nutritional deficiencies, stroke, endocarditis, open sores, abscesses and infections resulting from risky injecting practices. KE also reported that users commonly experienced mental health and behavioural problems, including depression, anxiety, skin picking, intermittent psychosis, paranoia, aggression, violence and relationship problems.
- A KE who worked in law enforcement reported that in their experience use of crystal methamphetamine often precipitates criminal activity.

4.3.6. Summary of methamphetamine consumption

Speed

- Approximately two-fifths (41%) of the sample had used speed in their lifetime, a significant increase from 23% in 2015. Recent use was reported by 18%, a significant increase from 6% in 2015; these results suggest that speed use has returned to proportions seen in 2014.
- Speed was used on a mean of 12 days over the preceding six months
- The median amount used on both a 'typical' and 'heavy' occasion in the last six months was 0.5 grams
- Snorting and swallowing were the most commonly reported ROAs in the preceding six months (each 50%).

Base

- Less than one-tenth (8%) of the sample had used base in their lifetime and 2% reported recent use, not significantly different from the 2015 findings.
- No further analyses were performed due to the small sample size.

Crystal

- Just less than one-third (29%) of the sample reported lifetime crystal methamphetamine use, a non-significant decrease from 31% in 2015. Recent use was reported by 12% of the sample, a non-significant change from 16% in 2015.
- Not significantly different from 2015, crystal was used on a median of four days over the preceding six months and smoking was the most common recent ROA (83%).
- The median amount used on a 'typical' occasion was two points and on the 'heaviest' occasion was four points, the same median figures reported in 2015.

- Many KE considered crystal methamphetamine use to be the most problematic drug in their fields at present.
- KE reported that crystal methamphetamine users experienced physical harms such as stroke, endocarditis and poor nutrition and mental health problems such as depression, anxiety, paranoia and aggression.

4.4. Cocaine use among REU/RPU

As presented in Table 6, two-thirds (67%) of the 2016 sample reported lifetime cocaine use, not significantly different from 58% in 2015. Recent use was reported at 38%, a non-significant increase from 29% in 2015.

Cocaine was used on an average of five days in the preceding six months (median 2.5, range 1-48), significantly more than two days in 2015. The median amount used on a 'typical' occasion in the preceding six months was 0.5 grams (range 0.25-2); this is the same median that was reported in 2015. The median amount used on the 'heaviest' occasion in the preceding six months was one gram (range 0.4-4), not significantly different from 0.5 grams in 2015.

Not significantly different from the 2015 findings, snorting was the most common recent ROA, reported by the vast majority of participants (n=37, 97%). This was followed by swallowing (n=3, 8%) and smoking (n=1, 3%).

Table 6: Patterns of cocaine use, 2007-2016

Cocaine	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 REU/RPU N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	56	66	52	49	82	71	54	56	58	**67**
Used last six months (%)	27	40	24	26	32	31	34	30	29	**38**
Of those who had used in preceding 6 months										
Mean days used last 6 months	6	3	11	11	4	4	4	5	2	**5***
Median quantities used (grams)										
Typical (range)	1.0 (0.1-3.5)	0.5 (0.5-1)	0.5 (0.3-2)	0.5 (0.5-1)	1.0 (0.5-1)	0.5 (0.2-2)	0.5 (0.1-5)	0.5 (0.1-4)	0.5 (0.25-2)	**0.5 (0.25-2)**
Heavy (range)	1.0 (0.1-5)	0.5 (0.5-1)	0.5 (0.3-5)	1.0 (0.5-3.6)	1.0 (0.5-2)	1.0 (0.25-3.5)	1.0 (0.1-5)	1 (0.1-4.5)	0.5 (0.25-2)	**1 (0.4-4)**

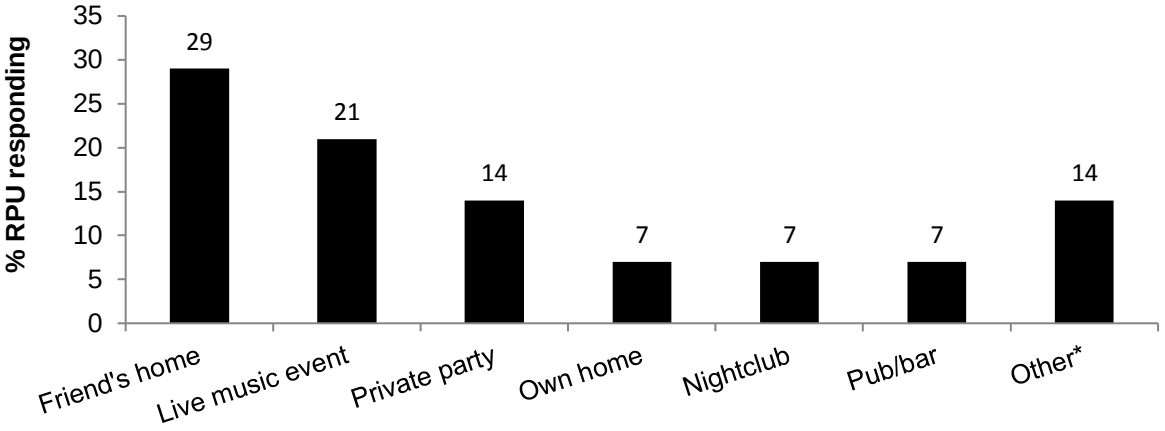
Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

4.4.1. Location of cocaine use

In the 2016 sample, 14 participants commented on the location where they spent the most time intoxicated on the last occasion of cocaine use. As presented in Figure 5, the most commonly reported location was 'friend's home' (n=4, 29%), followed by 'live music event' (n=3, 21%), 'private party' (n=2, 14%) and then 'own home', 'nightclub' and 'pub/bar' (each n=1, 7%). These results were not significantly different from the 2015 findings.

Figure 5: Location of most recent cocaine use, 2016 (N=14)



*Other locations were: 'casino' and 'resort'
Source: WA EDRS RPU interviews, 2016

4.4.2. Cocaine use in the general population

Findings from the 2013 NDSHS show recent cocaine use amongst Western Australians aged 14 and older to be at 1.6%, below the national average of 2.1% (AIHW, 2014).

KE comments

- While most KE reported that they very rarely encounter cocaine use in their fields, one KE who worked in outreach noted that cocaine had become more available recently.

4.4.3. Summary of cocaine consumption

- Two-thirds (67%) of the sample reported lifetime use of cocaine, not significantly different from 58% in 2014. More than one-third (38%) of the sample reported recent use, not significantly different from 29% in 2015.
- Cocaine was used on a mean of five days over the preceding six months, significantly greater than two days in 2015.
- Snorting remained the most commonly reported recent ROA (97%).
- Most KE reported that they rarely encountered cocaine use in their fields.

4.5. Ketamine use

Ketamine is a rapid acting, dissociative anaesthetic that is used in veterinary surgery and less commonly in human surgery. Ketamine is a liquid that is usually injected for legitimate use. In an illicit context it is typically converted into a fine powder through evaporation, and is

typically snorted. Ketamine can also be made into tablets, capsules and tabs which are usually swallowed. Common names for ketamine include K, special K or vitamin K.

Ketamine produces a dissociative state in the user, commonly eliciting an out-of-body experience. It has a combination of stimulant, depressant, hallucinogenic and analgesic properties. Too much ketamine can result in the user having a 'near death experience' or falling into a 'K hole'.

As ketamine is complicated to manufacture, and precursor chemicals are difficult to obtain, it is unlikely that it is produced in clandestine laboratories. The majority of ketamine used by REU/RPU is probably diverted from veterinary sources or imported from overseas, making supply irregular compared with other illicit substances (Australian Crime Commission, 2008, 2009, 2010).

4.5.1. Ketamine use among REU/RPU

Presented in Table 7 are patterns of ketamine use among REU/RPU for the period 2007-2016. Lifetime use of ketamine was reported by 33% of the 2016 sample, a significant increase from 16% in 2015 (CI: 0.05 to 0.28). While recent use of ketamine has been relatively low and stable across data collection years, in 2016 18% of the sample reported recent use, a significant increase from 4% in 2015 (CI: 0.05 to 0.23).

Of those who reported recent use of ketamine (n=18), it was used on an average of six days in the preceding six months (median 3, range 1-24), not significantly different from five days in 2015. However, this comparison should be interpreted with caution given the small number of recent users who commented in 2015 (n=4).

Ten participants reported 'typical' amount of ketamine used in the preceding six months in bumps. The median 'typical' amount was 3.5 bumps (range 1-6), not significantly different from 0.5 bumps in 2015. Among those who commented (n=8), the median amount used on the 'heaviest' occasion was 4.5 bumps (range 1-10), not significantly different from 2.5 bumps in 2015. However, these comparisons should again be interpreted with caution given the small number of participants who commented in both 2015 and 2016. Snorting was the most frequently reported recent ROA (n=15, 83%), followed by swallowing (n=3, 17%).

Table 7: Patterns of ketamine use, 2007-2016

Ketamine	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	22	21	18	14	**0**	18	20	25	16	**33***
Used last six months (%)	2	3	6	4	**0**	3	7	11	4	**18***
Of those who had used in the preceding 6 months										
Mean days used last 6 months	2.5	2.5	1.2	2.8	**-**	3.7	3	2	5^	**6**
Median quantities used (bumps)**										
Typical	1	0.5	3	1.5	**-**	-	-	4	0.5^	**3.5**
(range)	-	-	(1-5)	(1-2)	**-**	-	-	(2-15)	(-)	**(1-6)**
Heavy	1	0.5	3	2	**-**	-	-	5.5	2.5^	**4.5^**
(range)	-	-	(1-5)	(1-3)	**-**	-	-	(4-20)	(-)	**(1-10)**

Source: WA EDRS REU/RPU interviews 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

** A bump refers to a small amount of powder, typically measured and snorted from the end of a key, the corner of a plastic card or a 'bumper'. A bumper is a small glass nasal inhaler, purchased from tobacconists, used to store and administer powdered substances such as ketamine

^ n≤ 10. Results should be interpreted with caution

- Data not available due to low use proportions

KE comments

- KE reported that ketamine use was very rarely encountered in their fields.

4.5.2. Summary of ketamine consumption

- Lifetime use of ketamine was reported by one-third (33%) of the sample, a significant increase from 16% in 2015. Recent use was reported by 18%, a significant increase from 4% in 2015.
- Ketamine was used on a mean of six days over the preceding six month period, not significantly different from five days in 2015.
- The median amount of ketamine used on a 'typical' occasion in the preceding six months was 3.5 bumps and on the 'heaviest' occasion was 4.5 bumps; while these findings were not significantly different from 2015 they should be interpreted with caution given the small sample size.
- Snorting was the most frequently reported ROA (83%) followed by swallowing (17%).
- KE reported that ketamine use was very rarely encountered in their fields.

4.6. GHB use

Gamma-hydroxy-butyrate (GHB) has been classified as a central nervous system (CNS) depressant that produces effects of sedation and anaesthesia (Kam & Yoong, 1998; Nicholson & Balster, 2001). Clinical studies have found that GHB has some similarities to other CNS depressants such as benzodiazepines and alcohol (Nicholson & Balster, 2001). GHB has been used for a variety of medical purposes, such as anaesthesia, and for the treatment of a variety of conditions including sleep disorders, obesity, alcohol dependence and opiate withdrawal (Chin, Kreutzer & Dyer, 1992; Kam & Yoong, 1998; Nicholson & Balster, 2001). However, clinical trials have revealed a wide array of potential adverse effects including dizziness, nausea, weakness, confusion and agitation, drowsiness, and coma (Chin, Kreutzer & Dyer, 1992; Galloway et al., 1997; Nicholson & Balster, 2001). There is also some evidence indicating that tolerance and physical dependence can occur (Galloway et al., 1997).

For over a decade, GHB has been acknowledged as a recreational drug in Australia and in other parts of the world, including the United States (Degenhardt, Darke & Dillon, 2002). On the streets, GHB is also illicitly known as GBH, 'grievous bodily harm', 'fantasy', and 'liquid ecstasy'. An Australian study that interviewed GHB users revealed that the majority of those who reported using this drug recreationally experienced significant adverse effects, including loss of consciousness, vomiting, profuse sweating, and a small proportion experienced fitting or seizure (Degenhardt, Darke & Dillon, 2002).

4.6.1. GHB use among REU/RPU

Rates of lifetime and recent GHB use have remained consistently low since 2003. In 2016, 13% of the sample reported lifetime use of GHB, a non-significant increase from 6% in 2015. Recent use was reported by 4%, not significantly different from 2% in 2015.

GHB was used of a median of one day over the preceding six months (range 1-2), not significantly different from 1.5 days in 2015. Not significantly different from the 2015 findings, swallowing was the only ROA reported among recent users. Given the very small

proportions of both lifetime and recent users in 2015 and 2016, these results should be interpreted with caution. In light of these small sample sizes, no further analyses were performed for GHB.

KE comments

- KE reported that GHB was rarely encountered in their fields.

4.6.2. Summary of GHB consumption

- More than one-tenth (13%) of the sample reported lifetime GHB use and 4% reported recent use, not significantly different from 6% and 2% respectively in 2015.
- Not significantly different from the 2015 results, GHB was used on a median of one day over the preceding six months.
- Again not significantly different from 2015, swallowing was the only ROA reported among recent users.
  KE reported that GHB was rarely encountered in their fields.

4.7. LSD use

Lysergic acid diethylamide is commonly known as LSD, 'trips' or 'acid'. It is a powerful hallucinogen which can produce significant changes in perception, mood and thought. Only a small amount is needed to cause visual hallucinations and distortions. These experiences are known as 'trips'. Unpleasant reactions to LSD include fear, anxiety and depression. LSD is manufactured in illicit laboratories and the majority of LSD is believed to be imported from overseas.

LSD is usually adhered to perforated sheets (ACC, 2007). Small paper squares ('tabs') are detached from these sheets and usually decorated with designs which can often be culturally specific to the user groups. LSD is potent, so trips are often cut into halves or quarters and shared with others.

4.7.1. LSD use among REU/RPU

As presented in Table 8, lifetime use of LSD was reported by more three-quarters (78%) of the 2016 sample, a significant increase from 58% in 2015 (CI: 0.07 to 0.32). Recent use was reported by 50% of the sample, a significant increase from 24% in 2015 (CI: 0.13 to 0.38). These significant increases should be interpreted in the context of the fact that the recent LSD use saw a significant decrease in 2015 compared to the previous year, with the proportion of lifetime use also decreasing non-significantly. The 2016 proportions of lifetime and recent LSD use were not significantly different from the 2014 proportions. These results suggest that there was a decline in lifetime and recent LSD use in 2015, but that rates of use have since returned to those seen prior to 2015.

In 2016, LSD was used on an average of four days over the preceding six months (median 2, range 1-24), not significantly different from two days in 2015. The median number of tabs used a 'typical' occasion was one (range 0.5-3) and on the 'heaviest' occasion was also one (range 0.5-4), not significantly different from the 2015 findings.

Consistent with previous years, the most common ROA was swallowing or sublingual use (n=49, 98%), followed by shelving/shafting (n=1, 2%).

Table 8: Patterns of LSD use, 2007-2016

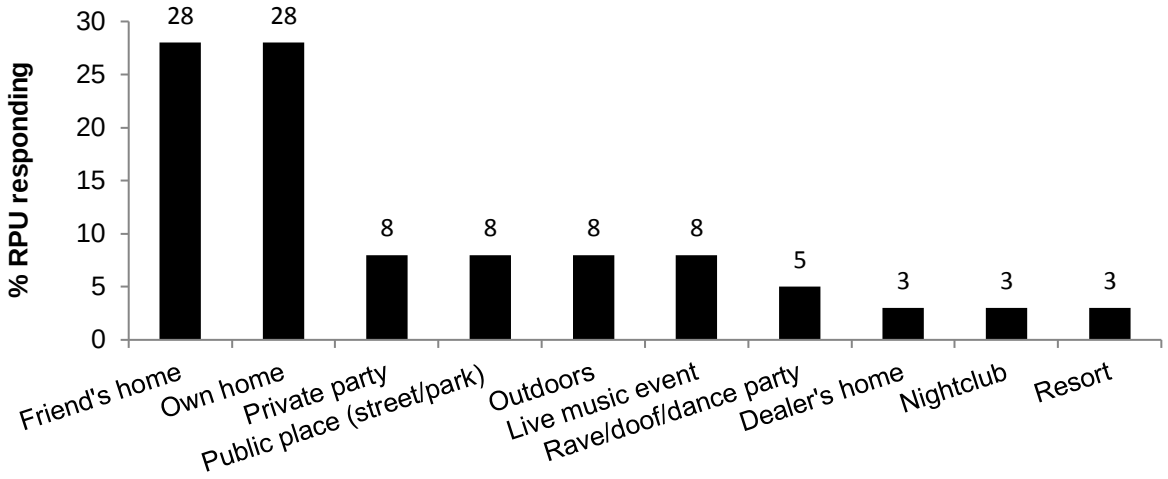
LSD	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	49	47	69	48	71	57	66	67	58	**78***
Used last six months (%)	23	21	31	35	36	33	41	45	24	**50***
Of those who had used in the preceding 6 months										
Mean days used last 6 months	5	8	6	5	6	5	6	4	2	**4**
Median quantities used (tabs)										
Typical (range)	1.0 (0.25-4)	1.0 (0.50-2)	1.0 (1-2.5)	1.0 (1-2)	1.0 (0.50-2)	1.4 (0.25-4)	1.0 (0.25-10)	1 (0.5-4)	1 (0.5-4)	**1 (0.5-3)**
Heavy (range)	1.0 (0.25-5)	1.0 (0.50-2)	1.75 (1-7)	1.5 (1-5)	1.75 (0.5-3)	1.9 (0.5-7)	1.0 (0.25-50)	1.25 (0.66-10)	1 (0.5-8)	**1 (0.5-4)**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

In 2016, 39 participants commented on the location where they spent the most time while intoxicated on the last occasion of LSD use. A variety of private and public locations were reported. As shown in Figure 6, the most commonly reported locations were 'friend's home' and 'own home', (each n=11, 28%), followed by 'private party', 'public place (street/park)', 'outdoors', and 'live music event' (each n=3, 8%) 'rave/doof/dance party' (n=2, 5%) and then 'dealer's home', 'nightclub' and 'resort' (each n=1, 3%). These results were not significantly different from the 2015 findings.

Figure 6: Location of most recent LSD use, 2016 (N=39)



Source: WA EDRS RPU interviews, 2016

KE comments

- Most KE reported that LSD use was occasionally, but not commonly encountered in their fields.
- A KE who worked in law enforcement stated that drugs sold as LSD may in fact be NBOMe.

4.7.2. Summary of LSD consumption

- More than three-quarters (78%) of the sample reported lifetime LSD use, a significant increase from 58% in 2015. Half (50%) of the sample reported recent use, a significant increase from 23% in 2015. These results suggest that rates of use have returned to those seen in 2014.
- LSD was used on a mean of four days over the preceding six months, not significantly different from two days in 2015.
- Not significantly different from 2015, the median number of LSD tabs used on both a 'typical' and the 'heaviest' occasions in the preceding six months was one.
- Not significantly different from 2015, the majority of users reported swallowing/sublingual use as a recent ROA (98%).
- Not significantly different from 2015, the most commonly reported locations of last LSD use were 'own home' and 'friend's home' (28%).
- Most KE reported that LSD use was not commonly encountered in their fields.

4.8. Cannabis use among REU/RPU

As shown in Table 9, consistent with previous years, nearly the entire sample (98%) reported lifetime use of cannabis. Recent use of cannabis was also reported by the majority (87%) of the sample, not significantly different from 86% in 2015.

Cannabis use patterns have remained relatively stable across survey years. Of those reporting recent use of cannabis (n=87), it was used on a median of 24 days (i.e. approximately once per week) (mean 60, range 1-180) in the preceding six-month period, not significantly different from 48 days in 2015. Daily cannabis use was reported by 18% of the 2016 sample, not significantly different from 13% in 2015. Participants were asked how much cannabis they consumed during their last session. Of those who reported their use in cones (n=50), a median of three cones (range 1-12) were consumed, not significantly different from 3.5 in 2015. Not significantly different from the 2015 results, the most commonly reported ROA in the preceding six months was smoking (n=83, 95%), followed by inhaling/vaporising (n=21, 24%) and swallowing (n=27, 20%).

Table 9: Patterns of cannabis use, 2007-2016

Cannabis	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Ever used (%)	96	100	99	99	100	99	98	98	97	**98**
Used last six months (%)	80	85	85	81	86	77	92	86	86	**87**
Mean days used recently*	75	49	81	60	113	71	65	63	66	**60**

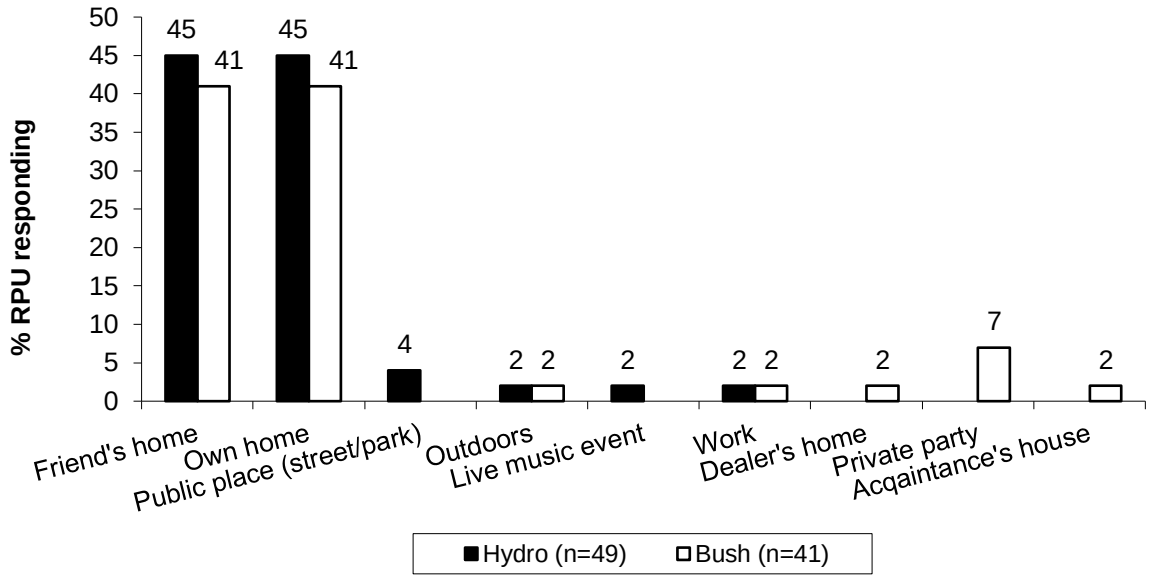
Source: WA EDRS REU/RPU interviews, 2007-2016
* Among participants who reported recent cannabis use

Participants were asked to report the location where they spent the most time while intoxicated on the last occasion of cannabis use. A full breakdown of these results is shown in Figure 7. Of those participants who commented on hydro (n=49), the most commonly reported locations were 'friend's home' and 'own home' (both n=22, 45%). This was followed by 'public place (street/park) (n=2, 4%) and then 'live music event' and 'work' (each n=1, 2%). These results were not significantly different from the 2015 results.

For participants who commented on bush (n=41), the most commonly cited locations were again 'friend's home' and 'own home' (each n=17, 41%). This was followed by 'private party' (n=3, 7%) and then 'outdoors', 'work', 'dealer's home' and acquaintance's house' (each n=1, 2%). These results were again not significantly different from the 2015 findings.

Consistent with previous years, it is evident that cannabis is typically used in private, rather than public, settings.

Figure 7: Location of most recent cannabis use, 2016



-

Source: WA EDRS RPU interviews, 2016

4.8.1. Cannabis use in the general population

Findings from the 2013 NDSHS indicate that recent use of cannabis in Western Australians aged 12 years or older was 10.9%, compared with the national average of 9.9%. WA had the equal third highest proportion of reported recent cannabis use along with Queensland, behind the Northern Territory and Tasmania (AIHW, 2014).

KE comments

- KE reported that cannabis was very widely used.
- A KE who worked in AOD consulting KE reported that cannabis use was generally not as problematic as synthetic cannabis use.

4.8.2. Summary of cannabis consumption

- Consistent with previous years, almost the entire sample (98%) reported lifetime cannabis use and 87% reported recent use.
- Cannabis consumption patterns among REU/RPU have remained relatively stable across survey years.
- Cannabis was used on a median of 24 days (i.e. once per week) over the preceding six months, not significantly different from 48 days in 2015.
- A median of three cones were consumed during the last session, not significantly different from 3.5 in 2015.
- The most frequently cited locations of last use were 'friend's home' and 'own home' for both hydro and bush.
- KE reported that cannabis use was widespread.

4.9. Other drug use

4.9.1. Alcohol

Consistent with previous years, the entire 2016 sample (100%) reported lifetime use of alcohol and recent use was reported by 95% (see Table 2). The median age of first alcohol use was 15 years (range 6-19), not significantly different from 14 years in 2015. Alcohol was used on a median of 28 days (range 1-180) in the preceding six months, not significantly different from 24 days in 2015. Half (50%) of the sample reported drinking alcohol on more than 24 days (i.e. more than once a week) in the previous six months, not significantly different from 48% in 2015. Three participants (3%) reported drinking alcohol daily, not significantly different from 1% in 2015.

KE comments

- Most KE reported that alcohol use was widespread, with several noting that alcohol was one of the most problematic drugs in their fields.
- KE reported that alcohol use was commonly associated with aggression and violence.
- A KE who worked in research reported that alcohol was a predominant drug in the detained population resulting from impulsive or disorderly behaviour while under the influence of alcohol. This KE stated that alcohol use was particularly common among homeless populations.
- KE reported that alcohol was commonly used in combination with other drugs.

4.9.2. Tobacco

Rates of tobacco use among EDRS samples have been consistently high across survey years. In 2016, the majority (92%) of the sample reported tobacco use at some point in their lifetime, not significantly different from 91% in 2015. The majority (79%) also reported recent use, not significantly different from 82% in 2015. The median age of first tobacco use was 16 years (range 8-27), which is the same median age that was reported in 2015. The median number of days of use in the last six months was 48 (range 1-180), the same median reported in 2015. Less than one-third (27%) of the sample were daily smokers, the same proportion reported in 2015.

4.9.3. E-Cigarettes

EDRS participants were asked about their use of e-cigarettes for the first time in 2014. In the 2016 sample, more than two-fifths (46%) reported lifetime use, a significant decrease from 63% in 2015 (CI: -0.03 to -0.30). Recent use was reported by one-quarter (25%) of the sample, not significantly different from 34% in 2015. The median age of first use was 19 years (range 16-32), the same median reported in 2015. E-cigarettes were used on a median of three days over the preceding six months (range 1-31), not significantly different from 4.5 days in 2015. While the proportion of participants who have ever used e-cigarettes saw an increase in 2015 compared to the previous year, in 2016 the proportion of lifetime use returned to levels seen before this peak.

For the first time in 2015, EDRS participants who reported recent used of e-cigarettes were asked if the main brand they had used in the preceding six months contained nicotine or cannabis and if they had ever used e-cigarettes as a cigarette smoking cessation tool. Among participants who responded (n=24), less than three-quarters (n=17, 71%) reported that main brand contained only nicotine. A further 21% (n=5) reported that it contained neither nicotine nor cannabis and 4% reported that it contained both nicotine and cannabis or that they did not know (each n=1). These results were not significantly different from the 2015 findings. The majority of users (n=22, 92%) reported that they had not used e-cigarettes as a cigarette smoking cessation tool, not significantly different from 72% in 2015.

4.9.4. MDA

MDA is part of the phenethylamine family and, like ecstasy, is classed as a stimulant hallucinogen. Use of MDA was reported by almost one-third (30%) of the 2016 sample, not significantly different from 20% in 2015. Recent use was reported by 13%, not significantly different from 11% in the 2015.

MDA was used on a median of two days in the preceding six months (range 1-12), the same median reported in 2015.

4.9.5. Pharmaceutical stimulants

Pharmaceutical stimulants have been included as a separate drug class since the 2005 EDRS. This category includes dexamphetamine and methylphenidate drugs, such as Ritalin® and Attenta®.

Since 2007, licit use (i.e. prescribed) has been distinguished from illicit use in the EDRS. Taken together (licit or illicit use), the majority (85%) of the 2016 sample reported pharmaceutical stimulant use at some point in their lifetime, not significantly different from 91% in 2015. Recent use was reported by 67% of the sample, a non-significant change from 78% in 2015.

Table 10 presents a comparison of participants who reported recent illicit (n=65) versus recent licit use (n=3) of pharmaceutical stimulants. Given the small number of participants reporting recent licit use, analyses based on this group should be interpreted with caution.

Licit pharmaceutical stimulants

In 2016, 4% of the sample reported lifetime use of pharmaceutical stimulants that were prescribed to them (i.e. licitly obtained) and 3% reported recent use. These results were not significantly different from the 2015 sample, in which 10% reported lifetime use and 5% reported recent use.

The median number of days of use in the preceding six months was 180 (range 4-180; i.e. every day), not significantly different from 120 days in 2015. On a 'typical' occasion in the preceding six months, the median number of tablets used was five (range 4-10) and on the 'heaviest' occasion was ten (range 5-25). Not significantly different from the 2015 results, swallowing was the only ROA reported (n=3, 100%).

For the first time in 2015, EDRS participants who reported recent licit use were asked if they had used these drugs as prescribed most of the time in the preceding six months. Two-thirds (n=2, 67%) of these users reported that they did not take them as prescribed. While these results were not significantly different from the 2015 findings, they should be interpreted with caution given the very small number of participants able to comment.

Illicit pharmaceutical stimulants

In 2016, the majority (83%) of the sample reported having ever used pharmaceutical stimulants when they were not prescribed to them (i.e. illicitly obtained), not significantly different from 87% in 2015. Recent use of illicit pharmaceutical stimulants was reported by 65%, not significantly different from 75% in 2015.

Table 10: Recent illicit versus licit use of pharmaceutical stimulants, 2016

Use of pharmaceutical stimulants	Illicit (n=65)	Licit (n=3)
Days used last six months (median)	6	180^
Amount typically used (median tabs)	2.5	5^
Most amount used (median tabs)	5	10^
Route of administration (%)		
Swallowed	98	100^
Snorted	45	0^
Smoked	0	0^
Injected	0	0^

Source: WA EDRS RPU interviews, 2016

^ n<10. Results should be interpreted with caution

4.9.6. Benzodiazepines

Use of benzodiazepines was also divided into licit and illicit use in 2009. Taken together (licit or illicit use), lifetime use of benzodiazepines was reported by more than half (55%) of the current sample, not significantly different from 54% in 2015. More than one-third (37%) reported recent use, a non-significant decrease from 45% in 2015.

Licit benzodiazepines

In the 2016 sample, 8% reported having ever used benzodiazepines when they were prescribed to them (i.e. licitly obtained), not significantly different from 12% in 2015. Recent licit benzodiazepine use has remained low and stable since 2008. Recent use was reported by 6% of the 2016 sample, not significantly different from 8% in 2015.

Benzodiazepines were used on a median of 20 days in the preceding six months (range 6-96), a non-significant decrease from 36 days in 2015. Not significantly different from the 2015 findings, all recent users reported swallowing (n=6, 100%) as the only ROA in the preceding six months.

Participants who reported recent use of licit benzodiazepines (n=6) were asked to report the main brand they had used over the preceding six months. The spread of responses across

brands in the current sample did not significantly differ from 2015. The most commonly reported brand was Valium® (diazepam) (n=2, 33%), followed by Valpam® (diazepam), Antenex® (diazepam), Serepax® (oxazepam) and lorazepam (each n=1, 17%). Given the very small number of participants reporting recent licit benzodiazepine use these findings should be interpreted with caution.

Illicit benzodiazepines

Just more than half (53%) of the current sample reported having ever used a benzodiazepine when they were not prescribed to them (i.e. illicitly obtained), not significantly different from 49% in 2015. Approximately one-third (34%) reported recent use, not significantly different from 38% in 2015.

Benzodiazepines were used on a median of 4.5 days over the preceding six months (range 1-48), a non-significant decrease from six days in 2015. Not significantly different from the 2015 findings, among recent users (n=34), swallowing was reported as a recent ROA by all users (n=34, 100%). This was followed by snorting (n=1, 3%).

Participants reporting recent use were asked to report the main brand they had used over the preceding six months. Among those who commented (n=33), not significantly different from the 2015 results, the most common brand was Valium® (diazepam) (n=19, 58%), followed by Xanax® (alprazolam) (n=9, 27%), diazepam (generic), clonazepam (generic), diazepam (generic), Valpam® (diazepam), Serapax® (oxazepam) and Klonopin® (clonazepam) (each n=1, 3%).

4.9.7. Illicit anti-depressants

Almost one-tenth (9%) of respondents reported having ever used anti-depressants when they were not prescribed to them (i.e. illicitly obtained), a non-significant increase from 2% in 2015. In the 2016 sample 5% reported recent use, a non-significant increase from 1% in 2015.

Illicit anti-depressants were used on a median of three days in the preceding six months (range 2-180). Among recent users, all participants reported swallowing as an ROA in the preceding six months (n=5, 100%) and one participant reported snorting (n=1, 20%). Comparisons were not made with the previous sample findings given only one participant reported recent use in 2015.

4.9.8. Inhalants

Participants were asked about their use of the inhalants amyl nitrate and nitrous oxide.

Amyl nitrate

In 2016, lifetime use of amyl nitrate was reported by almost one-quarter (24%) of the sample, a non-significant increase from 20% in 2015. Recent use was reported by 14% of the sample, a non-significant increase from 11% in 2015.

Amyl nitrate was used on a median of four days during the preceding six months (range 1-24), not significantly different from three days in 2015.

Nitrous oxide

Throughout survey years, nitrous oxide has consistently been the more popular inhalant among REU/RPU, and it remained so in the 2016 sample. Lifetime use of nitrous oxide was reported by less than two-thirds (64%) of the 2016 sample, a significant increase from 49% in 2015 (CI: 0.01 to 0.28). Recent nitrous oxide use was reported at 45% of the sample, a non-significant increase from 37% in 2015.

Nitrous oxide was used on a median of four days in the preceding six months (range 1-72), the same median reported in 2015. Not significantly different from the 2015 findings, the median amount reported to have been used on a 'typical occasion' in the last six months was ten bulbs (range 1-50) and the median amount used on the 'heaviest' occasion was 15 bulbs (range 1-300).

4.9.9. Heroin and other opiates

Given extremely small sample sizes for recent heroin and other opiate use in the current sample, the findings related to these drugs should be interpreted with caution.

Heroin

Rates of heroin use among EDRS samples have been consistently low across survey years. In 2016, 4% of respondents reported lifetime use of heroin, not significantly different from 3% in 2015. Recent use was reported by 2% (n=2) of the 2016 sample, not significantly different from 1% in 2015. Both participants reporting recent use had used heroin on one day in the preceding six months. Recent ROAs were smoking and swallowing (both n=1, 50%). Comparison with the 2015 sample was not possible due to the small sample sizes in 2015 and 2016.

KE comments

- Most KE reported that they rarely encountered heroin and other opioids in association with ERD users.
- Two KE working in health fields reported that there had been increases in patients using heroin and benzodiazepines concomitantly which increased the risk of overdose.
- Of those KE who had contact with heroin users, several reported high current potency and availability and an increase in overdoses and overdose-related deaths recently.

Methadone and buprenorphine

Rates of methadone and buprenorphine use have also been consistently low across EDRS survey years. In 2016, 2% of the sample reported lifetime use of methadone, not significantly different from 3% in 2015. One participant (1%) reported recent use, not significantly different from 2% in 2015. Just 2% of the sample reported both lifetime and recent use of buprenorphine, not significantly different from 2015.

The participant reporting recent use had used methadone on three days in the preceding six months. Buprenorphine was used on a median of four days over the preceding six months (range 4-4). Swallowing was the only recent ROA reported for both methadone and buprenorphine. Comparison with the 2015 sample was not possible due to the small sample sizes in the 2015 and 2016.

Other opiates

This drug class includes morphine, pethidine, oxycodone and various additional pharmaceutical opiate preparations containing codeine. Use of 'other opiates' was divided into illicit and licit use for the first time in 2009. Taken together (licit and illicit), 36% reported lifetime use of other opiates in the 2016 sample, not significantly different from 33% in 2015. Recent use was reported by 24%, a non-significant increase from 16% in 2015.

Licit other opiates

In 2016, 11% of the sample reported having ever used another opiate when it was prescribed to them (i.e. licitly obtained), not significantly different from 14% in 2015. Seven percent of the sample reported recent use, not significantly different from 5% in 2015.

Licit other opiates were used on a median of seven days in the preceding six months (range 1-14), significantly less than 21 days in 2015. Not significantly different from the 2015 findings, swallowing was the only recent ROA reported among recent users in 2016 (n=7, 100%).

Illicit other opiates
Less than one-third (29%) of the 2016 sample reported having ever used other opiates when they were not prescribed to them (i.e. illicitly obtained), not significantly different from 24% in 2015. Recent use was reported by 18%, a non-significant increase from 13% in 2015.

Illicit other opiates were used on a median of two days in the preceding six-month period (range 1-10), not significantly different from four days in 2015. Not significantly different from 2015, recent ROAs were swallowing (n=16, 89%), snorting (n=5, 28%) and smoking (n=1, 6%).

OTC codeine

For the first time in 2009, EDRS participants were asked about their use of OTC codeine for non-pain use (i.e. recreational purposes). Reported lifetime and recent rates of use have remained relatively stable over this time period. In 2016, lifetime use of OTC codeine was reported by just less than one-third (32%) of the sample, not significantly different from 26% in 2015. Recent use was reported by more than one-fifth (23%) of the sample, not significantly different from 20% in 2015.

OTC codeine was used on a median of six days over the preceding six months (range 1-100), not significantly different from 6.5 days in 2015. Not significantly different from 2015, among those who commented (n=22), all participants reported swallowing as a recent ROA (n=22, 100%) and two reported snorting (n=2, 9%).

4.9.10. Psilocybin/hallucinogenic mushrooms

In 2016, lifetime use of psilocybin/hallucinogenic mushrooms was reported by 62% of the sample, not significantly different from 57% in 2015. Recent use was reported by 27% of the sample, not significantly different from 21% in 2015.

Hallucinogenic mushrooms were used on a median of one day in the preceding six months (range 1-12), not significantly different from two days in 2015. Not significantly different from 2015, swallowing was the only recent ROA reported (n=27, 100%).

4.9.11. OTC stimulants

Since 2009, REU/RPU have been asked about their use of OTC stimulants for non-pain use (i.e. recreational purposes). This drug class includes cold and flu medication containing pseudoephedrine. There was a brief peak in both lifetime and recent use of OTC stimulants beginning in 2010. However, reported rates of use have remained relatively low since 2012. In the 2016 sample, just more than one-tenth (11%) of the participants reported lifetime use and 4% reported recent use, not significantly different from 20% and 4% respectively in 2015.

OTC stimulants were used on a median of three days in the preceding six months (range 1-6), not significantly different from 5.5 days in 2015. Not significantly different from 2015, swallowing was the most commonly reported recent ROA (n=3, 75%), followed by snorting (n=1, 25%). These results should be interpreted with caution due to the small sample sizes in 2015 and 2016.

4.9.12. Steroids

For the first time in 2010, EDRS participants were asked to report on their steroid use. Consistent with previous years, the proportion of steroid use in the current sample was low. In 2016, 2% of the sample reported lifetime steroid use, not significantly different from 4% in 2015. None of the participants in the 2016 or 2015 samples reported recent use.

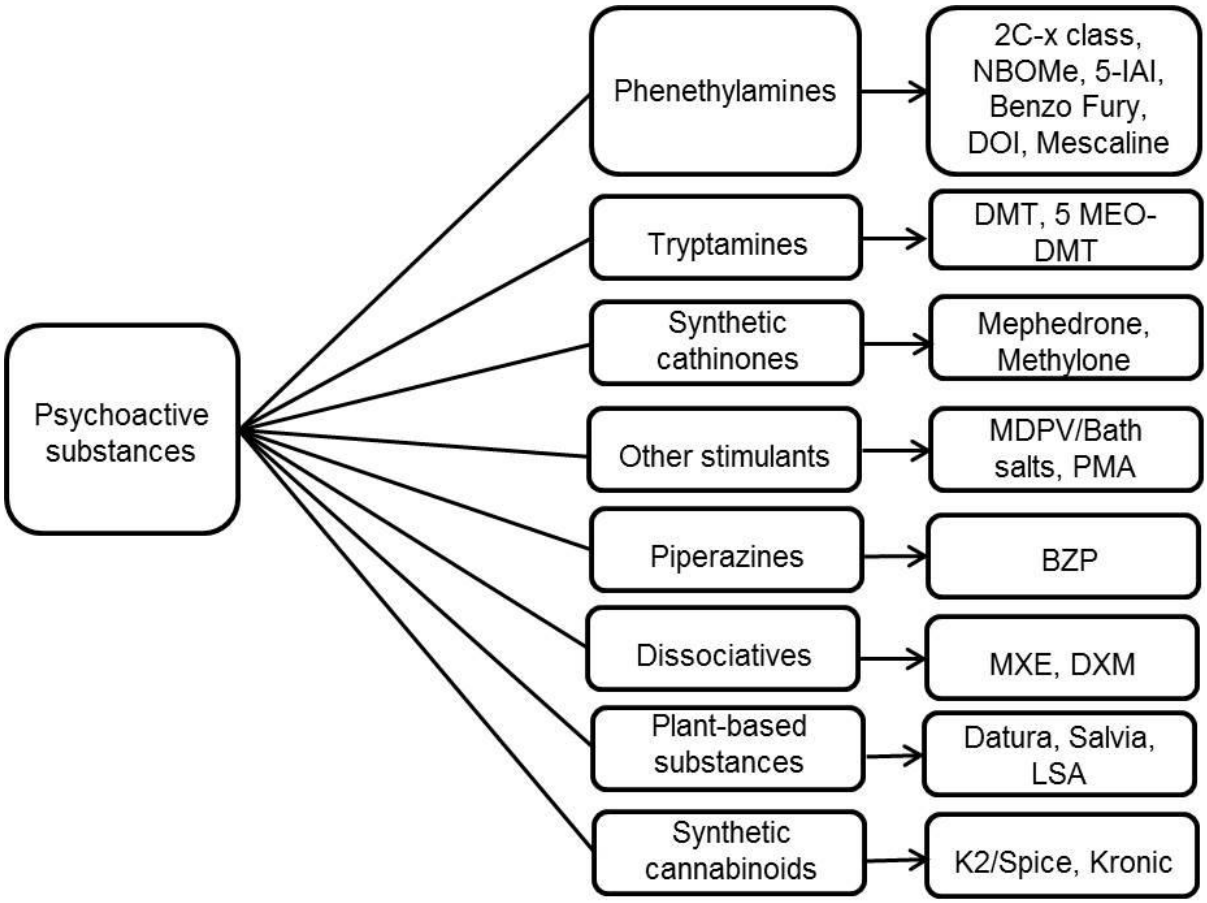
4.9.13. Summary of other drug use

- Consistent with previous years, all participants (100%) reported lifetime use of alcohol and the vast majority (95%) reported recent use.
- Several KE cited alcohol as one of the most problematic drugs in their fields.
- The majority of the sample reported lifetime (92%) and recent (79%) use of tobacco, consistent with previous survey years.
- Lifetime use of e-cigarettes was reported by 46% of the sample, a significant decrease from 63% in 2015. Recent use was reported by one-quarter (25%) of the sample, not significantly different from 34% in 2015.
- Lifetime use of MDA was reported by 30% of the sample and recent use was reported by 13%, not significantly different from the 2015 findings.
- Not significantly different from the 2015 findings, the majority (85%) of the sample reported the use of pharmaceutical stimulants in their lifetime and 67% reported recent use; the vast majority of this use was illicit (non-prescribed).
- More than half (55%) of the sample reported lifetime use of benzodiazepines, not significantly different from 54% in 2015. Recent use was reported by 37% of the sample, not significantly different from 45% in 2015. The vast majority of benzodiazepine use was illicit (non-prescribed).
- Lifetime illicit use of anti-depressants was reported by 9% of the sample, a non-significant increase from 2% in 2015. Recent use was reported by 5%, not significantly different from 1% in 2015.
- Lifetime use of amyl nitrate was reported by 24% of the sample, a non-significant increase from 20% in 2015. Recent use was reported by 14%, a non-significant increase from 11% in 2015.
- Nitrous oxide was the more popular inhalant, with almost two-thirds (64%) the sample reporting lifetime use, a significant increase from 49% in 2015. Recent use was reported by 45%, not significantly different from 37% in 2015.
- Consistent with previous years, the use of heroin was uncommon, with 4% of the sample reporting lifetime use and 2% reporting recent use.
- While KE reported heroin was not commonly used among RPU, several KE reported recent increases in heroin availability, potency and overdoses.
- Consistent with previous years, methadone use was low; only 2% of the sample reported lifetime use and 1% reported recent use.
- Consistent with previous years, use of buprenorphine remained low; just 2% of the sample reported both lifetime and recent use.
- Lifetime use of other opiates was reported by 36% of the sample, not significantly different from 33% in 2015. Recent use was reported by 24%, a non-significant increase from 16% in 2015. The majority of use was illicit.
- Lifetime use of OTC codeine was reported by just less than one-third (32%) of the sample, not significantly different from 26% in 2015. Recent use was reported by more than one-fifth (23%) of the sample, not significantly different from 20% in 2015.
- Lifetime use of psilocybin/hallucinogenic mushrooms was reported by 62% of the sample, not significantly different from 57% in 2015. Recent use was reported by 27% of the sample, not significantly different from 21% in 2015.
- More than one-tenth (11%) of the sample reported lifetime use of OTC stimulants, a non-significant decrease from 2015. Recent use was reported by 4%, the same proportion reported in 2015.
- Steroid use remained very low, with 2% reporting lifetime use. None of the participants reported recent use.

4.10. New psychoactive substance (NPS) use

From 2010 onward, the EDRS has attempted to systematically investigate a range of new psychoactive substances (analogues, legal highs, herbal highs, party pills). Some of these drugs can be classified according to Figure 8.

Figure 8: Psychoactive substances investigated by the EDRS



*For abbreviations, see list on page viii.

Psychedelic refers to “a mental state of enlarged consciousness, involving a sense of aesthetic joy and increased perception transcending verbal concepts” or “denoting or relating to any of a group of drugs inducing such a state, especially LSD” (Macquarie Dictionary).

Phenethylamine is a neurotransmitter that is an amine resembling amphetamine in structure and pharmacological properties. Derivatives of phenethylamine are referred to as ‘phenethylamines’ (Merriam-Websters Medical Dictionary).

Tryptamine is a crystalline amine derived from tryptophan. Substituted derivatives of this amine, some of which are significantly hallucinogenic or neurotoxic, are known as ‘tryptamines’ (Merriam-Websters Medical Dictionary).

Table 11 provides a very brief introduction to these drugs to provide a rough guide for interpreting trends data. Interested readers are directed toward online sources such as Erowid (http://www.erowid.org/splash.php) and Drugwise (http://www.drugwise.org.uk/) for more comprehensive information on these drugs.

Table 11: New psychoactive substances (NPS)

Street name	Chemical name	Information on drug	Information on use and effects
2C-I	2,5-dimethoxy-4-iodophenethyl-amine	A psychedelic drug with stimulant effects	A synthetic psychedelic drug[1]
2C-B	2,5-dimethoxy-4-bromophenethy-amine	A psychedelic drug with stimulant effects	A synthetic psychedelic drug. It is known for having a strong physical component to its effects and a moderate duration[2]
2C-E	2,5-dimethoxy-4-ethylphenethyl-amine	A psychedelic drug with stimulant effects	A synthetic psychedelic drug[3]
NBOMe	4-idio-2,5-dimethoxy-N-(2-methoxybenzyl) phenethylamine	A psychedelic phenethylamine	An umbrella term for several related substances, including 25I-NBOMe and 2CI-NBOMe. Powerful psychedelic powders, typically found on blotting paper. Requires only barely visible, sub-milligram doses to produce full effects. Has been associated with hospitalisations and deaths[4]
DOI (death on impact)	2,5-dimethoxy-4-iodoamphetamine	A psychedelic phenethylamine	Requires only very small dosages to produce full effects. It is uncommon as a substance for human ingestion but common in research. Has been found on blotting paper and may be sold as LSD[5]
Mescaline	3,4,5-trimethoxyphene-thylamine	A hallucinogenic alkaloid	First isolated in 1896 from the peyote cactus of northern Mexico[6]
DMT	N, N- dimethyltryptamine	A psychadelic drug in the tryptamine family	Similar to LSD, though its effects are said to be more powerful. DMT is a powerful, visual psychedelic which produces short-acting effects when smoked[7] Pure DMT is usually found in crystal form but

1 Erowid: https://erowid.org/chemicals/2ci/

2 Erowid: https://erowid.org/chemicals/2cb/2cb.shtml

3 Erowid: https://erowid.org/chemicals/2ce/2ce.shtml

4 Erowid: https://www.erowid.org/chemicals/2ci_nbome/2ci_nbome.shtml

5 Erowid: http://www.erowid.org/chemicals/doi/doi.shtml.

6 Erowid: https://www.erowid.org/chemicals/mescaline/

7 Erowid: http://www.erowid.org/chemicals/dmt/

Street name	Chemical name	Information on drug	Information on use and effects
			has been reportedly sold in powder form[8]
5MEO-DMT	5-methoxy-N,N-dimethyltryptamine	A naturally occurring psychedelic tryptamine present in numerous plants and in the venom of the *Bufo alvarius* toad	It is found in some traditional South American shamanic snuffs and sometimes in Ayahuasca brews. It is comparable in effects to DMT; however, it is substantially more potent. 5 MEO-DMT is mostly seen in crystalline form[9]
Mephedrone	4-methyl-methcathin-one	A stimulant which is closely chemically related to amphetamines	Reportedly produces a similar experience to drugs like amphet-amines, ecstasy or cocaine. Mephedrone is a white, off-white or yellowish powder although it may also appear in pill or capsule form. Mephedrone is probably the most well-known of a group of drugs derived from cathinone (a chemical found in the plant called khat)[10]
BZP	1-benzylpiperazine	A piperazine; a CNS stimulant	Gained popularity in some countries in the early 2000s as a legal alternative to amphetamines and ecstasy. One of the more common piperazines, providing stimulant effects which people describe as noticeably different than those of amphetamines. Not particularly popular as many people find that it has more unpleasant side effects than amphetamines[11]

8 Drugwise: http://www.drugwise.org.uk/dmt/
9 Erowid: http://www.erowid.org/chemicals/5meo_dmt/5meo_dmt.shtml
10 Drugwise:http://www.drugwise.org.uk/mephedrone-methedrone-methadrone-and-methylone/
11 Erowid: http://www.erowid.org/chemicals/bzp/bzp_basics.shtml.

Street name	Chemical name	Information on drug	Information on use and effects
Ivory wave or 'bath salts'	3,4-methylenedioxypyrovalerone or MDPV	A cathinone derivative	A potent, synthetic euphoric stimulant. It is known for its tendency to cause compulsive re-dosing and some users report sexual arousal as an effect. MDPV has been found in products sold as 'bath salts' and 'plant food/fertilizer'.[12] It has recently received media attention for its involvement in a number of bizarre deaths in the US and Australia
DXM	Dextromethorphan	A semisynthetic opiate derivative which is legally available over the counter in the US	DXM is most commonly found in cough suppressants, especially those with 'DM' or 'Tuss' in their names. DXM is a dissociative drug[13]
PMA	Paramethoxyamphetamine; 4-methoxy-amphetamine	A synthetic hallucinogen that has stimulant effects	Induces symptoms reminiscent of MDMA. Doses of 60-8 mg are considered potentially lethal (due to the risk of overheating)[14]
Datura	(commonly *Datura inoxia* and *Datura strammonium*) Contains: Atropine and Scopolamine	Atropine is a potent anticholinergic agent. Scopolamine is a CNS depressant and has antimuscarinic properties	The plant's effects make the user feel drowsy, drunk-like and detached from things around them. They can also bring on hallucinations. Doses are difficult to judge and can cause unconsciousness and death[15]
Salvia	*Salvia divinorum* (contains Salvinorin A)	Salvia is derived from the American plant *Salvia divinorum*, a member of the mint family	At low doses (200-500 mcg) salvia produces profound hallucinations that last from 30 minutes to an hour or so. In higher doses the hallucinations last longer and are more intense[16]
LSA	*d*-lysergic acid amide	LSA is a naturally occurring psychedelic	LSA has some similarities in effect to LSD, but is

[12] Erowid: http://www.erowid.org/chemicals/mdpv/
[13] Erowid: http://www.erowid.org/chemicals/dxm/dxm_basics.shtml
[14] Erowid: https://www.erowid.org/chemicals/pma/pma_health.shtml
[15] Drugwise: http://www.drugwise.org.uk/datura/
[16] Drugwise: http://www.drugwise.org.uk/salvia

Street name	Chemical name	Information on drug	Information on use and effects
		found in many plants such as morning glory and hawaiian baby woodrose seeds	generally considered much less stimulating and can be sedating in larger doses[17]
K2/Spice	Synthetic cannabinoid	Usually sold as loose, generic plant material with a mix of chemicals on it (containing synthetic cannabinoids)	A psychoactive herbal and chemical product that, when consumed, mimics the effects of cannabis[18]
Methylone	3,4-methylenedioxy-*N*-methylcathinone	An entactogen and stimulant of the phenethylamine, amphetamine, and cathinone classes	Reported dosages range from 100 to 250 mg orally. Effects are primarily psychostimulant in nature[19]
4-FA	4-Fluoroamphetamine	A synthetic stimulant of the phenethylamine and substituted amphetamine classes	A synthetic stimulant with some empathogenic properties[20]
4-MEC	4-Methylethcathinone	A synthetic stimulant of the phenethylamine, amphetamine and cathinone classes	Taken orally or snorted. Use may involve re-dosing multiple times. Because of the common desire to recapture the pleasurable initial high, redoses are sometimes higher than the initial dose or are spaced closely together in time [21]
Alpha-PVP	α-Pyrrolidinopentiophenone	A synthetic stimulant of the cathinone class	A synthetic euphoric stimulant. Its dose, effects, and duration are similar to those of MDPV[22]
Etizolam	4-(2-Chlorophenyl)-2-ethyl-9-methyl-6*H*-thieno[3,2-*f*][1,2,4]triazolo[4,3-*a*][1,4]diazepine	A benzodiazepine analog	Taken orally in tablet form. Recreational dosages are between 0.5mg (light) and 5mg (heavy). 1mg of etizolam is equivalent to a 10mg diazepam (Valium) tablet; etizolam is about ten times the strength of diazepam[23]

[17] Erowid: https://www.erowid.org/chemicals/lsa/lsa_dose.shtml

[18] Erowid: https://www.erowid.org/chemicals/spice_product/

[19] Erowid: https://erowid.org/chemicals/methylone/methylone_dose.shtml

[20] Erowid: https://erowid.org/chemicals/4_fluoroamphetamine/

[21] Erowid: https://erowid.org/chemicals/4_methylethcathinone/4_methylethcathinone_dose.shtml

[22] Erowid: https://erowid.org/chemicals/a-pvp/a-pvp.shtml

[23] Drugwise: http://www.drugwise.org.uk/druglinkdrugwatch-factsheet-2014-etizolam/

4.10.1. NPS classes

Approximately two-thirds (67%) of the 2016 sample reported having used any NPS in their lifetime, not significantly different from 69% in 2015. Approximately one-third (32%) reported recent use, a significant decrease from 46% in 2015 (CI: -0.01 to -0.27).

The NPS with the largest proportion of lifetime use was DMT (34%), followed by synthetic cannabis (29%), capsule with unknown contents (17%) and 2C-B (13%). The NPS with the highest proportion of recent use was also DMT (18%), followed by capsule with unknown contents (7%) and 2C-B and NBOMe (each 5%). A complete breakdown of new psychoactive substances used among Perth REU/RPU since 2010 is presented by class in Table 12.

Phenethylamines

As shown in Table 12, there were no significant differences in the proportion of lifetime or recent use of any phenethylamines between 2015 and 2016. For the first time in 2016, participants were asked about their use of 4-FA.

Table 12: Patterns of phenethylamine class of NPS, 2010-2016

	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Phenethylamines (2C-x class)							
2C-I							
ever used (%)	9	4	3	20	19	13	**11**
used last 6 months (%)	1	0	1	17	7	4	**4**
2C-B							
ever used (%)	5	14	8	15	18	15	**13**
used last 6 months (%)	2	7	3	8	11	3	**5**
2C-E							
ever used (%)	0	4	1	5	2	4	**3**
used last 6 months (%)	0	4	0	1	1	2	**1**
2C-Other							
ever used (%)	-	7	3	6	2	2	**3**
used last 6 months (%)	-	4	2	6	0	0	**0**
NBOMe							
ever used (%)	-	-	-	-	18	14	**11**
used in the last 6 months (%)	-	-	-	-	10	4	**5**
Phenethylamines (Amphetamine-based)							
6-(2-aminopropyl)benzofuran/6-APB/Benzo Fury							
ever used (%)	-	-	2	1	0	1	**1**
used last 6 months (%)	-	-	1	0	0	0	**0**
Mescaline							
ever used (%)	7	14	6	6	4	4	**5**
used last 6 months (%)	4	4	1	0	3	0	**1**
5,6-Methylenedioxy-2-aminoindane/MDAI							
ever used (%)	-	-	1	0	2	0	**1**
used last 6 months (%)	-	-	0	0	2	0	**0**
4-FA							
ever used (%)	-	-	-	-	-	-	**1**
used last 6 months (%)	-	-	-	-	-	-	**0**

Source: WA EDRS REU/RPU interviews, 2010-2016

* Indicates significant changes from the 2015 results according to 95%CI and p<0.05

Other classes

There were no significant differences in the proportions of lifetime or recent use of any synthetic cathinones, tryptamies, dissociatives or plant-based drugs included in the survey between 2015 and 2016. For the first time in 2016, participants were asked about their use of 4-MEC, Alpha-PVP, 4-AcO-DMT and Etizolam.

A complete breakdown of reported proportions of use across these drug classes is presented in

Table 13.

Table 13: Patterns of other classes of NPS, 2010-2016

NPS	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Synthetic cathinones							
Mephedrone							
ever used (%)	19	18	16	6	9	7	**8**
used last 6 months (%)	16	14	3	3	2	3	**0**
Methylone							
ever used (%)	-	11	3	6	8	7	**4**
used last 6 months (%)	-	4	2	5	4	5	**2**
4-MEC (4-Methylethcathinone)	-	-	-	-	-	-	**0**
ever used (%)	-	-	-	-	-	-	**0**
used last 6 months (%)							
Alpha-PVP	-	-	-	-	-	-	**1**
ever used (%)	-	-	-	-	-	-	**0**
used last 6 months (%)							
Other stimulants							
MDPV/ Ivory Wave							
ever used (%)	0	0	2	3	2	0	**0**
used last 6 months (%)	0	0	1	1	0	0	**0**
PMA							
ever used (%)	7	4	1	1	3	2	**5**
used in the last 6 months (%)	0	0	0	0	2	1	**1**
Tryptamines							
5MEO-DMT							
ever used (%)	4	4	0	0	1	2	**1**
used last 6 months (%)	1	0	0	0	1	0	**0**
DMT							
ever used (%)	13	40	32	33	33	24	**34**
used last 6 months (%)	8	25	22	22	19	13	**18**
4-AcO-DMT	-	-	-	-	-	-	**3**
ever used (%)	-	-	-	-	-	-	**1**
used last 6 months (%)							
Dissociatives							
DXM/ Cough syrup							
ever used (%)	7	21	11	7	11	16	**12**
used last 6 months (%)	3	4	2	5	6	7	**4**
Methoxetamine/ MXE							
ever used (%)	-	-	0	3	1	0	**1**
used last 6 months (%)	-	-	0	0	0	0	**0**
Plant-based substances							
Datura							
ever used (%)	4	7	4	5	1	1	**1**
used last 6 months (%)	1	0	1	0	0	0	**0**

NPS	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Salvia divinorum							
ever used (%)	-	18	11	6	9	4	**4**
used last 6 months (%)	-	11	3	2	3	0	**0**
LSA/ Hawaiian Baby Woodrose							
ever used (%)	-	4	7	6	3	3	**5**
used last 6 months (%)	-	0	1	2	1	0	**1**
Piperazines							
BZP							
ever used (%)	37	7	14	2	3	**1**	**3**
used last 6 months (%)	25	7	1	0	0	**0**	**0**
Other							
Etizolam	-	-	-	-	-	-	**0**
	-	-	-	-	-	-	**0**

Source: WA EDRS REU/RPU interviews, 2010-2016
* Indicates significant changes from the 2015 results according to 95%CI and p<0.05
- Data not collected

Synthetic cannabis

In 2016, less than one-third (29%) of the sample reported having ever used any form of synthetic cannabis, not significantly different from 34% in 2015. Just 3% of the 2016 sample reported recent use, not significantly different from 6% in 2015. Participants were not asked about their use of Kronic, K2/Space or other synthetic cannabinoids in 2016. A breakdown of findings related to synthetic cannabis use is presented in Table 14.

Table 14: Patterns of synthetic cannabis use, 2010-2016

	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Any synthetic cannabis							
ever used (%)	-	32	44	40	37	34	**29**
used last 6 months (%)	-	32	18	19	12	6	**3**
Kronic							
ever used (%)	-	-	-	24	26	26	**-**
used last 6 months (%)	-	-	-	9	4	4	**-**
K2/Spice							
ever used (%)	-	-	-	3	7	1	**-**
used last 6 months (%)	-	-	-	1	3	0	**-**
Other synthetic cannabinoids							
ever used (%)	**-**	**-**	**-**	18	13	13	**-**
used last 6 months (%)	**-**	**-**	**-**	10	6	3	**-**

Source: WA EDRS REU/RPU interviews, 2010-2016

* Indicates significant changes from the 2015 results according to 95%CI and *p*<0.05
- Data not collected

KE comments

- A KE who worked in community outreach reported the continuing emergence of Alpha PVP (known as "flakka" or "gravel") and MDPV (known as "bath salts"), as well as the use of cough syrup combined with alcohol or lemonade.
- Four KE, who worked in AOD consulting, community outreach, telephone outreach and nursing noted that use of synthetic cannabis had decreased recently. Two KE stated that this decrease may be a result of decreases in FIFO work.
- A KE who worked as an AOD consultant reported that synthetic cannabis use was associated with extreme agitation, violence and psychosis.
- A KE who worked in outreach reported that that synthetic cannabis use was prevalent among homeless populations as this demographic had difficulty accessing cannabis.

Herbal highs and capsules with unknown contents

As presented in Table 15, 9% of the 2016 sample reported having ever used herbal highs, not significantly different from 12% in 2015. Three percent of the sample reported recent use, not significantly different from 5% in 2015.

Less than one-fifth (17%) of the participants reported having ever consumed a capsule where the contents were unknown, a significant increase from 7% in 2015 (CI: 0.01 to 0.19). Recent use of capsules with unknown contents was 8%, a non-significant increase from 5% in 2015.

Table 15: Patterns of herbal high use, 2010-2016

NPS	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Herbal highs							
ever used (%)	-	-	39	12	14	12	**9**
used last 6 months (%)	-	-	11	5	4	5	**3**
Capsule (contents unknown)							
ever used (%)	**-**	**-**	17	5	8	7	**17***
used last 6 months (%)	**-**	**-**	7	2	6	5	**8**

Source: WA EDRS REU/RPU interviews, 2010-2016
* Indicates significant changes from the 2015 results according to 95%CI and *p*<0.05
- Data not collected

4.10.2. Summary of NPS use

- The proportion of lifetime and recent use for all NPS remained stable in 2016 compared to the 2015 findings.
- The most common NPS used in participants lifetimes was DMT (34%), followed by synthetic cannabis (29%), capsule with unknown contents (17%) and 2C-B (13%).
- The most common NPS used recently was also DMT (18%), followed by capsule with known contents (7%) and 2C-B and NBOMe (each 5%).
- Four KE noted that synthetic cannabis use had decreased recently. Two KE stated that this decrease in use may be the result of a decrease in FIFO workers.

5. DRUG MARKET: PRICE, POTENCY, AVAILABILITY AND SUPPLY

5.1. Ecstasy pills, powder and capsules

5.1.1. Price

In 2016, 93 participants reported on the price of ecstasy pills, five reported on the price of powder per gram, two reported on the price of powder per point and 46 reported on the price of ecstasy capsules.

Ecstasy pills

As shown in Table 16, the median price per pill was $25, a significant decrease from $30 in 2015.

Ecstasy powder

Given only two participants reported the price of ecstasy powder per point in 2016, the median is not reported here. The median per gram was $200, not significantly different from $300 in 2015.These results should be interpreted with caution given the small number of participants who commented.

Ecstasy capsules

The median price per capsule was $30, significantly lower than $35 in 2015.

Price changes

Participants were asked whether the price of ecstasy pills, powder and capsules had changed in the preceding six-month period. As shown in Table 17, participants most commonly reported that the price was stable (38%). This was followed by decreasing (37%), fluctuating (11%), increasing (9%) and don't know (4%). Compared to the 2015 sample, in 2016 a significantly smaller proportion of participants reported the price as decreasing (CI: -0.03 to -0.30) and a significantly greater proportion reported the price as decreasing (CI: 0.07 to 0.31). These findings suggest that the price of ecstasy pills, powder and capsules may have decreased recently.

KE comments

- KE stated the price of ecstasy to range from $30-$40 per pill. A KE who worked in AOD research noted that the price per pill can increase $50 at a festival or in a nightclub.

Table 16: Price of ecstasy pills, powder and capsules and price variations, 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	**2016**
Median price per tablet Range	$40 ($30-$50)	$40 ($20-$45)	$35 ($17-$50)	$35 ($20-$50)	$30 ($15-$40)	$35 ($20-$50)	$35 ($6-$60)	$35 ($10-$60)	$30 ($16-$40)	**$25*** **($15-$50)**
Price change (%)										
Increasing	11	17	9	18	4	10	16	18	9	**9**
Stable	59	48	52	56	57	57	59	65	56	**38***
Decreasing	16	19	25	18	14	8	11	5	18	**37***
Fluctuating	9	10	9	5	11	8	10	9	14	**11**
Don't know	5	5	5	3	14	18	4	3	3	**4**

Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

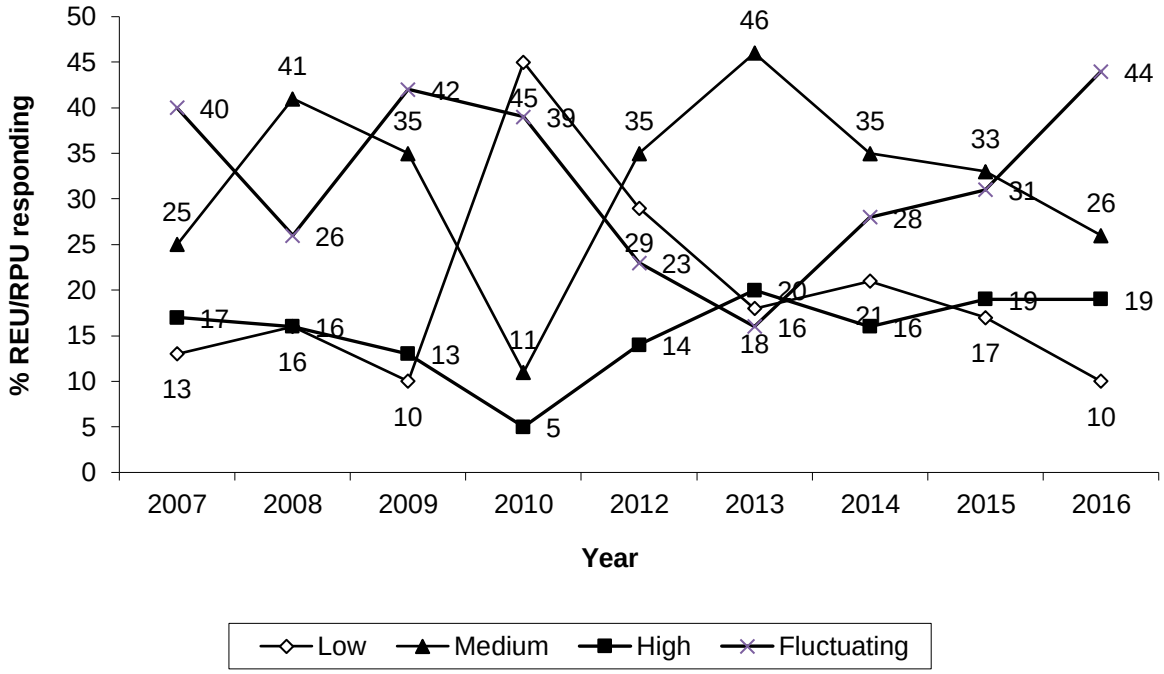
5.1.2. Potency

Participants were asked to comment on the current potency of ecstasy pills, powder and capsules. Among those who commented (n=99), participants most commonly rated potency as fluctuating (n=44, 44%), followed by medium (n=26, 26%), high (n=19, 19%) and then low (n=10, 10%). These results were not significantly different from the 2015 findings. As is evident in

Figure 9, user reports of ecstasy potency were on an upward trend in 2012 and 2013 but have remained stable since that time.

Participants were also asked about perceived changes in the potency of ecstasy pills, powder and capsules in the preceding six months. Not significantly different from the 2015 findings, among those commenting (n=99), the most frequent response was stable (n=33, 33%), followed by fluctuating (n=25, 25%), increasing (n=20, 20%) decreasing (n=19, 19%) and don't know (n=2, 2%).

Figure 9: User reports of current ecstasy pills, powder and capsules potency, 2007-2016



Source: WA EDRS REU/RPU interviews, 2007-2016

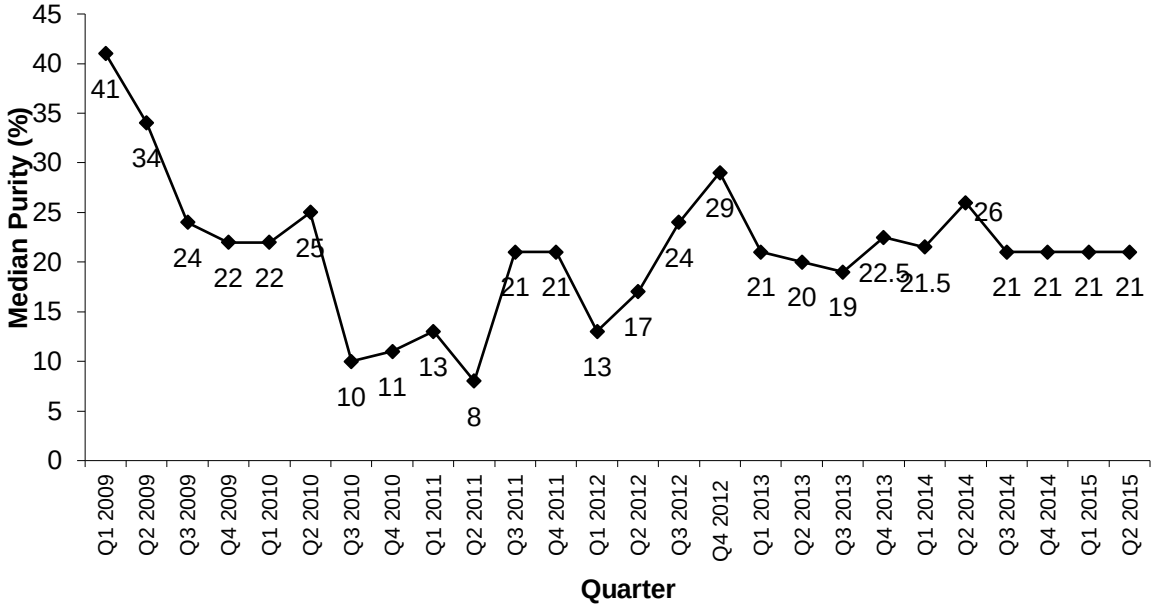
ACC statistics

Data obtained from the ACC indicates that, in WA during 2014/15, a single tablet or capsule of MDMA cost $25; the same price reported by WA EDRS participants in the 2016 sample. The price per tablet/capsule when 1000 or more tablets/capsules were purchased in bulk was reported as $11 (ACC, 2016).

While potency estimates provided by users are subjective perceptions, laboratory analyses of ecstasy seizures provide a more objective assessment. However, it must be noted that the seizures analysed do not represent a random or comprehensive sample of all seizures made. Figure 14 presents the median purity of phenethylamine seizures in WA according to data provided by the WA State Police and the ACC since January 2009 (ACC, 2011-2016).

Purity levels during the 2014/15 period were between 0.6% and 87%. While there were reports for seizures of two grams and less and more than two grams, this data has not been consistently reported across years. Therefore, the median for the total of all samples (<=2 g and >2 g) is presented in Figure 10. Purity was stable across the 2014/15, period, with a median of 21% being maintained across all quarters. The total median phenethylamine purity for the 2014/15 was 21%, a small decrease from 25% in 2013/14 (ACC, 2014 and 2015).

Figure 10: Median purity of phenethylamine seizures in WA by quarter, January 2009 to June 2015



Source: ACC, 2009-2016

KE comments

- A KE who worked in community outreach noted that there had been recent anecdotal reports that ecstasy purity was currently high.

5.1.3. Availability

Participants were asked how easy ecstasy pills powder and capsules were to obtain currently. Among those who commented (n=99), the majority (n=98, 98%) of the sample rated pills, powder and capsules as easy or very easy to obtain, significantly greater than 92% in 2015 (CI: 0.01 to 0.14). Not significantly different from the 2015 results, participants most commonly reported that availability was stable over the preceding six months (n=58, 59%), followed by easier (n=34, 34%) fluctuating (n=3, 3%) and more difficult (n=2. 2%). Availability reports across survey years are presented in Table 17.

Table 17: Reports of ecstasy pills, powder and capsules availability, 2007-2016

(%)	2007 N=99	2008 N=58	2009 N=98	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Current availability										
Very easy	30	52	61	22	14	18	48	53	62	**78***
Easy	59	41	35	58	50	65	48	41	30	**20**
Availability changes										
Stable	65	59	62	54	64	44	51	61	61	**58**
Easier	10	24	20	7	4	32	33	27	26	**34**

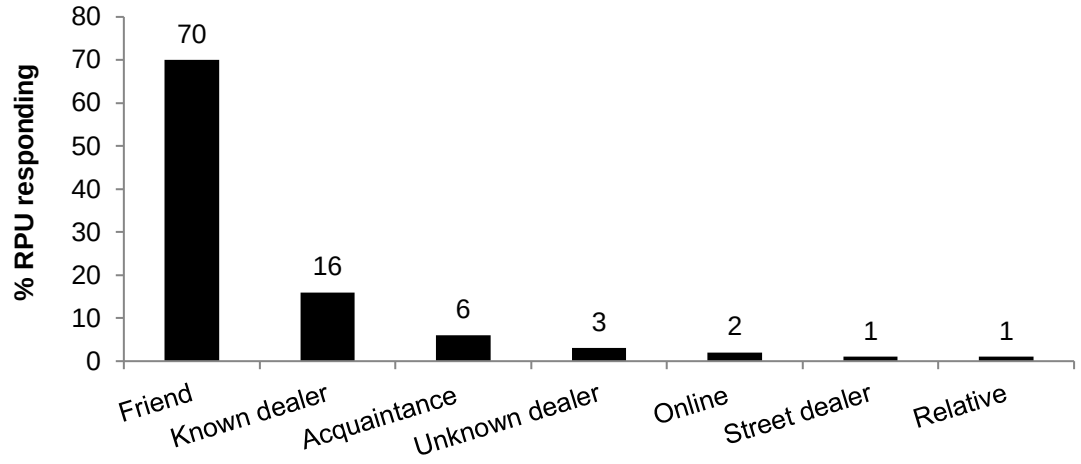
Source: WA EDRS REU/RPU interviews, 2007-2016

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

5.1.4. Source person and source location

Participants were asked to comment on whom ecstasy pills, powder or capsules were obtained from on the last occasion in the preceding six months. As demonstrated in Figure 11, 'friend' was the most commonly reported person, nominated by 70% (n=69) of the sample. This was followed by 'known dealer' (n=16, 16%) and 'acquaintance' (n=6, 6%). These findings were not significantly different from 2015.

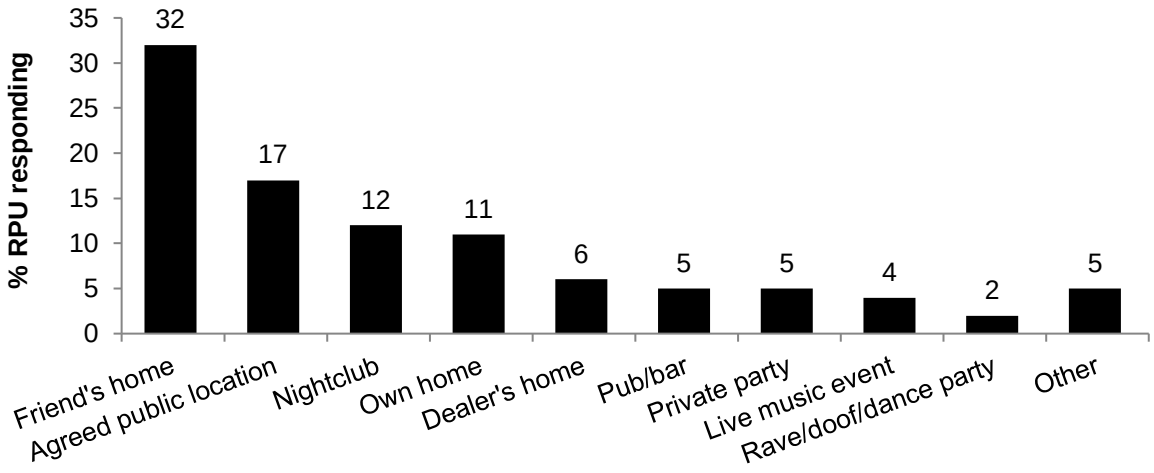
Figure 11: Person from whom ecstasy pills, powder and capsules were last obtained in the preceding six months, 2016 (N=98)



Source: WA RPU interviews, 2016

Participants were asked to report the location from where ecstasy pills, powder or capsules were obtained on the last occasion in the preceding six months. As presented in Figure 12, among those who commented (n=98) 'friend's home' was the most commonly reported location (n=31, 32%). This was followed by 'agreed public location' (n=17, 17%) and 'nightclub' (n=12, 12%).

Figure 12: Location at which ecstasy pills, powder and capsules were last obtained in the preceding six months, 2016 (N=98)



Source: WA EDRS RPU interviews, 2016
*Other responses were: 'street', 'work', 'educational institution' 'acquaintance's house', and 'field'

5.2. Ecstasy crystal/MDMA rock

5.2.1. Price

Participants were asked to comment on the current price of ecstasy crystal/MDMA rock. As shown in Table 18, among those able to comment (n=15), the median price per gram was $250 (range $25-$450) not significantly different from $300 (range $40-$400) in 2015. Of those who commented on the price per point (n=10), the median was $30 (range $20-$10), the same median reported in 2015. Among those who commented on the price per cap (n=19), the median was $30 (range $20-$40), significantly less than $35 in 2015.

Participants were also asked to comment on changes to the price of ecstasy crystal/MDMA rock in the preceding six months (see Table 18). Among those who commented (n=51), almost three-fifths (n=29, 57%) reported that the price was stable, followed by decreasing (n=8, 16%), don't know (n=7, 14) and increasing (n=3, 6%). These results were not significantly different from the 2015 findings.

Table 18: Price of ecstasy crystal/MDMA rock and price variations, 2015 and 2016

	2015	2016
Median price per gram Range	$300 ($40-$400)	$250 ($25-$450)
Median price per cap Range	$35 ($22-$50)	$30* ($20-$40)
Price change (%)	(n=47)	(n=51)
Increasing	11	6
Stable	64	57
Decreasing	4	16
Fluctuating	8	8
Don't know	13	14

Source: WA EDRS RPU interviews, 2015 and 2016
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

5.2.1. Potency

Participants were asked to comment on the current potency of ecstasy crystal/MDMA rock. Among those able to comment (n=51), more than three-fifths (n=31, 61%) rated it as high. This was followed by medium (n=10, 20%), fluctuating (n=8, 16%) and low (n=2, 4%) These results were not significantly different from the 2015 findings.

Participants were also asked about changes in the potency of ecstasy crystal/MDMA rock over the preceding six months. Again not significantly different from the 2015 findings, approximately half (n=26, 51%) reported potency as stable. This was followed by increasing (n=9, 18%), fluctuating (n=7, 14%), don't know (n=5, 10%) and decreasing (n=4, 8%).

This pattern of results suggests that the perceived potency of ecstasy crystal/MDMA rock tended to be higher than that of ecstasy pills, powder and capsules.

5.2.2. Availability

Participants were asked how easy ecstasy crystal/MDMA rock was to obtain currently. Among those who commented (n=51), almost three-quarters (n=37, 72%) rated it as easy or very easy, significantly greater than 53% in 2015 (CI: 0.05 to 0.31).

Participants most commonly reported availability to be stable over the preceding six months (n=29, 57%), followed by easier (n=10, 20%), more difficult (n=6, 12%), fluctuating (n=4, 8%) and don't know (n=2, 4%). These results were not significantly different from the 2015 findings.

The pattern of results suggests that compared to ecstasy pills, powder and capsules, ecstasy crystal/MDMA rock tended to be perceived more potent and more difficult to obtain, although the availability of ecstasy crystal/MDMA may be increasing. RPU availability reports for 2015 and 2016 for crystal ecstasy/MDMA rock are presented in Table 19.

Table 19: Reports of ecstasy crystal/MDMA rock availability, 2015 and 2016

(%)	2015 N=47	**2016 N=51**
Current availability		
Very easy	28	**33**
Easy	25	**39**
Difficult	38	**22**
Very difficult	4	**6**
Don't know	4	**0**
Availability changes		
Stable	60	**57**
Easier	11	**20**
More difficult	21	**12**
Fluctuating	0	**8**
Don't know	8	**4**

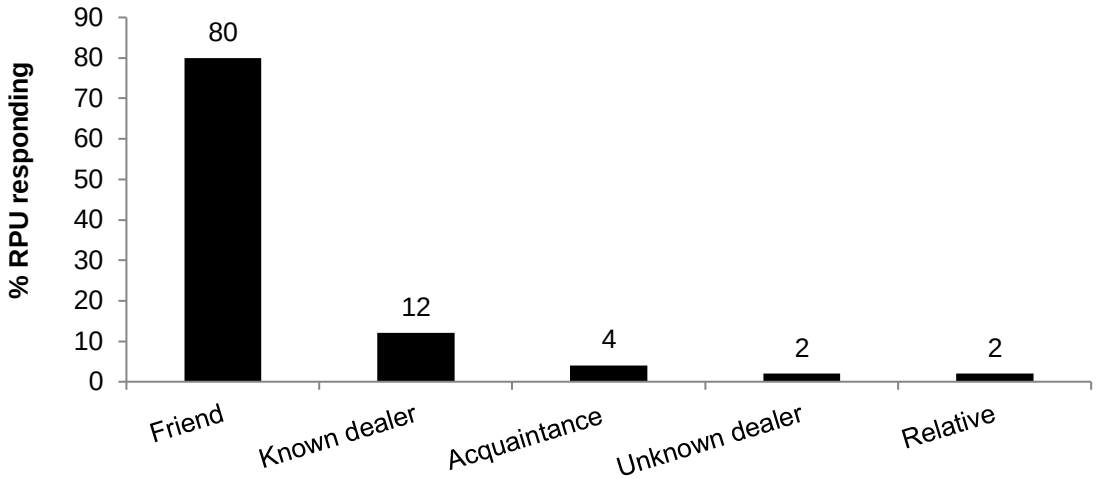
Source: WA EDRS RPU interviews, 2015 and 2016
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

5.2.3. Source person and source location

Participants were asked whom they had obtained ecstasy crystal/MDMA rock from on the last occasion in the preceding six months. Not significantly different from the 2015 findings, 'friend' was the most commonly reported person, nominated by 80% (n=40) of the respondents. This was followed by 'known dealer' (n=6, 12%) and acquaintance (n=2, 4%).

A full breakdown of these data is presented in Figure 13.

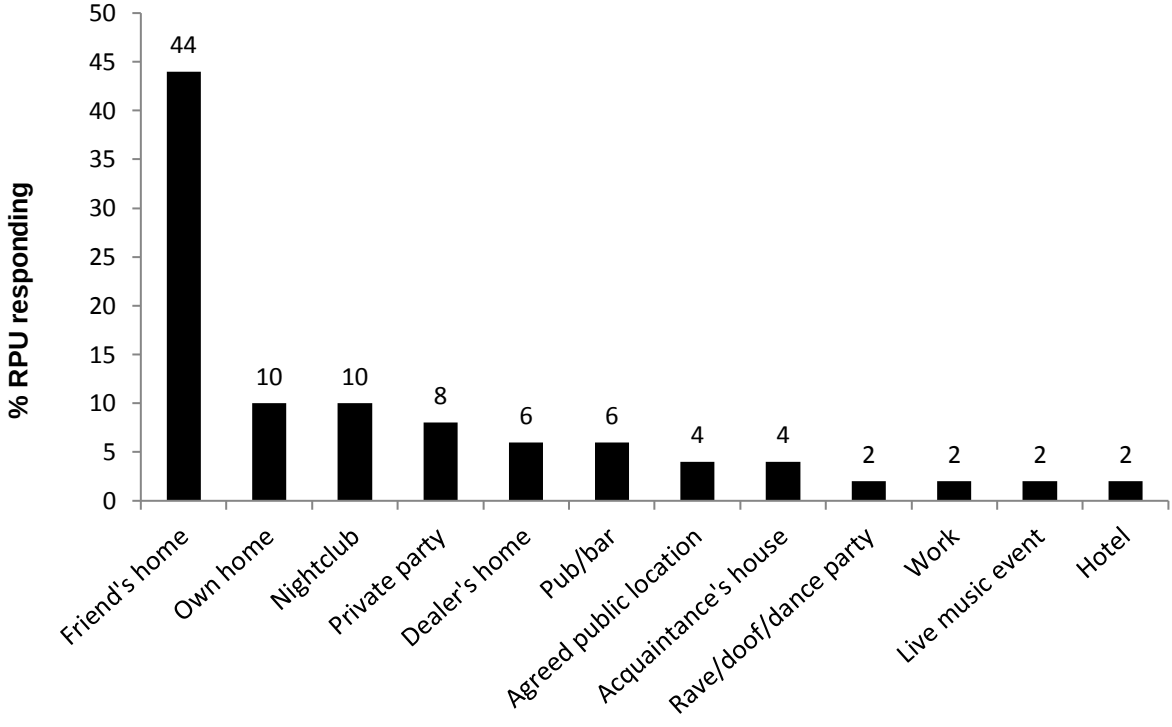
Figure 13: Person from whom ecstasy crystal/MDMA rock was last obtained in the preceding six months, 2016 (N=50)



Source: WA RPU interviews, 2016

Participants were asked to report the last location at which they had obtained crystal ecstasy/MDMA rock on the last occasion in the preceding six months. Among those who commented (n=50), 'friend's home' was the most common location (n=22, 44%), followed by 'own home' and 'nightclub' (each n=5, 10%). These results were not significantly different from the 2015 findings. A full breakdown of these locations is shown in Figure 14.

Figure 14: Location at which ecstasy crystal/MDMA rock was last obtained in the preceding six months, 2016 (N=50)



Source: WA RPU interviews, 2016

5.3. Summary of ecstasy trends

Pills, powder and capsules

- The median price of ecstasy was $25 per pill, a significant decrease from $30 in 2015.
- More than one-third (38%) of the sample rated the price of ecstasy pills, powder and capsules as stable over the preceding six months, a significant decrease from 56% in 2015. More than one-third (37%) rated the price as decreasing over the last six months, a significant increase from 18% in 2015. These findings suggest that the price of ecstasy pills, powder and capsules may be decreasing.
- The largest proportion of participants rated the current potency of ecstasy pills, powder and capsules as fluctuating (44%), followed by medium (26%). These results were not significantly different from the 2015 sample. Participants most frequently rated potency as stable over the last six months (33%), not significantly different from the 2015 findings.
- The vast majority (98%) of participants rated ecstasy pills, powder and capsules as easy or very easy to obtain currently, a significant increase from 92% in 2015.
- Just less than three-fifths (58%) rated availability as stable over the preceding six months, not significantly different from 61% in 2015.
- Consistent with previous years, 'friend' was the most commonly reported person from whom ecstasy pills, powder or caps were last obtained (70%) and 'friend's home' was the most commonly reported location (32%).
- KE reported that the current price of ecstasy was $30-$40 per pill and that the purity was currently high.

Ecstasy crystal/MDMA rock

- The median price of ecstasy crystal was $30 per cap, significantly less than $35 in 2015.nt
- Less than three-fifths (57%) of the respondents rated the price of ecstasy crystal/MDMA rock as stable over the preceding six months, not significantly different from 64% in 2015.
- Not significantly different from 2015, the potency of ecstasy crystal/MDMA rock was most commonly reported as high (61%), followed by medium (20%).
- Almost three-quarters (72%) of the sample rated ecstasy crystal/MDMA as easy or very easy to obtain currently, significantly higher than 53% in 2015.
- More than half (57%) of the sample reported that the availability of ecstasy crystal/MDMA rock was stable over the preceding six months, not significantly different from 60% in 2015.
- Compared to ecstasy pills, powder and capsules, ecstasy crystal/MDMA rock tended to be perceived as more potent and more difficult to obtain.
- Not significantly different from 2015, 'friend' was the most commonly reported person from whom ecstasy crystal/MDMA rock was last obtained (80%) and 'friend's home' was the most commonly reported location from which it was obtained (44%).

5.5. Methamphetamine

5.5.1. Price

Participants were asked about the price of the various forms of methamphetamine on the last occasion of purchase (see Table 20). Given the small number of participants who were able to comment in 2016, these results should be interpreted with caution.

Speed

One participant in the 2016 sample reported the price of methamphetamine powder (speed) per point as $100. None of the participants reported the price of methamphetamine powder per gram. A comparison with the 2015 data was not possible due to the small sample size.

Base

One participant in the 2016 sample reported the price of methamphetamine base per gram as $200. None of the participants reported the price of methamphetamine base per point. A comparison with the 2015 data was not possible due to the small sample size.

Crystal

Of those participants who were able to comment on the price of crystal methamphetamine per point (n=7), the median was $100 (range $50-$100), the same median reported in 2015. None of the participants were able to report the price of crystal methamphetamine per gram.

Table 20: Price of various methamphetamine forms purchased, 2007-2016

Median price ($)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Speed										
Point	50	50	50^	50^	100^	100^	100^	100^	-	**100^**
Gram	350	100	275	300^	800^	400^	700^	200^	300^	**-**
Base										
Point	50	50	50^	-	100^	-	-	-	-	**-**
Gram	380	-	400^	300^	1000^	-	-	-	-	**200^**
Crystal										
Point	50	50	50^	50^	100	100	100	100	100^	**100^**
Gram	400	425	400^	400^	400^	525^	800^	800^	700^	**-**

Source: WA EDRS REU/RPU interviews, 2007-2016
^ n<10. Results should be interpreted with caution
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

Participants were asked to comment on changes in the price of the three forms of methamphetamine over the preceding six months (see Figure 15).

Speed

Of those able to comment (n=3), two-thirds (n=2, 67%) reported the price as stable over the preceding six months and one-third (n=1, 33%) reported it as stable. While these results were not significantly different from the 2015 findings, they should be interpreted with caution given the very small sample size.

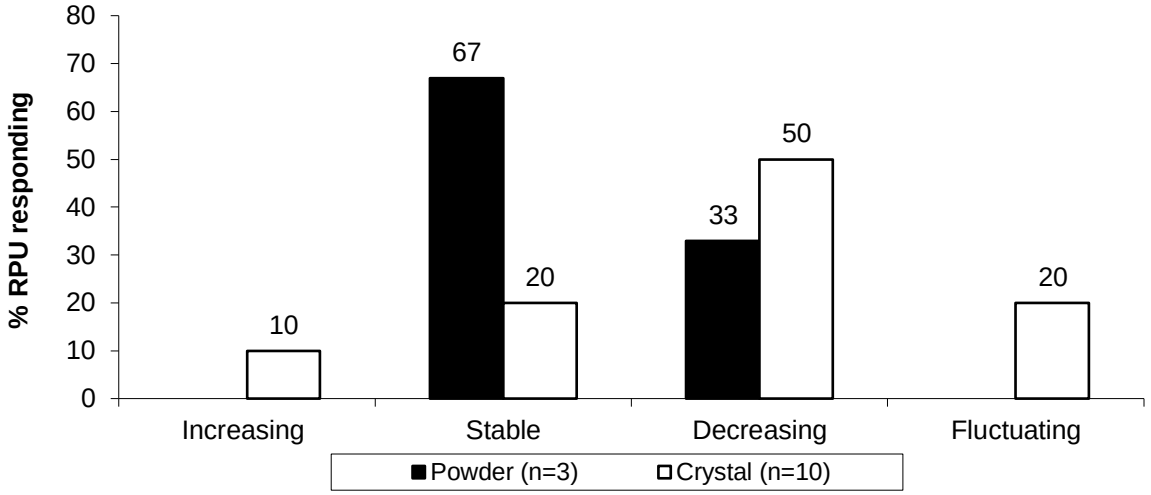
Base

In 2016, one participant commented on price changes for methamphetamine base in the last six months, reporting that it was stable.

Crystal

Of those able to comment on crystal methamphetamine (n=10), half (n=5, 51%) reported the price as decreasing over the preceding six months. This was followed by stable and fluctuating (each n=2, 20%) and increasing (n=1, 10%). In 2015, 9% of participants reported price as decreasing and 91% reported it was stable over the preceding six months. Compared to 2015, more participants in 2016 reported the price as decreasing (CI: 0.02 to 0.68) and less reported the price as stable (CI: CI: -0.29 to -0.87). This pattern of results suggests that the price of crystal may be decreasing.

Figure 15: User reports of recent changes in the price of powder and crystal forms of methamphetamine, 2016



Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

ACC statistics

ACC data from the 2014/15 period indicated the price of a point of crystal methamphetamine as $100, the same price reported by WA EDRS participants in 2016. The price of an 8-ball was reported as $1,400 and the price of an ounce was reported as $10,000 - $12,000 (ACC, 2016).

5.5.2. Potency

Participants were asked to comment on the current potency of methamphetamine (see Figure 16).

Speed

Of those able to comment on the current potency of speed (n=4), half (n=2, 50%) rated it as high. This was followed by medium and fluctuating. These results were not significantly different from the 2015 findings.

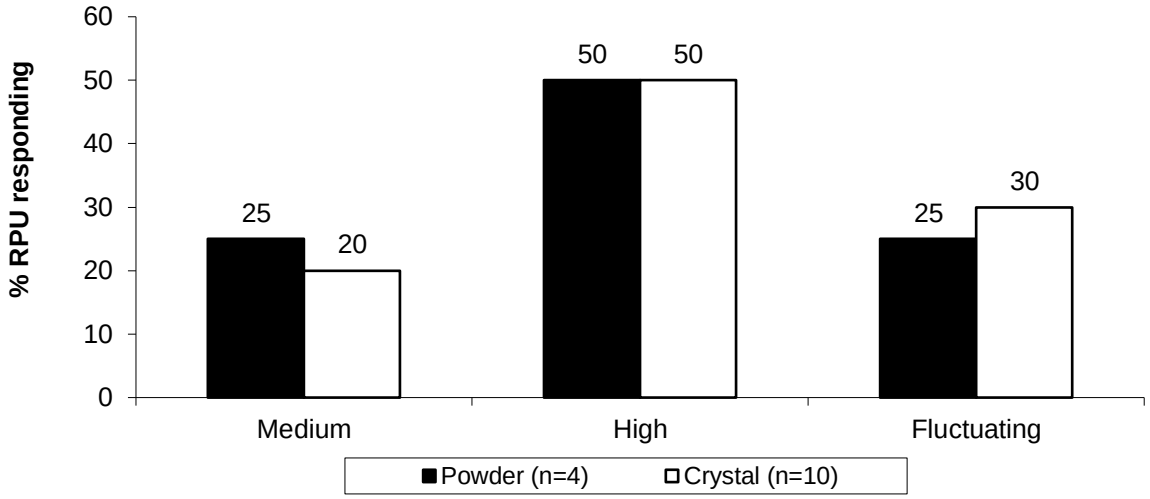
Base

In 2016, one participant reported the current potency of methamphetamine base as fluctuating.

Crystal

Of those participants who were able to comment on crystal methamphetamine (n=10), perceptions were mixed. The greatest proportion of participants rated the potency as high (n=5, 50%), followed by fluctuating (n=3, 30%) and medium (n=2, 20%). These results were not significantly different from the 2015 findings.

Figure 16: User reports of current methamphetamine potency, 2016



Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

Participants were asked to comment on perceived changes in the potency of methamphetamine over the preceding six months (see Figure 17). The small number of respondents necessitates caution in interpreting these results.

Speed

Of those participants able to comment on speed (n=3), two-thirds (n=2, 67%) reported that potency was stable over the preceding six months and one-third (n=1, 33%) reported that it was increasing. These results were not significantly different from the 2015 findings.

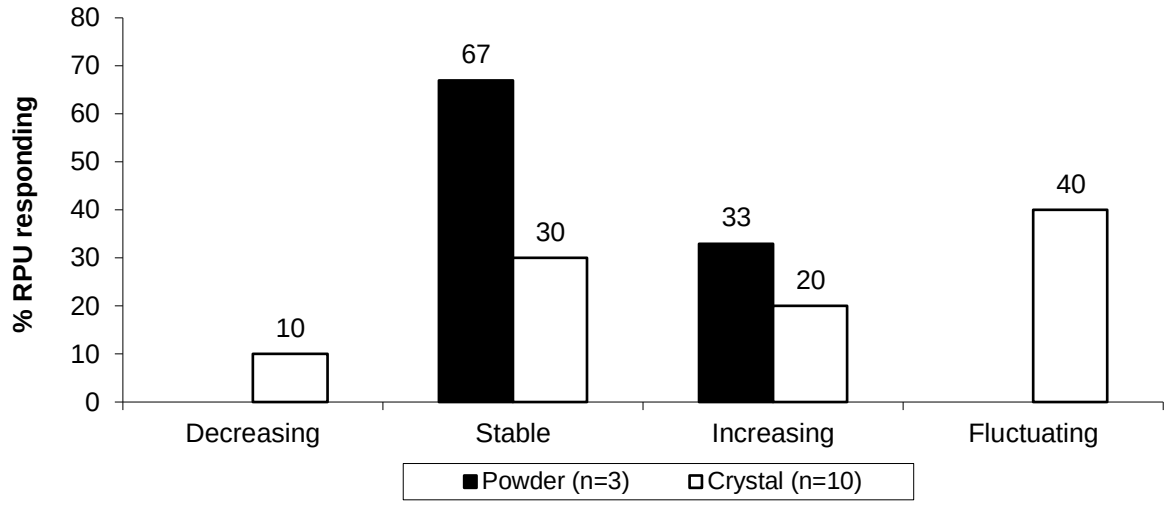
Base

One participant (n=1, 100%) reported methamphetamine base potency was fluctuating over the preceding six months.

Crystal

Of those participants able to comment on crystal methamphetamine (n=10), the largest proportion (n=4, 40%), reported that potency was fluctuating, followed by stable (n=3, 30%), increasing (n=2, 20%) and decreasing (n=1, 10%). These results were not significantly different from the 2015 findings.

Figure 17: User reports of changes in methamphetamine potency in the preceding six months, 2016

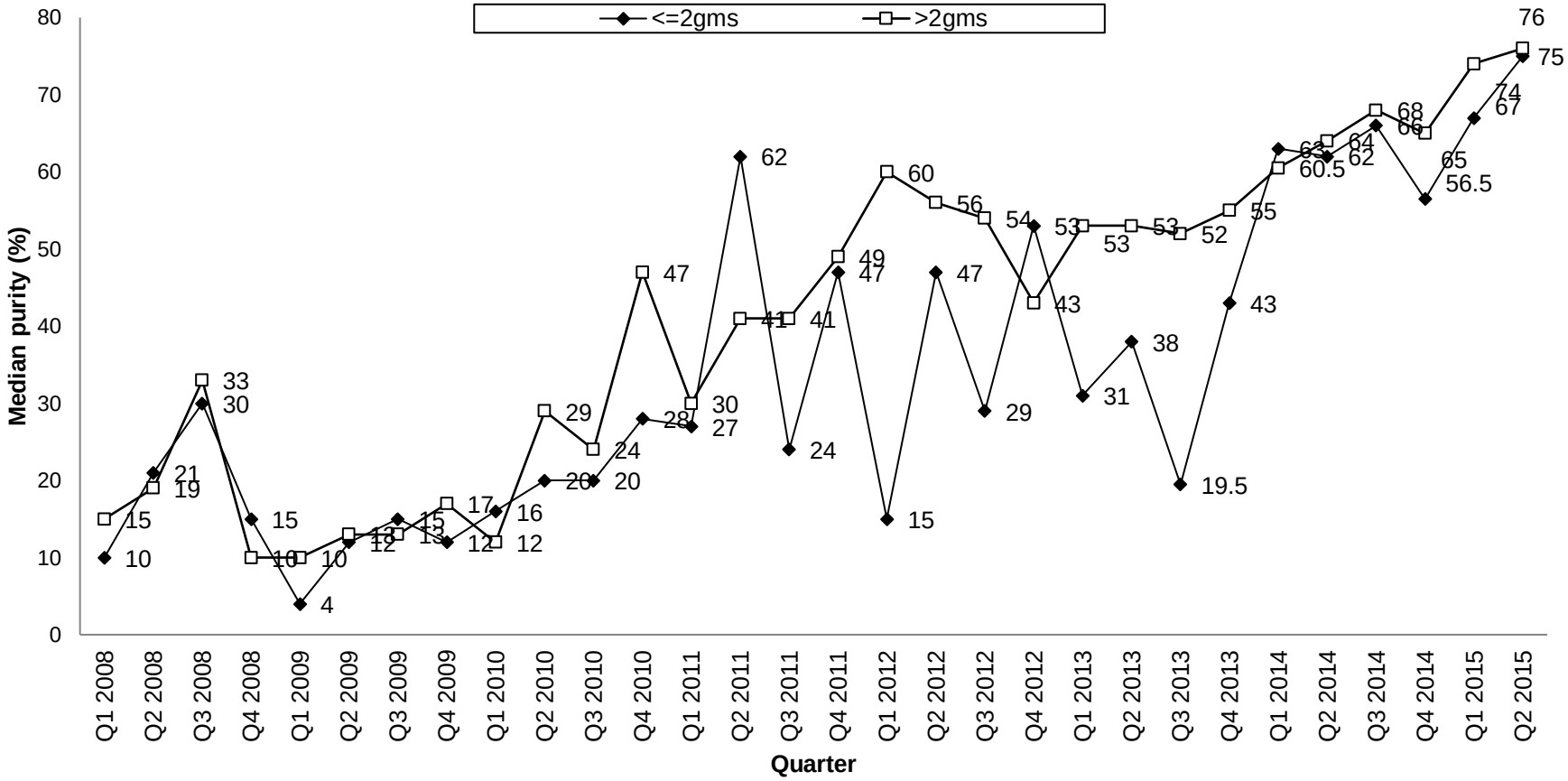


Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

ACC statistics

Figure 18 illustrates ACC data on the median purity of methamphetamine seizures in WA, by quarter, from January 2008 to June 2015. Seizures by the WA State Police in the 2014/15 period varied in purity from 0% to 91%, with a median of 71%, an increase from a median of 57% in 2013/14 (ACC, 2014, 2015, 2016).

Figure 18: Median purity of methamphetamine seizures analysed in WA by quarter, January 2008 to June 2015



Source: ACC, 2008-2016

5.5.3. Availability

Participants were asked to comment on the current availability of methamphetamine (see Figure 19). These findings should again be interpreted with caution given the small number of participants who commented.

Speed

Of those respondents able to comment on speed (n=4), perceptions were mixed. Half of the participants (n=2, 50%) reported that speed was easy to obtain and another half (n=2, 50%) reported that it was difficult to obtain. These results were not significantly different from the 2015 findings.

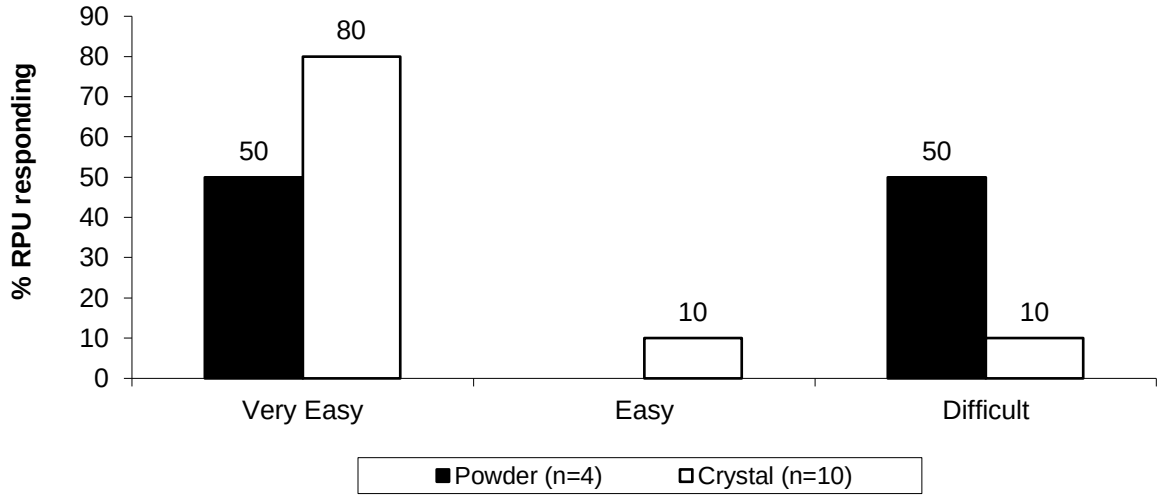
Base

One participant (n=1, 100%) reported that methamphetamine base was currently very easy to obtain.

Crystal

Of those participants able to comment on crystal methamphetamine (n=10), the majority (n=8, 80%) reported that it was currently very easy to obtain. This was followed by easy and difficult (each n=1, 10%). These findings were not significantly different from the 2015 results.

Figure 19: User reports of current availability of methamphetamine forms, 2016



Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

Participants were asked to comment on the perceived changes to availability of methamphetamine over the preceding six months (see Figure 20). Given the small number of participants who were able to comment, these results should again be interpreted with caution.

Speed

Of those respondents able to comment on speed (n=3), all of the participants (n=3, 100%) rated the availability as stable over the preceding six months. These results were not significantly different from the 2015 findings.

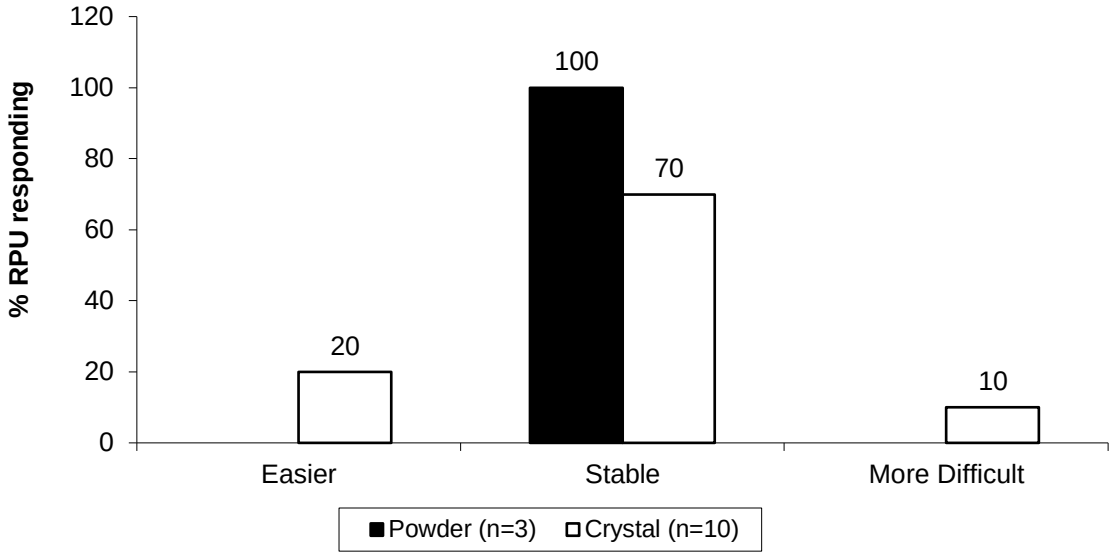
Base

None of the participants commented on changes to the availability of methamphetamine base over the preceding six months.

Crystal

Of those participants able to comment on crystal methamphetamine (n=10), the majority (n=7, 70%) reported that availability was stable over the preceding six months. This was followed by easier (n=2, 20%) and more difficult (n=1, 10%). These findings were not significantly different from the 2015 results.

Figure 20: User reports of changes in the availability of methamphetamine in the preceding six months, 2016



Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

5.5.4. Source person and source location

Participants were asked to report whom they had obtained methamphetamine from on the last occasion. A full breakdown of these results is shown in Figure 21. These results should be interpreted with caution due to the small number of participants who commented.

Speed

Among participants who commented on speed (n=4), all (n=4, 100%) reported that it had been obtained from a 'friend' on the last occasion. This was not significantly different from the 2015 sample.

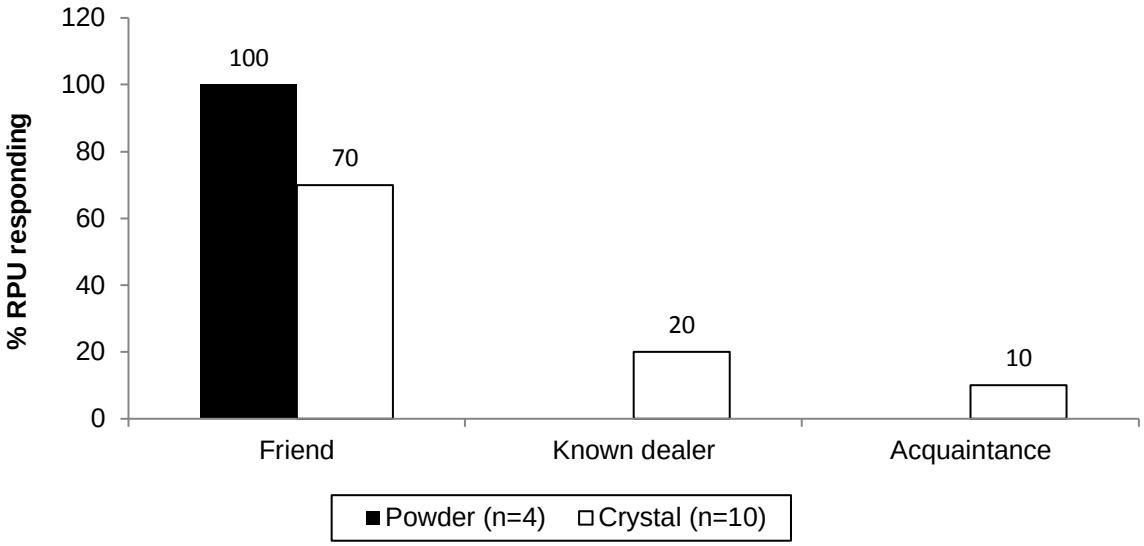
Crystal

Not significantly different from 2015, among those who commented on crystal methamphetamine (n=10), the most commonly reported person was 'friend' (n=7, 70%), followed by 'known dealer' (n=2, 20%) and 'acquaintance' (n=1, 10%).

Base

One participant (n=1, 100%) reported obtaining methamphetamine base from 'online dark net/deep web' on the last occasion.

Figure 21: Person from whom methamphetamine was last obtained in the preceding six months, 2016



Source: WA EDRS RPU interviews, 2016
Note: Base not shown due to the small sample size (n=1)

Participants were asked where they were when they purchased methamphetamine on the last occasion in the preceding six months. A full breakdown of these responses is shown in Figure 22. These results should be interpreted with caution due to the small number of participants who commented.

Speed

Among those who commented on speed (n=4), all (n=4, 100%) reported the location as 'friend's home', not significantly different from the 2015 sample.

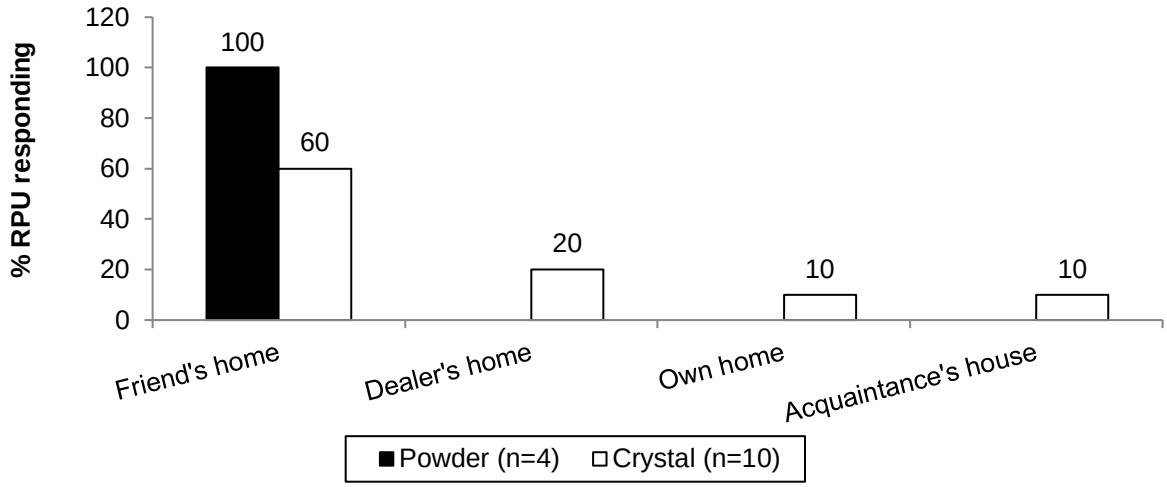
Crystal

Among those who commented on crystal methamphetamine (n=10), the most commonly reported location was 'friend's home' (n=6, 60%), followed by 'dealer's home' (n=2, 20%), 'own home' and 'acquaintance's house' (each n=1, 10%). These results were not significantly different from the 2015 findings.

Base

No participants commented on methamphetamine base.

Figure 22: Location where methamphetamine was last obtained in the preceding six months, 2016



Source: WA EDRS RPU interviews, 2016

KE comments

- KE reported the price of crystal methamphetamine as $40 to $100 per point.
- There were mixed reports from KE on recent changes in the price of crystal methamphetamine; while some KE reported a decrease in price, others reported that the price had been stable. A KE who worked in law enforcement noted that while the price of small deals had been stable, bulk prices had decreased substantially in the preceding six to 12 months.
- Most KE reported that that the current potency of crystal methamphetamine was high, with two KE reporting that it was fluctuating. Two KE reported current potency to be between 70% and 80%.
- There were mixed reports on recent changes in the potency of methamphetamine; while some KE reported recent increases in potency, others reported that potency had been stable and others noting that it had been fluctuating.

ACC statistics

The most recent IDDR (ACC, 2016) reported on seizures of ATS in the period 2014/15. ATS incorporate MDMA, amphetamine and methamphetamine. In WA in 2013/14, State Police and Australian Federal Police were responsible for 7,874 seizures totalling 276, 248 grams, compared with 5,942 seizures totalling 122,747 grams in 2013/14.

5.5.5. Summary of methamphetamine trends

Speed

- One participant reported the price per point as $100, not significantly different from 2015. Two-thirds (67%) of those who commented reported that the price as stable over the preceding six months, not significantly different from the 2015 findings.
- Comparable with the 2015 findings, half of those commented (50%) reported current potency as high and the remaining 50% reported it as medium.
- Two-thirds (67%) of those who commented reported that potency was stable over the preceding six months and one-third (33%) reported that it was increasing. These results were not significantly different from 2015.
- Perceptions of current availability were mixed. Half (50%) reported that speed was easy to obtain and another half (50%) reported that it was difficult to obtain. These findings were not significantly different from 2015.
- Availability was rated as stable over the preceding six months among all participants who commented (100%), not significantly different from the 2015 findings.
- Not significantly different from 2015, 'known dealer' was the only person from whom speed was reported to have be last obtained (100%), and 'friend's home' was the only reported location.

Base

- One participant reported the price per gram as $200. This participant reported that the price was stable over the preceding six months.
- One participant reported the current potency as fluctuating. This participant reported that potency had also fluctuated over the preceding six months.
- One participant reported that base was current very easy to obtain. No participants commented on recent changes in availability.

Crystal

- Not significantly different from 2015, the median price of per point was $100. The largest proportion (51%) reported that the price was decreasing over the preceding six month, significantly greater than 9% in 2015.
- KE reported that the price of crystal was $40-$100 per point.
- Perceptions of current potency were mixed; largest proportion rated it as high (50%), not significantly different from the 2015 findings.
- Crystal methamphetamine potency was most commonly reported as fluctuating over the preceding six months (40%). These results were not significantly different from the 2015 findings.
- Most KE reported current crystal methamphetamine potency as high, with reports that purity was between 70% and 80%.
- Not significantly different from the 2015 results, the majority of those who commented (80%) reported that crystal methamphetamine was currently very easy to obtain.
- Not significantly different from the 2015 results, the majority (70%) reported that availability was stable over the preceding six months.
- Not significantly different to 2015, 'friend' was the most commonly reported person from whom crystal was last obtained (70%) and 'friend's home' was the most commonly reported location (60%).

5.6. Cocaine

5.6.1. Price

Participants were asked to report the current price of cocaine per gram. Table 21 shows a breakdown of these results across survey years. These findings should be interpreted with caution given the small number of participants able to comment. As shown in Table 20, in 2016, among participants who were able to comment (n=9), the median price of cocaine per gram was $400, not significantly different from $375 in 2015.

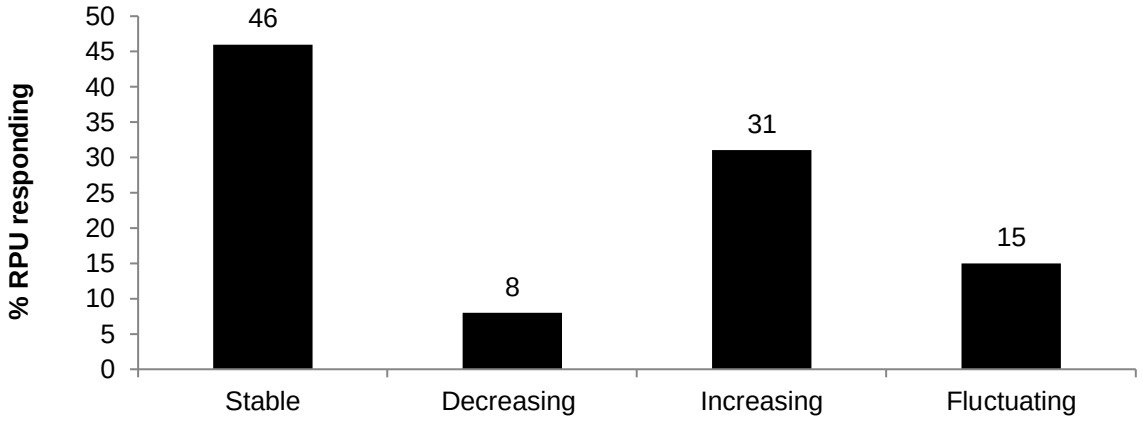
Table 21: Price of cocaine purchased, 2007-2016

	2007 (n=8)	2008 (n=8)	2009 (n=9)	2010 (n=4)	2011 (n=5)	2012 (n=10)	2013 (n=10)	2014 (n=15)	2015 (n=8)	**2016 (n=9)**
Median price per gram	$390^	$325^	$375^	$365^	$375^	$325	$400	$400	$375^	**$400^**
Price range	($200-$500)^	($300-$400)^	($200-$300)^	($300-$500)^	($350-$500)^	($100-$700)	($300-500)	($150-$600)	($100-$500)^	**($300-$500)^**

^n<10. Results should be interpreted with caution.
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$
Source: WA EDRS REU/RPU interviews, 2007-2016

Participants were asked to comment on recent changes to the price of cocaine. A breakdown of these results is shown in Figure 23. Of those participants able to comment (n=13), more than two-fifths (n=6, 46%) reported the price was stable over the preceding six months. This was followed by increasing (n=4, 31%), fluctuating (n=2, 15%) and decreasing (n=1, 8%). These results were not significantly different from the 2015 findings.

Figure 23: User reports of recent changes in the price of cocaine, 2016 (N=13)



Source: WA EDRS RPU interviews, 2016

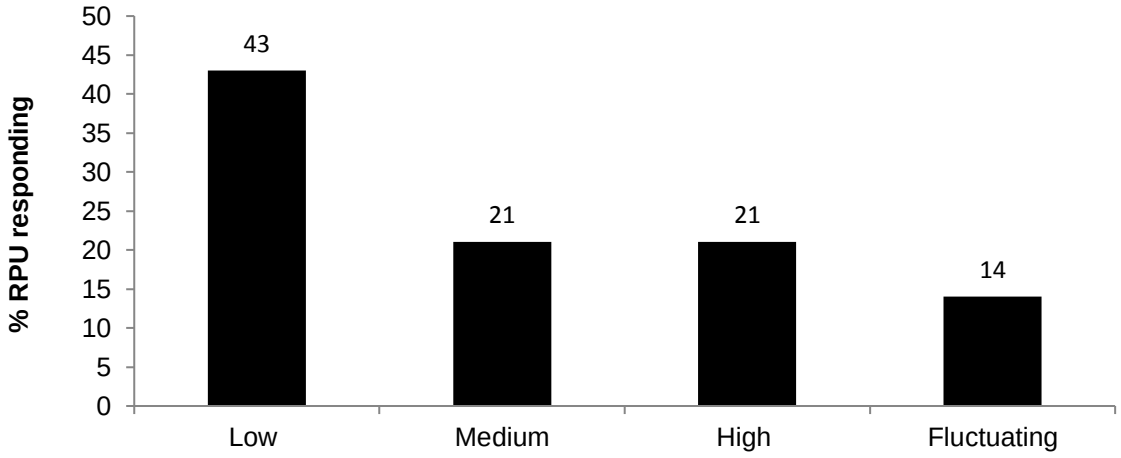
ACC statistics

ACC data on the price of cocaine was not available for WA for the 2014/15 period at the time of writing (ACC, 2016).

5.6.2. Potency

Participants were asked to comment on the current potency of cocaine. A full breakdown of these results is shown in Figure 24. Of the 14 participants who were able to comment, perceptions were mixed. The greatest proportion of participants rated potency as low (n=6, 43%), followed by medium and high (each n=3, 21%) and then fluctuating (n=2, 14%). These results were not significantly different from the 2015 findings.

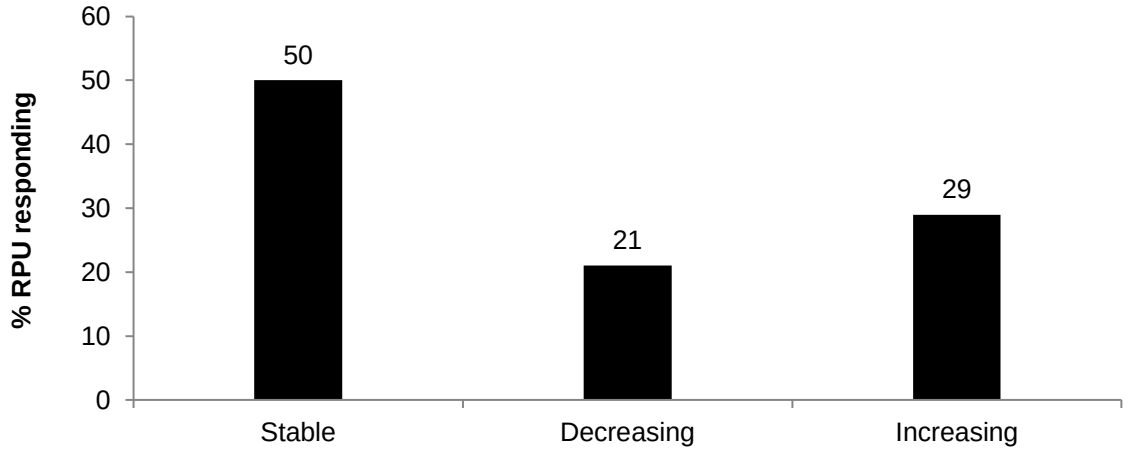
Figure 24: User reports of current potency of cocaine, 2016 (N=14)



Source: WA EDRS RPU interviews, 2016

Participants were asked to report on perceived changes to potency in the preceding six months. As presented in Figure 25, among the 14 participants who were able to comment, perceptions were mixed. Half (n=7, 50%) reported that potency had been stable, followed by increasing (n=4, 29%), and then decreasing (n=3, 21%). These findings were not significantly different from the 2015 results.

Figure 25: User reports of changes in cocaine potency in the preceding six months, 2016 (N=14)

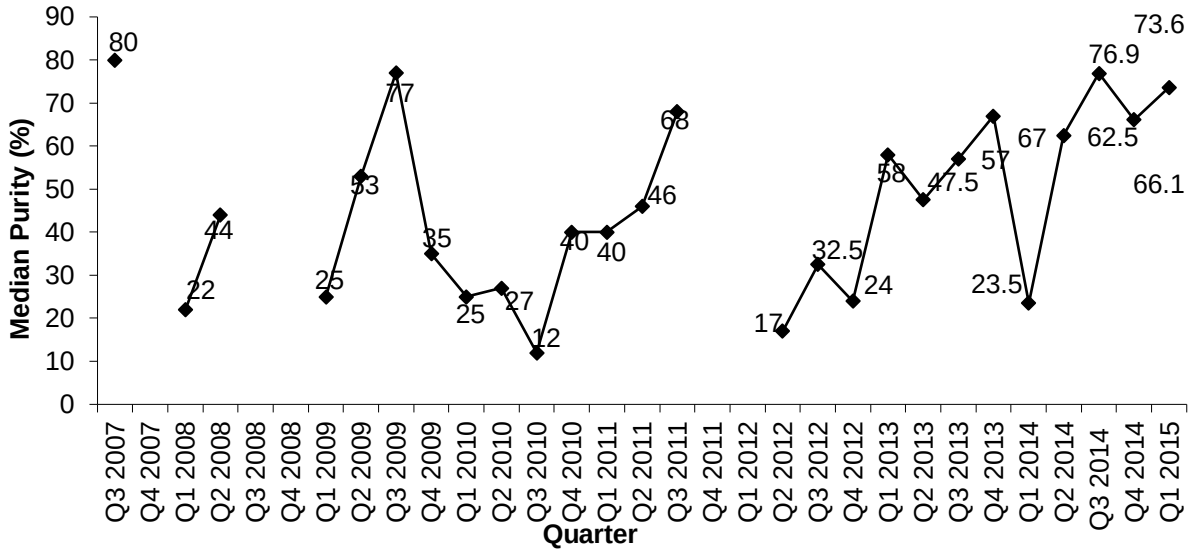


Source: WA EDRS RPU interviews, 2016

ACC statistics

Figure 26 presents ACC data on the median purity of cocaine seizures by WA State Police per quarter from July 2007 to June 2015. It is difficult to interpret meaningful findings from these data due to the number of seizures historically being extremely low, or unreported, in WA. In 2014/15, cocaine seizure purity ranged from 0.6% to 89%, with a median purity of 62%. In 2013/14, purity ranged from 12% to 87%, with a median purity of 64.5% (ACC, 2015, 2016). It would appear that the overall potency of cocaine seizures analysed in WA remained relatively stable and fluctuated less compared to the previous period.

Figure 26: Median purity of cocaine seizures analysed in WA by quarter, July 2007 to June 2015

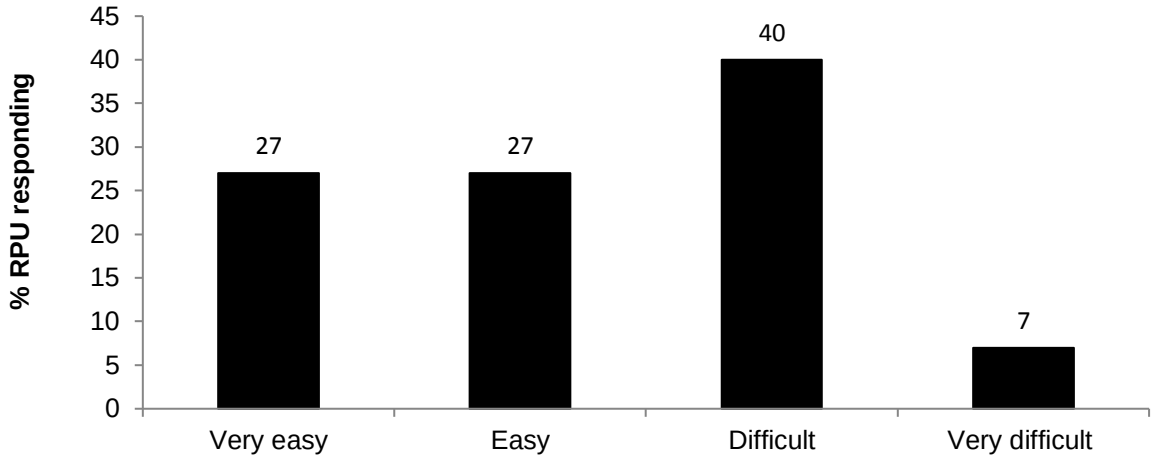


Source: ACC, 2008-2016

5.6.3. Availability

Participants were asked how easy cocaine was to obtain currently (see Figure 27). Among the 15 participants who commented, not significantly different from 2015, perceptions were mixed. The greatest proportion (n=6, 40%) rated it as difficult. This was followed by easy and very easy (each n=4, 27%) and then very difficult (n=1, 7%). These findings were not significantly different from the 2015 results.

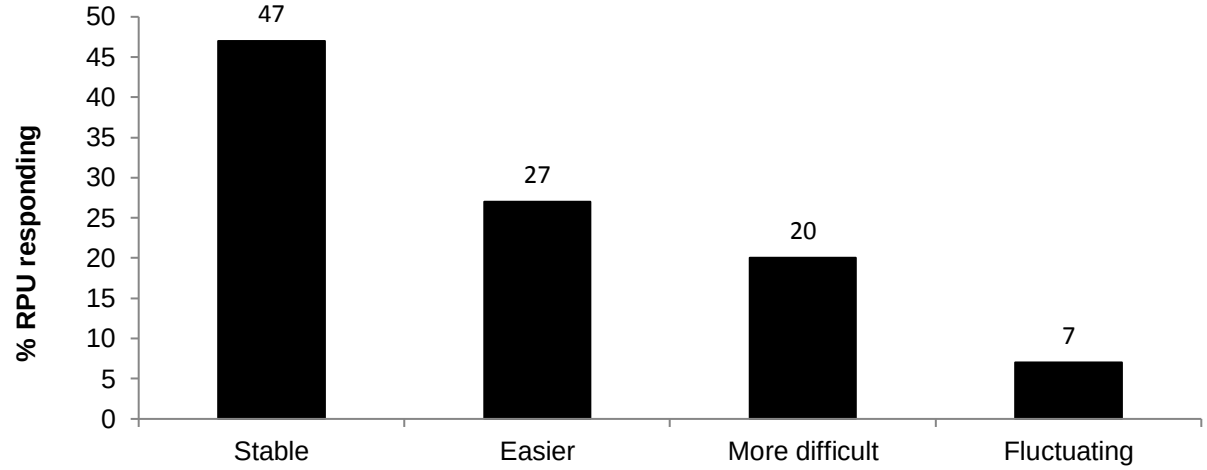
Figure 27: User reports of current availability of cocaine, 2016 (N=15)



Source: WA EDRS RPU interviews, 2016

Participants were asked to comment on changes in the availability of cocaine over the preceding six months. A full breakdown of these results is shown in Figure 28. Of the 15 participants who were able to comment, more than two-fifths (n=7, 47%) reported that cocaine availability was stable. This was followed by easier (n=4, 27%), more difficult (n=3, 20%) and fluctuating (n=1, 7%). These results were not significantly different from the 2015 findings.

Figure 28: User reports of changes in cocaine availability in the preceding six months, 2016 (N=15)



Source: WA EDRS RPU interviews, 2016

5.6.4. Source person and source location

Participants were asked whom they obtained cocaine from on the last occasion in the preceding six months. Of those able to comment (n=14), the most commonly reported person was ‘friend’ (n=6, 43%), followed by ‘known dealer’ (n=4, 29%), ‘acquaintance’ (n=2,

14%) and then ‘workmate’, and ‘online dark net/deep web’ (each n=1, 7%). These results were not significantly different from the 2015 findings.

Participants were also asked to comment on the location at which cocaine was obtained on the last occasion in the preceding six months. Among those able to comment (n=14), the most commonly reported location was ‘friend’s home’ (n=5, 36%). This was followed by ‘own home’ (n=3, 21%), ‘agreed public location’ (n=2, 14%) and then ‘dealer’s home’, ‘nightclub’, ‘private party’, and ‘live music event’ (each n=1, 7%). These results were not significantly different from the 2015 findings.

KE comments

- Most KE reported that cocaine use was not commonly encountered in their fields.
- A KE who worked in law enforcement noted that the current potency of cocaine was high, at approximately 50%.
- A KE who worked in outreach noted that cocaine availability had increased recently but that price had been stable.

5.6.5. Summary of cocaine trends

- The median reported price of cocaine per gram was $400 not significantly different from $375 in 2015. This result should be interpreted with caution given the small number of participants able to comment.
- Not significantly different from 2015, more than two-fifths (46%) of the respondents reported that the price of cocaine was stable over the preceding six months.
- Not significantly different from 2015, the current potency of cocaine was most commonly rated as low (43%), followed by medium (21%).
- Not significantly different from 2015, cocaine potency was most commonly reported as stable over the preceding six months (50%).
- Analysis of cocaine seizures in WA revealed that cocaine potency in the 2014/15 period was between 0.6% and 89%.
- Cocaine was most commonly rated as difficult to obtain currently (40%), with availability was most commonly rated as stable over the preceding six months (47%). These findings were not significantly different from 2015.
- Not significantly different from the 2015 findings, ‘friend’ (43%) was most commonly reported person from whom cocaine was last obtained and ‘friend’s home’ (36%) was the most commonly reported location at which it was obtained.
- KE reported that cocaine use was not often encountered in their fields.

5.7. GHB

In 2016, only one participant was able to comment on the price, potency or availability of GHB. Data on the market characteristics of GHB are therefore not presented in this report.

5.8. Ketamine

Results concerning the price, purity and availability of ketamine presented in this report should be interpreted with caution given the small numbers of participants who were able to comment on these areas in both 2015 and 2016.

5.8.1. Price

Participants were asked to comment on the current price of ketamine as well as changes in price over the preceding six months. In 2016, among those able to comment (n=4) the median price of ketamine per gram was $175 (range $100-$250), the same median as the 2015 sample. Among those who commented on price changes (n=4), not significantly different from 2015, half reported that the price was stable and half reported that it was decreasing over the preceding six months (each n=2, 50%).

5.8.2. Potency

Participants were asked to comment on the current potency of ketamine. Among those who commented (n=9), two-thirds (n=6, 67%) rated it as high. This was followed by medium (n=2, 22%), fluctuating (n=1, 11%). These results were not significantly different from the 2015 findings.

Participants were also asked about changes in the potency of ketamine in the preceding six months. Of those who commented, (n=8), the majority (n=7, 87%) reported that potency was stable, followed by increasing (n=1, 12%). These results were not significantly different from the 2015 findings.

5.8.3. Availability

Participants were asked to comment on the current availability of ketamine. Of those who commented (n=9), perceptions were mixed. One-third of respondents reported that ketamine was currently very easy and difficult to obtain (each n=3, 33%). This was followed by easy (n=2, 22%) and very difficult (n=1, 11%).These results were not significantly different from the 2015 findings.

Participants were also asked to comment on changes in the availability of ketamine over the preceding six months. Of those who commented (n=9), perceptions were again mixed. More than two-fifths reported that availability was stable and easier (each n=4, 44%). This was followed by fluctuating (n=1, 11%).These results were not significantly different from the 2015 findings.

5.9. LSD

5.9.1. Price

Participants were asked to comment on the current price of LSD as well as changes in price over the preceding six months. A breakdown of these results across survey years is shown in Table 22. In 2016, the median reported price of LSD per tab was $25, the same median reported since 2013. Among those who commented on price changes (n=33), not significantly different from 2015, the majority (n=26, 79%) reported that the price was stable over the preceding six months. This was followed by decreasing (n=3, 9%) and then increasing and fluctuating (each n=2, 6%).

Table 22: Price of LSD purchased and price changes in the preceding six months, 2007-2016

	2007 N=16	2008 N=9	2009 N=25	2010 N=32	2011 N=12	2012 N=19	2013 N=39	2014 N=35	2015 N=20	**2016 N=34**
Median price per tab ($)	25	25	25	25	25	20	25	25	25	**25**
Range ($)	(10-30)	(20-45)	(5-40)	(10-40)	(15-50)	(10-50)	(1-35)	(12-40)	(10-80)	**(5-35)**
Price change (%)	(n=10)	(n=7)	(n=19)	(n=27)	(n=11)	(n=19)	(n=37)	(n=35)	(n=18)	**(n=33)**
Increasing	0	29	21	11	9	0	11	17	6	**6**
Stable	90	57	74	78	64	68	60	71	83	**79**
Decreasing	10	14	5	7	0	26	16	6	11	**9**
Fluctuating	0	0	0	4	27	5	14	6	0	**6**

Source: WA EDRS RPU interviews, 2007-2016
* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

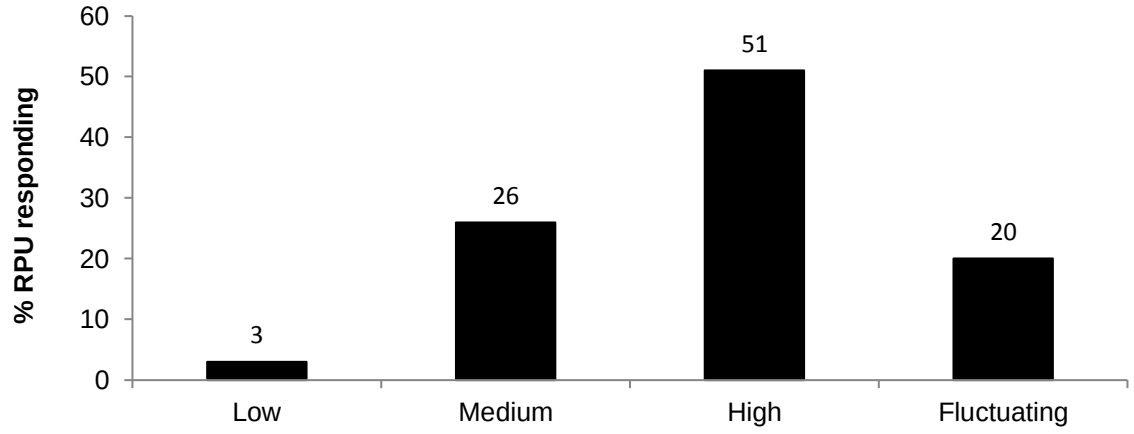
ACC statistics

There were no ACC data available regarding the price of LSD in WA for the 2014/15 time period at the time of writing (ACC, 2016).

5.9.2. Potency

Participants were asked to comment on the current potency of LSD (see Figure 29). Among those who commented (n=39), perceptions were mixed. LSD potency was most commonly rated as high (n=20, 51%).This was followed by medium (n=10, 26%), fluctuating (n=8, 20%) and low (n=1, 3%). These results were not significantly different from the 2015 findings.

Figure 29: User reports of current LSD potency, 2016 (N=39)

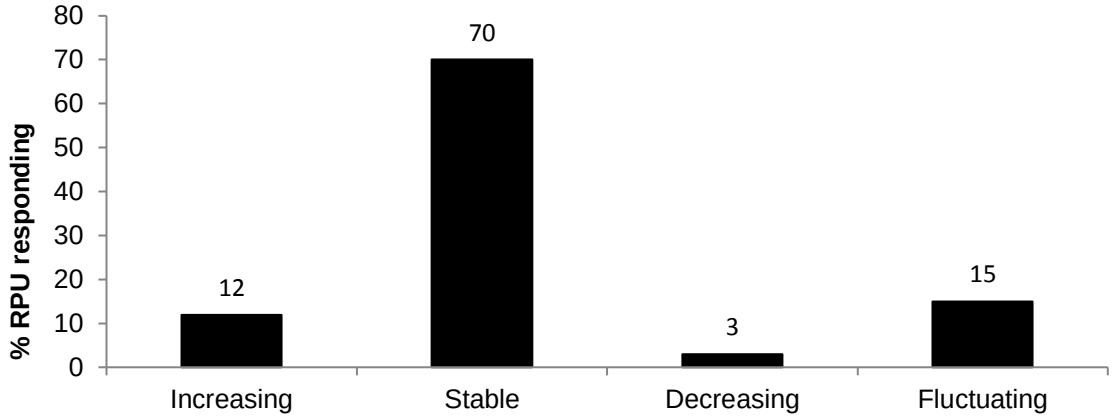


Source: WA EDRS RPU interviews, 2016

Participants were also asked about changes in the potency of LSD in the preceding six months (see Figure 30). Of those who commented, (n=33), more than two-thirds (n=23, 70%) reported that potency was stable. This was followed by fluctuating (n=5, 15%),

increasing (n=4, 12%) and decreasing (n=1, 3%). These results were not significantly different from the 2015 findings.

Figure 30: User reports of changes in LSD potency in the preceding six months, 2016 (N=33)

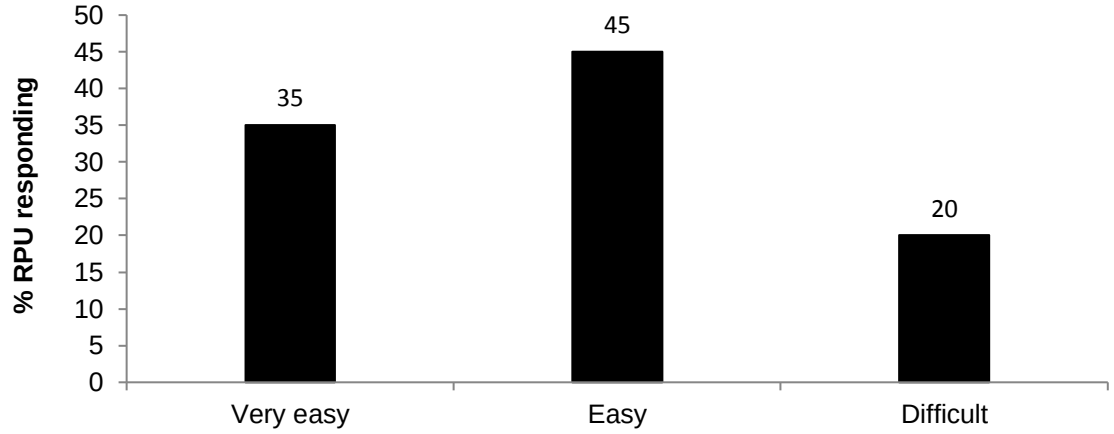


Source: WA EDRS RPU interviews, 2016

5.9.3. Availability

Participants were asked to comment on the current availability of LSD. Figure 31 shows a full breakdown of these results. Of those who commented (n=40), less than half (n=18, 45%) reported that LSD was currently easy to obtain. This was followed by very easy (n=14, 35%) and difficult (n=8, 20%).These results were not significantly different from the 2015 findings.

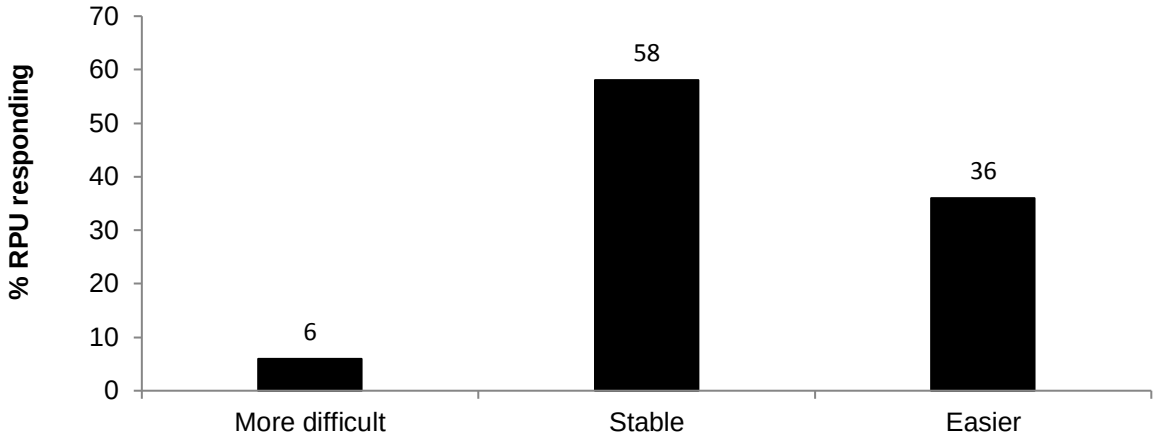
Figure 31: User reports of current availability of LSD, 2016 (N=40)



Source: WA EDRS RPU interviews, 2016

Participants were also asked to comment on changes in the availability of LSD over the preceding six months (see Figure 32). Of those who commented (n=36), more than half (n=21, 58%) reported that availability was stable. This was followed by easier (n=13, 36%) and more difficult (n=2, 6%).These results were not significantly different from the 2015 findings.

Figure 32: User reports of changes in availability of LSD during the preceding six months, 2016 (N=36)

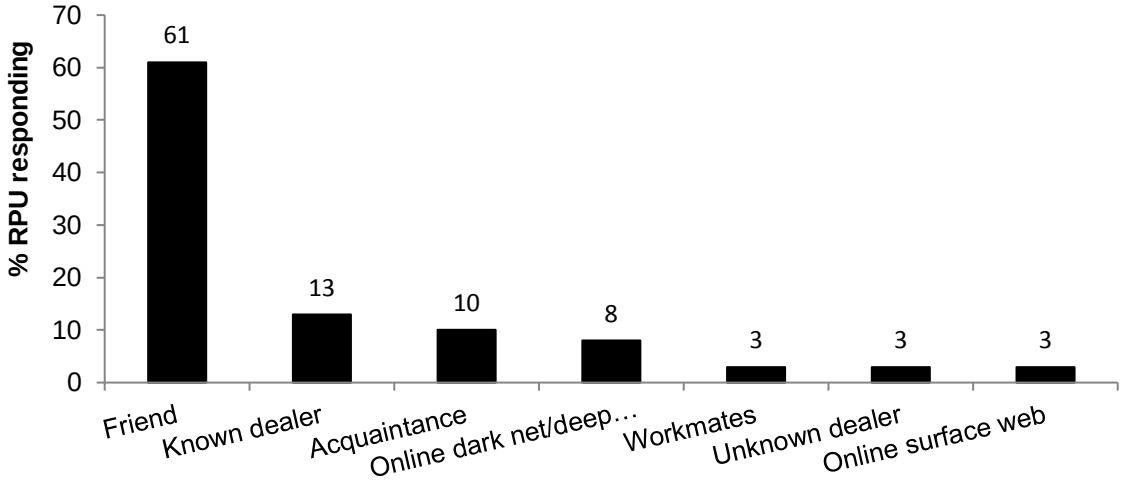


Source: WA EDRS RPU interviews, 2016

5.9.4. Source person and source location

Participants were asked to report the person from whom LSD was obtained on the last occasion in the preceding six months. Not significantly different from 2015, of those who commented in 2016 (n=36), 'friend' was the most commonly reported person (n=24, 61%). This was followed by 'known dealer' (n=5, 13%) and 'acquaintance' (n=4, 10%). A full breakdown of these results is shown in Figure 33.

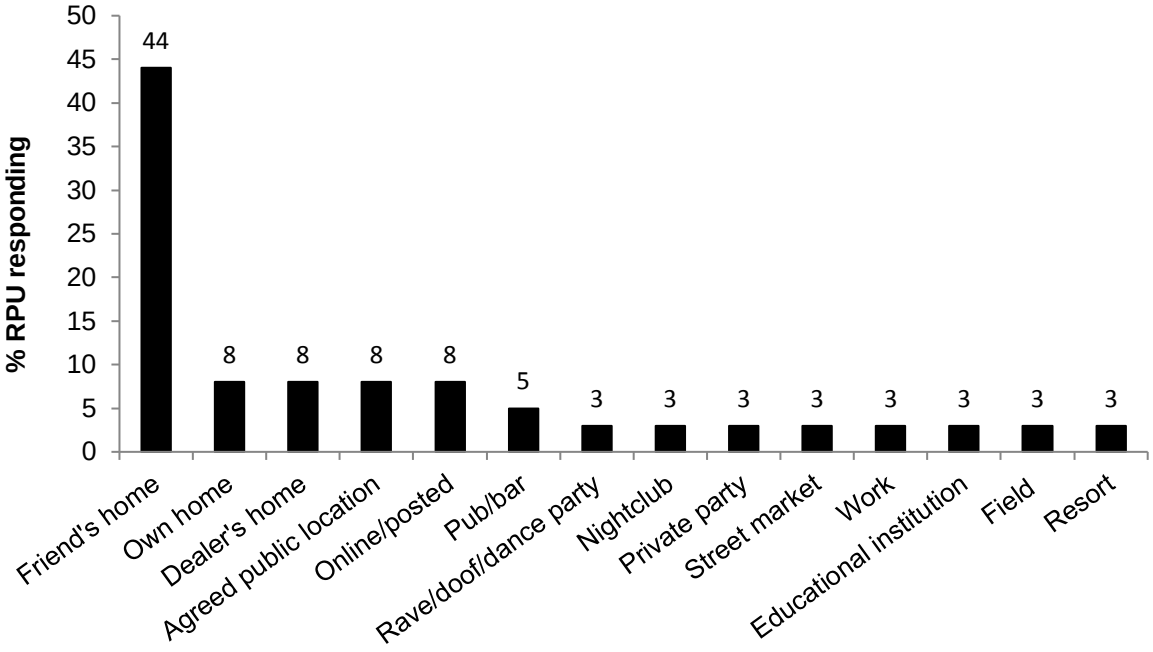
Figure 33: Person from whom LSD was last obtained in the preceding six months, 2016 (N=39)



Source: WA EDRS RPU interviews, 2016

Participants were also asked to report the location where LSD was obtained on the last occasion in the preceding six months. Again not significantly different from the 2015 findings, among those who commented (n=39), the most commonly reported location was 'friend's home' (n=17, 44%), followed by a range of public and private locations. Figure 34 shows a full breakdown of these results.

Figure 34: Location from where LSD was last obtained in the preceding six months, 2016 (N=39)



Source: WA EDRS RPU interviews, 2016

5.9.5. Summary of LSD trends

- Consistent with previous years, the median price of LSD per tab was $25.
- That majority (79%) of the respondents reported that the price of LSD was stable over the preceding six months, not significantly different from 83% in 2015.
- Not significantly different from 2015, more than half (51%) of the respondents rated the current potency of LSD as high.
- More than two-thirds (70%) of the respondents reported that the potency of LSD was stable over the preceding 6 months, not significantly different from 2015.
- Aligned with the 2015 results, perceptions of the current availability of LSD were mixed, but it was most commonly rated as easy to obtain (45%).
- More than half (58%) of the respondents reported that the availability of LSD was stable over the preceding six months, not significantly different from 2015.
- Not significantly different from 2015, 'friend' was the most commonly reported person from whom LSD was last obtained (61%) and 'friend's home' was the most commonly reported location (44%).

5.10. Cannabis

5.10.1. Price

In 2006, the EDRS began collecting data on various aspects of the cannabis market. Consistent with the IDRS, a distinction was made between indoor cultivated hydroponic cannabis (hydro) and outdoor cultivated bush cannabis (bush).

Table 23 presents the median price for an ounce of hydro and bush across survey years. In 2016, among those who commented on hydro (n=17), the median price was $350 per ounce (range $200-$375), which has been the consistent reported median market price since 2009.

Among those who commented (n=11), the price of bush per ounce was $300 (range $150-$350), not significantly different from $350 in 2015.

Participants also commented on the price of cannabis per gram. The median price of both hydro (n=9) and bush (n=4) per gram was $25 (hydro range $10-$30, bush range $20-$25), which remains unchanged since 2010. A 'stick' (typically ranging from 0.8-1.8 grams) was also reported to cost a median of $25 for both hydro (n=27) and bush (n=24) (hydro range $25-$30, bush range $20-$30). This is the same median price that was reported in 2015.

Two participants were able to comment on the price of hash. Both participants reported the price of hash per gram as $25, the same median price reported in 2015. However, the very small number of participants able to comment necessitates caution in interpreting these results.

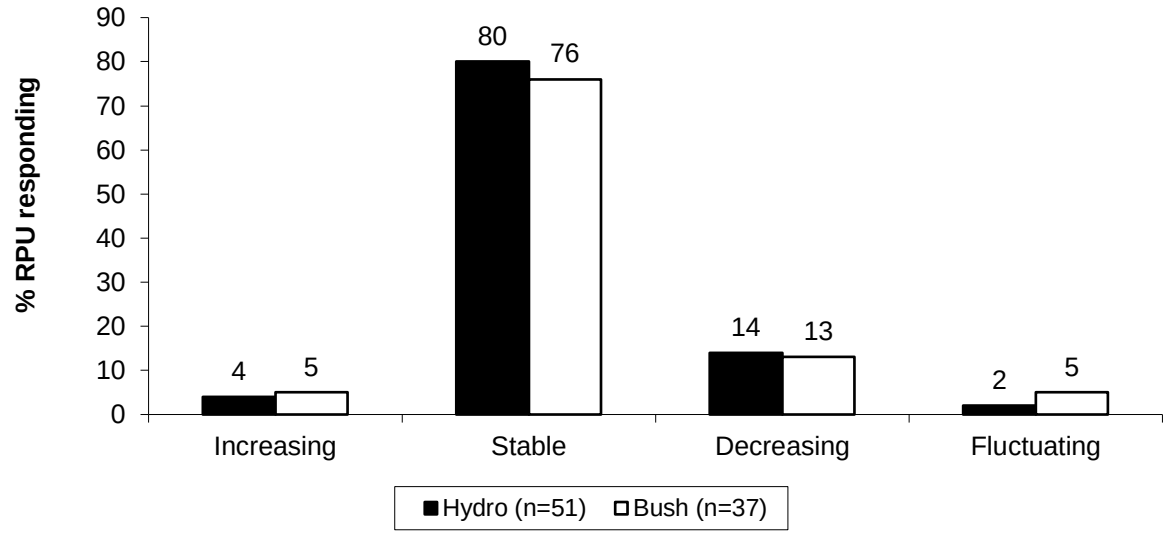
Table 23: Median price of cannabis per ounce, 2007-2016

Form	2007	2008	2009	2010	2011	2012	2013	2014	2015	**2016**
Hydro	(n=33) $300	(n=24) $305	(n=23) $350	(n=25) $350	(n=14) $350	(n=20) $350	(n=23) $350	(n=33) $350	(n=44) $350	**(n=17) $350**
Bush	(n=20) $250	(n=16) $275	(n=16) $280	(n=16) $280	(n=12) $250	(n=9) $300	(n=10) $300	(n=30) $350	(n=35) $350	**(n=11) $300**

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$
Source: WA EDRS REU/RPU interviews, 2007-2016

Participants were asked to comment on changes in the price of cannabis over the preceding six months. A breakdown of these results is shown in Figure 35. Of those who commented (n=51), the majority reported the price of hydro as stable (n=41, 80%), followed by decreasing (n=7, 14%), increasing (n=2, 4%) and fluctuating (n=1, 2%). For bush, of those who commented (n=37), again the majority reported the price as stable (n=28, 76%), followed by decreasing (n=5, 13%), fluctuating and increasing (each n=2, 5%). These results were not significantly different from the 2015 findings.

Figure 35: User reports of recent changes in price of cannabis, 2016



Source: WA EDRS RPU interviews, 2016

ACC statistics

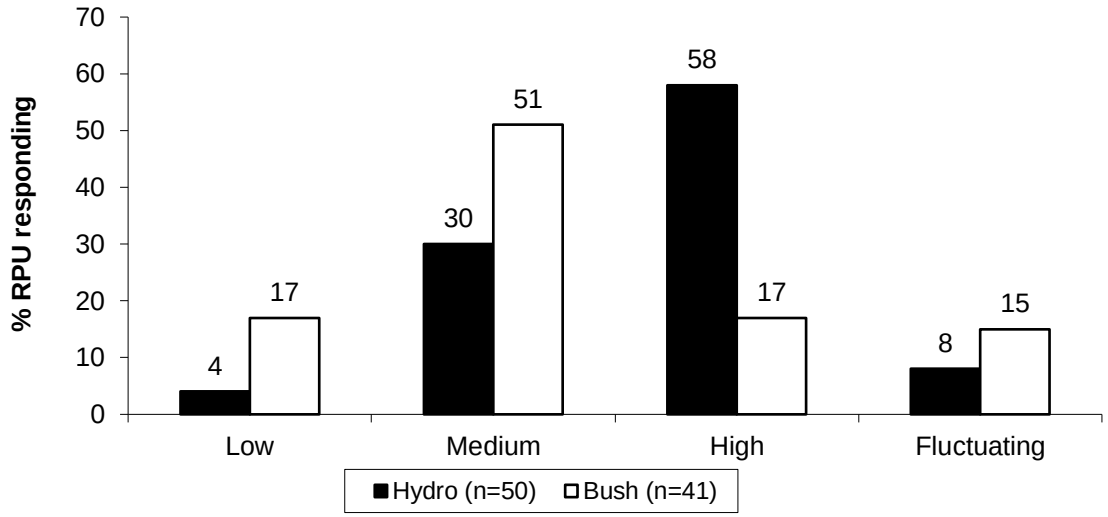
Data from ACC (2016) indicated that in WA, during 2014/15, bush cost $350-$400 per ounce (28 grams) compared to $350 in 2013/14 (ACC, 2015). There was no data regarding the price of hydro or hash for the 2014/15 period at the time of writing.

5.10.2. Potency

Participants were asked to comment on the current potency of cannabis. A full breakdown of these results is shown in Figure 36.

Of those participants who commented on hydro (n=50), perceptions were mixed. More than half (n=29, 58%) rated current potency as high. This was followed by medium (n=15, 30%), fluctuating (n=4, 8%) and low (n=2, 4%).These findings were not significantly different from the 2015 results. Among participants who commented on bush (n=41), perceptions were also mixed. Current potency was most commonly rated as medium (n=21, 51%), followed by low and high (each n=7, 17%) and fluctuating (n=6, 15%). This pattern of results was again not significantly different from the 2015 findings.

Figure 36: User reports of current potency of cannabis, 2016

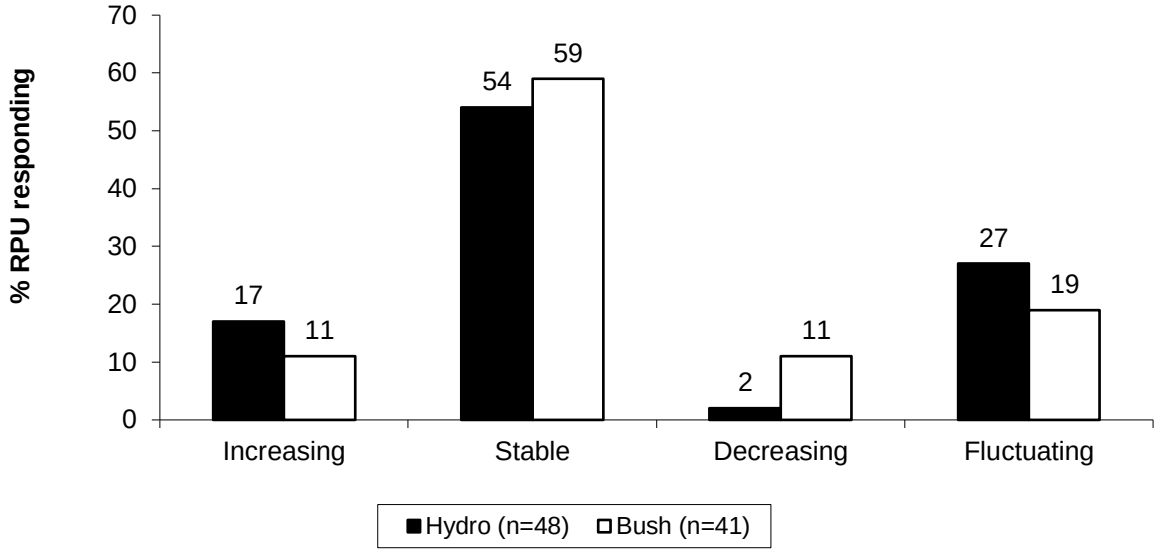


Source: WA EDRS RPU interviews, 2016

Participants were asked to comment on changes in the potency of cannabis over the preceding six months. A full breakdown of these results is shown in Figure 37.

Of those who commented on hydro (n=48), not significantly different from the 2015 results, more than half of the respondents (n=26, 54%) reported that potency was stable, followed by fluctuating (n=13, 27%), increasing (n=8, 17%) and decreasing (n=1, 2%). For those who commented on bush (n=41), potency was also most commonly reported as stable over the preceding six months (n=22, 59%), followed by fluctuating (n=7, 19%) and then increasing and decreasing (each n=4, 11%). These results were again not significantly different from the 2015 findings.

Figure 37: User reports of changes in cannabis potency in the preceding six months, 2016



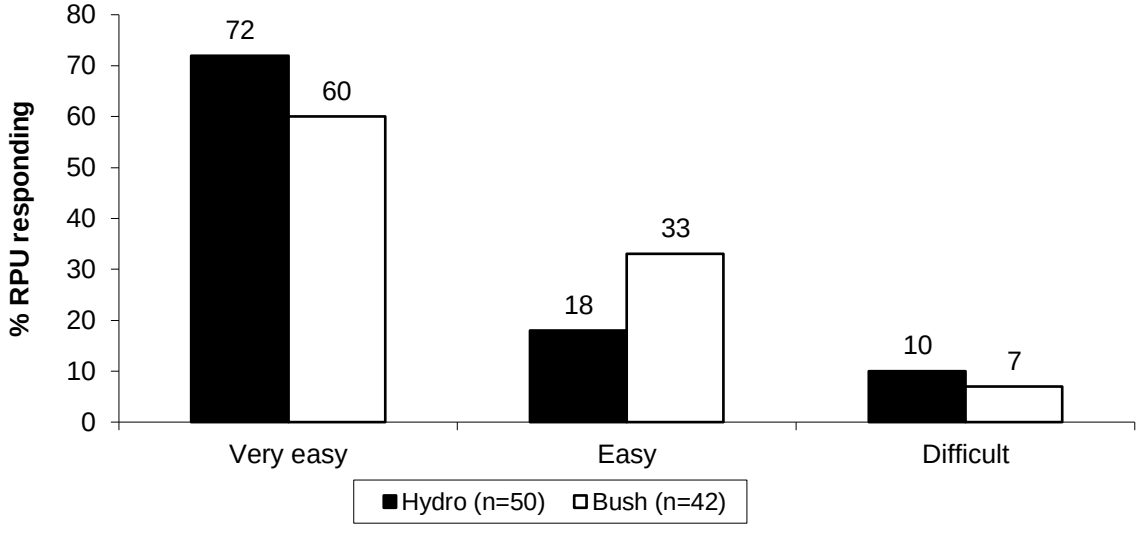
Source: WA EDRS RPU interviews, 2016

5.10.3. Availability

Participants were asked to rate the current availability of cannabis. A full breakdown of these results is shown in Figure 38.

Among those able to comment hydro (n=50), the majority (n=36, 72%) reported that it was very easy obtain, followed by easy (n=9, 18%) and difficult (n=5, 10%) For bush, among those who commented (n=42), almost three-fifths (n=25, 60%) reported that it was very easy to obtain. This was followed by easy (n=14, 33%) and then difficult (n=3, 7%). These results were also not significantly different from the 2015 findings. Overall, as evident in Figure 38, these findings suggest that hydro continues to be the more available form of cannabis in Perth.

Figure 38: User reports of current availability of cannabis, 2016

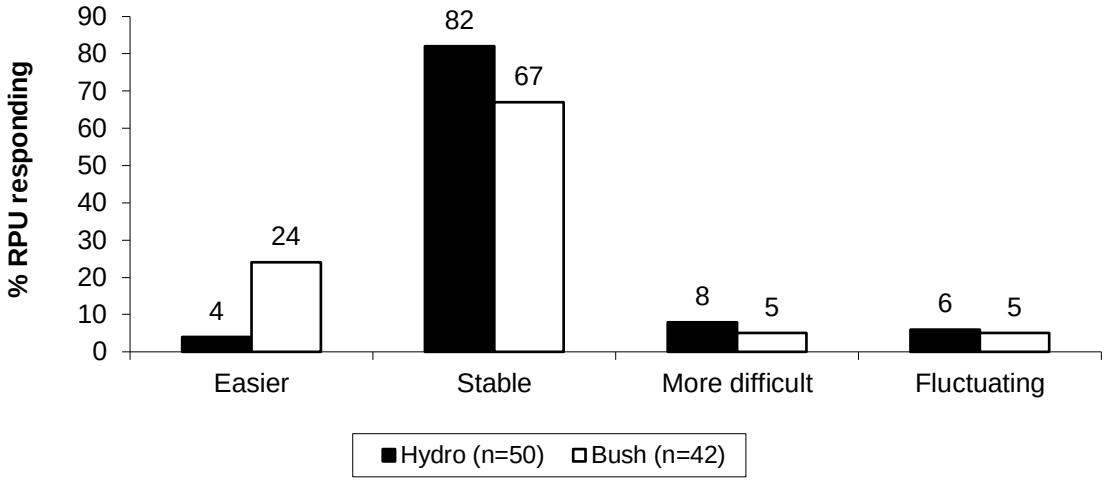


Source: WA EDRS RPU interviews, 2016

Participants were asked to comment on changes in the availability of cannabis over the preceding six months. A complete breakdown of these results is shown in Figure 39.

Of those who commented on hydro (n=50), the majority (n=41, 82%) reported that availability was stable. This was followed by more difficult (n=4, 8%), fluctuating (n=3, 6%) and easier (n=2, 4%). These results were not significantly different from the 2015 findings. Among participants who commented on bush (n=42), two-thirds (n=28, 67%) reported that availability was stable, followed by easier (n=10, 24%), and then more difficult and fluctuating (each n=2, 5%). These results were again not significantly different from the 2015 findings.

Figure 39: User reports of changes in cannabis availability in the preceding six months, 2016



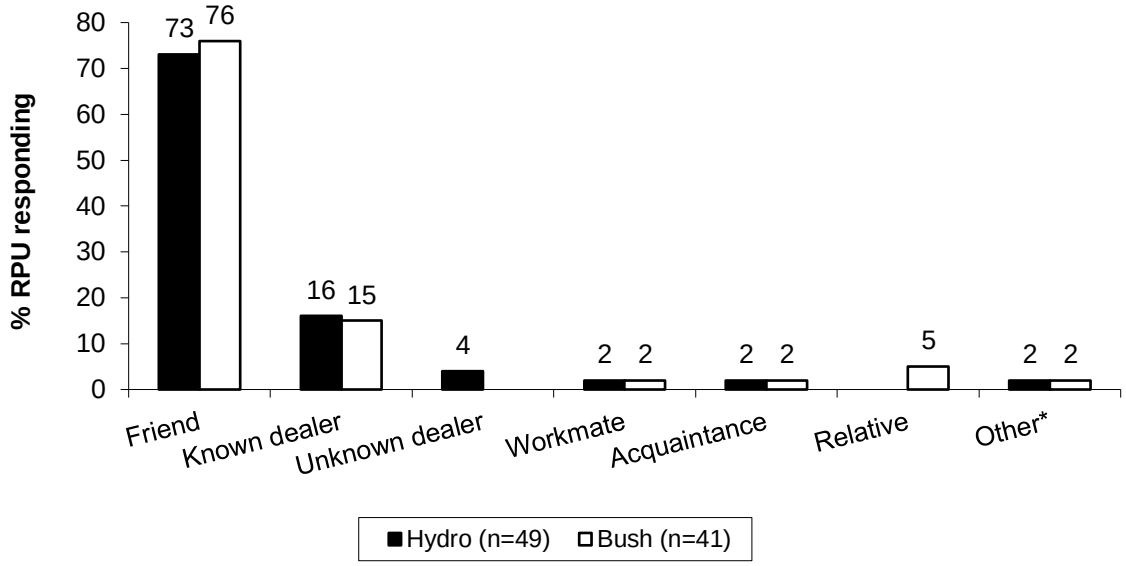
Source: WA EDRS RPU interviews, 2016

5.10.4. Source person and source location

Participants were asked to indicate who they had obtained cannabis from on the last occasion in the preceding six months. See Figure 40 for a full breakdown of these results.

For both hydro (n=49) and bush (n=41) the most commonly reported person was ‘friend’ (hydro: n=36, 73%; bush: n=31, 76%), followed by ‘known dealer’ (hydro: n=8, 16%; bush: n=6, 15%). These results were not significantly different from the 2015 findings.

Figure 40: Person from whom cannabis was last obtained in the preceding six months, 2016

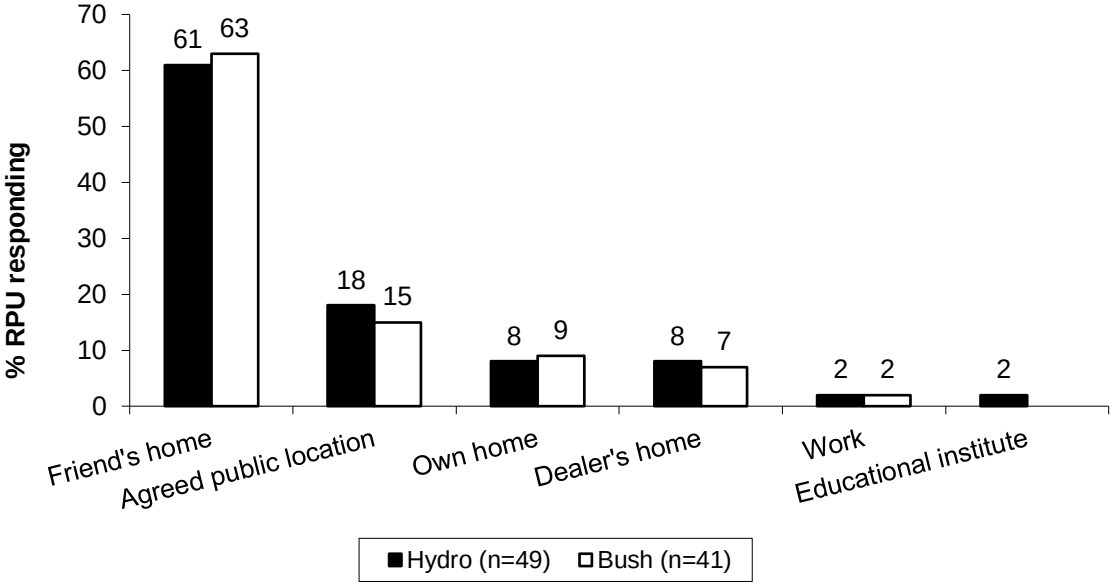


Source: WA EDRS RPU interviews, 2016
*Other response was: 'self' for both hydro and bush

Participants were asked to indicate the locations at which cannabis was obtained on the last occasion in the preceding six months. A full breakdown of these results is presented in Figure 41.

Of those who commented on hydro (n=49) and bush (n=41) 'friend's home' was the most frequently reported location (hydro: n=30, 61%; bush: n=26, 63%), followed by 'agreed public location' (hydro: n=9, 18%; bush: n=6, 15%). These findings were not significantly different from the 2015 results.

Figure 41: Location where cannabis was last obtained in the preceding six months, 2016



Source: WA EDRS RPU interviews, 2016

KE comments

- A KE who worked as an AOD researcher reported the price of cannabis as $25 per stick.
- KE reported that the price, availability and potency of cannabis were stable.
- A KE who worked in law enforcement noted that hydro was more common than bush.

ACC statistics

The ACC reported that in 2014/15 there were 12, 993 seizures of cannabis in WA, compared to 11, 626 seizures in the 2013/14 reporting period. In the 2014/15 period the total weight for WA cannabis seizures was 269,642 grams, a slight increase from 230,759 grams in 2013/14.

5.10.5. Summary of cannabis trends

Hydro

- The median price per ounce was $350, which has been consistent since 2009.
- Consistent with previous years, the median price per gram was $25. This finding should be interpreted with caution given the small number of participants able to comment.
- Not significantly different from 2015, the majority (80%) of respondents reported that the price was stable over the preceding six months.
- Perceptions of current potency were mixed, but it was most commonly rated as high (58%), not significantly different from the 2015 findings.
- Not significantly different from 2015, more than half (54%) of respondents reported that potency was stable over the preceding six months.
- Consistent with previous years, the vast majority (90%) of participants rated hydro as easy or very easy to obtain currently.
- Not significantly different from 2015, the majority (82%) of respondents reported that availability was stable over the preceding six months.

Bush

- The median price per ounce was $300, not significantly different from $350 in 2015.
- The median price per gram was $25, consistent with previous years. This result should be interpreted with caution given the small number of participants able to comment.
- Consistent with previous years, approximately three-quarters (76%) of respondents reported that price was stable over the preceding six months.
- Perceptions of the current potency of bush were mixed, but it was most commonly reported as medium (51%), not significantly different from 2015.
- Not significantly different from 2015, 59% of respondents reported that potency was stable over the preceding six months.
- The vast majority (93%) of respondents rated bush as easy or very easy to obtain currently, not significantly different from the 2015 findings.
- Consistent with previous years, two-thirds (67%) of respondents reported that availability was stable over the preceding six months, not significantly different from 2015.

Hash

- The median price per gram was $25, the same median price reported in 2015. This finding should be interpreted with caution due to the small number of participants able to comment.

- Consistent with previous years, ‘friend’ was the most commonly reported person from whom cannabis was last obtained for both hydro (73%) and bush (76%). ‘Friend’s home’ was the most commonly reported location from where cannabis was last obtained for both hydro (61%) and bush (63%).

- Several KE reported the price, potency and availability of cannabis was stable over the preceding six months.

6. HEALTH-RELATED TRENDS ASSOCIATED WITH ECSTASY AND RELATED DRUG USE

6.1. Overdose

Since 2007, EDRS participants have been asked about stimulant and depressant drug overdoses. 'Overdose' is defined as the experience of symptoms not significantly different from either stimulant toxicity (e.g. nausea and vomiting, chest pains, tremors, increased body temperature or heart rate, seizure, extreme paranoia, anxiety or panic, hallucinations) or depressant overdose (e.g. reduced level of consciousness, respiratory depression, turning blue, collapsing). As such, the following sections are based on participants' understanding of these definitions and their opinions as to whether they had overdosed.

6.1.1. Stimulant overdose

As shown in Table 24, in 2016, less than one-quarter (23%) of the sample reported overdosing on a stimulant drug at some point in their lifetime, not significantly different from 27% in 2015. Of those who had ever overdosed on a stimulant drug, the median number of times they had done so in their lifetime was one (range 1-8), not significantly different from two in 2015. The most recent overdose occurred on a median of ten months ago (range 1-96), not significantly different from six months in 2015.

Table 24: Ever overdosed on a stimulant drug, 2016

(%)	2016 N=100
Ever overdosed	**23**
Median number of times (range)*	1 (1-8)
Months since most recent overdose*	10 (1-96)
Overdosed in last 12 months*	61

Source: WA EDRS RPU interviews, 2016
* Of those who had ever overdosed

Of those participants who had experienced a stimulant overdose in their lifetime (n=23), less than two-thirds (n=14, 61%) had experienced one in the past 12 months. This equates to 14% of the overall sample, not significantly different from 22% in 2015.

Among those who commented and had overdosed in the preceding 12 months (n=13), the most frequently cited main drug to which the overdose was attributed was ecstasy (n=8, 61%), not significantly different from 50% in 2015. Almost two-thirds (n=8, 61%) of those who had overdosed in the last 12 months reported taking at least one other drug in combination with the main drug at the time of the overdose, not significantly different from 73% in 2015. Aligned with the 2015 findings, the most commonly cited drug used concomitantly was alcohol (n=6, 75%). This was followed by ecstasy (n=2, 25%) and then crystal meth, pharmaceutical stimulants, energy drink and tobacco (each n=1, 12%). These results should be interpreted with caution given the small sample size (n=8).

Among those who commented (n=13), the most commonly reported location of participants' last recent overdose was 'live music event' (n=47, 54%), followed by 'nightclub' (n=4, 31%) and then 'friend's home' and 'private party' (each n=1, 8%). A significantly greater proportion of participants cited 'live music event' as the location of the last recent stimulant overdose in 2016 compared to 2015 (CI: 0.14 to 0.67).

Among those who commented (n=13), just more than one-fifth (n=3, 23%) reported that there was a sober person present to assist them at the time of their last overdose in the last 12 months, not significantly different from 41% in 2015. Less than one-tenth (n=1, 8%) reported not receiving any immediate treatment at the time of the last overdose. An additional 61% (n=8) reported being 'watched/monitored by friends' and one participant (8%) reported attending a hospital emergency department. Four participants (31%) reported 'other' immediate treatment. These were: 'sat down alone', 'sat down with water', 'talked myself out of it' and 'water, benzodiazepines, cigarettes'.

A full breakdown of the data regarding the reported causes and circumstances of stimulant overdose is presented in Table 25.

Table 25: Overdosed on a stimulant drug in the preceding 12 months – reported causes and circumstances, 2016

(%)	2016 N=13
Main drug	
Ecstasy	61
Cocaine	15
Speed	8
Other*	15
Location of most recent overdose	
Live music event	54
Nightclub	31
Friend's home	8
Private party	8
Sober person available to assist	
Yes	23
No	77

Source: WA EDRS RPU interviews, 2016
* Other main drugs were: 'capsule with unknown contents' and 'cannabis'

Participants who reported experiencing an overdose in the preceding 12 months were asked to indicate the symptoms they experienced during their last overdose. The most frequent main symptom was 'vomiting' (n=3, 23%). All of these respondents also reported experiencing at least one secondary symptom in addition to the main symptom. The most frequent secondary symptoms were 'nausea', 'increased heart rate' and 'dizziness' (each n=6, 46%). These results were not significantly different from the 2015 findings. A full breakdown of these results is shown in Table 26.

Table 26: Overdosed on a stimulant drug in the preceding 12 months – reported symptoms, 2016

(%)	2016 N=13
Main symptom	
Vomiting	23
Chest pain	15
Increased heart rate	15
Extreme anxiety	15
Increased body temperature	8
Headache	8
Paranoia	8
Other[#]	8
Secondary symptoms	
Nausea	46
Increased heart rate	46
Dizziness	46
Tremors	38
Vomiting	31
Panic	31
Agitation	23
Muscle twitches	23
Increased body temperature	23
Headache	23
Irregular breathing – rapid	15
Paranoia	15
Delirium/confusion	15
Chest pain	8
Irregular breathing – shallow	8
Hallucination – visual	8
Passed out	8
Other[##]	31

Source: WA EDRS RPU interviews, 2016

Other main symptoms was: 'losing control of body'

Other secondary symptoms were: 'jittery', 'nose bleed', 'temporarily blind in one eye' and 'weak, hearing heightened'

6.1.2. Depressant overdose

In 2016, less than one-quarter (23%) of the sample reported overdosing on a depressant drug at some point in their lifetime, not significantly different from 28% in 2015. Of those who had ever overdosed on a depressant drug, the median number of times they had done so was two (range 1-50), not significantly different from four in 2015. The most recent depressant overdose occurred on a median of four months ago (range 1-18), not significantly different from 4.5 in 2015. These data are presented in Table 27.

Table 27: Ever overdosed on a depressant drug, 2016

(%)	2016 N=100
Ever overdosed	23
Median number of times (range)*	2 (1-50)
Median months since last overdose	4 (1-18)
Overdosed in last 12 months*	65

Source: WA EDRS RPU interviews, 2016
* Of those who had overdosed in past 12 months

Of those participants who reported ever experiencing a depressant overdose (n=23), less than two-thirds (n=15, 65%) had experienced one in the preceding 12 months. This equates to 15% of the overall sample, not significantly different from 19% in 2015.

Not significantly different from the 2015 findings, among those who commented (n=11), the most frequent main drug that the last overdose in the preceding 12 months was attributed to was alcohol (n=6, 54%). This was followed by benzodiazepines (n=2, 18%), GHB (n=1, 9%) and other (n=2, 18%). In 2016 significantly less participants reported the main drug as alcohol compared to 2015 (CI: -0.07 to -0.66).

Of the 11 participants who commented, almost two-thirds (n=7, 63%) reported using at least one secondary drug in addition to the main drug at the time of the last overdose. The most frequently cited drug used concomitantly was cannabis (n=5, 71%), followed by ecstasy and tobacco (each n=2, 29%) and then alcohol and amyl nitrate (each n=1, 14%). 'Friend's home' was the most commonly reported location of last overdose (n=7, 64%), followed by 'own home' (n=2, 18%) and then 'nightclub' and 'pub' (each n=1, 9%). Less than one-third (n=3, 27%) reported that there was a sober person present to assist at the time of the last overdose, not significantly different from 53% in 2015. Almost two-thirds (n=7, 63%) reported receiving no immediate treatment at the time of the last overdose. This was followed by 'watched/monitored by friends' and drinking water (each n=2, 18%). These results were not significantly different from the 2015 findings.

A breakdown of this data is presented in Table 28.

Table 28: Overdosed on a depressant drug in the preceding 12 months – reported causes and circumstances, 2016

(%)	2016
Main drug*	**(n=11)**
Alcohol	54
Benzodiazepines	18
GHB	9
Other**	18
Location of most recent overdose*	**(n=11)**
Friend's home	64
Own home	18
Nightclub	9
Pub	9
Sober person available to assist*	**(n=11)**
Yes	27
No	73

Source: WA EDRS RPU interviews, 2016
** Other main drugs were: 'nitrous oxide' and 'Lyrica'
* Of those who had overdosed in past 12 months

The most commonly reported main symptom during the last depressant overdose in the preceding 12 months was 'vomiting' (n=3, 27%). This was followed by 'losing consciousness/unable to be woken' (n=6, 32%), 'dizziness' (n=2, 10%) and 'collapsing' (n=1, 9%) and other (n=2, 18%). Among those who commented (n=11), the majority (n=8, 72%) reported experiencing secondary symptoms in addition to the main symptom. These were losing consciousness/unable to be woken' and 'collapsing' (each n=3, 27%)', 'supressed breathing' (n=1, 9%) and other (n=3, 27%). These results were not significantly different from the 2015 findings.

A full breakdown of reported depressant overdose symptoms is presented in Table 29.

Table 29: Overdosed on a depressant drug in the preceding 12 months – reported symptoms, 2016

(%)	2016 N=11
Main symptom*	
Vomiting	45
Losing consciousness/unable to be woken	27
Collapsing	9
Other*	18
Secondary symptoms*	**(n=11)**
None	27
Losing consciousness/unable to be woken	27
Collapsing	18
Suppressed breathing	9
Other**	27

Source: WA EDRS RPU interviews, 2016
*Other main symptoms were: 'feeling faint, close to collapsing' and 'slurring words'
** Other secondary symptoms were: 'cold sweats' 'difficult to stand, shaking' and 'nausea'

It must be emphasised that only a small number of participants are represented in these overdose samples. Therefore, these samples may not be representative of trends occurring within the general population of party drug users. It may also be important to note that the drugs that influence these overdoses may be more a reflection of the drug preferences of the sample than the various substances' relative potential to result in overdose.

6.2. Help-seeking behaviour

Participants were asked if they had accessed a service or health professional in relation to their drug use in the preceding six months (see Table 30). In the current sample, 9% of respondents reported accessing a service in relation to drug use over this time period, not significantly different from 10% in 2015. Participants were asked if they had thought about seeking help from a service or health professional in the last six months for any issues related to their drug and/or alcohol use. One-fifth (20%) of the 2016 sample reported thinking about seeking help in that time period.

Table 30: Recently accessed health services in relation to drug use, 2016

Service (%)	2016 N=100
Accessed a medical/health service	9
Thought about accessing a medical/health service in the last six months	20

Source: WA EDRS RPU interviews, 2016

Participants were presented with a list of health professionals and services and asked which ones they had accessed over the past six months, how many visits had occurred and how many visits were related to alcohol and other drugs. As expected, GPs were the most frequently reported, accessed by three-quarters (81%) of the sample. Smaller proportions reported visiting dentists (33%), psychologists (11%) and a number of other health professionals. A full breakdown of this data is presented in Table 31.

A significantly larger proportion of participants in the current sample (12%) reported accessing the services of a hospital as an outpatient in the preceding six months compared to 2015 (3%; CI: 0.02 to 0.17). There were no significant differences in the proportion of participants who had accessed the services of any other health professionals between 2015 and 2016.

Table 31: Recently accessed a health service for any issue, 2016

Service (%)	2016 N=100
Doctor (GP)	81
Dentist	33
Psychologist	11
Emergency Department	13
Specialist doctor (excluding psychiatrists)	9
Psychiatrist	6
Hospital (admissions)	12
Drug and alcohol counsellor	4
Medical tent	4
Hospital (outpatient)	12
Ambulance	2
Social welfare workers	4
Other health professional	24

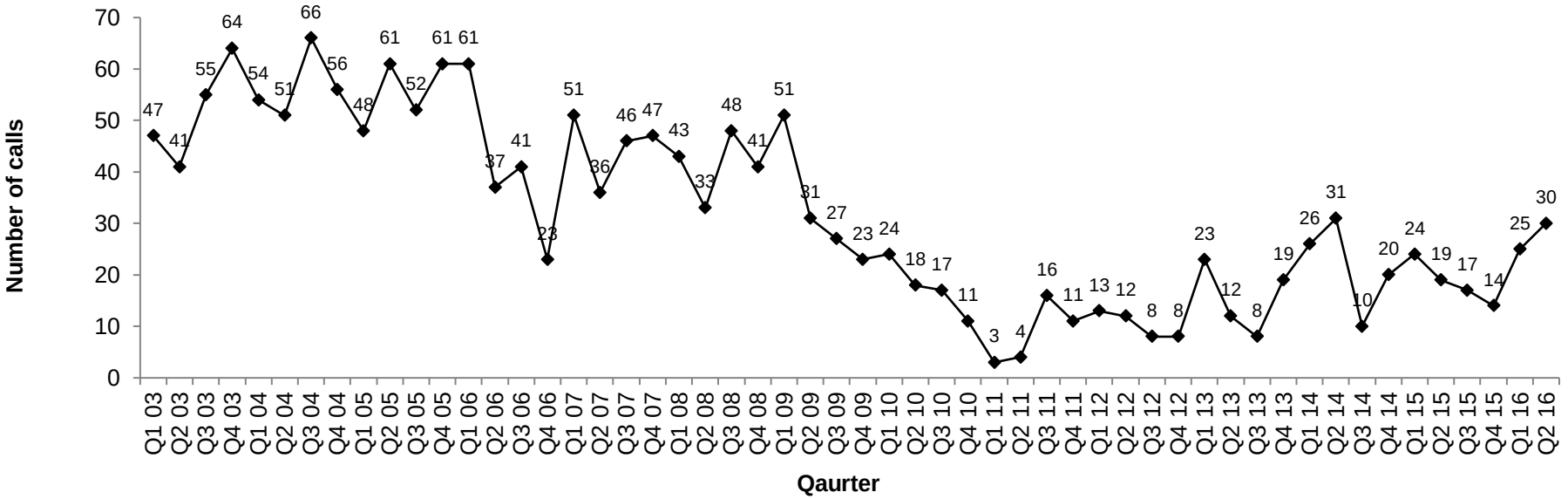
Source: WA EDRS RPU interviews, 2016

6.2.1. Calls to ADIS in 2015/16

ADIS provides a free, anonymous and confidential telephone information and referral alcohol and other drug service in WA. As such, calls to ADIS provide a general indicator of the levels of use and concerns experienced by users of different drugs. During the 2015/16 period, ADIS received 23,757 calls, in comparison to 23,977 calls during the 2014/15 reporting period.

Calls to ADIS involving ecstasy as the primary drug of concern are presented by quarter in Figure 42. In the 2015/16 period, there were 86 calls to ADIS involving ecstasy as the primary drug of concern, compared to 73 calls in the 2014/15 period. These calls comprised 0.36% of all calls received by ADIS during the 2015/16 period. As evident in Figure 42, the proportion of calls where ecstasy was the main drug of concern has remained relatively low across data collection years, but appears to be on a slight upward trend since 2011.

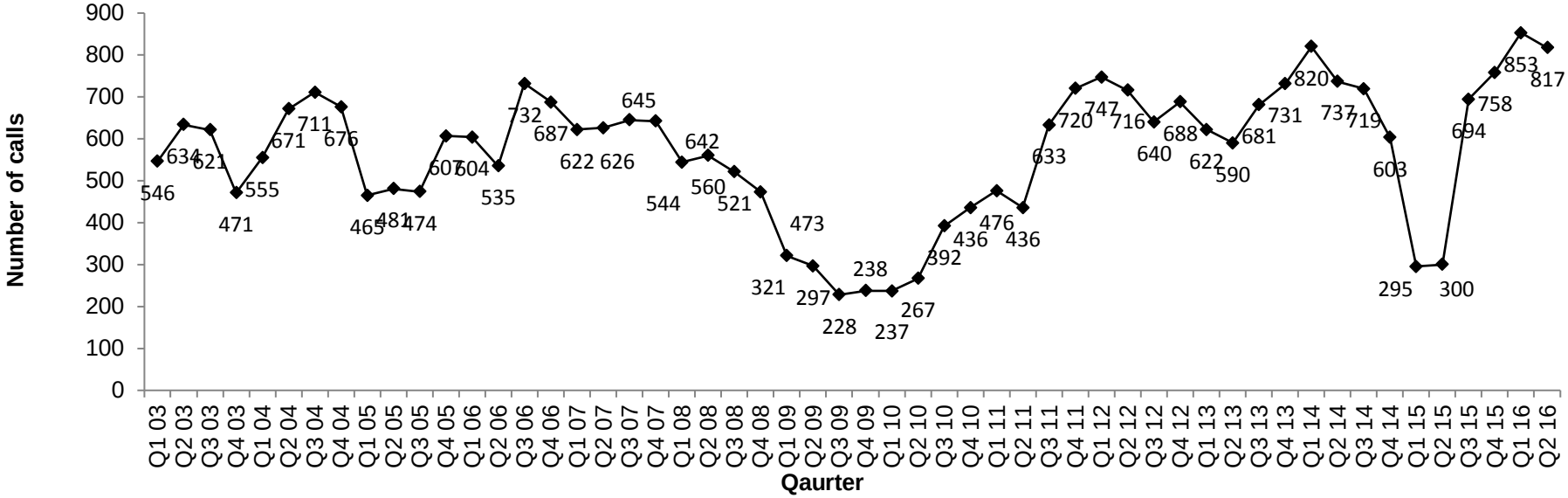
Figure 42: Number of ADIS inquiries concerning ecstasy as primary drug of concern, WA January 2003 to June 2016



Source: WA ADIS, 2016

In the 2015/16 period, there were a total of 3,122 calls to ADIS involving (meth)amphetamine as the primary drug of concern, an increase from 1,917 in 2014/15. These calls comprised 13.1% of all calls received by ADIS during the 2015/16 period, compared to 8.0% during the 2014/15 period. Calls to ADIS involving (meth)amphetamine as the primary drug of concern are presented by quarter in Figure 43. While there was a decrease in the number of calls during the first and second quarter of 2015, the number of calls appears to have returned to the numbers seen before this decline.

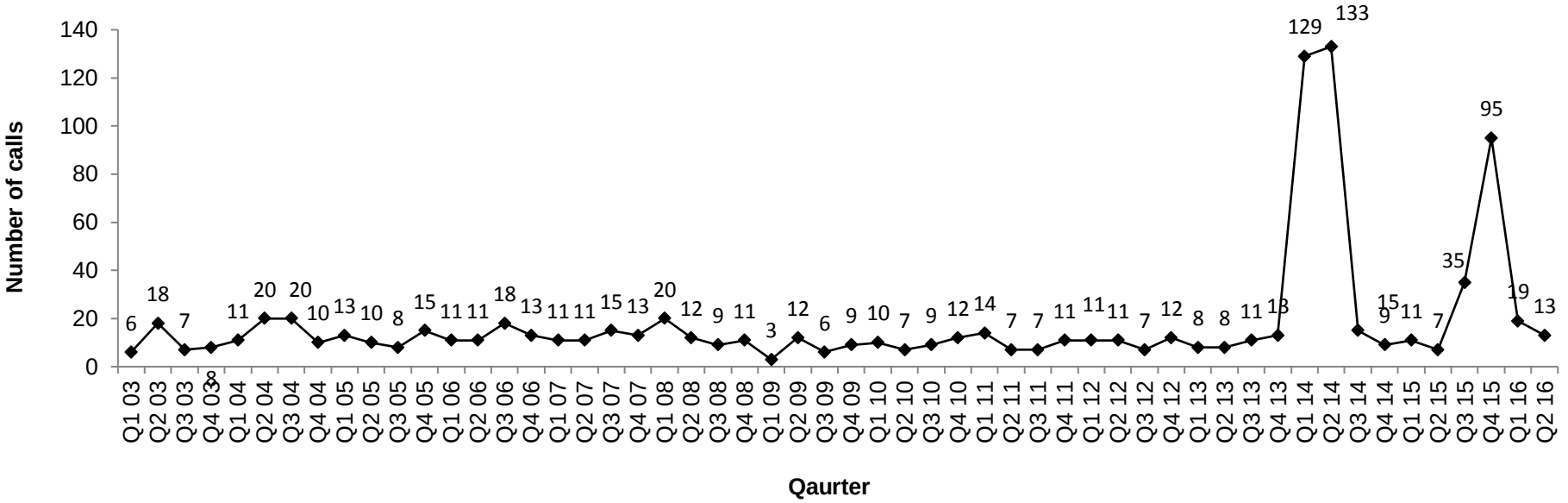
Figure 43: Number of ADIS inquiries concerning (meth)amphetamines as primary drug of concern, WA January 2003 to June 2016



Source: WA ADIS, 2016

In the 2015/16 period there were 162 calls to ADIS involving cocaine as the primary drug of concern, compared to 42 calls on 2014/15. These calls comprised 0.68% of all calls received by ADIS during 2015/16, compared to 0.75% in the 2014/15 period. Calls to ADIS involving cocaine as the primary drug of concern are presented by quarter in Figure 44. The steep increase in calls in the first and second quarter of 2014 and the fourth quarter of 2015 are accounted for by multiple calls from a single caller, rather than an overall increase in calls. As shown in Figure 44, excluding these increases, the number of calls to ADIS where cocaine was the primary drug of concern have been low and stable across survey years.

Figure 44: Number of ADIS inquiries concerning cocaine as primary drug of concern, WA January 2003 to June 2016



Source: WA ADIS, 2016

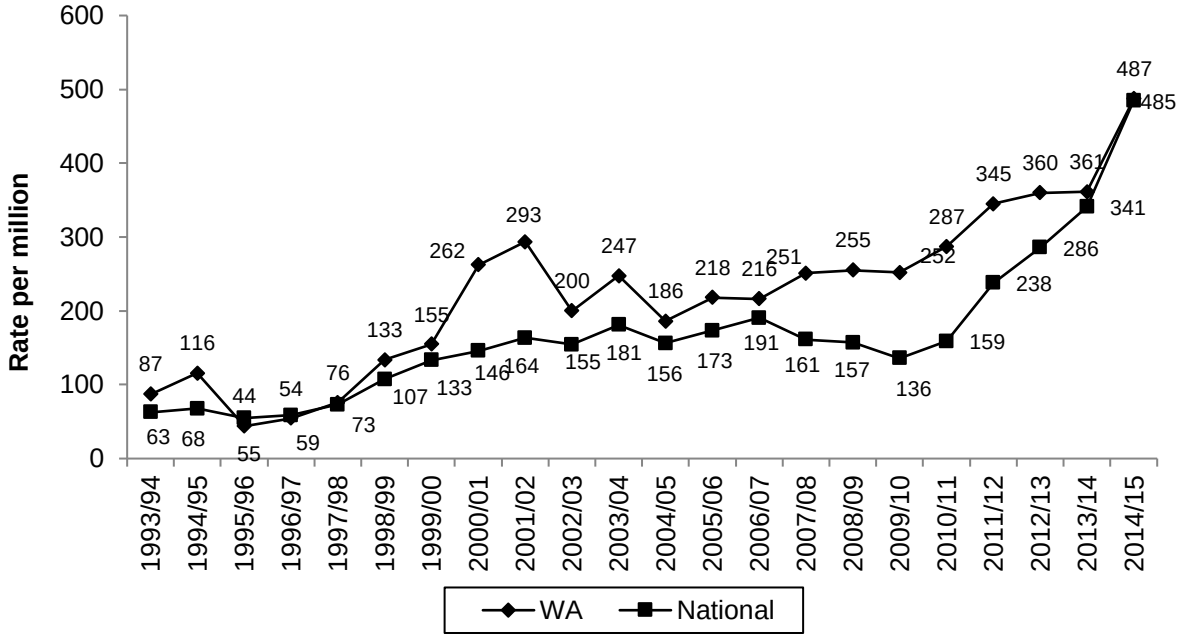
6.3. Hospital admissions

CAVEAT

There was a change in the data collection process for hospital admissions from the 2010/11 reporting period onwards. It is possible that this change could have impacted on trends in data reported within this section.

Figure 45 presents the rate of hospital admissions in WA and nationally in which (meth)amphetamines were identified as the primary diagnosis. The AIHW defines a primary diagnosis as the diagnosis established (after study) to be chiefly responsible for occasioning the patient's episode of care in hospital. As evident in Figure 45, in 2014/15, rates of methamphetamine hospital admissions appear to have increased at both the state and national levels.

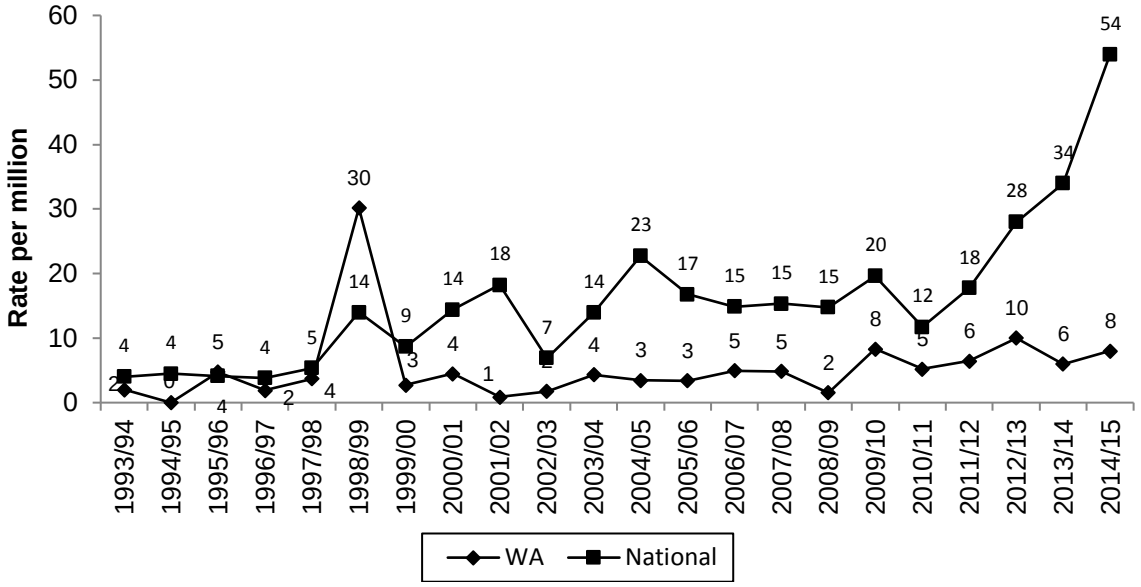
Figure 45: Rate of in-patient hospital admissions where (meth)amphetamines were the primary diagnosis in persons aged 15-54 in WA and nationally, July 1993-June 2015



Source: Roxburgh and Breen (2017)

As evident in Figure 46, WA rates of hospital admissions where cocaine was the primary diagnosis have remained consistently low over the past two decades, with the exception of 1998/99. In the 2014/15 reporting period, rates increased at the national level but remained stable at the state level.

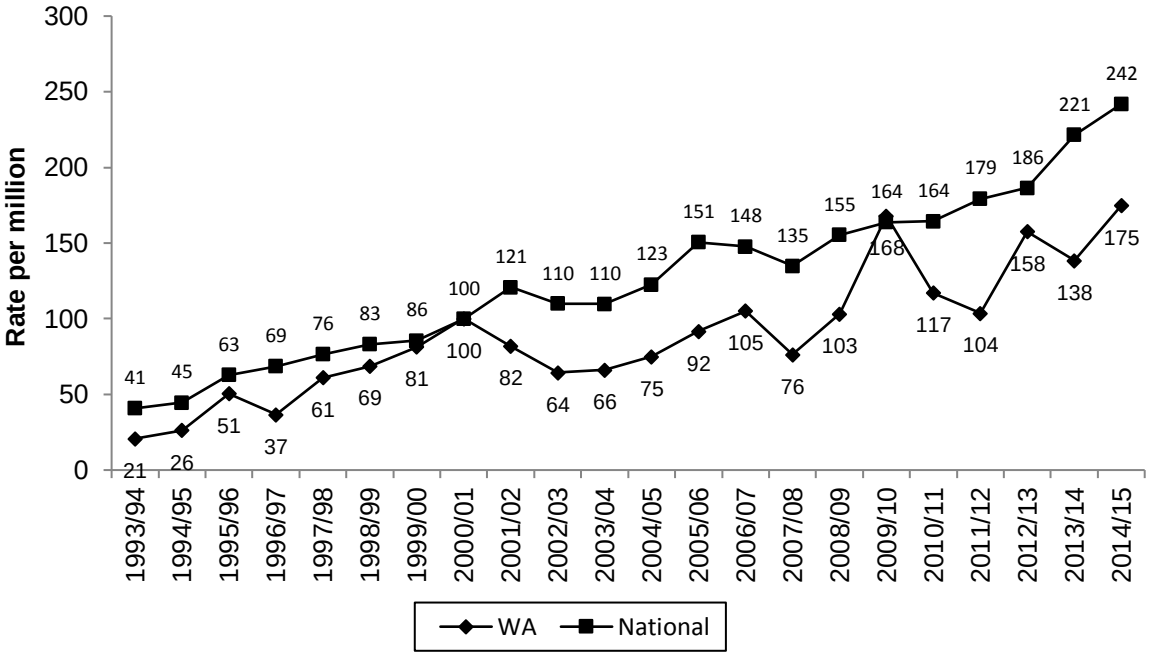
Figure 46: Rate of hospital admissions where cocaine was the primary diagnosis in persons aged 15-54 years, WA and nationally, July 1993-June 2015



Source: Roxburgh and Breen (2017)

Figure 47 presents rates per million of hospital admissions where cannabis was the primary diagnosis. In the 2014/15 reporting period, rates increased at both the national and state level.

Figure 47: Rate of hospital admissions where cannabis was the primary diagnosis in persons aged 15-54 years, WA and nationally, July 1993-June 2015



Source: Roxburgh and Breen (2017)

6.4. Mental health problems

6.4.1. Mental health problems and psychological distress (K10)

The K10 was administered to all participants. The K10 is a 10-item standardised measure that measures clinical levels of psychological distress based on the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV)/the Structured Clinical Interview for DSM disorders. It has been found to have sound psychometric properties (SCID; Andrews & Slade, 2001; Kessler, 2002).

The minimum score on the K10 is 10 (indicating no distress) and the maximum is 50 (indicating very high distress). Work conducted at the Clinical Research Unit for Anxiety Disorders found that those scoring 30 or more have 10 times the population risk of meeting criteria for an anxiety or depressive disorder.

The K10 was included in the EDRS for the first time in 2006. Participants' K10 scores in 2016 were not significantly different from the 2015 sample. The largest proportion of participants scored in the 'moderate' distress category (score of 16-21; 36%). This was followed by 'low to no' distress (score of 10-15; 33%), 'high' distress (score of 22-29, 22%), and then 'very high' distress (score of 30-50; 3%). Table 32 shows K10 scores among RPU from 2012 to 2016.

Table 32: K10 scores, 2012-2016

Score category (%)	2012	2013	2014	2015	**2016**
Low to no distress	40	31	34	32	**33**
Moderate distress	40	37	37	42	**36**
High distress	18	24	25	23	**22**
Very high distress	1	8	4	3	**9**

Source: WA EDRS RPU interviews, 2012-2016

6.4.2. Self-reported mental problems and medication

Questions regarding mental health problems were included for the first time in the 2008 EDRS. Participants were asked whether they had experienced any mental health problems in the preceding six months, including those issues that they had and had not spoken to a health professional about.

In the current sample, just more than two-fifths (42%) of the participants reported experiencing a mental health problem in the preceding six months, not significantly different from 33% in 2015. The most frequently reported problem was anxiety (n=32, 76%), followed by depression (n=23, 55%). Among participants reporting a recent mental health problem, approximately three-fifths (n=25, 59%) reported attending a mental health professional in the preceding six months, not significantly different from 70% in 2015. A complete breakdown of reported mental health problems for 2015 and 2016 is presented in Table 33. There were no significant differences in the proportion of respondents who reported a particular mental health problem between 2015 and 2016.

Table 33: Recent mental health problems, 2015 and 2016

(%)	2015 N=100	**2016 N=100**
Recent mental health problem	33	**42**
Of those who reported a mental health problem		
Types of problems reported[#]	(n=33)	**(n=42)**
Anxiety	67	**76**
Depression	73	**55**
Paranoia	3	**7**
Panic	3	**5**
Bipolar	6	**5**
ADHD	9	**2**
OCD	3	**2**
Personality disorder	0	**2**
PTSD	3	**0**
Other[**]	12	**14**
Attended a professional for the treatment of a mental health problem	70	**59**
Prescribed psych med*	56	**36**

Source: WA EDRS RPU interviews, 2015 and 2016

[#] Participants could select multiple categories of problems allowing percentage totals to exceed 100

* Of those who attended a health professional

[**] Other reported mental health problems were: 'depersonalisation', 'insomnia', 'lack of sleep', 'mental health problems influenced by cannabis use', 'undiagnosed signs of psychosis' and 'signs of bipolar'.

Of those participants who reported attending a mental health professional (n=25), just more than one-third (n=9, 36%) reported being prescribed a medication in the last six months, not significantly different from 56% in 2015. The medications prescribed were anti-depressants (n=7, 78%), benzodiazepines (n=3, 33%), anti-psychotics (n=1, 11%), and 'sleeping tablets' (n=1, 11%). Prescribed anti-depressants were generic citalopram (n=2, 28%), Avanza® Efexor®, Lexapro® Pristiq® and generic fluoxetine (each n=1, 14%). Benzodiazepines were Valium® Serepax® and Ativan® (each n=1, 33%). The prescribed antipsychotic was Seroquel® (n=1, 100%).

KE comments

- The main drugs that KE associated mental health concerns with were crystal methamphetamine, synthetic cannabis and cannabis.
- Concerns regarding methamphetamine were aggression, violence, paranoia, anxiety and psychosis. A KE who worked in AOD consulting noted that synthetic cannabis users experienced extreme agitation, violence and psychosis. A KE who worked in counselling noted that, in their experience, cannabis use was associated with auditory hallucinations, psychosis, anxiety, self-harm and suicidal ideation.
- A KE who worked in counselling A KE who worked in AOD consulting noted increases in bingeing among crystal methamphetamine users recently which, in their experience, increased the risk of psychosis.

6.5. Summary of health-related trends

Overdose, deaths and hospital admissions

- Less than one-quarter (23%) of the sample reported having overdosed on a stimulant drug in their lifetime, not significantly different from 27% in 2015.
- Fourteen per cent of the sample reported having overdosed on a stimulant drug in the past 12 months, not significantly different from 22% in 2015.
- Less than one-quarter (23%) of the sample reported having overdosed on a depressant drug in their lifetime, not significantly different from 28% in 2015.
- Fifteen per cent of the sample reported having overdosed on a depressant drug in the past 12 months, not significantly different from 19% in 2015.
- Consistent with 2015, ecstasy was the most commonly implicated main drug in stimulant overdoses (61%).
- Consistent with 2015, alcohol was the most commonly implicated main drug in depressant overdoses (54%).

Service usage

- Almost one-tenth (9%) of the sample reported accessing a service or health professional in relation to their drug use in the preceding six months, not significantly different from 10% in 2015. One-fifth (20%) of the sample reported having thought about accessing a health service or professional in relation to their drug use in that time perid.
- The number of calls to ADIS concerning ecstasy remained low, with 68 calls made in the 2015/2016 period compared to 73 calls in 2014/15.
- There were 3,122 calls to ADIS involving methamphetamines as the primary drug of concern in 2015/16, in comparison to 1,917 in 2014/15; calls regarding methamphetamines appear have returned to the higher levels seen prior to the first and second quarter of 2015.
- Calls to ADIS involving cocaine as the primary drug of concern have been low and stable across survey years.
- In 2014/15, hospital admissions in which amphetamine was the principal diagnosis increased at both the national and state level; rates for cocaine increased at the national level and remained low and stable at the state level; and rates for cannabis increased at the national and state level.

Mental health

- Consistent with previous years, the largest proportion of participants scored within the ‘moderate distress’ category of the K10 (36%).
- More than two-fifths (42%) of the sample reported experiencing a mental health problem in the preceding six months, not significantly different from 33% in 2015.
- Not significantly different from with 2015, the most commonly reported mental health problems were anxiety (76%) and depression (55%).
- Among participants reporting a mental health problem in the last six months, 59% reported having attended a mental health professional for treatment in that period, not significantly different from 70% in 2015.
- KE expressed concerns about the negative impact of crystal methamphetamine, synthetic cannabis and cannabis on users’ mental health.

7. RISK BEHAVIOURS

7.1. Injecting risk behaviours

As presented in Table 34, two participants (2%) reported having injected a drug in their lifetime in 2016, not significantly different from 4% in 2015; both of these participants reported injecting in the last month. The mean of first injecting was 17 years, not significantly different from 18.2 years in 2015. However, given the very small sample size, this result should be interpreted with caution.

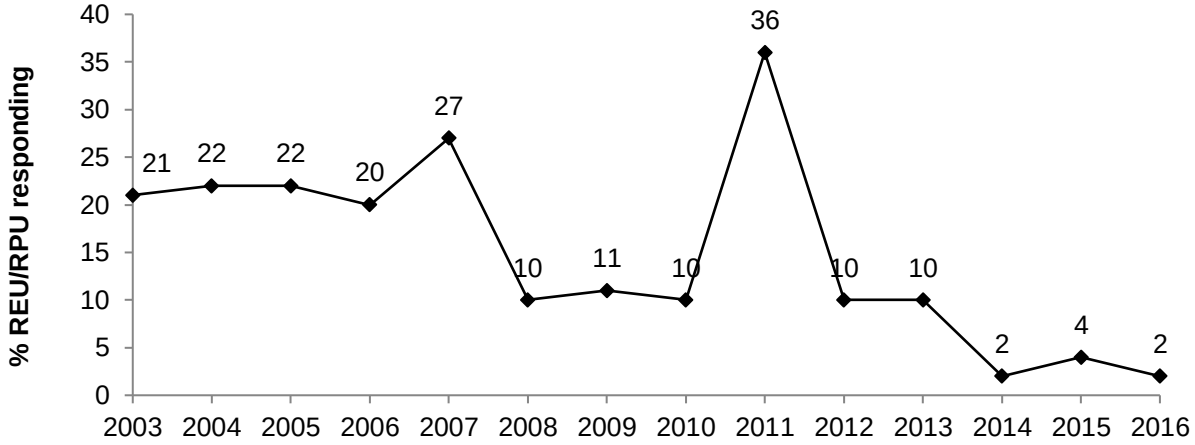
Table 34: Injecting risk behaviours, 2015 and 2016

(%)	2015 N=100	**2016 N=100**
Ever injected (%)	4	**2**
Mean age first injected any drug*	18.2^	**17^**
Injected in the last month (%)	-	**2**

Source: WA EDRS RPU interviews, 2015 and 2016
*Among those who had injected
^ n<10. Results should be interpreted with caution
- Data not collected

As presented in Figure 48, with the exception of 2011 (which had a disproportionate representation, attributed to substantial difficulties during the recruitment process), rates of lifetime injecting use among REU/RPU declined in 2008 and then remained stable until 2013. In 2014 there was a significant decrease in the proportion of lifetime injecting drug use compared to 2013. Results from the present sample suggest that this downward trend has been maintained in 2016.

Figure 48: Ever injected drugs, 2003-2016



Source: WA EDRS REU/RPU interviews, 2003-2016

7.1.1. Recent injectors

The two participants who reported injecting in the last six months were male with a median age of 32 years. Table 35 details the recent injecting behaviour of these participants. However, these results should be interpreted with caution given the very small sample size.

Table 35: Recent injecting drug use patterns, 2016

	2016 (n=2)
Median age	**32^**
Median number of times injected in last 6 months	
Drug first injected	
Heroin	**50^**
Speed	**50^**
Number of times you used a needle after someone else in the last six months (%)	
No times	**100^**
Number of times someone used a needle after you in the last six months (%)	
No times	**100^**
Injected a partner in the last six months	
Yes	**0^**
No	**100^**
Partner injected you in the last six months (%)	
Yes	**0^**
No	**100^**

Source: WA EDRS RPU interviews, 2015 and 2016
* Of those who had injected
^n<10. Results should be interpreted with caution

7.2. Sexual risk behaviour

Penetrative sex was defined as penetration by the penis or hand of the vagina or anus. Casual partner was defined as anyone that a participant had had penetrative sex with who was not a regular partner. Given the sensitive nature of these questions, participants were given the option of self-completing this section of the questionnaire.

7.2.1. Recent sexual activity

Participants were asked about the number of casual partners they had engaged in penetrative sex with in the preceding six months (see Table 36). Of the 98 participants who responded, approximately three-fifths (n=61, 62%) reported engaging in casual penetrative sex with at least one person in the last six months, not significantly different from 61% in 2015. Among these participants, the most common number of casual partners in that time period was three to five (n=21, 34%), followed by one (n=18, 29%), two (n=17, 28%), and six to ten (n=5, 8%). These findings were not significantly different from the 2015 results.

7.2.2. Protective barriers during sex while sober

Among participants reporting recent casual sexual activity (n=61), the majority (n=56, 92%) reported engaging in casual sexual activity while sober in the preceding six months. This equates to 57% of the overall sample, not significantly different from 56% in 2015. Among these participants, more than two-fifths (n=24, 43%) reported not having used a protective barrier (i.e. condoms or dams) on the last occasion, not significantly different from 59% in 2015. Participants reported various reasons as to why a barrier was not used. The most commonly reported reason was ‘using the contraceptive pill’ (n=8, 33%), followed by ‘we agreed not to use’ (n=7, 29%), ‘I didn’t wish to use’ (n=3, 12%), ‘My partner didn’t wish to

use' (n=2, 8%), and 'lack of availability', 'it wasn't mentioned', 'due to sexuality', and 'partner is infertile' (each n=1, 4%). These results were not significantly different from the 2015 findings.

Table 36: Recent sexual activity, 2015 and 2016

(%)	2015	**2016**
Number of casual sexual partners	(n=96)	**(n=98)**
No casual partner	38	**38**
1 person	18	**18**
2 people	12	**17**
3-5 people	26	**21**
6-10 people	5	**5**
10 or more	0	**0**
Use of protection during sex with casual partner while sober*	(n=54)	**(n=56)**
Yes	41	**57**
No	59	**43**

Source: WA EDRS RPU interviews, 2015 and 2016
***** Of those who had penetrative sex while sober in the last 6 months

7.2.3. Casual sex while under the influence

Of those participants who had engaged in casual sex in the preceding six months (n=61), the majority (n=52, 85%) reported having done so while under the influence of alcohol or other drugs. This equates to 53% of the overall sample, not significantly different from 52% in 2015. Participants were asked how many times they had engaged in sex while under the influence of alcohol or other drugs in the preceding six months. Among those who responded (n=51), the most common response was three to five times (n=18, 35%), followed by once and twice (each n=10, 20%), more than ten times (n=9, 18%) and six to ten times (n=4, 8%). The proportion of participants who responded with 'six to ten times' in 2016 was significantly smaller than in 2015 (CI: -.04 to -0.33).

The drug most commonly reported to have been used on the last occasion of casual sex was alcohol (n=38, 74%), followed by ecstasy (n=28, 55%), cannabis (n=24, 47%), pharmaceutical stimulants and cocaine (each n=4, 8%), tobacco and mushrooms (each n=2, 4%), and crystal methamphetamine and LSD (each n=1, 2%). These results were not significantly different from the 2015 findings.

7.2.4. Protective barriers during casual sex while under the influence

Among participants who reported recent casual sex while under the influence of drugs (n=52), more than two-fifths (n=23, 44%) reported that they had not used a protective barrier on the last occasion, not significantly different from 58% in 2015. Among these participants, the most frequently reported reason for not using a protective barrier was 'using contraceptive pill' (n=10, 43%), followed by 'we agreed not to use' (n=5, 22%), 'it wasn't mentioned' (n=3, 13%), 'my partner didn't wish to use' (n=2, 9%) and 'I didn't wish to use', 'lack of availability' and 'we were too intoxicated' (each n=1, 4%). These results were not significantly different from the 2015 findings.

A complete breakdown of this data is presented in Table 37.

Table 37: Casual sex while under the influence, 2015 and 2016

(%)	2015 (N=96)	**2016 (N=98)**
Penetrative casual sex	61	**62**
Penetrative casual sex while on drugs[#]	88	**85**
Of those who had penetrative casual sex under the influence of drugs	(n=52)	**(n=51)**
Number of times		
Once	11	**20**
Twice	15	**20**
3-5 times	33	**35**
6-10 times	27	**8***
More than 10 times	13	**18**
Drug used		
Alcohol	83	**74**
Ecstasy	56	**55**
Cannabis	46	**47**
Pharmaceutical stimulants	21	**8**
Cocaine	8	**8**
Mushrooms	2	**4**
Crystal methamphetamine	11	**2**
LSD	10	**2**
Benzodiazepines	11	**0**
Nitrous oxide	4	**0**
Amyl Nitrate	4	**0**
Other opiates	2	**0**
MDA	2	**0**
Use of protection		
Yes	42	**56**
No	58	**44**

Source: WA EDRS RPU interviews, 2015 and 2016

[#] Of those who had engaged in casual sex in the last six months

* Indicates significant changes from the 2015 results according to 95%CI and $p<0.05$

7.2.5. Sexual health check-ups and sexually transmitted infections

Participants were asked if they had ever had a sexual health check-up, including a swab, urine test or blood test, and whether they had ever been diagnosed with an STI. Among those who commented (n=98), more than half of the respondents (n=52, 53%) reported having had a sexual health check-up; 37% reported having had one in the last year and 16% reported having had one more than a year ago. Just less than half of the respondents (47%) reported that they had never having had a sexual health check-up. These results were not significantly different from the 2015 findings.

Of those who commented (n=99), the majority (n=83, 84%) reported never having been diagnosed with an STI, not significantly different from 88% in 2015. Among those who

reported having been diagnosed with an STI (n=16), three-quarters (n=12, 75%) reported being diagnosed more than a year ago and 25% (n=4) reported being diagnosed within the last year.

7.3. Driving risk behaviour

WA EDRS participants were asked a series of questions regarding their driving behaviour. In 2015, the majority of the sample (82%) reported having driven a car in the last six months, not significantly different from 87% in 2015. Of these respondents, almost half (n=39, 48%) reported that they had driven while over the legal alcohol limit in that time period, not significantly different from 44% in 2015. Almost two-thirds of these respondents (n=53, 65%) reported having driven within three hours of taking an illicit drug in the preceding six months, not significantly different from 68% in 2015.

A complete breakdown of this data across survey years is presented in Table 38.

Table 38: Drug driving in the preceding six months, 2009-2016

(%)	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2015 N=100	**2016 N=100**
Driven a car in last 6 months	80	84	61	91	82	87	**82**
Driven while over the limit of alcohol[#]	75	73	77	52	37	44	**48**
Driven soon after taking a drug[#]	75	58	53	55	66	68	**65**

Source: WA EDRS REU/RPU interviews, 2009-2016
[#] Of those who had driven a car in the last 6 months

7.4. Bingeing behaviour

Bingeing is defined as the use of any stimulants or related drugs for 48 hours or more continuously without sleep. Less than one-third (30%) of the current sample reported bingeing on ERD in the preceding six months, not significantly different from 28% in 2015. Recent bingeing occurred on a median of 2.5 occasions (range 1-24), not significantly different from three occasions in 2015. The median length of the longest recent binge was 58 hours (i.e. approximately two and a half days; range 48-131 hours), not significantly different from 53 hours in 2015.

The drugs most commonly implicated in recent bingeing were ecstasy (n=23, 77%), alcohol (n=21 70%; 3% <5 standard drinks and 67% >5 standard drinks), tobacco (n=18, 60%), cannabis (n=15, 50%), pharmaceutical stimulants (n=14, 47%), cocaine (n=9, 30%), LSD (n=8, 27%), crystal methamphetamine (n=6, 20%), energy drinks, nitrous oxide and mushrooms (each n=3, 10%), ketamine and benzodiazepines (each n=2, 7%), speed, OTC codeine, DMT, NBOMe, amyl nitrate and MDA (each n=1, 3%) and other (n=3, 10%). These results did not significantly differ from the 2015 findings.

A complete breakdown of this data is presented in Table 39.

Table 39: Bingeing behaviour, 2015 and 2016

(%)	2015 N=100	**2016 N=100**
Recent binge	28	**30**
Median amount of recent binges*	3 (1-20)	**2.5 (1-24)**
Median length of longest binge* (hours)	53 (48-120)	**58 (48-131)**
Drugs implicated in binge*	(n=28)	**(n=30)**
Ecstasy	75	**77**
Alcohol (>5 standard drinks)	64	**67**
Alcohol (<5 standard drinks)	18	**3**
Tobacco	71	**60**
Cannabis	68	**50**
Pharmaceutical stimulants	29	**47**
Cocaine	14	**30**
LSD	18	**27**
Crystal methamphetamine	43	**20**
Energy drinks	29	**10**
Nitrous oxide	18	**10**
Mushrooms	4	**10**
Ketamine	4	**7**
Benzodiazepines	18	**7**
Speed	4	**3**
OTC codeine	4	**3**
DMT	0	**3**
NBOMe	0	**3**
Amyl nitrate	4	**0**
MDA	4	**0**
Other**	11	**10**

Source: WA EDRS RPU interviews, 2015 and 2016
***** Of those who had binged on ERD in the last six months
** Other drugs were: 'pseudoephedrine' 'caffeine' 'Viagra®' and 'other opiates' for 2015 and 'heroin', 'other opiates' and 'MD' for 2016

7.5. Polydrug use

For the first time in 2016, participants were asked which (if any) drugs they had used concurrently on the last occasion of any psychostimulant drug use. The vast majority (93%) of the sample reported using at least one concurrent drug. The drug most commonly used in this context was ecstasy (81%), followed by alcohol (71%; 56% >5 standard drinks and 15% <5 standard drinks), cannabis (51%), tobacco (47%), and pharmaceutical stimulants (18%).

A full breakdown of these results is shown in Table 40.

Table 40: Polydrug use, 2016

(%)	2016 N=100
Drugs used on last occasion of psychostimulant use	
No other drugs	**7**
Ecstasy	**81**
Alcohol (>5 standard drinks)	**56**
Alcohol (<5 standard drinks)	**15**
Cannabis	**51**
Tobacco	**47**
Pharmaceutical stimulants	**18**
Cocaine	**10**
Energy drinks	**6**
Crystal methamphetamine	**5**
Ketamine	**5**
LSD	**4**
Nitrous oxide	**4**
DMT	**2**
NBOMe	**1**
Speed	**1**
Amyl nitrate	**1**
GHB	**1**
Mushrooms	**1**
Other*	**4**

*Other drugs were: other opiates (n=2) and heroin and MD (each n=1)

7.6. The Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT was designed by the WHO as a brief screening tool to identify individuals with alcohol problems, including those in the early stages (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). It is a 10-item scale, designed to assess three conceptual domains: alcohol intake; dependence; and adverse consequences (Reinert & Allen, 2002). Total scores of eight or more are recommended as indicators of hazardous and harmful alcohol use and may also indicate alcohol dependence (Babor, de la Fluente, Saunders, & Grant, 1992). Higher scores indicate greater likelihood of hazardous and harmful drinking; such scores may also reflect greater severity of alcohol problems and dependence, as well as a greater need for more intensive treatment (Babor & Higgins-Biddle, 2000).

Table 41 shows AUDIT data from the 2015 and 2016 WA EDRS samples. Ninety-five EDRS participants completed the AUDIT in 2016. The mean AUDIT score in 2016 was 12.86 (range 1-36), not significantly different from 12.83 in 2015. The majority of the respondents (n=75, 79%) scored equal to or greater than the cut-off of eight, indicating likelihood of hazardous or harmful alcohol use, not significantly different from 81% in 2015.

The total AUDIT scores place participants into one of four ‘zones’ or risk levels. In the 2016 sample, 21% (n=20) scored in Zone 1 (low-risk drinking or abstinence), 48% (n=46) scored

in Zone 2 (alcohol use in excess of low risk guidelines), 16% (n=15) scored in Zone 3 (harmful or hazardous drinking) and 15% (n=14) scored in Zone 4 (those in this zone may be referred to evaluation and possible treatment for alcohol dependence). None of these proportions were significantly different from the 2015 sample. In both 2015 and 2016 males had significantly higher mean AUDIT scores than females, implicating males as being more likely to exhibit hazardous drinking behaviour than females.

Table 41: AUDIT scores, 2015 and 2016

	2015 N=98	**2016** **(N=95)**
Mean AUDIT score (range)	12.83 (3-29)	**12.86** **(1-36)**
Males (range) Females (range)	13.73 (3-29) 11.28 (4-20)	**13.72 (1-36)** **10.17 (1-24)**
Score 8 or above (%)	81	**79**
Zone 1 (%)	19	**21**
Zone 2 (%)	48	**48**
Zone 3 (%)	20	**16**
Zone 4 (%)	12	**15**

Source: WA EDRS RPU interviews, 2015 and 2016

7.7. Ecstasy and methamphetamine dependence

The question as to whether it is possible to be dependent on ecstasy is a controversial one. Currently, according to the DSM-5, it is possible to be diagnosed with ecstasy dependence (coded as either amphetamine dependence or hallucinogen dependence), and there are clear case studies in the literature of people who are dependent on ecstasy. Animal models have demonstrated that dependence on ecstasy is biologically plausible and Topp, Hall and Hando (1997) found that 64% of a sample of regular ecstasy users met diagnostic criteria for ecstasy dependence.

Since 2012, all participants in the EDRS have been asked questions from the Severity of Dependence scale (SDS) regarding their ecstasy use. For the first time in 2015, all EDRS participants reporting recent use of methamphetamine were also administered the SDS regarding their methamphetamine use.

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 et al., 2002). A total score is created by summing responses to each of the five questions. Possible scores range from 0 to 15. A cut-off score of four is used to determine those whose scores were suggestive of dependence (Bruno, Gomez & Matthews, 2011).

7.7.1. Ecstasy dependence

As presented in Table 42, in 2016, 22% of the sample reached the SDS cut-off score of four or more, suggesting ecstasy dependence. This was not significantly different from 21% in 2015. Among participants who reached the SDS cut-off score (n=22) there was no significant difference between the proportion of males (n=13, 65%) and females (n=9, 45%).

Table 42: Ecstasy dependence, 2012-2016

(%)	2012 N=90	2013 N=100	2014 N=69	2015 N=100	**2016 N=100**
Ecstasy SDS score					
Zero to three (below dependency cut off)	96	87	80	79	**78**
Four or more (dependency cut off)	4	13	20	21	**22**
Gender*	(n=4)	(n=13)	(n=14)	(n=21)	**(n=22)**
Male	0	46	57	62	**65**
Female	100	54	43	38	**45**

Source: WA EDRS REU/RPU interviews, 2012-2016
***** Of those with score of four or more (dependency cut-off)

Just less than three-fifths (59%) of the respondents in 2016 reported that they never/almost never thought their use of ecstasy was out of control, not significantly different from 66% in 2015. More than three-quarters (77%) reported that they never or almost never wished they could stop, the same proportion reported in 2015. More than four-fifths (81%) reported that they would not find it difficult to stop or go without ecstasy, not significantly different from 72% in 2015.

7.7.2. Methamphetamine dependence

Twenty participants answered the SDS questions in regard to their methamphetamine use. As presented in Table 43, 35% (n=7) of these participants reached the SDS cut off score of four or more, suggesting methamphetamine dependence, not significantly different from 29% in 2015.

Among participants who reached the SDS cut off score, there was no significant difference between the proportion of males (n=4, 57%) and females (n=3, 43%). However, given the small number of participants able to comment, this result should be interpreted with caution.

Table 43: Methamphetamine dependence, 2015 and 2016

(%)	2015 N=14	**2016 N=20**
Methamphetamine SDS score		
Zero to three (below dependency cut off)	71	**65**
Four or more (dependency cut off)	29	**35**
Gender*	(n=4)	**(n=7)**
Male	75^	**57^**
Female	25^	**43^**

Source: WA EDRS RPU interviews, 2015 and 2016
***** Of those with score of four or more (dependency cut-off)
^ n<10. Results should be interpreted with caution.

Among participants who answered the SDS questions regarding their methamphetamine use (n=20), less than three-quarters (n=14, 70%) reported that they had never/almost never thought their use of methamphetamine was out of control, not significantly different from 64% in 2015. More than half (n=11, 55%) reported they had never/almost never wished they could stop, not significantly different from 71% in 2015. Four-fifths (n=16, 80%) reported that

they would not find it difficult to stop or go without methamphetamine, not significantly different from 79% in 2015.

7.8. Summary of risk behaviours

Injecting risk behaviour

- Two per cent of the sample reported injecting a drug in their lifetime, not significantly different from 4% in 2015 Just 2% of the sample reported injecting a drug in the last month.

Sexual risk behaviour

- Penetrative sex with a casual partner in preceding six months was reported by less than two-thirds (62%) of the sample, not significantly different from 61% in 2015. The most common number of sexual partners among participants who had engaged in casual sexual activity was three to five (34%), not significantly different from 2015.
- More than half of the sample (53%) reported engaging in casual sex while under the influence of drugs, not significantly different from 52% in 2015. The most commonly used drugs on the last occasion were alcohol (74%) and ecstasy (55%), not significantly different from the 2015 results
- Among participants who had engaged in casual sex under the influence of drugs, 44% reported that they had not used a protective barrier on the last occasion, not significantly different from 58% in 2015. The most commonly cited reason for not using a protective barrier was 'using the contraceptive pill' (43%).
- Not significantly different from the 2015 results, more than half (53%) of the participants reported ever having had a sexual health check-up, with 37% reporting having had one in the last year.
- Four participants reported being diagnosed with an STI in the preceding 12 months, the same figure reported in 2015.

Driving risk behaviour

- Among participants who reported recent driving, almost half (48%) reported driving over the legal limit for alcohol in that time period, not significantly different to 44% in 2015.
- Among recent drivers, 65% reported driving within three hours of illicit drug use in the preceding six months, not significantly different from 68% in 2015.

Bingeing behaviour

- Recent bingeing on an ERD was reported by just less than one-third (30%) of the sample, not significantly different from 28% in 2015.
- The drugs most commonly implicated in bingeing were ecstasy (77%), alcohol (70%) and tobacco (60%).

Alcohol risk behaviour

- More than three-quarters (79%) of respondents fell in the hazardous or harmful drinking range on the AUDIT, not significantly different from 81% in 2015.
- Aligned with 2015, males had significantly higher AUDIT scores than females.

Ecstasy and methamphetamine dependence

- Not significantly different from the 2015 results, just more than one-fifth (22%) of respondents reached the SDS cut-off suggesting ecstasy dependence.
- Not significantly different from the 2015 results, among recent methamphetamine users, more than one-third (35%) reached the SDS cut-off score, suggesting methamphetamine dependence.

8. LAW ENFORCEMENT-RELATED TRENDS ASSOCIATED WITH ECSTASY AND RELATED DRUG USE

8.1. Reports of criminal activity among REU/RPU

Table 44 presents the proportion of REU/RPU reporting criminal activity in the month preceding the interview since 2006. In 2016, more than two-fifths (45%) sample reported engaging in criminal activity in the past month, the same proportion reported in 2015. These are the largest proportions reported since WA EDRS data collection began in 2003. Aligned with the 2015 results, the most commonly reported crime in this period was drug dealing, reported by 42% of respondents. Eight per cent of participants reported engaging in property crime in the last month, not significantly different from 11% in 2015. Consistent with previous years, only a very small number of participants reported engaging in fraud and violent crime (each 2%).

Of those who reported drug dealing in the past month (n=42), more than two-thirds (n=29, 69%) reported doing so less than once a week in that time period. A further 14% (n=6) reported doing so once a week and more than once a week (but less than daily) (each n=6), and 3% (n=1) reported doing so daily. These results were not significantly different from the 2015 findings.

Among participants who reported engaging in property crime in the last month (n=8), half (n=4, 50%) reported doing so more than once a week (but less than daily) in that time period. A further 37% (n=3) reported doing so less than once a week and one participant (12%) reported doing so once a week. These results were not significantly different from the 2015 findings but should be interpreted with caution given the small number of participants able to comment in 2016.

Of those participants who reported engaging in fraud in the preceding month (n=2), all (100%) reported doing so less than once a week in that time period. Finally, among those participants who reported engaging in violent crime in the past month (n=3) two-thirds (n=2, 67%) reported doing so less than once a week and one-third (n=1 33%) reported doing so once a week in that time period. Comparisons with the 2015 sample were not made due to the small number of participants able to comment.

For the first time in 2015, all EDRS participants were asked if they had been a victim of a violent crime in the preceding month. Four cent of participants reported that they had, not significantly different from 7% in 2015. Among these participants, three-quarters (n=3, 75%) reported that this had occurred less than once a week in that time period and one quarter (n=1, 25%) reported that it had occurred once a week. Half of these participants (n=2, 50%) reported that they believed that perpetrator was under the influence of alcohol or other drugs on the last occasion of violence, with half (n=2, 50%) responding with ‘don’t know’ to this question.

In 2016, 7% of the sample reported being arrested in the preceding 12 months, not significantly different from 6% in 2015. The most common reason for arrest was property crime (n=3, 43%), followed by use/possession of drugs (n=2, 29%) and alcohol and driving and violent crime (each n=1, 14%). These results were not significantly different from the 2015 findings but should be interpreted with caution given the small number of participants able to comment.

Table 44: Criminal activity in the past month, 2007-2016

Criminal activity in the last month	2007 N=100	2008 N=58	2009 N=100	2010 N=100	2011 N=28	2012 N=90	2013 N=100	2014 N=100	2015 N=100	**2016 N=100**
Any crime (%)	39	31	38	35	39	29	42	40	45	**45**
Drug dealing (%)	31	24	32	24	21	18	25	33	38	**42**
Property crime (%)	16	7	6	13	11	16	25	11	11	**8**
Fraud (%)	4	2	0	2	7	2	2	5	4	**2**
Violent crime (%)	5	3	3	3	7	1	3	5	3	**2**
Arrested last 12 months (%)	12	5	19	13	18	11	13	12	6	**7**

Source: WA EDRS REU/RPU interviews, 2007-2016

8.2. ACC statistics

Table 45 shows the number of consumer and provider arrests for ATS, cannabis, cocaine and hallucinogens in WA from 2011 to 2015 according to the ACC (2016). ATS include amphetamine, methamphetamine, crystal methamphetamine, and phenethylamines such as MDMA, MDEA, MDA, DMA and PMA.

According to the ACC (2015), in 2013/14, there were a total of 18,403 drug-related consumer and provider arrests, compared to 16,302 in WA in 2013/14. Broken down, there were a total 14,965 drug related consumer arrests and 3,438 provider arrests in 2014. As in 2013/14, the most commonly implicated drug for both types of arrest in 2014/15 was cannabis, followed by ATS.

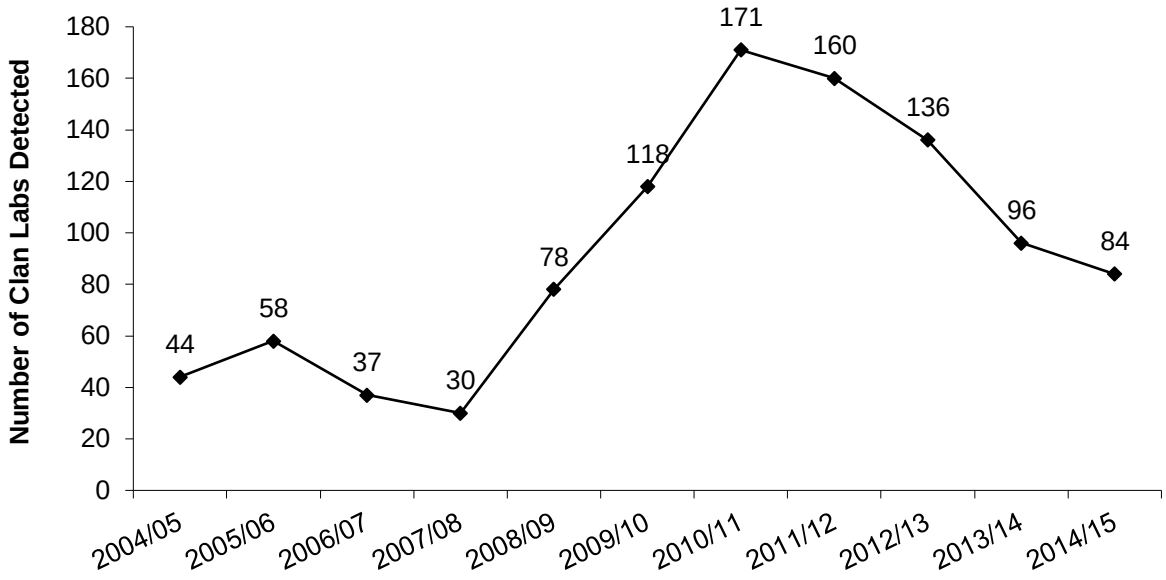
Table 45: Consumer and provider arrests by drug type, 2011/12 to 2014/15

Year and Drug	Consumer Arrests	Provider Arrests	Total
2011/12			
ATS	1,616 (69%)	731 (31%)	2,347 (100%)
Cannabis	4,117 (76%)	1,304 (24%)	5,421 (100%)
Cocaine	23 (55%)	19 (45%)	42 (100%)
Hallucinogens	58 (64%)	33 (36%)	91 (100%)
All drugs	7,629 (74%)	2,621 (26%)	10,250 (100%)
2012/13			
ATS	2,024 (71%)	846 (29%)	2,870 (100%)
Cannabis	4,165 (78%)	1,193 (22%)	5,358 (100%)
Cocaine	45 (49%)	46 (51%)	91 (100%)
Hallucinogens	80 (72%)	31 (28%)	111(100%)
All drugs	8,349 (75%)	2,776 (25%)	11,125 (100%)
2013/14			
ATS	2,709 (72%)	1,047 (28%)	3,756 (100%)
Cannabis	7,329 (88%)	957 (12%)	8,286 (100%)
Cocaine	57 (53%)	51 (47%)	108 (100%)
Hallucinogens	127 (71%)	53 (29%)	180 (100%)
All drugs	13, 414 (82%)	2,888 (18%)	16,302 (100%)
2014/15			
ATS	3,942 (75%)	1,345 (25%)	5,287 (100%)
Cannabis	6,827 (86%)	1,118 (14%)	7,942 (100%)
Cocaine	83 (58%)	59 (42%)	142 (100%)
Hallucinogens	90 (66%)	47 (34%)	137 (100%)
All drugs	14, 965 (81%)	3,438 (19%)	18, 403 (100%)

Source: ACC, 2013-2016

As presented in Figure 49, according to data from the ACC, clandestine laboratory, or ‘clan lab’, detections have been decreasing since 2011/12. According to the ACC, in 2014/15, there were 84 clandestine laboratory detections in WA compared to 96 in 2013/14. The current WA figure is exceeded by Queensland, Victoria and New South Wales. Of the 84 labs detected in WA in 2014/15, the majority (n=66, 79%) were manufacturing ATS other than MDMA. The majority of labs detected in this period (87%) were using the Nazi/Birch method of production (involving red phosphorous and liquid ammonia) (ACC, 2016).

Figure 49: Number of clandestine (meth)amphetamine laboratories detected by WA police 2004/05 to 2014/15



Source: ACC, 2006-2016

8.3. Summary of law enforcement-related trends

- Involvement in any criminal activity was reported by more than two-fifths (45%) of the 2016 sample, the same proportion reported in 2015.
- Not significantly different from 2015, the most commonly reported crimes were drug dealing (42%) and property crime (8%).
- Just 4% of the sample reported having been a victim of violent crime in the last month, not significantly different from 7% in 2015.
- Seven per cent of the sample reported being arrested in the preceding 12 months, not significantly different from 6% in 2015. Property crime was the most commonly reported reason for arrest.
- According to data from the ACC, during 2014/15, there were 14,965 drug-related consumer arrests and 3,438 provider arrests.
- ACC data indicates that there were 8 clandestine laboratories detected in WA during 2014/15. The majority (79%) were producing non-MDMA ATS with the majority (87%) using the Nazi/Birch method of production.

9. SPECIAL TOPICS OF INTEREST

9.1. NPS supply, purchasing patterns and adverse effects

Over the past decade, the number and range of substances collectively referred to as 'new psychoactive substances' (NPS) has increased dramatically. In 2015, the European Union were monitoring over 560 NPS, of which 70% were detected in the past five years (European Monitoring Centre for Drugs and Drug Addiction, 2016b). The rapid growth of the NPS market has been facilitated by a number of factors, one of which is the expansion of online marketplaces (European Monitoring Centre for Drugs and Drug Addiction, 2011, 2016a, 2016c). The expansion of these online drug markets has provided new opportunities for the supply and purchase of drugs, with internet sales of NPS now an international phenomenon and with many shops advertising worldwide delivery (European Monitoring Centre for Drugs and Drug Addiction, 2011).

However, despite being readily available online, and despite the widely held perception that most NPS are purchased online, it appears that most consumers do not source NPS in this manner. That is, despite findings that NPS users are *more likely* to purchase drugs online than other drug users (Burns et al., 2014; Van Buskirk et al., 2016), for the most part they appear to obtain these substances from 'in-person' sources such as friends and dealers (e.g. Burns et al., 2014; European Commission, 2014; Stephenson & Richardson, 2014). However, despite potential heterogeneity in the forms of NPS used, many of these studies combine NPS consumers together into a single category and it is unclear whether differences exist across NPS consumers.

In addition to the direct purchasing of NPS for personal use, it is likely that the internet plays a role in practices of 'social supply' (i.e. the non-commercial or non-profit-making distribution of drugs to non-strangers; Hough et al., 2003 pg. 36) and dealing for cash profit. There are some anecdotal reports of this taking place, however, the overall extent to which this is happening remains unknown.

In order to address these issues, additional questions were included in the 2016 EDRS survey which examined the supply and purchasing patterns of past year NPS consumers. As outlined in Table 46, 37% of the sample reported using a NPS in the last 12 months. The NPS used most often in that time period were DMT (n=21, 57%) and 2C-x (n=8, 22%). The majority of those who had used a NPS in the last 12 months nominated a friend (n=16, 44%) or known dealer (n=7, 19%) as their main source.

Among respondents who had an NPS in the last 12 months, more than two-fifths (n=16, 43%) reported supplying an NPS to others in that time period; this equates to 16% of the overall sample. NPS were supplied to friends by all participants who reported providing NPS (n=16, 100%), followed by acquaintances and relatives (each n=2, 12%). Providers most often gave NPS away for free (n=8, 50%), followed by sharing NPS with others and providing them at cost price (each n=5, 31%).

For more detailed results (including differences in purchasing and supply patterns across NPS consumers), please refer to Sutherland et al. (In Press).

Table 46: Purchasing and supply patterns among past year NPS consumers, 2016

(%)	2016 N=100
Used NPS last 12 months	**37**
NPS used most last 12 months	**(n=37)**
DMT	**57**
2C-x	**22**
DXM	**5**
NBOMe	**5**
PMA	**3**
Synthetic cannabis	**3**
Other*	**5**
How NPS obtained	**(n=36)**
Bought it	**61**
Was given it for free	**57**
Exchanged it for something other than cash (e.g. drugs, tickets, favours)	**6**
Main source	**(n=36)**
Friend	**44**
Known dealer	**19**
Online dark net/deep web	**11**
Acquaintance	**6**
Workmate	**6**
Online surface web	**2**
Other**	**11**
Supplied NPS to others	**43**
Who supplied to	**(n=16)**
Friends	**100**
Acquaintances	**12**
Relatives	**12**
Strangers	**6**
Other***	**6**
Method of supply	**(n=16)**
Gave it away for free	**50**
Shared with other	**31**
Provided it at cost price	**31**
Exchanged it for something other than cash (e.g. drugs, tickets, favours)	**19**
Provided it for cash profit	**12**

*Other NPS were: 'herbal high – empathy', 'herbal high – joker'
**Other main source provided was 'shop'
***Other person provided to was 'workmates'

Participants were asked whether they had experienced any adverse effects on the last occasion of NPS use. Of the 28 participants who responded, 46% (n=13) reported at least one adverse effect, not significantly different from 47% in 2015. Of the listed adverse effects, 'seeing things that were not there' was the most common (n=4, 14%), followed by 'hearing things that were not there and 'restlessness or anxiety' (each n=3, 11%), 'nausea/vomiting' and 'paranoia' (each n=2, 7%) and 'shortness of breath (n=1, 4%). An additional eight participants (29%) specified an 'other' unexpected adverse effects that were not listed. These findings were not significantly different from the 2015 results.

Table 47 shows a complete breakdown of these results.

Table 47: Unexpected adverse NPS effects experienced on last occasion of use, 2016

Unexpected adverse effect (%)	2016 N=28
No adverse effects	**54**
Seeing things that were not there	**14**
Hearing things that were not there	**11**
Restlessness/anxiety	**11**
Nausea/vomiting	**7**
Paranoia	**7**
Shortness of breath	**4**
Other*	**29**

Source: WA EDRS RPU interviews, 2016

* Other effects were: 'convulsions, couldn't respond to people', 'couldn't open hands', 'dissociative, out-of-body experience', 'feeling things that were not there', 'intrusive thoughts, stopped breathing', 'lack of control, disoriented', 'out of it' and 'wanted high to end'

9.2. Online purchasing

In 2016, the EDRS continued to investigate and monitor the practice of purchasing drugs online among recreational drug users in Australia. Of particular interest was the use of 'dark web' market places that are only accessible using a specially routed, anonymous connection. These market places makes it possible for people around the world to get illicit drugs, like MDMA and cocaine, delivered to their door (Burns & Van Buskirk, 2013). The EDRS places particular focus on the attainment of NPS online given the changes in legislation and negative effects of particular NPS (such as NBOMe and synthetic cannabis). The aim of this module was to investigate: (1) the prevalence of online drug purchasing among the 2015 EDRS sample and (2) the patterns of online drug purchasing, with a focus on NPS.

Fourteen per cent of the sample reported having ever purchased an illicit drug online, the same proportion that was reported in 2014 and 2015. Just more than one-tenth (11%) reported that they had purchased an illicit drug online in the past 12 months, the same proportion reported in 2015. Participants who had purchased an illicit drug online in the preceding 12 months were asked how many times they had done so in that time period (see Table 48). None of the reported proportions were significantly different from the 2015 findings.

Table 48: Number of times purchased illicit drugs online in the preceding 12 months, 2015 and 2016

(%)	2015 (n=11)	**2016 (n=11)**
Once	36	**27**
Twice	36	**27**
3-5 times	18	**18**
More than 5 times	9	**27**

Source: WA EDRS RPU interviews, 2015 and 2016

In 2016, purchases of illicit drugs were reported to have been made from either international webstores ('surface web'; n=3, 18%) or dark net marketplaces (n=9, 82%). These results were not significantly different from the 2015 findings.

Table 49 illustrates the specific illicit drugs that participants reported purchasing online in the preceding 12 months for both the 2015 and 2016 EDRS samples. The results from the present sample were not significantly different from the 2015 findings. In 2016, ecstasy was the most commonly purchased traditional drug (n=6, 54%), followed by LSD (n=4, 36%), cannabis, cocaine and mushrooms (each n=2, 18%), and benzodiazepines and ketamine (each n=1, 9%). One participant (9%) reported purchasing the cognitive enhancing drug modafinil.

Four participants (4%) in the overall 2016 sample reported purchasing any NPS online in the last 12 months, not significantly different from 5% in 2015. Again not significantly different from the 2015 results, among participants who had purchased any drug online in that time period, drugs in the 2C-x class were the most commonly purchased NPS (n=2, 18%). This was followed by followed by DMT, NBOMe, 4-AcO-DMT, mescaline, MDEA, benzo fury 3-MeO-PCP and 5-MeO-DMT (each n=1, 9%).

Table 49: Illicit substances reportedly purchased online in the preceding 12 months, 2015 and 2016

Online substance purchased (%)	2015 n=11	**2016 n=11**
Traditional illicit substances		
Ecstasy (any form)	73	**54**
LSD	36	**36**
NPS (any)	0	**36**
Cannabis	27	**18**
Cocaine	9	**18**
Mushrooms	9	**18**
Benzodiazepines	9	**9**
Ketamine	9	**9**
Methamphetamine (any form)	9	**0**
MDA	9	**0**
Pharmaceutical stimulants	9	**0**
Cognitive enhancing drugs		
Modafinil	0	**9**
NPS illicit substances	n=5	**n=4**
2C-x class	27^	**18^**
DMT	18^	**9^**
NBOMe	0^	**9^**
4-AcO-DMT	0^	**9^**
Mescaline	0^	**9^**
MDEA	0^	**9^**
Benzo Fury	9^	**0^**
3-MEO-PCP	0^	**0^**
5-MeO-DMT	9^	**0^**

Source: WA EDRS RPU interviews, 2015 and 2016
^ n<10. Results should be interpreted with caution

9.3. Video gaming and gambling

Gambling disorder and internet gaming disorder are two of the most widely researched behavioural addictions (Grant et al., 2010) with the former recognised as a mental health disorder in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (American Psychiatric Association, 2013). Previous research has indicated a co–occurrence of each of these two behavioural addictions with substance use disorders (Sim et al., 2012, Petry et al., 2005).

In the 2016 EDRS survey additional questions were added to examine the proportions of co-occurring behavioural addictions and substance use disorders among a cohort of regular psychostimulant users. The questions assessed the amount of video gaming/gambling in the last six months. Single-item measures of problematic video gaming/gambling use, derived from Thomas et al. (2008), for gambling were included. Widyanto et al., (2010) demonstrate a high correlation between a single-item measure for internet addiction and a multiple item questionnaire.

More than three-quarters (77%) of the 2016 sample reported playing video games in the last six months, on a median of 24 days during that time period (approximately once a week; range 1-180 days). The median amount of time spent playing video games on a typical day was 90 minutes (range 10 mins to 24 hours). Less than half (45%) of those who had played video games in the last 12 months had done so for one hour or less on a typical day of play. Fourteen percent of those who had played video games in the last six months believed they had an issue with video gaming.

Participants were also asked questions around gambling. Almost half (48%) had gambled in the last six months, on a median of three days in that time period (range 1-96). Six percent of those who had gambled in the last six months believed they had an issue with gambling.

A full breakdown of these results is shown in Table 50.

Table 50: Video gaming and gambling among RPU in the last six months, 2016

Video games **(%)**	**2016** **N=100**
Played video games in the last six months	**77**
Median days played (range)	**24 (1-180)**
Median number of minutes played	**90 (10 mins – 24 hours)**
Time spent on video games in a typical day	**(n=77)**
One hour or less	**45**
More than one hour but less than three hours	**35**
Three hours or more	**19**
Ever had an issue with video gaming*	**14**
Gambling **(%)**	**2016** **N=100**
Gambled in the last six months	**48**
Median days gambled (range)	**3 (1-96)**
Ever had an issue with gambling*	**6**

Source: WA EDRS RPU interviews, 2016
*Among participants who had played video games/gambled in the last six months

9.4. Summary of special topics of interest

NPS supply, purchasing patterns and adverse effects

- More than one-third (37%) of the sample reported using an NPS in the last 12 months. Among users, the most commonly used NPS in the last 12 months was DMT (37%), followed by 2C-x drugs (22%).
- Among participants who had used NPS in the last 12 months, 43% had a supplied an NPS to others during that time period. 'Friend' was the most commonly reported person to which participants had supplied NPS (100%).
- Less than half (46%) of participants who had used NPS in the last 12 months reported experiencing an adverse side effect on the last occasion of use. The most commonly reported adverse effects were 'seeing things that were not there' and 'restlessness or anxiety (each 11%).

Online purchasing

- Fourteen percent of the sample reported having purchased an illicit drug online in their lifetime, the same proportion reported in 2015.
- Just more than one-tenth (11%) of the sample reported purchasing an illicit drug online in the last 12 months, the same figure reported in 2015. Among these participants, ecstasy was the most commonly purchased drug (54%), followed by LSD, cannabis and any NPS (each 36%).

Video gaming and gambling

- More than three-quarters (77%) of the sample reported playing video games in the last six months, on a median of 24 days. Among these participants, 14% believed they had an issue with video gaming.
- Almost half (48%) of the sample had gambled in the last six months, on a median of three days in that time period. Among these participants, 6% believed they had an issue with gambling.

10. GENERAL TRENDS

Participants were asked what proportion of their friends had used ecstasy in the preceding six months. Not significantly different from the 2015 sample, the most common response in 2016 was ‘most’ (51%); followed by ‘about half’ (24%), ‘all’ (14%) and then ‘a few’ (11%).

Participants were also asked if there was anything new happening in drug use among themselves or their friends in the preceding six months. Just more than half (52%) reported that there was. Among these participants, more than a quarter (n=15, 29%) reported that there was an increase in drug use by some types of users, 27% (n=14) reported that there were new drug types, 2% (n=1) reported that there were different types of users and 46% (n=24) reported an ‘other’ trend.

Among those who commented (n=48), a small number of participants (n=4, 8%) reported an increase in drug use in general, with a smaller proportion indicating decreasing general drug use (n=2, 4%). Comments made in relation to ecstasy were that there had been an increase in use (n=10, 21%). Further comments were that ecstasy pills were bigger or different in shape and design and that there had been recent increases in using other drugs concomitantly with ecstasy (each (n=2, 4%). Other comments were that ecstasy had become easier to obtain, that there were increases in availability of ecstasy caps, that there was an increase in MDMA crystals and that some users were smoking MDMA (each n=1, 2%).

Regarding drugs other than ecstasy, a small number of participants made comments about an increase in ketamine use recently (n=5, 10%) and the same proportion (n=5, 10%) also reported increasing NPS use, with two participants specifically mentioning increases in DMT use (4%). An additional five participants (10%) commented on an increase in LSD use recently. Participants reported a recent increase in the use of OTC cough syrup or codeine mixed with lemonade (known as ‘lean’) and cocaine (each n=3. 6%). A small proportion of participants reported increases in crystal methamphetamine, pharmaceutical stimulants and cannabis and decreases in crystal methamphetamine use (each n=2, 4%). Participants also commented on increases in the use of GHB, nitrous oxide, speed and modafinil (each n=1, 2%). Finally, three participants (6%) also reported an increase in the use of the internet and/or dark net to purchase drugs.

A full breakdown of these results is shown in Table 51.

Table 51: New issues reported, 2016

(%)	2016 n=52
Themes	
Increase in drug use by some types of users	**29**
New drug types	**27**
Different types of users	**2**
Other	**46**
General drug use	**(n=48)**
Increased overall drug use	**8**
Decreased overall drug use	**4**
Ecstasy	
Increased use of ecstasy	**21**
Changes to design of pills/bigger pill size	**4**
Increased concomitant use of ecstasy and other drugs	**4**
Increased availability of ecstasy	**2**
Increased availability of ecstasy caps	**2**
Increased availability of MDMA crystals	**2**
Some users smoking MDMA	**2**
Other drug use	
Increased ketamine use	**10**
Increased use of LSD	**10**
Increased use of NPS/research chemicals (including DMT)	**10**
Increased use of cough syrup/codeine mixed with lemonade ('lean')	**6**
Increased use of cocaine	**6**
Increased use of DMT	**4**
Increased use of methamphetamine	**4**
Decreased use of methamphetamine	**4**
Increased use of cannabis	**4**
Increased use of pharmaceutical stimulants (Ritalin and dexamphetamine)	**4**
Increased use of GHB	**2**
Increased use of nitrous oxide	**2**
Increased u se of power methamphetamine (speed)	**2**
Increased use of modafinil	**2**
Online purchasing	
Increased online/dark net purchasing	**6**

REFERENCES

American Psychiatric Association 2013. Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition), Washington, DC, American Psychiatric Association.

Andrews, G. & Slade, T. (2001). Interpreting scores on the Kessler psychological distress scale (K10), *Australian and New Zealand Journal of Public Health*, 25, 494-497.

Australian Bureau of Criminal Intelligence. (1999). *Australian Illicit Drug Report 1997-98*. ABCI: Canberra.

Australian Bureau of Criminal Intelligence. (2000). *Australian Illicit Drug Report 1998-99*. ABCI: Canberra.

Australian Bureau of Criminal Intelligence. (2001). *Australian Illicit Drug Report 1999-00*. ABCI: Canberra.

Australian Crime Commission. (2007). *Illicit Drug Data Report 2005-06*. ACC: Canberra.

Australian Crime Commission. (2008). *Illicit Drug Data Report 2006-07*. ACC: Canberra.

Australian Crime Commission. (2009). *Illicit Drug Data Report 2007-08*. ACC: Canberra.

Australian Crime Commission. (2010). *Illicit Drug Data Report 2008-09*. ACC: Canberra.

Australian Crime Commission. (2012). *Illicit Drug Data Report 2010-11*. ACC: Canberra.

Australian Crime Commission. (2013). *Illicit Drug Data Report 2011-12*. ACC: Canberra.

Australian Crime Commission. (2014). *Illicit Drug Data Report 2012-13*. ACC: Canberra.

Australian Crime Commission. (2015). *Illicit Drug Data Report 2013-14*. ACC: Canberra.

Australian Crime Commission. (2015). *Illicit Drug Data Report 2014-15*. ACC: Canberra.

Australian Institute of Health and Welfare. (2011). *Alcohol and Other Drug Treatment Services in Australia 2009-10: Report on the National Minimum Data Set*. AIHW: Canberra.

Australian Institute of Health and Welfare. (2014). *2013 National Drug Strategy Household Survey: Detailed Report*. AIHW: Canberra.

Babor, T. F. & Higgins-Biddle, J. C. (2000). Alcohol screening and brief intervention: Dissemination strategies for medical practice and public health. *Addiction*, 95, 677-686.

Babor, T. F., De La Fuente, J. R., Saunders, J., & Grant, M. (1992). *AUDIT: The Alcohol Use Disorder Identification Test. Guidelines for Use in Primary Health Care*. World Health Organization: Geneva.

Barnard, R. H. (1995). *Research Methods in Social Anthropology: Qualitative and Quantitative Approaches*.2nd ed. Altamira Press: London.

Barratt, M. J. (2012). Silk Road: eBay for Drugs. *Addiction,* 107, 683-684.

Barratt, M. J., Cakic, V., & Lenton, S. (2013). Patterns of synthetic cannabinoid use in Australia. *Drug and Alcohol Review,* 32, 141-146.

Berman, S. M., Kuczenski, R., McCracken, J. T., & London, E. D. (2008). Potential adverse effects of amphetamine treatment on brain and behavior: a review. *Mol Psychiatry,* 14, 123-142.

Bruno, R., Gomez, R. & Matthews, A. (2011). Choosing a Cut-Off on the Severity of Dependence Scale for ecstasy Use. *The Open Addiction Journal*, 4, 13-14.

Burns, L., Roxburgh, A., Matthews, A., Bruno, R., Lenton, S., & Van Buskirk, J. (2014). The rise of new psychoactive substance use in Australia. *Drug Testing and Analysis, 6*(7-8), 846-849. doi:10.1002/dta.1626

Burns, L. & Van Buskirk, J. 2013. Shedding light on online stores for illicit and synthetic drugs. http://theconversation.com/shedding-light-on-online-stores-for-illicit-and-synthetic-drugs-16580 [Accessed 20/02/2014].

Bruno, R., Matthews, A. J., Dunn, M., Alati, R., McIlwraith, F., Hickey, S., Burns, L. & Sindicich, N. (2012). Emerging psychoactive substance use among regular ecstasy users in Australia. *Drug and Alcohol Dependence*, 124, 19-25.

Bruno, R., Poesiat, R., & Matthews, A. J. (2013). Internet monitoring for EPS. *Drug and Alcohol Review,* 32, 541-544.

Buckley, N. A., Dawson, A. H, & Isbister, G K. (2014) Serotonin syndrome. *BMJ,* 348: g1626.

Caldicott, D. G. E., Bright, S. J. & Barratt, M. J. (2013). NBOMe: A very different kettle of fish. *Medical Journal of Australia,* 199, 322-323.

Chin, M., Kreutzer, R. & Dyer, J. (1992). Acute poisoning from gamma-hydroxybutyrate overdose. *Annals of Emergency Medicine,* 31, 716-722.

Darke, S., Cohen, J., Ross, J., Hando, J. & Hall, W. (1994). Transitions between routes of administration of regular amphetamine users. *Addiction*, 89, 1077-1083.

Danton, K., Misselke, L., Bacon, R., & Done, J. (2003). Attitudes of young people toward driving after smoking cannabis or after drinking alcohol. *Health Education Journal*, 62, 50-60.

Dawe, S., Loxton, N. & Hides L et al. (2002). *Review of diagnostic screening instruments for alcohol and other drug use and other psychiatric disorders.* Commonwealth Department of Health & Ageing: Canberra.

Degenhardt, L., Darke, S. & Dillon, P. (2002). GHB use among Australians: Characteristics, use patterns and associated harm. *Drug and Alcohol Dependence*, 67, 89-94.

EMCDDA (2014). *Drug use, impaired driving and traffic accidents.* 2nd ed. European Monitoring Centre for Drugs and Drug Addiction: Lisbon.

European Commission. (2014). *Young people and drugs. Flash Eurobarometer 401*. Retrieved from http://ec.europa.eu/public_opinion/flash/fl_401_en.pdf

European Monitoring Centre for Drugs and Drug Addiction. (2011). Online sales of new psychoactive substances/'legal highs': Summary of results from the 2011 multilingual snapshots. Luxembourg: Publications Office of the European Union.

European Monitoring Centre for Drugs and Drug Addiction. (2016a). EU Drug Markets Report. In-depth Analysis. Luxembourg: Publications Office of the European Union.

European Monitoring Centre for Drugs and Drug Addiction. (2016b). Health responses to new psychoactive substances. Luxembourg: Publications Office of the European Union.

European Monitoring Centre for Drugs and Drug Addiction. (2016c). The internet and drug markets. Luxembourg: Publications Office of the European Union.

Farah, M. J., Smith, M. E., Ilieva, I., & Hamilton, R. H. (2014). Cognitive enhancement. *Wiley Interdisciplinary Reviews-Cognitive Science,* 5, 95-103.

Furukawa, T. A., Kesler, R. C., Slade, T. & Andrews, G. (2003). The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. *Psychological Medicine*, 33, 357-362.

Galloway, G., Frederick, S., Staggers, F., Gonzales, M., Stalcup, S. & Smith, D. (1997). Gamma-hydroxybutyrate: An emerging drug of abuse that causes physical dependency. *Addiction,* 92, 89-96.

Grant, J., Potenza, M., Weinstein, A. & Gorelick, D. (2010). Introduction to Behavioral Addictions. The American Journal of Drug and Alcohol Abuse, 36, 233-241.

Green, R., & Moore, D. (2009). 'Kiddie drugs' and controlled pleasure: Recreational use of dexamphetamine in a social network of young Australians. *International Journal of Drug Policy*, 20, 402-408.

Hando, J. & Hall, W. (1993). *Amphetamine Use Among Young Adults in Sydney, Australia*. Drug and Alcohol Directorate: Sydney.

Hando, J., Topp, L. & Hall, W. (1997). Amphetamine-related harms and treatment preferences of regular amphetamine users in Sydney, Australia. *Drug and Alcohol Dependence*, 46, 105-113.

Hough, M., Warburton, H., Few, B., May, T., Man, L.-H., Witton, J., & Turnbull, P. J. (2003). *A Growing Market: The Domestic Cultivation of Marijuana*. York: Joseph Rowntree Foundation.

Joshi, P. (2011). *Use of cognitive enhancing substances by University students: a cross-sectional study*. Master of Pharmacy, Curtin University.

Kam, P. & Yoong, F. (1998). Gamma-hydroxybutyric acid: An emerging recreational drug. *Anaesthesia*, 53, 1195-1198.

Kaye, S. & Darke, S. (2011). The diversion and misuse of pharmaceutical stimulants: What do we know and why should we care? *Addiction,* 107, 467-477.

Kerlinger, F. N. (1986). *Foundations of Behavioural Research.* CBS Publishing Limited: Japan.

Macquarie Dictionary. Psychedelic.http://www.macquariedictionary.com.au/149.171.0.0.16@929FF976057802/p/dict/5ed.html [Accessed 09/01/2013].

Matthews, A. J., Bruno, R., Dietze, P., Butler, K., & Burns, L. (2014). Driving under the influence among frequent ecstasy consumers in Australia: Trends over time and the role of risk perceptions. *Drug and Alcohol Dependence*, 144, 218-224.

Mazanov, J., Dunn, M., Connor, J., & Fielding, M.-L. (2013). Substance use to enhance academic performance among Australian university students. *Performance Enhancement & Health*, 2, 110-118.

Merriam-Websters Medical Dictionary. Phenylethylamine. http://dictionary.reference.com / browse/phenylethylamine [Accessed 09/01/2013].

Merriam-Websters Medical Dictionary. Tryptamine. http://dictionary.reference.com/ browse/ Tryptamine [Accessed 09/01/2013].

Morgan, J. A. & Curran, H. V. (2011). Ketamine use: A review. *Addiction*, 107, 27-38.

Nacca, N., Vatti, D., Sullivan, R., Sud, P., Su, M., & Marraffa, J. (2013). The Synthetic Cannabinoid Withdrawal Syndrome. *Journal of Addiction Medicine, 7, 296-298.*

Nicholson, K. & Balster, R. (2001). GHB: A new and novel drug of abuse. *Drug and Alcohol Dependence*, 63, 1-22.

Oskooilar, N. (2005). A case of premature ventricular contractions with modafinil. *Am J Psychiatry, 162*, 1983-1984.

Ragan, C. I., Bard, I., & Singh, I. (2013). What should we do about student use of cognitive enhancers? An analysis of current evidence. *Neuropharmacology,* 64, 588-595.

Reinert, D. F. & Allen, J. P. (2002). The Alcohol Use Disorders Identification Test (AUDIT): A review of recent research. *Alcoholism: Clinical and Experimental Research*, 26, 272-279.

Roxburgh, A. and Breen, C. (2017) *Drug-related hospital stays in Australia, 1993-2015.* Sydney: National Drug and Alcohol Research Centre.

Saunders, J. B., Aasland, O. G., Babor, T. F., De La Fuente, J. R. & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption. *Addiction,* 88, 793-804.

Seely, K. A, Lapoint, J., Moran, J. H., & Fattore, L. (2012). Spice drugs are more than harmless herbal blends: A review of the pharmacology and toxicology of synthetic cannabinoids. *Progress in Neuro-Psychopharmacology and Biological Psychiatry,* 39, 234-243.

Seiden, L. S., Sobol, K. E. & Ricaurte, G. A. (1993). Amphetamine: effects on catecholamine systems and behaviour. *Annual Review Pharmacology and Toxicology*, 33, 639-674.

Silins, E., Copeland, J., & Dillon, P. (2007). Qualitative review of serotonin syndrome, ecstasy (MDMA) and the use of other serotonergic substances: Hierarchy of risk. *Australian & New Zealand Journal of Psychiatry,* 41, 649-655.

Sutherland, R., Barratt, M., Peacock, A., Dietze, P., Breen, C., Burns, L. & Bruno, R. (2016). New psychoactive substances: supply and purchasing patterns in Australia. *Human Psychopharmacology: Clinical and Experimental*.

Sindicich, N. & Burns, L. (2015). Australian Trends in Ecstasy and related Drug Markets 2014. Findings from the Ecstasy and Related Drugs Reporting System (EDRS). *Australian Drug Trends Series No. 136*. Sydney: National Drug and Alcohol Research Centre.

Solowij, N. Hall, W. & Lee, N. (1992). Recreational MDMA use in Sydney: A profile of ecstasy users and their experiences with the drug. *British Journal of Addiction*, *87*, 1,161.

Sutherland, R., Barratt, M., Peacock, A., Dietze, P., Breen, C., Burns, L. & Bruno, R. 2017 (In Press). New psychoactive substances: supply and purchasing patterns in Australia. *Human Psychopharmacology: Clinical and Experimental*, 10.1002/hup.2577.

Topp, L. & Churchill, A. (2002). *Australia's Dynamic Methamphetamine Markets, Drug Trends Bulletin*. Sydney: National Drug and Alcohol Research Centre.

Topp, L., Hall, W., & Hando, J. (1997). *Is there a dependence syndrome for ecstasy?* Sydney: National Drug and Alcohol Research Centre.

Topp, L., Hando, J., Degenhardt, L., Dillon, P., Roche, A. & Solowij, N. (1998). *Ecstasy Use in Australia*. Sydney: National Drug and Alcohol Research Centre.

Topp, L., Hando, J., Dillon, P., Roche, A. & Solowij, N. (2000). Ecstasy use in Australia: Patterns of use and associated harms. *Drug and Alcohol Dependence*, 55, 105-115.

Topp, L., Degenhardt, L., Kaye, S. & Darke, S. (2002). The emergence of potent forms of methamphetamine in Sydney, Australia: A case study of the IDRS as a strategic early warning system. *Drug and Alcohol Review*, 21, 341-348.

Van Buskirk, J., Roxburgh, A., Bruno, R., & Burns, L. (2013). Drugs and the Internet (Vol. 1). Sydney: National Drug and Alcohol Research Centre.

Van Buskirk, J., Roxburgh, A., Farrell, M., & Burns, L. (2014). The closure of the Silk Road: what has this meant for online drug trading? *Addiction,* 109: 517-518.

Wardlaw, G. (1993). Supply reduction (law enforcement) strategies pertaining to illicit use of psychostimulants. In *Illicit Psychostimulant Use in Australia*, eds D. Burrows, B. Flaherty & M. MacAvoy. Canberra: Australian Government Publishing Service, 91-104.

Zimmerman, U. S., Winkelmann, P. R., Pilhatsch, M., Nees, J. A., Rainer, S., & Schulz, K. (2009). Withdrawal phenomena and dependence syndrome after consumption of "spice gold". *Deutches Arzteblatt International,* 106, 464-467.