

# **Northern Territory**

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**NT TRENDS IN ECSTASY AND RELATED  
DRUG MARKETS 2013  
Findings from the  
Ecstasy and Related Drugs Reporting System  
(EDRS)**

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**NORTHERN TERRITORY  
TRENDS IN ECSTASY AND  
RELATED DRUG MARKETS  
2013**



**Findings from the  
Ecstasy and Related Drugs  
Reporting System (EDRS)**

**Elizabeth Whittaker and Lucy Burns**

National Drug and Alcohol Research Centre  
UNSW Australia

**Australian Drug Trends Series No. 125**

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## ABBREVIATIONS

<b>2C-B</b>	4-bromo-2,5-dimethoxyphenethylamine
<b>2C-E</b>	2,5-dimethoxy-4-ethylphenethylamine
<b>2C-I</b>	2,5-dimethoxy-4-iodophenethylamine
<b>5-MeO-DMT</b>	5-methoxy-dimethyltryptamine
<b>ACC</b>	Australian Crime Commission
<b>ACPR</b>	Australasian Centre for Policing Research
<b>A&amp;TSI</b>	Aboriginal and/or Torres Strait Islander
<b>AIHW</b>	Australian Institute of Health and Welfare
<b>AODTS MDS</b>	Alcohol and Other Drug Treatment Services Minimum Data Set
<b>ATS</b>	amphetamine type stimulant
<b>AUDIT</b>	Alcohol Use Disorders Identification Test
<b>BBVI</b>	blood-borne viral infections
<b>BZP</b>	1-benzylpiperazine
<b>CNS</b>	central nervous system
<b>DASSA</b>	Drug and Alcohol Services South Australia
<b>DMT</b>	dimethyl tryptamine
<b>DOB</b>	2,5-dimethoxy-4-bromoamphetamine
<b>DOI</b>	death on impact; 2,5-dimethoxy-4-iodoamphetamine
<b>DOM</b>	2,5-dimethoxy-4-methylamphetamine
<b>DXM</b>	dextromethorphan
<b>EDRS</b>	Ecstasy and Related Drugs Reporting System
<b>ERD</b>	ecstasy and related drugs
<b>GBL</b>	gamma-butyrolactone
<b>GHB</b>	gamma-hydroxybutyrate
<b>IDRS</b>	Illicit Drug Reporting System
<b>IDU</b>	injecting drug user(s)
<b>K10</b>	Kessler Psychological Distress Scale
<b>KE</b>	key expert(s)
<b>LSD</b>	<i>d</i> -lysergic acid diethylamide
<b>MDA</b>	3,4-methylenedioxyamphetamine
<b>MDEA</b>	3,4-methylenedioxyethylamphetamine
<b>MDMA</b>	3,4-methylenedioxymethamphetamine
<b>MDPV</b>	3,4-methylenedioxypropylone; ivory wave
<b>MPTP</b>	1-methyl-4-phenyl-1,2,5,6-tetrahydropyridine
<b>N</b>	(or n) number of participants
<b>NDARC</b>	National Drug and Alcohol Research Centre

<b>NDLERF</b>	National Drug Law Enforcement Research Fund
<b>NDSHS</b>	National Drug Strategy Household Survey
<b>NPS</b>	new psychoactive substances
<b>NSW</b>	New South Wales
<b>NT</b>	Northern Territory
<b>OTC</b>	over the counter
<b>PASW</b>	Predictive Analytics Software
<b>PDI</b>	Party Drugs Initiative
<b>PIED</b>	performance and image enhancing drugs
<b>PMA</b>	para-methoxyamphetamine
<b>PNS</b>	peripheral nervous system
<b>QLD</b>	Queensland
<b>REU</b>	regular ecstasy user(s)
<b>ROA</b>	route of administration
<b>RPU</b>	regular psychostimulant user(s)
<b>SA</b>	South Australia
<b>SDS</b>	Severity of Dependence Scale
<b>STI</b>	sexually transmitted infection(s)
<b>THC</b>	delta-9-tetrahydro-cannabinol
<b>TMA</b>	3,4,5-trimethoxyamphetamine
<b>VIC</b>	Victoria

## GLOSSARY OF TERMS

2C-B	Street term for 4-bromo-2,5-dimethoxyphenethylamine. It is a synthetic psychedelic of moderate duration
2C-I	Street term for 2,5-dimethoxy-4-iodophenethylamine. It is a short-acting synthetic psychedelic
Binge	Use over 48 hours without sleep
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 a 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
Illicit	Illicit refers to pharmaceuticals obtained from a prescription in someone else's name, e.g. through buying them from a dealer or obtaining them from a friend or partner
Indicator data	Sources of secondary data used in the EDRS (see Method section for further details)
Ketamine	It is a dissociative psychedelic used as a veterinary and human anaesthetic

Key expert(s)	Also referred to as KE; persons participating in the Key Expert Survey component of the EDRS (see Method section for further details)
Licit	Licit refers to pharmaceuticals (e.g. benzodiazepines, antidepressants and opioids such as methadone, buprenorphine, morphine and oxycodone) obtained by a prescription in the user's name. This definition does not take account of 'doctor shopping' practices; however, it differentiates between prescriptions for self as opposed to pharmaceuticals bought on the street or those prescribed to a friend or partner
Lifetime injection	Injection (typically intravenous) on at least one occasion in the participant's lifetime
Lifetime use	Use on at least one occasion in the participant's lifetime via one or more of the following routes of administration: inject; smoke; snort; swallow; and/or shaft/shelve
LSD	Acronym for <i>d</i> -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')
Opiates	Opiates are derived directly from the opium poppy by departing and purifying the various chemicals in the poppy
Opioids	Opioids include all opiates but also include chemicals that have been synthesised in some way, e.g. heroin is an opioid but not an opiate, morphine is both an opiate and opioid
PMA	Acronym for para-methoxyamphetamine. It is an amphetamine-type drug with both stimulant and hallucinogenic properties
Point	0.1 gram although may also be used as a term referring to an amount for one injection
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 routes of administration: inject; smoke; snort; swallow; and/or shaft/shelve
Shelving/shafting	Use via insertion into vagina (shelving) or the rectum (shafting)
Use	Use via one or more of the following routes of administration: injecting; smoking; snorting; shafting/shelving and/or swallowing

### **Guide to days of use/injection**

180 days	daily use/injection <sup>*</sup> over preceding six months
90 days	use/injection <sup>*</sup> every second day
24 days	weekly use/injection <sup>*</sup>
12 days	fortnightly use/injection <sup>*</sup>
6 days	monthly use/injection <sup>*</sup>

<sup>\*</sup> As appropriate

## **EXECUTIVE SUMMARY**

The 2013 NT Trends in Ecstasy and Related Drug Markets report represents the fourteenth year in which data has been collected in the NT on the markets for ecstasy and related drugs (ERD). The Ecstasy and Related Drugs Reporting System (EDRS; formerly the Party Drugs Initiative, or PDI) is the most comprehensive and detailed study of ERD markets in the NT.

Using a similar methodology to the Illicit Drug Reporting System (IDRS), the EDRS monitors the price, purity and availability of 'ecstasy' (3,4-methylenedioxymethamphetamine; MDMA) and other related drugs such as methamphetamine, cocaine, gamma-hydroxybutyrate (GHB), d-lysergic acid diethylamide (LSD) and ketamine. It also examines trends in the use and harms of these drugs. It utilises data from three sources: a) surveys with regular ecstasy users (REU) and regular psychostimulant users (RPU); b) surveys with key experts (KE) who have contact with REU/RPU through the nature of their work; and c) the analysis of existing data sources that contain information on ecstasy and other drugs.

REU/RPU are recruited because they are considered a sentinel group to detect illicit drug trends. The information from REU/RPU surveys is, therefore, not representative of ecstasy and other drug users in the general population, but is indicative of emerging trends that may warrant further monitoring.

The findings from each year not only provide a snapshot of the drug markets in the NT, 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 the NT will help add to our understanding of the use of these drugs; the price, purity 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.

### **Executive summary snapshot**

#### **Demographics of EDRS participants**

- 45 participants were interviewed in the 2013 NT EDRS (31 male and 14 female).
- Participants were young (mean age = 25 years) and most commonly spoke English as their first language. One-third of participants were born overseas, with the majority arriving in Australia in 2012/13.
- Most participants were well-educated, currently employed and had a high mean weekly income.
- No participants reported being currently in drug treatment.
- There were a number of significant differences between the 2009 and 2013 NT samples, with the greatest variability noted in age, income, sexual orientation and completion of tertiary education.



## Patterns of drug use

- Participants had experience with a wide range of drugs, having used an average of 9 different drug types during their lifetimes and 5 different drug types over the past six months.
- Sixteen per cent reported having ever injected a drug.
- A number of significant changes in the proportions of participants using various drugs were found from 2009 to 2013. This included significant decreases in the use of speed, base and over the counter drugs, which was coupled with increases in use of LSD, ketamine and benzodiazepines.
- Alcohol was the main drug of choice for the majority of the sample.
- One-third of the group had recently binged on ERD. The median number of binge episodes was 1.5 in the past six months.

## Ecstasy

### *Consumption patterns*

- Ecstasy was used on a median of 8.5 days over the past six months (i.e. between fortnightly and monthly).
- Participants had used a median of 2 tablets during a 'typical' occasion of use (range 1-4).
- Swallowing was the main route of administration (84%).
- The majority of REU (87%) reported using other drugs in combination with ecstasy the last time they used it, most commonly alcohol, cannabis, tobacco and energy drinks.
- Two-fifths (41%) of participants used other drugs to help them come down from ecstasy the last time they used it (most commonly cannabis, tobacco and alcohol).
- Ecstasy was most commonly last used at a nightclub (52%) and other public venues.
- The proportion of the NT population who reported using ecstasy within the last 12 months decreased from 4.2% in 2007 to 3.2% in 2010.
- KE expressed concern that young people often use MDMA and alcohol in the same session, which can cause unexpected adverse reactions.

### *Market characteristics*

- *Price:* \$35 per tablet.
- *Purity:* Currently medium and mostly stable.
- *Availability:* Currently easy to very easy to obtain and stable.
- KE reported that ecstasy-type substances were difficult to obtain due to limited supply in the NT.

## Methamphetamine

The 2013 EDRS distinguished between three different forms of methamphetamine: methamphetamine powder ('speed'); methamphetamine base ('base'); and crystal methamphetamine ('crystal').

## *Consumption patterns*

### Speed

- Half of REU had ever used speed and one-third had done so recently.
- There was a significant decline in the proportion of participants who had used speed in their lifetime and recently in 2013 compared to 2009.
- Speed was used on a median of 4.5 days over the preceding six months and was primarily snorted (80%).
- The frequency and quantity of use appeared to be stable from 2009 to 2013.

### Base

- A minority of the sample had used base in their lifetime (7%) or recently (2%).
- As such, there was a significant decline in ever and recent use of base in 2013 compared to 2009.

### Crystal

- One-third of the sample had ever used crystal and one-fifth had done so recently.
- Of those who had recently used crystal, it was used on a median of 3 days over the preceding six months and had been smoked by all participants.
- The frequency and quantity of use appeared to return to levels previously observed in 2007.

### General methamphetamine consumption observations

- Speed and crystal were commonly purchased from friends.
- Speed was mostly purchased and used within public settings, whereas all reports of purchase location and use of crystal were in private settings.
- The use of methamphetamine among the NT general population remained mostly stable from 2007 (2.3%) to 2010 (2.1%). The vast majority of methamphetamine users in the NT were male.
- Most KE reported that crystal was currently the most problematic drug in the NT due to the adverse health and behavioural outcomes it was linked to. Some KE expressed concern that younger users were now injecting crystal.

### *Market characteristics:*

#### Speed

- *Price:* \$300 per gram and stable.
- *Purity:* Currently high and appeared to be stable.
- *Availability:* Reports variable.

#### Base

- No data available for 2013.

#### Crystal

- *Price:* \$300 per gram and reportedly stable.
- *Purity:* Currently medium to high and reportedly stable.
- *Availability:* Currently easy to obtain.

## General methamphetamine market characteristic observations

- KE agreed that crystal had become easier to access, although all forms of methamphetamine were notably more expensive in the NT than other jurisdictions.

## Cocaine

### *Consumption patterns*

- The majority of the group (64%) had tried cocaine at least once, and one-third had used it recently.
- Cocaine was used on a median of 4 days (i.e. about every six weeks) over the preceding six months.
- The proportions using cocaine, the frequency and quantities used had all increased from 2009 to 2013.
- Despite recent use of cocaine increasing in the Australian population since 2004, in the NT there has been a decrease in the proportion reporting recent cocaine use to 0.5%.

### *Market characteristics*

- *Price:* \$325 per gram, stable.
- *Purity:* High although appears to have fluctuated.
- *Availability:* Currently easy to obtain, stable.

## LSD

### *Consumption patterns*

- The majority of the sample had tried LSD at least once (64%) and two-fifths (40%) had used it recently.
- Compared to 2009, there was a significant increase in the proportion reporting recent use of LSD in 2013.
- LSD was used on a median of 2 days over the preceding six months.
- LSD was most often purchased from friends (75%) and used in a variety of public and private settings.

### *Market characteristics*

- *Price:* \$35 per tab, stable.
- *Purity:* Currently medium to high, stable.
- *Availability:* Currently easy to very easy to obtain, stable.

## Ketamine

### *Consumption patterns*

- Two-fifths of the sample had tried ketamine at least once and one-tenth had used it recently.
- Ketamine was used on a median of one day over the preceding six months.
- There was a significant increase in proportions reporting lifetime ketamine use from 2009 to 2013.

### *Market characteristics*

- There was no NT data reported on the price, purity or availability of ketamine for 2013.

## **GHB**

### *Consumption patterns*

- Compared to other illicit drugs, GHB had been used by a smaller proportion of NT participants in their lifetime (13%) and recently (2%).

### *Market characteristics*

- There was no NT data reported on the price, purity or availability of GHB for 2013.

## **Cannabis**

### *Consumption patterns*

- Almost every participant had tried cannabis at least once and the vast majority had used it recently.
- Cannabis was used on a median of 24 days (i.e. once per week) over the preceding six months.
- The use of cannabis had remained relatively stable over time.
- The NT continued to have the highest proportion of recent cannabis users than any other jurisdiction, with the NT reporting an increase in use from 13.8% in 2007 to 16.5% in 2010.
- KE revealed that cannabis use was common amongst ERD users in Darwin.

### *Market characteristics*

#### *Hydro*

- *Price:* \$40 per gram; \$320 per ounce, stable.
- *Potency:* Currently medium to high, stable.
- *Availability:* Currently easy to very easy to obtain, stable.

#### *Bush*

- *Price:* \$30 per gram; \$200 per ounce, stable.
- *Potency:* Currently medium, stable.
- *Availability:* Currently very easy to obtain, stable.

### General cannabis market characteristic observations

- KE reported that the price of cannabis had remained stable, although the purity had declined in the past 12 months.

## **Other drug use**

### *Alcohol*

- Almost all 2013 NT REU reported lifetime use (98%) and recent use (96%) of alcohol.
- KE reported that alcohol continued to be one of the most problematic drugs among REU. Health KE identified the need for alternative health delivery systems at large-scale events to assist those who over-consume alcohol.

### *Tobacco*

- Three-quarters of REU had used tobacco at least once (76%) and the majority (58%) had smoked within the past six months.

### *Benzodiazepines*

- One-third of the group had recently used benzodiazepines. Illicit use was slightly more common than licit use.

### *Antidepressants*

- One-in-ten REU had recently used antidepressants. Licit use was more common than illicit use.

### *Inhalants*

- Similar proportions reported both lifetime and recent use of amyl nitrite (29%; 11%) and nitrous oxide (27%; 9%).

### *MDA*

- Sixteen per cent reported lifetime use of MDA.

### *Heroin and other opiates*

- One-in-ten reported lifetime use of heroin and other opiates.

### *Mushrooms*

- Almost half (44%) the sample reported lifetime use of mushrooms and 13% had used mushrooms in the past six months.

### *Pharmaceutical stimulants*

- One-fifth of the group had recently used pharmaceutical stimulants. Licit use was slightly more common than illicit use.

### *Over the counter (OTC) drugs*

- Very small numbers reported recent illicit use of OTC codeine-containing products and OTC stimulants.

### *Antipsychotics*

- Two NT participants reported lifetime use of antipsychotics.

### *Performance and image enhancing drugs (PIED)*

- Three participants reported lifetime use of PIED.

## **New psychoactive substance (NPS) use**

- Three-fifths reported having ever used NPS and one-quarter reported using NPS in the last six months.

- The most common psychoactive substances used among Darwin EDRS participants included Kronic, herbal high blends, DMT and capsules with unknown contents.
- KE expressed concern over the increasing supply and use of NPS in Darwin, given that little is known about the adverse effects of these substances.

### **Health-related harms associated with ERD use**

#### *Overdose and hospital admissions*

- Just over one-tenth of participants reported having overdosed on a stimulant drug (13%) and/or a depressant drug (13%) throughout their lifetime.
- Hospital admissions in which the principal diagnosis was amphetamines or cannabis decreased in 2011/12.

#### *Service usage*

- Only one respondent reported that they had recently accessed a medical or health service in relation to their drug use.
- Treatment episodes for ecstasy and cocaine have remained relatively low over time in the NT. In contrast, presentations where amphetamine or cannabis was the principal drug of concern notably increased since 2006/07.

#### *Self-reported problems associated with ERD use*

- Participants commonly reported that their drug use interfered with responsibilities (19%), resulted in exposure to risk of injury (16%) and/or caused repeated social problems (7%). Recurrent drug-related legal problems were not reported by ERD users (0%).

#### *Mental health*

- Nine per cent of the group had recently experienced a mental health problem. Mood and anxiety disorders were most commonly reported.
- Participants completed the K10. Just over one-third displayed 'distress' to some degree, with one-tenth of the group falling into the 'high' or 'very high' distress categories.

### **Risk behaviours**

- Sixteen per cent (n=6) of the sample had ever injected a drug and 2 participants had done so recently.
- Three-quarters of the sample had recently had penetrative sex with a casual partner. Just under half the sample did not use a sexual barrier on the last occasion (regardless of whether or not they were intoxicated). The main reasons were that the partner was using contraception, they agreed not to or they did not want to use contraception.
- The majority (80%) of the sample had recently driven a vehicle. Of these, half had done so while over the legal blood alcohol limit and one-third had driven after having taken an illicit drug.
- Participants completed the Alcohol Use Disorders Identification Test (AUDIT). The vast majority (89%) of the group fell in the 'harmful drinking' range.
- Using the Severity of Dependence Scale (SDS), ecstasy dependence was reported by 11% of participants when using a cut-off score of three or more, or by 2% of participants when using a cut-off score of four or more.

## Law enforcement-related trends associated with ERD use

- Seven per cent of participants had reportedly been arrested over the past year.
- Just over one-in-ten had committed a crime within the past month; most commonly drug dealing and property crimes.
- In 2011/12, there was a notable decline in the number of arrests in the NT for amphetamines. In contrast, arrests increased to their highest levels observed for cannabis use/possession. Consumer and provider arrests remained stable and low for cocaine and hallucinogen use/possession.
- The majority of participants (78%) reported that half or more of their friends had used ecstasy during the previous six months.

## Special topics of interest

- Backpackers who had engaged in ERD use were:
  - 24 years old, mostly male (61%), heterosexual, well-educated and from a variety of English and non-English speaking backgrounds.
  - Backpackers had used a median of five drug types in the past six months, the most common including cannabis (100%), ecstasy (91%), alcohol (87%), tobacco (65%) and LSD (57%).
  - Anecdotally, female backpackers revealed that they often received drugs as gifts from male friends when in social settings, however, they were not aware of what drug type they were consuming.
  - Backpackers reported overdoses in the last six months on stimulant (4%) and depressant (22%) drugs.
  - One-quarter accessed a health service over the last six months, however, no one accessed a health service for their drug use.
  - The majority of backpackers' K10 psychological distress scores fell into the 'low/no distress' (65%) category. Only one backpacker reported a mental health problem recently.
  - Most backpackers (78%) reported having casual penetrative sex in the past six months, with almost all of these participants (94%) reporting that they had sex under the influence of drugs.
  - Three-quarters (78%) reported driving a vehicle in the past six months. Of these individuals, two-fifths had driven over the alcohol limit and one-quarter had driven after consuming a drug.
  - One-quarter reported engaging in criminal activity during the month prior to the interview. Almost one-fifth had reportedly been arrested over the preceding 12 months.
- Two-fifths (44%) knew a person/people who had injected an illicit drug in their lifetime. Of these participants, two-thirds knew of a friend/acquaintance who had injected in the past 12 months.
- Eleven per cent had been offered drugs to inject in the past 12 months, however, the overwhelming majority (91%) reported that they were extremely unlikely to inject a drug in the future.

## **Implications**

The NT branch of the EDRS aims ultimately to monitor trends in the Darwin ecstasy and related drug (ERD) markets and to investigate harms associated with ERD use. The 2013 NT EDRS revealed ongoing changes in drug markets and indications of drug-related harms which are discussed below.

### **Ongoing fluctuation in ERD markets**

Over the past few years, there has been growing evidence of increasing experimentation among ERD users with other existing and emerging substances. Data from the last two data collection points (2009 and 2013) revealed growing interest in drugs such as LSD and ketamine. Since 2008, the data indicated an upward trend in the mean number of drugs ever tried, which may be attributable to the expanding new psychoactive substances (NPS) market. With the reported significant decline in recent speed and base use, it will be interesting to monitor the changes in drug use patterns in 2014 in light of these ongoing fluctuations in the marketplace.

### **New psychoactive substances**

2013 was the first year that data was collected on the use of NPS amongst Darwin ERD users. With three-fifths reporting having ever used NPS and one-quarter reporting use of NPS in the last six months, there is an apparent need to continue monitoring these relatively new substances and acquiring a better understanding of the harms associated with these drugs.

Notably, the overall rates of use of NPS were greater than drugs such as ketamine, which had received substantially greater media and research attention, and for which harm reduction information was relatively widely available. There is a lack of research on the health and behavioural outcomes of using NPS, which in turn poses a significant risk to both the consumers and health workers in this area. It is critical that research continues to identify the associated risks of NPS use, so as to assist health professionals and law enforcement personnel to make informed decisions on appropriate interventions and harm reduction strategies.

### **Alcohol use**

As in past years, alcohol continued to be highly prevalent amongst the NT EDRS cohort in 2013. In conjunction with this, alcohol was the drug of choice for the majority of the sample. The results from this year's survey showed that hazardous alcohol consumption is a concern in this population, particularly as a large majority of ERD users scored in the harmful range for alcohol consumption which may be indicative of alcohol-related disorders and dependence. Given this, evidence-based interventions to reduce the harms associated with high-risk alcohol use (including binge drinking) are warranted.

### **Cannabis and tobacco use**

With the vast majority of ERD users reporting recent cannabis and tobacco use, there is a need to for interventions that target the smoking of these substances amongst this population. Further research is required to determine whether traditional interventions (e.g. nicotine gum) are a suitable fit for this group, or whether novel tailored interventions would have more success reducing cannabis or tobacco use.



## **Health service utilisation**

Half of the 2013 sample engaged with some form of health service over the past six months. However, only one participant accessed a health service specifically to discuss their drug use. While further investigation on how to increase ERD users' utilisation of health services is warranted, emphasis should also be placed on starting conversations about drug use when ERD users are at health services.

In terms of psychological distress levels, about one-third of the cohort reported 'distress' to some degree. Interestingly though, only 9% reported a mental health problem. Of these participants, the majority sought health assistance from a health professional and subsequently were prescribed medication. This finding suggests that of those ERD users who did self-report a mental health problem, they were deemed suitable for medication. However, additional resources should also be allocated to educate and engage this population about their mental health well-being and avenues to access support.

## **Driving**

The 2013 NT EDRS identified a substantial proportion of participants who had recently driven while under the influence of alcohol and/or drugs. Driving under the influence of alcohol or other drugs has been a reoccurring theme in the NT over the past few years, with previous KE interviews identifying the lack of alternative transport options in Darwin as a possible contributing factor.

Research is warranted to assess whether ERD users are driving under the influence because there is a lack of education about the risks of driving after consuming alcohol or drugs, or if there are insufficient transport alternatives after episodes of use, or if a combination of these factors is playing a role in young people engaging in this risky behavior. It is suggested that education and law enforcement interventions that focus on harm-minimisation are developed and evaluated to determine the effectiveness of these approaches, and whether they could be adapted to target sub-groups who are most at risk.

## **Backpacker population**

A considerable proportion of people constantly travel in and out of Darwin, including backpackers, travellers and seasonal workers. In previous years, backpackers have been identified by the NT EDRS as a sub-group who engages in ERD use in Darwin, which includes those who have purchased ERD in other jurisdictions and transported them to Darwin to consume. This year, the NT EDRS surveyed a sub-sample of backpackers to better understand the use of ERD amongst this group and associated risk factors.

Of notable concern was the proportion of backpackers reporting recent overdoses on depressant drugs (most commonly alcohol) and the anecdotal comments from female backpackers that they would often accept drugs as gifts without any awareness of the drug type or class. It is critical that information about alcohol and drug use is disseminated amongst this vulnerable sub-group to increase their awareness of potentially harmful drug combinations, and to encourage them to be more aware of the drugs they are consuming and potential risks involved.

The backpacker sample revealed a number of other key differences in relation to health and law enforcement. Over the six months prior to the interviews, backpackers were less likely to have accessed a health service and driven a vehicle under the influence of alcohol or drugs. In contrast, backpackers were more likely to have had casual penetrative sex under the influence of drugs, and were more likely to have engaged in recent criminal activity and been arrested in the past year. Possible explanations for these findings include the high costs of living in the NT and limited employment opportunities for backpackers to earn a stable income during their travels.

While this research provides preliminary findings on the consumption patterns and risk behaviours of backpackers, further research examining backpackers who visit Australia is required to assess their areas of risk, and consequently produce an evidence-base to inform appropriate educational campaigns and harm-minimisation strategies.

# 1 INTRODUCTION

The Ecstasy and Related Drugs Reporting System (EDRS) is an ongoing monitoring system funded in 2013 by the Australian Government under the Substance Misuse Prevention and Service Improvement Grants Fund. It is run in a similar manner to the Illicit Drug Reporting System (IDRS), another ongoing data collection system funded by the Australian Government under the Substance Misuse Prevention and Service Improvement Grants Fund. The IDRS provides a coordinated approach to the monitoring of the markets of heroin, methamphetamine, cannabis and cocaine. It was identified that the IDRS did not capture the use of ecstasy and related drugs (ERD), as these were used infrequently among the target population of the IDRS – injecting drug users (IDU).

In June 2000, the National Drug Law Enforcement Research Fund (NDLERF), administered by the Australasian Centre for Policing Research (ACPR), funded a two-year, two state trial in New South Wales (NSW) and Queensland (QLD) of the feasibility of monitoring emerging trends in the markets for ecstasy and other related drugs using the extant IDRS methodology. In addition, Drug and Alcohol Services South Australia (DASSA) (formerly known as the Drug and Alcohol Services Council) agreed to provide funding for two years to allow the trial to proceed in this state. The results of this trial are presented elsewhere (see L Topp, Breen, Kaye, & Darke, 2004).

This report provides a summary of trends from the tenth year of monitoring ERD markets in the Northern Territory (NT). As with the IDRS, the EDRS involves the collection and analysis of three data components: a) interviews with current regular recreational drug users that use primarily non-injecting routes of administration for drug use – split into two groups there is regular ecstasy users (REU) and regular psychostimulant users (RPU); b) interviews with professionals who have regular contact with REU/RPU (key experts, or KE); and c) the analysis of secondary indicator data sources, such as existing databases of customs seizures, police drug-related arrests, and drug information telephone services. The three data sources are triangulated against each other in order to minimise the biases and weaknesses inherent in each one, ensuring that only valid emerging trends are documented.

The term ‘ecstasy and related drugs’ or ‘psychostimulants’ includes drugs routinely used in the context of entertainment venues and other recreational locations including nightclubs, dance parties, pubs and music festivals. ERD include ecstasy (3,4-methylenedioxymethamphetamine – MDMA), methamphetamine, cocaine, LSD (*d*-lysergic acid diethylamide), ketamine, GHB (gamma-hydroxybutyrate) and MDA (3,4-methylenedioxyamphetamine). REU/RPU were identified as an appropriate sentinel population to investigate ERD markets, as they represent a sentinel population of ERD users likely to be aware of trends in illicit drug markets

The NT Trends in Ecstasy and Related Drug Markets 2013 report provides information regarding ecstasy and related drug trends in Darwin. This is the first NT EDRS report to be written since the 2009 findings were published, due to difficulties recruiting meaningful sample sizes from 2010 to 2012.

## 1.1 Aims

The aims of the 2013 NT EDRS were:

1. to describe the demographic characteristics of a sample of current REU/RPU users interviewed in Darwin in 2013;
2. to examine the patterns of ecstasy and related drug use of this sample, including lifetime and recent use of over 20 licit and illicit drugs;
3. to document the current price, purity and availability of ecstasy and related drugs in Darwin, including locations and persons scored from and locations of use;
4. to examine participants' perceptions of the incidence and nature of ecstasy and other drug-related harms, including health-related harms, as well as financial, occupational, social and legal harms;
5. to identify emerging trends in the ecstasy and related drug market that may require further investigation; and
6. to compare key findings of this study (2013) with those reported in previous years (where available: 2007, 2008, 2009).

## **2 METHODS**

The 2013 EDRS used the methodology trialled in the feasibility study (L Topp et al., 2004) to monitor trends in the markets for ERD. The three main sources of information used to document trends were:

1. face-to-face interviews with current REU/RPU recruited in Darwin;
2. telephone interviews with KE who, through the nature of their work, have regular contact with users of ecstasy and other related drugs, or knowledge of the markets for these drugs in Darwin; and
3. indicator data sources such as the number of illicit drug seizures, arrests and treatment services data.

These three data sources were triangulated to provide an indication of emerging trends in drug use and ecstasy and related drug markets.

## 2.1 Survey of REU/RPU

The sentinel population chosen to monitor trends in ERD markets consisted of people who engaged in the regular use of tablets sold as 'ecstasy'. Although a range of drugs fall into the ERD category, ecstasy is a drug that can be considered one of the main illicit drugs used in Australia. It is the second most widely used illicit drug after cannabis with 3% of the population aged 14 years or older reporting recent use of ecstasy in the 2010 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2011a).

The ecstasy (tablets sold purporting to contain MDMA) market has existed here for more than two decades. In contrast, other drugs that fall into the class of ERD have either declined in popularity since the appearance of ecstasy in this country (e.g. LSD), have fluctuated widely in availability (e.g. MDA), or are relatively new in the market and are not as widely used as ecstasy (e.g. ketamine and GHB). It has been suggested that it would be difficult to identify a regular user of GHB or ketamine who was not also an experienced user of ecstasy, whereas the reverse will often be the case (L. Topp & Darke, 2001). Ecstasy may be the first illicit drug with which many young Australians who choose to use illicit drugs will experiment with, and a minority of these users will go on to experiment with the less common related drugs such as ketamine, LSD and GHB.

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 – REU (L. Topp & Darke, 2001). A sample of this population was successfully recruited and interviewed in the two-year feasibility trial (L Topp et al., 2004), and was able to provide the data that were sought. However, in recent years it has become apparent that the ecstasy market and the regularity of its consumption and type of consumers may be changing. Researchers experienced significant difficulty recruiting a NT EDRS sample of meaningful size from 2010-2012 (2010 N=28; 2011 N=11; 2012 N=12). From 2012 onwards, due to difficulty in smaller jurisdictions such as the NT in recruiting REU, RPU have also been recruited to provide information on ERD markets.

### 2.1.1 Recruitment

A total of 45 REU/RPU residing in the Darwin metropolitan region were interviewed for the 2013 NT EDRS. An additional 11 backpackers who engaged in ERD use but did not meet the REU/RPU eligibility criteria were interviewed to supplement the backpackers' module (see section 9.1). Participants were recruited through a purposive sampling strategy (Kerlinger, 1986), which included advertisements in entertainment street press, radio campaigns, interviewer contacts, and 'snowball' procedures (Biernacki & Waldorf, 1981). 'Snowballing' is a means of sampling 'hidden' populations which relies on peer referral, and is widely used to access illicit drug users both in Australian (Boys, Lenton, & Norcross, 1997; Ovendon & Loxley, 1996; Solowij, Hall, & Lee, 1992) and international studies (Dalgarno & Shewan, 1996; Forsyth, 1996; Peters, Davies, & Richardson, 1997). Initial contact was established through advertisements or, more frequently, through interviewers' personal contacts. On completion of the interview, participants were requested to mention the study to friends who might be willing and able to participate and were handed cards containing the researcher's contact details to distribute to their peers.

### **2.1.2 Procedure**

Participants contacted the researchers by telephone (call or text) and were screened for eligibility. Eligibility for NT EDRS participation was based on regular psychostimulant use; that is, used ERD on at least six occasions within Australia in the six months prior to interview. Further to this, eligible participants were required to have purchased at least one psychostimulant in the NT (that is, been able to answer questions on the price, purity and availability of an ERD based on the Darwin market). Unlike other jurisdictions, no restrictions were placed on the length of time participants had resided in the NT due to the transient nature of Darwin residents. All participants were required to be at least 16 years of age due to ethical constraints.

Participants were informed that all information provided was strictly confidential and anonymous, and that the study would involve a face-to-face interview that would take approximately 45 minutes. All respondents were volunteers who were reimbursed \$40 for their participation. Informed consent to participate was obtained prior to the interview. All participants were assured that all information they provided would remain confidential and anonymous. Interviews took place in a location negotiated with participants, predominantly in coffee shops, and were conducted by a small group of interviewers trained in the administration of the interview schedule. The nature and purpose of the study was explained to participants before informed consent was obtained.

### **2.1.3 Measures**

Participants were administered a structured interview schedule based on a national study of ecstasy users conducted by NDARC in 1997 (L. Topp et al., 1998; 2000), which incorporated items from a number of previous NDARC studies of users of ecstasy (Solowij et al., 1992) and powder amphetamine/methamphetamine (Darke, Cohen, Ross, Hando, & Hall, 1994; Hando & Hall, 1993; Hando, Topp, & Hall, 1997). The interview schedule focused primarily on the preceding six months, and assessed demographic characteristics; patterns of ecstasy use and related drug use, including: frequency and quantity of use and routes of administration; the price, purity and availability of a range of related drugs; health-related trends and service usage; risky behaviours (including injecting behaviours, sexual activity, driving, and problematic alcohol use); law enforcement-related trends (including self-reported criminal activity and arrests); and trends in special areas of interest for 2013 (including ecstasy dependence and exposure to injecting). An additional special area of interest that has been devised exclusively for the NT report was a backpackers' module, which aims to provide preliminary data on the characteristics and risk factors of backpackers who use ERD in Darwin.

### **2.1.4 Data analysis**

For continuous, normally distributed variables, *t*-tests were employed and means reported. Where continuous variables were skewed, medians<sup>1</sup> were reported and the Mann-Whitney *U*-test, a non-parametric equivalent of the *t*-test (Siegel & Castellan, 1988), was employed. Categorical variables were analysed using chi-square analysis. The Fisher's exact test statistic was reported for analyses where there was an expected value less than 5. Analyses

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<sup>1</sup> The median value lies in the middle of a series of data points arranged in order of size, i.e. it provides a more representative view of skewed data than the mean value.

were conducted using Predictive Analytics Software (PASW) Statistics Version 18 (PASW, 2009).

The data collected in 2013 were compared with data collected from previous years where meaningful sample sizes were collected (2007, 2008, 2009). As previously detailed, due to the small sample sizes recruited from 2010-2012, the data from these years have been omitted to prevent interpretation of trends from these years that may not be valid.

Differences between proportions were analysed using Newcombe-Wilson hybrid score confidence intervals without a continuity correction, based on the chi-square distribution (Tandberg, Version 1.49, available at: <http://www.cebm.net/index.aspx?o=1023>, see Newcombe 1998).



## 2.2 Survey of KE

The main eligibility criterion for KE participation in the EDRS was regular contact with a range of ERD users in the preceding six months. Regular contact was defined as average weekly contact and/or contact with 10 or more ERD users throughout the past six months. KE were recruited either through professional networks of project staff or recommendations, and in some instances through 'cold calls'.<sup>2</sup>

A total of eight KE were interviewed in 2013. KE were administered a qualitative interview schedule derived from a previous study of cocaine use (Hando, Flaherty, & Rutter, 1997), with the focus dependent on the KE's area of expertise. In general, KE were interviewed on topics relating to patterns of illicit drug use among the REU/RPU they had had contact with in the past six months. The majority of KE (n=7) completed the interview online, and the other KE completed the interview over the phone. The responses from the interviews were analysed and sorted for recurring themes. KE were remunerated with a small gift (e.g. box of chocolates) for their time.

The KE interviewed for the 2013 EDRS came from a wide range of occupations which fell into three major categories: law enforcement; health care provision; and hospitality industry workers.

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<sup>2</sup> People who were thought suitable to act as KE were contacted and invited to participate in a key expert (semi-structured) interview.

## 2.3 Other indicators

To complement and validate data collected from REU/RPU surveys and KE interviews, a range of secondary data sources were examined. These included health and law enforcement data. The pilot study for the IDRS recommended that such data should be available at least annually, include 50 or more cases, be brief, and be collected in the main study site (i.e. Darwin or NT) (Hando, O'Brien, Darke, Maher, & Hall, 1997).

Data sources that have been included in this report are:

- Australian Crime Commission (ACC) – number of consumer and provider arrests for illicit drug possession;
- Australian Institute of Health and Welfare (AIHW) – inpatient hospital admissions, treatment episodes, Australian Psychological Distress (K10);
- National Drug Strategy Household Survey; and
- NT Police, Fire and Emergency Services – number of illicit drug seizures.

### 3 DEMOGRAPHICS

#### Summary:

- 45 participants were interviewed in the 2013 NT EDRS (31 male and 14 female).
- Participants were young (mean age = 25 years) and most commonly spoke English as their first language. One-third of participants were born overseas, with the majority arriving in Australia in 2012/13.
- Most participants were well-educated, currently employed and had a high mean weekly income.
- No participants reported being currently in drug treatment.
- There were a number of significant differences between the 2009 and 2013 NT samples, with the greatest variability noted in age, income, sexual orientation and completion of tertiary education.

#### 3.1 Overview of the NT EDRS sample

There were 45 participants sampled in the 2013 NT EDRS. Table 1 presents the demographics of the sample across time. The mean age of the 2013 sample was 25 years (median 24, range 19-42). Two-thirds (69%) of the participants interviewed were male.

The majority (87%) spoke English as their first language and were born in Australia (64%). Of those who were born overseas (36%), two-thirds of these participants arrived in 2012/13 (69%) and were most commonly from New Zealand (n=4), USA (n=2), France (n=2) and Germany (n=2). None of the 2013 NT EDRS participants identified as being of Aboriginal and/or Torres Strait Islander (A&TSI) descent.

Most participants identified as heterosexual (91%), followed by 7% as a gay man and 2% as a bisexual. Most participants reported being currently single (62%) and were residing in rental accommodation (64%) or had no fixed address (16%).

The median number of years of school education completed was 12 years (range 10-12), and 78% had completed high school education (year 12 or above). The majority had completed either a trade or technical qualification (36%) or a university or college degree (40%).

Over half (58%) of the sample reported being currently employed on a full-time basis, with an additional quarter (27%) working part-time or casually at the time of interview. Just over one-in-ten (13%) were currently unemployed and one participant was studying full-time. Mean weekly income for this group was \$1,140 per week (range \$300-\$3,000), and wage or salary was reported as the main source of income in the last month for the majority of participants (91%). No participants reported that they were currently in any form of drug treatment or had a prison history.

There were some notable differences in the demographic characteristics of the 2013 sample compared to the sample at the last data collection time point (2009). The 2013 sample was

significantly younger (31 years vs. 25 years,  $p<0.001$ ) and had a significantly higher mean weekly income (\$572 vs. \$1,140,  $p<0.05$ ).

The 2013 sample comprised significantly greater proportions of heterosexual participants (60% vs. 91%,  $p<0.001$ ) and participants with tertiary qualifications (40% vs. 76%,  $p<0.001$ ). However, there were significantly less participants in 2013 from an English-speaking background (99% vs. 87%,  $p<0.05$ ) or of A&TSI descent (12% vs. 0%,  $p<0.05$ ) compared to 2009.

**Table 1: Demographic characteristics of EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	<b>2013 (N=45)</b>
Mean age (years)	30	28	31	<b>25</b>
Male (%)	71	64	61	<b>69</b>
English-speaking background (%)	100	93	99	<b>87</b>
A&TSI (%)	11	13	12	<b>0</b>
Heterosexual (%)	63	64	60	<b>91</b>
Mean number of school years	11	11	11	<b>12</b>
Tertiary qualifications (%)	22	27	40	<b>76</b>
Employed full-time (%)	56	58	55	<b>59</b>
Full-time students (%)	5	4	5	<b>2</b>
Unemployed (%)	8	6	22	<b>13</b>
Mean weekly income (\$) (range)	Data not available until 2009		572 (200-1,333)	<b>1,140 (300-3,000)</b>
Prison history (%)	9	0	11	<b>0</b>
Currently in drug treatment (%)	0	0	0	<b>0</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

## 4 CONSUMPTION PATTERN RESULTS

### 4.1 Drug use history and current drug use

#### Summary:

- Participants had experience with a wide range of drugs, having used an average of 9 different drug types during their lifetimes and 5 different drug types over the past six months.
- Sixteen per cent reported having ever injected a drug.
- A number of significant changes in the proportions of participants using various drugs were found from 2009 to 2013. This included significant decreases in the use of speed, base and over the counter drugs, which was coupled with increases in use of LSD, ketamine and benzodiazepines.
- Alcohol was the main drug of choice for the majority of the sample.
- One-third of the group had recently binged on ERD. The median number of binge episodes was 1.5 in the past six months.

Participants were asked about their lifetime and recent use of over 20 different drug types.<sup>3</sup> Experience with a broad range of drugs was very common. In 2013, we saw the highest average number of drugs used within the lifetime for NT participants (9, SD 4), however, this figure was not significantly different to that recorded at the last time point in 2009. The average number of drugs used recently (5, SD 2) continues to remain stable since 2009 (Table 2). Sixteen per cent of EDRS participants reported having ever injected a drug, which returned to figures comparable with 2008. A more thorough analysis of injecting drug use behaviours amongst this sample can be found in section 7.1 'Injecting risk behaviour'.

Table 2 presents the proportion of EDRS participants reporting lifetime and recent drug use across time. There were several significant changes from 2009 to 2013, including:

- a significant decline in the proportion reporting lifetime use of methamphetamine powder (speed) ( $p < 0.01$ );
- a significant decline in the proportion reporting recent use of methamphetamine powder (speed) ( $p < 0.01$ );
- a significant decline in the proportion reporting lifetime use of methamphetamine base ( $p < 0.001$ );
- a significant decline in the proportion reporting recent use of methamphetamine base ( $p < 0.001$ );
- a significant increase in the proportion reporting recent use of LSD ( $p < 0.001$ );
- a significant increase in the proportion reporting lifetime use of ketamine ( $p < 0.01$ );
- a significant increase in the proportion reporting recent use of ketamine ( $p < 0.05$ );
- a significant increase in the proportion reporting lifetime use of benzodiazepines ( $p < 0.05$ );

<sup>3</sup> 'Lifetime' usage refers to drugs that have ever been used. 'Recent' usage refers to drugs that had been used in the six months prior to the interview.

- a significant decline in the proportion reporting recent use of over the counter codeine ( $p < 0.01$ );
- a significant decline in the proportion reporting lifetime use of over the counter stimulants ( $p < 0.001$ ); and
- a significant decline in the proportion reporting recent use of over the counter stimulants ( $p < 0.05$ ).

Participants also reported having used other drugs such as DMT (dimethyl tryptamine), Kronic (synthetic cannabis) and herbal highs. The EDRS began to systematically investigate these other, less commonly used, drugs in 2010. This information can be found in section 4.10 'New psychoactive substance (NPS) use'.

In 2013, the drug of choice among the majority of NT participants was alcohol (56%). Other commonly reported drugs were cannabis (22%) and speed (14%). Smaller proportions of the sample nominated ecstasy (7%) and LSD (2%) as their drug of choice. In keeping with these preferences, the majority of participants reported that the drug used most often in the last month was alcohol (78%) or cannabis (20%). However, those participants who reported a discrepancy between their drug of choice and drug used most often attributed this to the factors of price and availability (33% respectively).

Participants were asked how frequently they had used ERD in the past month. The largest proportion of NT EDRS participants reported using this class of drugs once a month (46%). Sixteen per cent reported using psychostimulants weekly and an equal proportion reported fortnightly or more than weekly use (11% respectively). The vast majority (88%) reported that the last time they used psychostimulants they were with their friends who were also using these substances.

Approximately one-third (31%) of participants reported bingeing on ERD over the past six months. Bingeing is defined as using the drug on a continuous basis for 48 hours or more without sleep (Ovendon & Loxley, 1996). Participants who had binged had done so on a median of 1.5 occasions over the preceding six months (range 1-4). The median length of the longest binge was 60 hours (range 48-72). Among those who had recently binged, the majority (71%) had used ecstasy during a binge episode. Similarly, the majority had consumed more than five standard drinks of alcohol (79%), energy drinks (64%) and tobacco (64%) during a binge episode. Other drugs used during binge episodes included cannabis (43%), crystal (21%), LSD (21%), speed (14%), cocaine (14%), nitrous oxide (14%), benzodiazepines (7%) and mushrooms (7%).

**Table 2: Lifetime and recent polydrug use of EDRS participants, NT**

	2007 (N=65)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Median no. drug types ever used	7	6	8	9
Median no. drug types used recently	6	3	5	5
Ever injected any drug (%)	26	16	31	16
<i>Alcohol</i>				
ever used (%)	100	98	100	98
used last 6 mths (%)	100	87	90	96
<i>Cannabis</i>				
ever used (%)	100	93	93	98
used last 6 mths (%)	96	40	60	71
<i>Tobacco</i>				
ever used (%)	91	73	88	76
used last 6 mths (%)	77	40	65	58
<i>Methamphetamine powder (speed)</i>				
ever used (%)	83	67	82	53
used last 6 mths (%)	55	24	61	33
<i>Methamphetamine base (base)</i>				
ever used (%)	49	35	52	7
used last 6 mths (%)	27	9	28	2
<i>Methamphetamine crystal (ice)</i>				
ever used (%)	35	18	28	36
used last 6 mths (%)	24	0	15	20
<i>Cocaine</i>				
ever used (%)	35	36	52	64
used last 6 mths (%)	9	2	23	33
<i>LSD</i>				
ever used (%)	70	60	47	64
used last 6 mths (%)	33	16	10	40
<i>Ketamine</i>				
ever used %	33	6	13	40
used last 6 mths (%)	8	0	0	9

Source: EDRS participant interviews 2007, 2008, 2009, 2013

**Table 2: Lifetime and recent polydrug use of EDRS participants, NT (continued)**

	2007 (N=65)	2008 (N=55)	2009 (N=67)	2013 (N=45)
<i>GHB</i>				
ever used (%)	15	6	13	<b>13</b>
used last 6 mths (%)	0	0	0	<b>2</b>
<i>MDA</i>				
ever used (%)	30	15	19	<b>16</b>
used last 6 mths (%)	5	2	5	<b>4</b>
<i>Amyl nitrite</i>				
ever used (%)	30	29	33	<b>29</b>
used last 6 mths (%)	12	4	22	<b>11</b>
<i>Nitrous oxide</i>				
ever used (%)	21	13	15	<b>27</b>
used last 6 mths (%)	3	2	2	<b>9</b>
<i>Benzodiazepines*</i>				
ever used (%)	15	16	12	<b>31</b>
used last 6 mths (%)	8	2	3	<b>11</b>
<i>Antidepressants*</i>				
ever used (%)	8	15	6	<b>13</b>
used last 6 mths (%)	0	0	3	<b>2</b>
<i>Pharmaceutical stimulants*</i>				
ever used (%)	15	23	22	<b>18</b>
used last 6 mths (%)	8	8	6	<b>2</b>
<i>Mushrooms</i>				
ever used (%)	46	33	45	<b>44</b>
used last 6 mths (%)	5	2	3	<b>13</b>
<i>Heroin</i>				
ever used (%)	11	7	10	<b>11</b>
used last 6 mths (%)	0	0	2	<b>0</b>
<i>Methadone</i>				
ever used (%)	1	0	6	<b>0</b>
used last 6 mths (%)	0	0	3	<b>0</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

\* Includes licitly and illicitly obtained



**Table 2: Lifetime and recent polydrug use of EDRS participants, NT (continued)**

	2007 (N=65)	2008 (N=55)	2009 (N=67)	2013 (N=45)
<i>Buprenorphine</i>				
ever used (%)	1	0	3	0
used last 6 mths (%)	0	0	2	0
<i>Other opiates*</i>				
ever used (%)	11	7	9	16
used last 6 mths (%)	0	0	5	2
<i>OTC codeine</i>	Data not available until 2009			
ever used (%)			33	16
used last 6 mths (%)			25	4
<i>OTC stimulants**</i>	Data not available until 2009			
ever used (%)			49	9
used last 6 mths (%)			19	2
<i>Antipsychotics</i>	Data not available until 2010			
ever used (%)				4
used last 6 mths (%)				2
<i>Steroids***</i>	Data not available until 2010			
ever used (%)				7
used last 6 mths (%)				0

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

**Note:** OTC (over the counter)

\* Includes licitly and illicitly obtained

\*\* For non-pain use only

\*\*\* For non-medicinal use only

## 4.2 Ecstasy use

### Summary:

- Ecstasy was used on a median of 8.5 days over the past six months (i.e. between fortnightly and monthly).
- Participants had used a median of 2 tablets during a 'typical' occasion of use (range 1-4).
- Swallowing was the main route of administration (84%).
- The majority of REU (87%) reported using other drugs in combination with ecstasy the last time they used it, most commonly alcohol, cannabis, tobacco and energy drinks.
- Two-fifths (41%) of participants used other drugs to help them come down from ecstasy the last time they used it (most commonly cannabis, tobacco and alcohol).
- Ecstasy was most commonly last used at a nightclub (52%) and other public venues.
- The proportion of the NT population who reported using ecstasy within the last 12 months decreased from 4.2% in 2007 to 3.2% in 2010.
- KE expressed concern that young people often use MDMA and alcohol in the same session, which can cause unexpected adverse reactions.

'Ecstasy' is a street term for a number of substances related to MDMA or 3,4-methylenedioxymethamphetamine. MDMA is classed as a hallucinogenic amphetamine. Tablets sold as ecstasy may contain a range of substances that do not include MDMA, and are more likely to contain methamphetamine, perhaps in combination with a hallucinogenic such as ketamine. They may also contain illegal chemicals like 3,4-methylenedioxyamphetamine (MDA), para-methoxyamphetamine (PMA) or 3,4-methylenedioxyethylamphetamine (MDEA) or substances such as caffeine or paracetamol or nothing at all. The results presented in this section relate to the participants' use and knowledge of tablets sold as 'ecstasy'.

On average, participants in the 2013 EDRS had used ecstasy for the first time at 18 years of age (median 18, range 13-25). Participants reported using ecstasy regularly (at least monthly) at a mean age of 19 years (median 19, range 13-25). There were no significant differences between males and females in relation to the age that they first tried or regularly used ecstasy.

### 4.2.1 Ecstasy use among EDRS participants

Table 3 presents an outline of patterns of use of ecstasy among the EDRS sample, which comprised 43 participants who had recently used ecstasy.

Ecstasy was used on a median of 8.5 days (range 2-96) over the preceding six months. Over the preceding six months, approximately half the sample had used ecstasy between monthly and fortnightly (46% and 11% respectively), 16% had used it weekly and about one-

in-ten (11%) had used ecstasy more than once a week. Sixteen per cent of the sample reported that they had not used ecstasy in the past month.

The majority (63%) of respondents commonly used more than one tablet during a session. EDRS participants had used a median of 2 tablets during a 'typical' occasion of use (range 1-4) over the preceding six months. The median number of tablets consumed in the 'heaviest' session over the preceding six months was 3 (range 1-10).

The majority of EDRS participants reported that swallowing was their main route of administration (84%) for ecstasy, with the remaining 16% reporting mainly snorting it. Participants were asked to identify each method of administration they had used over the preceding six months for ecstasy 'pills'. Swallowing (91%) and snorting (40%) were the only methods of administration reported for recent use, as none of the NT EDRS participants reported that they had injected, smoked or shelved/shafted ecstasy.

**Table 3: Patterns of ecstasy use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=43)
Mean age first used ecstasy (years)	21	21	23	18
Ecstasy 'favourite' drug (%)	37	44	37	7
Median days used ecstasy last 6 mths	15	15	12	8.5
Use ecstasy weekly or more (%)	30	20	22	17
Median ecstasy tablets in 'typical' session	2	2	2	2
Typically use >1 tablet (%)	55	70	74	63
Recently binged on ecstasy (%)	55	58	37	22
Ever injected ecstasy (%)	15	9	19	0
Mainly swallowed ecstasy last 6 mths (%)	95	98	89	84
Mainly snorted ecstasy last 6 mths (%)	0	2	6	16
Mainly injected ecstasy last 6 mths (%)	5	0	5	0

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

Participants were asked about their use of different forms of ecstasy (tablets, powder, capsules and MDMA crystals). Almost every participant (98%) reported having used ecstasy tablets ('pills') during the preceding six months. Approximately one-quarter (27%) reported having ever used ecstasy powder and one-fifth (18%) had done so recently. Two-fifths (42%) reported having ever used ecstasy capsules ('caps') and one-quarter (27%) had used them over the preceding six months. For the first time in 2013, the EDRS asked participants about their lifetime and recent use of MDMA crystals. Two-thirds (67%) reported having used MDMA crystals in their lifetime, and half (49%) had used these recently. Pills were first used at a median age of 18 years (range 13-27), powder at 19.5 years (range 16-27), caps at 18 years (range 15-30), and MDMA crystals at 19 years (range 16-30).

The majority of EDRS participants (89%) reported using other drugs in combination with ecstasy the last time they used it. The drugs most commonly used with ecstasy were alcohol (85% of those who reported last using other drugs with ecstasy; i.e. 5% less than five standard drinks and 80% more than five standard drinks), tobacco (44%), cannabis (31%) and energy drinks (15%).

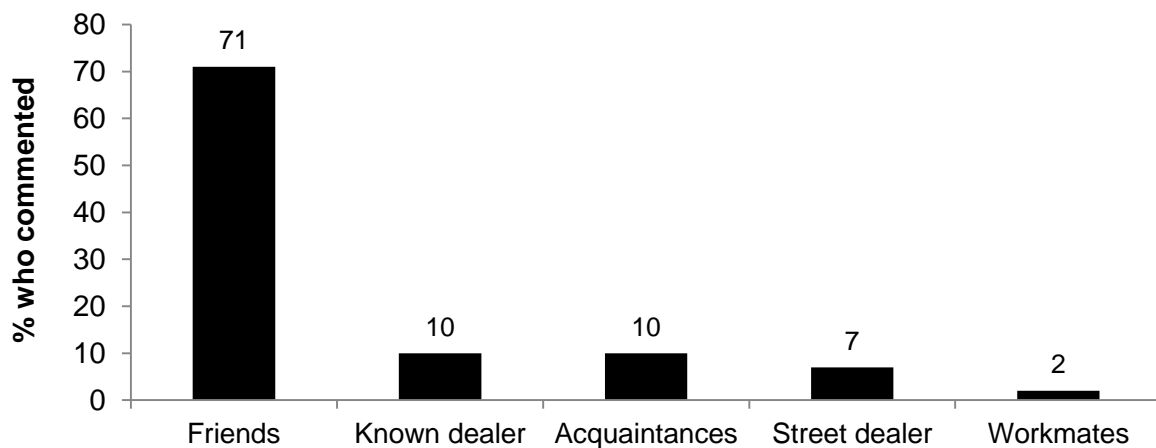
About two-fifths (41%) of the sample used other drugs to help them come down from ecstasy the last time they used it. Among these respondents, the three most commonly reported drugs used to come down from ecstasy were cannabis (78%), tobacco (17%) and alcohol (17% overall; 6% less than five standard drinks, 11% more than five standard drinks).

About half of the group reported that most (42%) or all (7%) of their friends had used ecstasy over the last six months. Twenty-nine per cent reported that 'about half' and 22% reported that 'a few' of their friends had used ecstasy recently. Interestingly, no participants reported that they were the only person in their social network who had recently used ecstasy.

#### 4.2.2 Last source, purchase location and use location of ecstasy

Among those who commented (n=41), the majority last purchased cocaine from friends (71%), followed by known dealers (10%) or acquaintances (10%) (Figure 1).

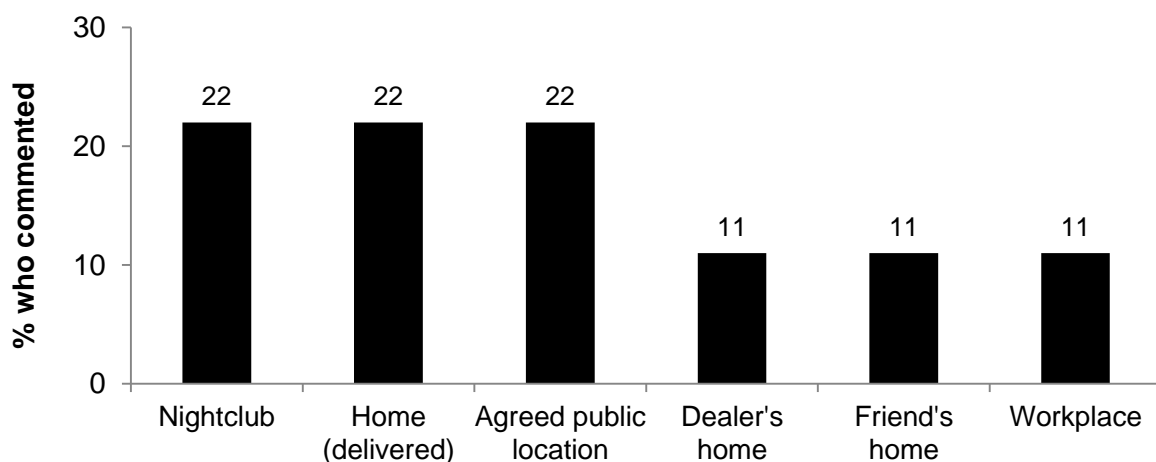
**Figure 1: Last source ecstasy was purchased from among EDRS participants, NT**



Source: EDRS participant interviews 2013

Participants reported last purchasing ecstasy from a mixture of public and private settings. The most common locations reported included a friend's home (34%), their own home (20%) or a nightclub (15%) (Figure 2).

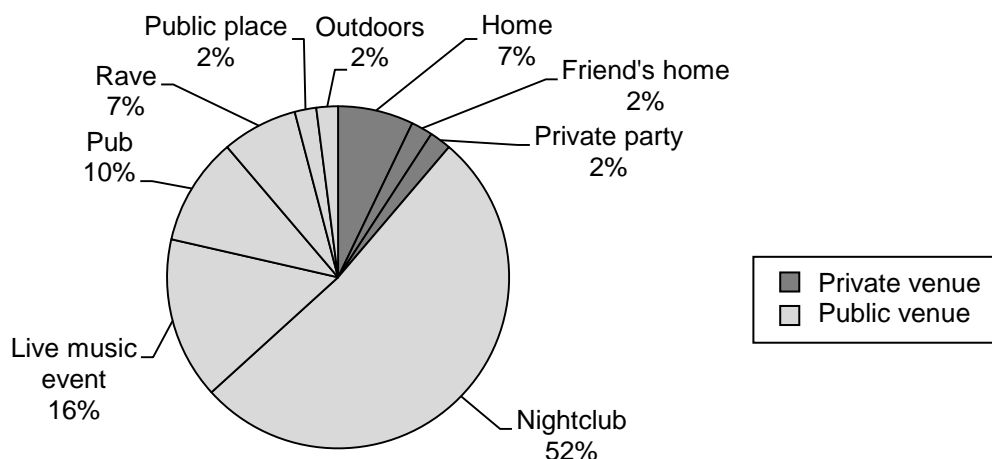
**Figure 2: Last location ecstasy was purchased from among EDRS participants, NT**



Source: EDRS participant interviews 2013

Participants were asked where they spent the most time while intoxicated the last time they used ecstasy. Ecstasy was most commonly last used in public venues (89%), with half of participants reporting that they last used ecstasy at a nightclub (52%) (Figure 3).

**Figure 3: Location of last ecstasy use among EDRS participants, NT**



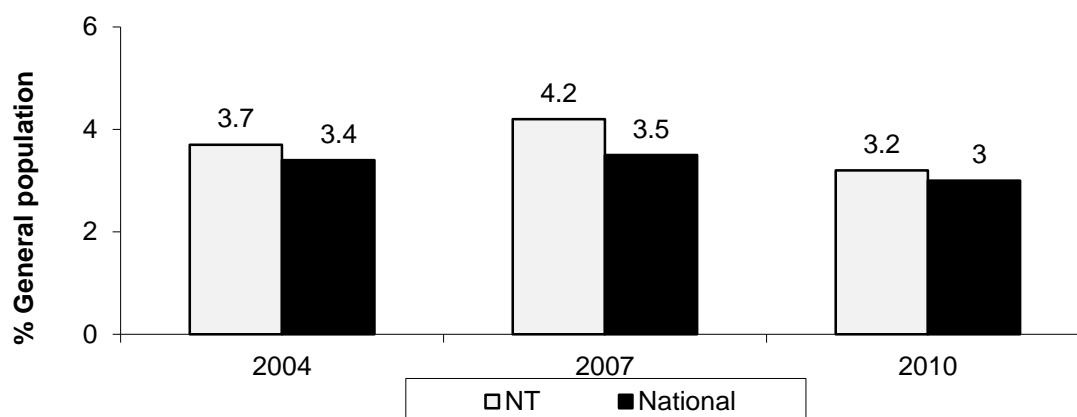
Source: EDRS participant interviews 2013

#### 4.2.3 Use of ecstasy in other populations

##### General population

Figure 4 presents data collected for the National Drug Strategy Household Survey (NDSHS) from 2004 to 2010. Over this time, the reported prevalence of ecstasy use in the past 12 months among the general Australian population (aged 14 years and over) has decreased. Similarly, the NDSHS recorded that the proportion of NT residents reporting recent use of ecstasy has mirrored this downward trend over time. Despite this, the NT has a higher proportion of ecstasy users than the overall population (Australian Institute of Health and Welfare, 2011a).

**Figure 4: Percentage of sample reporting recent\* ecstasy use in the general population, NT and national**



Source: Australian Institute of Health and Welfare (2002, 2005, 2008, 2011a)

\* Used in the last 12 months

### **Key expert comments**

Several KE had observed that those who were using MDMA in Darwin were predominately younger people (under 25 years old), from middle and upper socioeconomic status (SES) areas and some had mental health issues such as depression.

A few KE felt that it was common for young people to use both MDMA and alcohol in the same session. They commented that MDMA had been a problematic drug due to its unexpected adverse reactions, particularly when mixed with alcohol and other substances.

## 4.3 Methamphetamine use

### Summary:

#### *Speed*

- Half of REU had ever used speed and one-third had done so recently.
- There was a significant decline in the proportion of participants who had used speed in their lifetime and recently in 2013 compared to 2009.
- Speed was used on a median of 4.5 days over the preceding six months and was primarily snorted (80%).
- The frequency and quantity of use appeared to be stable from 2009 to 2013.

#### *Base*

- A minority of the sample had used base in their lifetime (7%) or recently (2%).
- As such, there was a significant decline in ever and recent use of base in 2013 compared to 2009.

#### *Crystal*

- One-third of the sample had ever used crystal and one-fifth had done so recently.
- Of those who had recently used crystal, it was used on a median of 3 days over the preceding six months and had been smoked by all participants.
- The frequency and quantity of use appeared to return to levels previously observed in 2007.

#### *General methamphetamine consumption observations*

- Speed and crystal were commonly purchased from friends.
- Speed was mostly purchased and used within public settings, whereas all reports of purchase location and use of crystal were in private settings.
- The use of methamphetamine among the NT general population remained mostly stable from 2007 (2.3%) to 2010 (2.1%). The vast majority of methamphetamine users in the NT were male.
- Most KE reported that crystal was currently the most problematic drug in the NT due to the adverse health and behavioural outcomes it was linked to. Some KE expressed concern that younger users were now injecting crystal.

Throughout the 1990s, the proportion of amphetamine-type substance (ATS) seizures that were methamphetamine (rather than amphetamine sulphate, the form most commonly available throughout the 1980s) steadily increased, until methamphetamine dominated the market (Australian Bureau of Criminal Intelligence, 2001). Both the number and weight of ATS (excluding MDMA) detections at the Australian border increased in 2010-11, with the number of detections the highest recorded in the last decade (Australian Crime Commission, 2012).

Chemically, amphetamine and methamphetamine differ in molecular structure but are closely related. They exert their effects indirectly by stimulating the release of peripheral nervous system (PNS) and central nervous system (CNS) monoamines (principally dopamine, noradrenaline, adrenaline and serotonin), and both have psychomotor, cardiovascular, anorexogenic and hyperthermic properties (Seiden, Sobol, & Ricaurte, 1993). Compared to amphetamine, methamphetamine has proportionally greater CNS than PNS stimulatory effects (Chesher, 1993), and is a more potent form with stronger subjective effects.

In Australia today, the powder traditionally known as 'speed' is almost exclusively methamphetamine. The more potent forms of this family of drugs, known by terms such as ice, shabu, crystal meth, base and paste, are also methamphetamine.

The distinction between methamphetamine powder ('speed'), methamphetamine base ('base') and crystalline methamphetamine ('crystal') has been made in an attempt to collect more comprehensive information on the use, price, purity and availability of each of these different forms.

'Speed' is typically manufactured in Australia and ranges in colour from white to yellow, orange, brown or pink, due to differences in the chemicals used to produce it. It is usually of relatively low purity (approximately 10%) (McKetin, McLaren, & Kelly, 2005).

'Base' (also called paste, wax, point or pure) is thought to be an oily or gluggy, damp, sticky, powder that often has a brownish tinge. Base is also thought to be manufactured in Australia; its purity has been found to be approximately twice that of speed (21%) (McKetin et al., 2005).

The crystal form (also called ice, shabu, or crystal meth) is large crystals that range from translucent to white but may also have a green, blue or pink tinge due to either impurities or the addition of food dye. Crystal is predominantly manufactured in Asia and imported into Australia (L. Topp & Churchill, 2002), although the first crystalline methamphetamine laboratory was detected in QLD in February 2002 (Australian Crime Commission, 2003). Pure crystal has an estimated purity of 80%.

A form of methamphetamine with a crystalline appearance has been detected which has a lower purity (19%); this lower purity crystalline methamphetamine may reflect either methamphetamine base with a crystalline appearance or crystal methamphetamine cut with crystalline adulterants (McKetin et al., 2005).



### 4.3.1 Methamphetamine use among EDRS participants

#### *Methamphetamine powder (speed)*

Approximately half of the sample (53%) had ever used speed and one-third (33%) had used it during the preceding six months. Speed was first used at a median age of 18 years (range 16-27). Speed was used on a median of 4.5 days (range 1-30) over the preceding six months. The majority (64%) of those who had recently used speed had done so on a less than monthly basis.

Most recent users quantified their use in terms of 'grams' (n=11) or 'lines' (n=3). The median amount used in a 'typical' or 'average' use episode in the preceding six months was either 1 gram (range 0.05-2) or 2 lines (range 1-2). The median amount used in the 'heaviest' use episode was the same on average to 'average' use, either 1 gram (range 0.05-5) or 2 lines (range 2). The most common route of administration for speed users in the preceding six months was snorting (80%), however, other routes of administration included swallowing (27%) and injecting (7%).

There were significant declines in the proportions reporting lifetime and recent use of speed in 2013 compared to 2009. Reported frequency of use appears stable, albeit it was at its highest frequency, and reported quantity consumed has remained stable over the years (Table 4).

**Table 4: Patterns of speed use among EDRS participants, NT**

	2007 (N=66)	2008 (N =55)	2009 (N=67)	2013 (N=45)
Ever used (%)	83	67	82	<b>53</b>
Used last six months (%)	55	24	61	<b>33</b>
<i>Of those who had used recently:</i>	(n=36)	(n=13)	(n=41)	<b>(n=45)</b>
Median days used last 6 mths (range)	4 (1-180)	2 (1-14)	3 (1-180)	<b>4.5 (1-30)</b>
<i>Median quantities used (grams):</i>				
Typical (range)	1 (0.25-2.5)	1 (0.25-2)	1 (0.25-3.5)	<b>1 (0.05-2)</b>
Heavy (range)	1 (0.25-8)	1.5 (0.25-6.5)	1 (0.5-20)	<b>1 (0.05-5)</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

#### *Methamphetamine base*

Seven per cent of the sample had ever used base and the median age at which base was first used was 18 years (range 17-20). One participant in the NT EDRS sample (2%) had reported base use over the preceding six months. Due to small numbers reporting, no findings were able to be published on recent base use and consumption patterns.

However, similar to the trend observed over time for speed use, there has been a significant decline in lifetime and recent use of base amongst NT EDRS participants (Table 5).

**Table 5: Patterns of base use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used (%)	49	35	52	7
Used last six months (%)	27	9	28	2
<i>Of those who used recently:</i>	(n=18)	(n=5)	(n=19)	<b>(n=1)</b>
Median days used last 6 mths (range)	4 (2-28)	4 (1-16)	2 (1-180)	<b>N/A</b> <b>N/A</b>
<i>Median quantities used (points):</i>				
Typical (range)	1 (1-2)	1 (1-20)	1 (1-4)	<b>N/A</b>
Heavy (range)	2 (1-5)	1 (1)	1 (1-4)	<b>N/A</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

N/A: Due to small numbers reporting (n=1), these figures were not reported.

#### *Crystal methamphetamine*

Over one-third (36%) had ever used crystal, and one-fifth (20%) had used it over the six months prior to the interview. The median age of first use of crystal was 20.5 years (range 17-32). Crystal was used on a median of 3 days (range 1-30) over the preceding six months, however, these results should be interpreted with caution due to small numbers reporting. Over half (56%) of those who had recently used crystal had done so on a less than monthly basis, over one-fifth (22%) had used so between monthly and fortnightly, and one-tenth had used crystal between fortnightly and weekly or more than once per week respectively.

The majority of respondents quantified their use in terms of 'points' (generally believed to be 0.1 grams). These participants reported using a median of 2 points (range 1-4) during 'typical' sessions of use and a median of 4 points (range 1-5) on the heaviest episode of crystal use over the preceding six months. All recent users reported smoking as their route of administration for crystal (100%), however, one participant also reported snorting it.

The proportions reporting the use of crystal have appeared to increase to levels previously seen in 2007 (Table 6). It has also been observed that the frequency of use and quantities used have returned to levels comparable to 2007.

**Table 6: Patterns of crystal use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used (%)	35	18	28	36
Used last 6 mths (%)	24	-	15	20
<i>Of those used recently:</i>	(n=16)	(n=0)	(n=10)	<b>(n=9)</b>
Median days used last 6 mths (range)	3 (1-80)	- -	5 (1-180)	<b>3</b> <b>(1-30)</b>
<i>Median quantities used (points):</i>				
Typical (range)	1 (0.5-3)	-	3 (1-3)	<b>2 (1-4)</b>
Heavy (range)	2 (0.5-5.5)	-	3 (3)	<b>4 (1-5)</b>

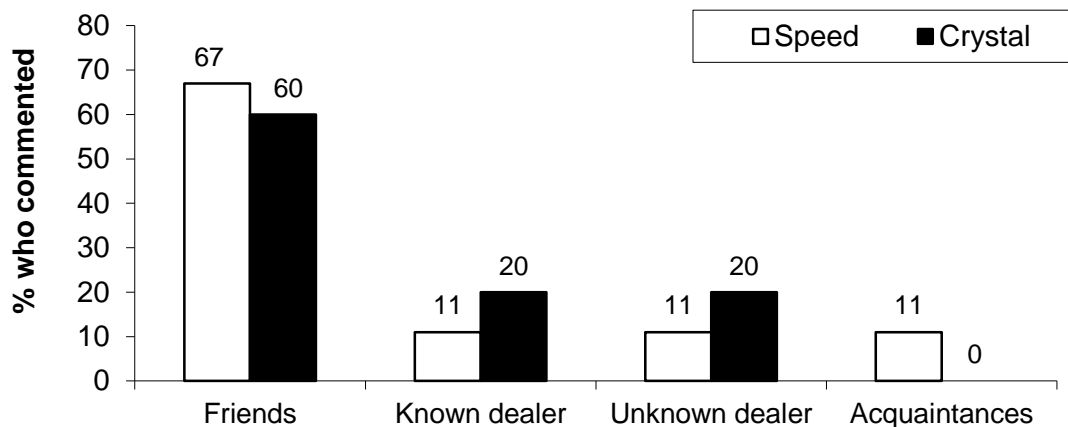
**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

### 4.3.2 Last source, purchase location and use location of methamphetamine

Figure 5 shows that the sources that participants obtained speed and crystal from on the last occasion were very similar. Both speed and crystal were predominately obtained from friends (67% and 60% respectively), followed by a known dealer and an unknown dealer (both 11% and 20% respectively). Participants who had recently sourced speed also reported purchasing it from acquaintances (11%).

Due to small numbers reporting, no data on base purchasing patterns were available.

**Figure 5: Last source methamphetamine was purchased from among EDRS participants, NT\***

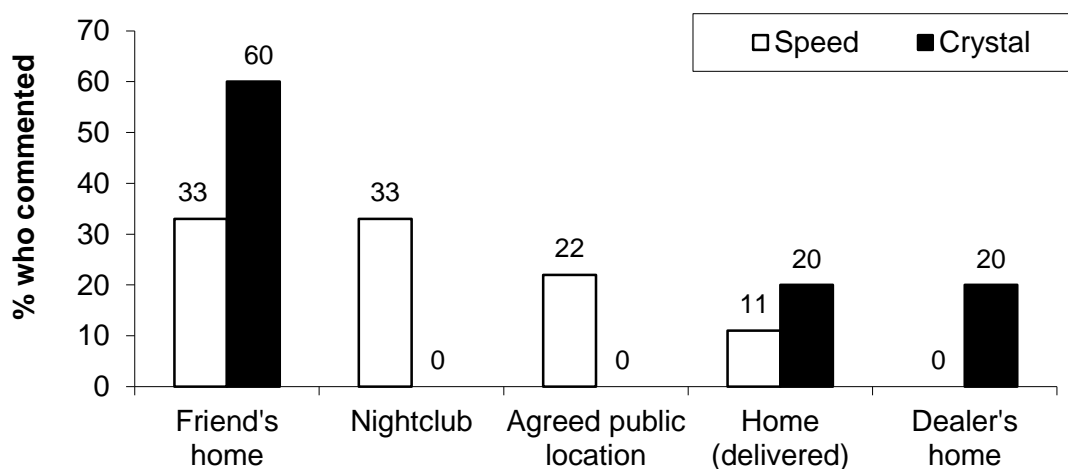


Source: EDRS participant interviews 2013

\*Speed n=9; crystal n=5. Due to base n=0, no data was reported for base.

Just over half of those who had recently purchased speed obtained it from public locations, including nightclubs (33%) or agreed public locations (22%). Crystal was obtained from private locations, such as friends' homes (60%), their own home (20%) or dealers' homes (20%) (Figure 6).

**Figure 6: Last location methamphetamine was purchased from among EDRS participants, NT\***

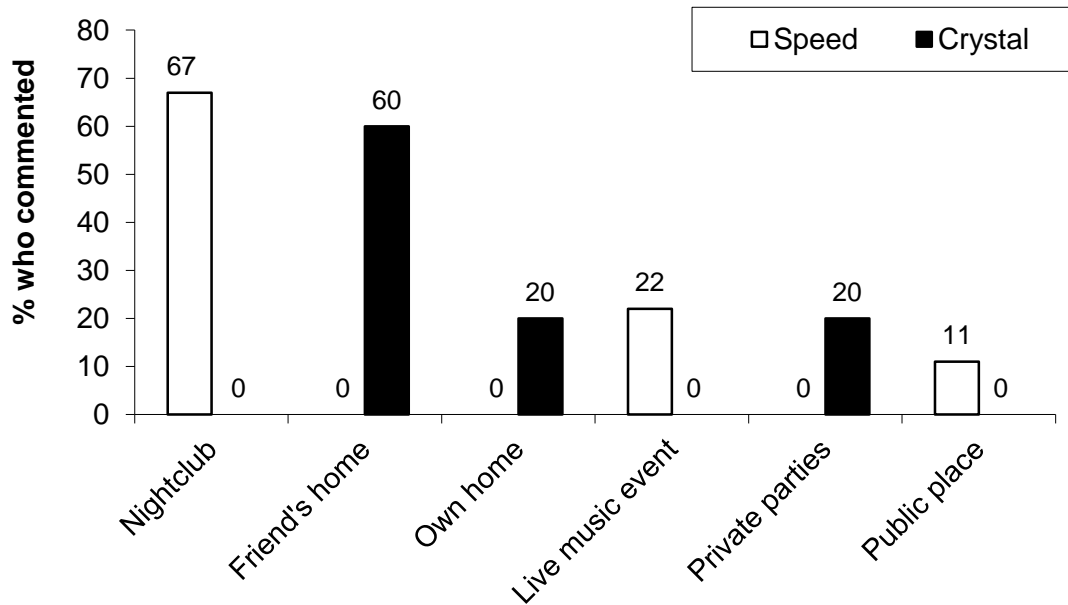


Source: EDRS participant interviews 2013

\*Speed n=9; crystal n=5. Due to base n=0, no data was reported for base.

All participants who had recently used speed reported that they had last used it in a public setting, including at a nightclub (67%), at a live music event (22%) or in a public place (9%). Among the participants who reported on the location of their last use of crystal, the majority last used it in a private setting, with 60% using it in a friend's home and 20% using it in their own home (Figure 7). No participants reported on the location that they last used base, and as such, there is no data available for this in 2013.

**Figure 7: Last location methamphetamine use by form among EDRS participants, NT\***



**Source: EDRS participant interviews 2013**

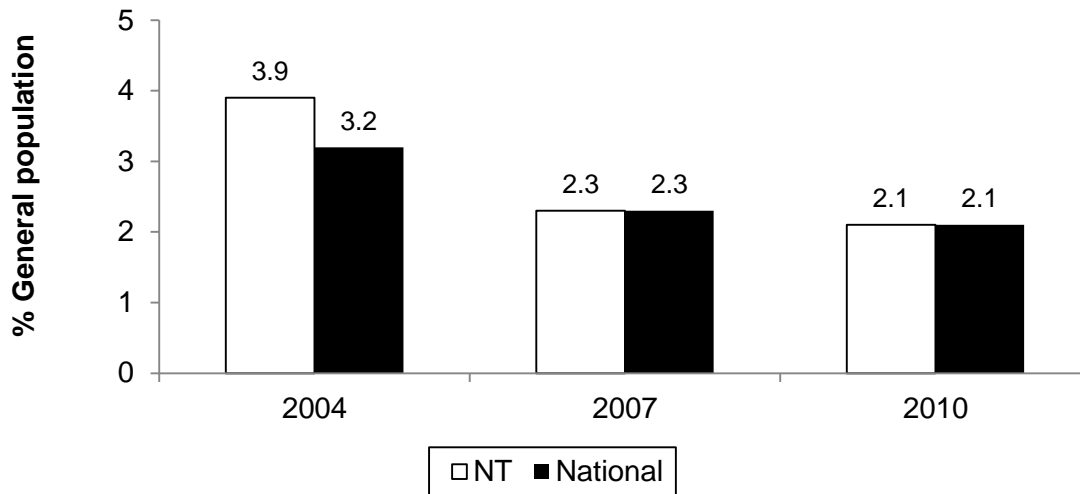
\*Speed n=9; crystal n=5. Due to base n=0, no data was reported for base.

### 4.3.3 Methamphetamine use in other populations

#### *General population*

Figure 8 shows the proportion of the general population in the NT and nationally (aged 14 years and over) who reported having recently used any form of methamphetamine. The graph shows that the proportion of NT residents who had recently used methamphetamine was in line with the national average in 2007 and 2010. The authors reported that in terms of gender differences amongst recent users in 2010, the NT had the greatest difference with the proportion of male users almost seven times that of female users (Australian Institute of Health and Welfare, 2011a).

**Figure 8: Percentage of sample reporting recent\* methamphetamine use in the general population, NT and national**



**Source: Australian Institute of Health and Welfare (2002, 2005, 2008, 2011a)**

\* Used in the last 12 months

#### *Illicit Drug Reporting System*

A separate monitoring system investigating trends in the use of methamphetamine in injecting drug users has been conducted in NSW since 1996, in Victoria (VIC) and South Australia (SA) since 1997 and nationally since 2000. This is called the Illicit Drug Reporting System, or IDRS, and reports and bulletins are available from the NDARC website ([http://ndarc.med.unsw.edu.au/group/drug-trends#menu\\_item\\_5](http://ndarc.med.unsw.edu.au/group/drug-trends#menu_item_5)).

### **Key expert comments**

Although there was no mention of base by KE during the interviews, it was clear that methamphetamine in the forms of speed and crystal were a cause of concern for both law and health KE.

It was reported that more people are now using speed and crystal in the NT compared to three or four years ago. Some law KE suggested that this observed increase in use may be due to the increased disposable income being generated by an economic surge in the NT. Further to this, employment factors such as random drug and alcohol screenings at worksites (e.g. at mining and civil construction projects) may have made methamphetamine usage more desirable than cannabis due to the shorter clearance time it takes to leave the body. Consequently, this allows 'fly-in fly-out' workers to use methamphetamine drugs on their four to six day breaks and still test clean on return to their worksites.

Most KE agreed that although crystal was not the prevalent illicit drug in the NT, it was currently the most problematic due to the associated negative health outcomes, including drug induced psychosis. Law enforcement KE noted that there were also associated behavioural problems from the use of this highly addictive substance, including increased violent conduct, aggression and anti-social behaviour.

KE described those who used speed and/or crystal as typically between 18-50 years old, had either Grade 12 or trade certificate education, mainly heterosexual, have had prior contact with the justice system and have various mental health issues such as paranoia, anxiety or impulse-control disorders (e.g. gambling). Some also mentioned that methamphetamine use had been observed amongst A&TSI community groups. Both law and health KE cited crime-related issues that methamphetamine users engage in to support their addictions.

Health KE reported an increase in injecting amongst younger crystal users. It was noted that these users reported injecting many combinations of substances, in particular ice and Alprazolam. KE have also been in contact with younger users who reported cannabis and crystal as the most regularly used combination, however this was closely followed by alcohol and crystal. Health-related issues raised by health KE included weight loss, skin lesions, self-harm practices, mental health issues, blood-borne viral infections (BBVI) and STI.

KE noted that there was a younger sub-group who used speed typically on weekends during 'benders'. These users were often 18 to 25 years, Caucasian, heterosexual, educated, employed, had a high disposable income and spent their time in entertainment venues when intoxicated.

## 4.4 Cocaine use

### Summary:

- The majority of the group (64%) had tried cocaine at least once, and one-third had used it recently.
- Cocaine was used on a median of 4 days (i.e. about every six weeks) over the preceding six months.
- The proportions using cocaine, the frequency and quantities used had all increased from 2009 to 2013.
- Despite recent use of cocaine increasing in the Australian population since 2004, in the NT there has been a decrease in the proportion reporting recent cocaine use to 0.5%.

Cocaine is a stimulant, like methamphetamine. Cocaine is a colourless or white crystalline alkaloid. Cocaine hydrochloride, a salt derived from the cocoa plant, is the most common form of cocaine available in Australia ('crack' cocaine is most prevalent in North America and infrequently encountered in this country) (Australian Crime Commission, 2008). 'Crack' is a form of freebase cocaine (hydrochloride removed) which is particularly pure.

Street cocaine is usually 'cut' or diluted with other substances, some of which mimic the taste or appearance of cocaine. There is not a great deal of information on the adulterants found in street cocaine, but lidocaine, glucose, lactose, baking soda and even talcum powder have been found.

The majority (64%) of regular ecstasy users in 2013 had ever used cocaine, and one-third (33%) had used it during the six months prior to the interview. The median age at which cocaine was first used was 20 years (range 15-27).

### 4.4.1 Cocaine use among EDRS participants

Participants who had used cocaine over the preceding six months had done so on a median of 4 days (range 1-30). The majority (60%) had used cocaine on a less than monthly basis, one-fifth had used between monthly and fortnightly, 13% had used on a fortnightly to weekly basis and the remaining 7% used cocaine more than weekly.

The majority (67%) of recent cocaine users quantified their use in terms of grams. The median amount used during a 'typical' occasion of use was 1 gram (range 0.25-2) and the median amount used on the heaviest occasion was 1.5 grams (range 0.25-8). Five recent users quantified their use of cocaine according to 'lines'. These participants reported using a median of 2 lines (range 1-2) in a 'typical' session and a median of 3 lines (range 2-6) used on the heaviest occasion. All (100%) recent users of cocaine reported to have only snorted it over the preceding six months.

Table 7 presents data across time on the prevalence, frequency and quantity of cocaine use among EDRS participants interviewed in the NT. The number of participants reporting the lifetime and recent use of cocaine has increased from 2009 to 2013, however this change was not significant. The frequencies of use and quantities used have also increased since the last data collection time point.

**Table 7: Patterns of cocaine use among EDRS participants, NT**

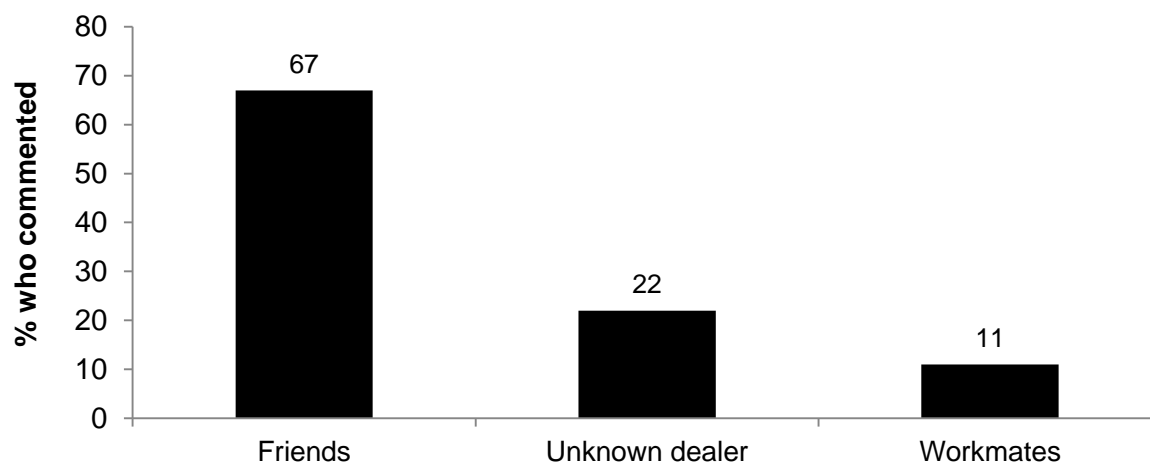
	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used %	35	36	52	64
Used last 6 mths %	9	2	23	33
<i>Of those who recently used:</i>	(n=3)	(n=1)	(n=15)	(n=15)
Median days used last 6 mths (range)	2 (1-8)	N/A N/A	2 (1-12)	4 (1-30)
<i>Median quantities used (grams):</i>				
Typical (range)	1.25 (0.5-2)	0.5 (0.5)	0.5 (0.25-1)	1 (0.25-2)
Heavy (range)	2.75 (1-4.5)	4 (4)	0.5 (0.25-2)	1.5 (0.25-8)

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

N/A: Due to small numbers reporting (n=1), these figures were not reported.

#### 4.4.2 Last source, purchase location and use location of cocaine

Among those who commented (n=9), two-thirds last purchased cocaine from friends (67%), with the remaining one-third recently purchasing from unknown dealers (22%) or workmates (11%) (Figure 9).

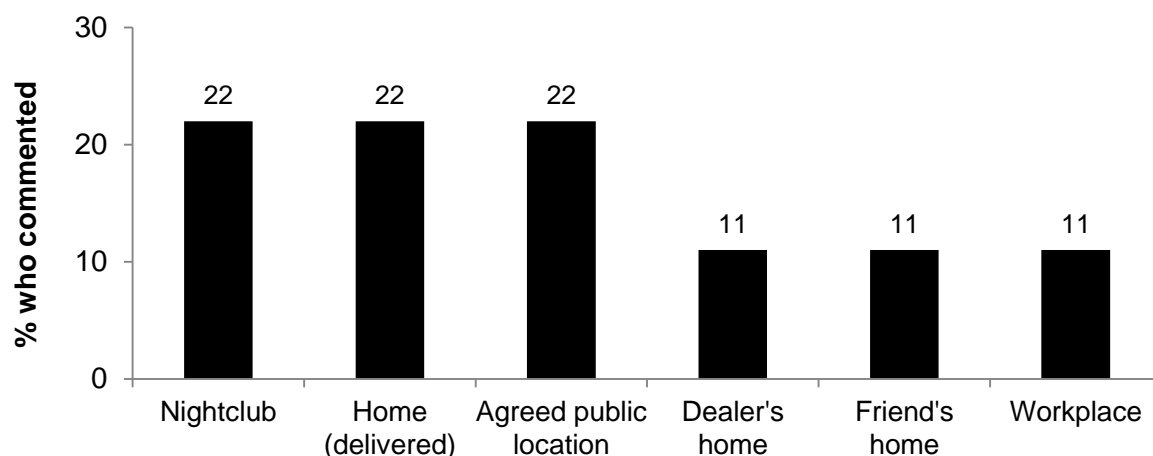
**Figure 9: Last source cocaine was purchased from among EDRS participants, NT**

**Source: EDRS participant interviews 2013**

Participants reported last purchasing cocaine from a mixture of public and private settings. The most common locations reported included nightclubs (22%), their own homes (22%) and agreed public locations (22%) (Figure 10).



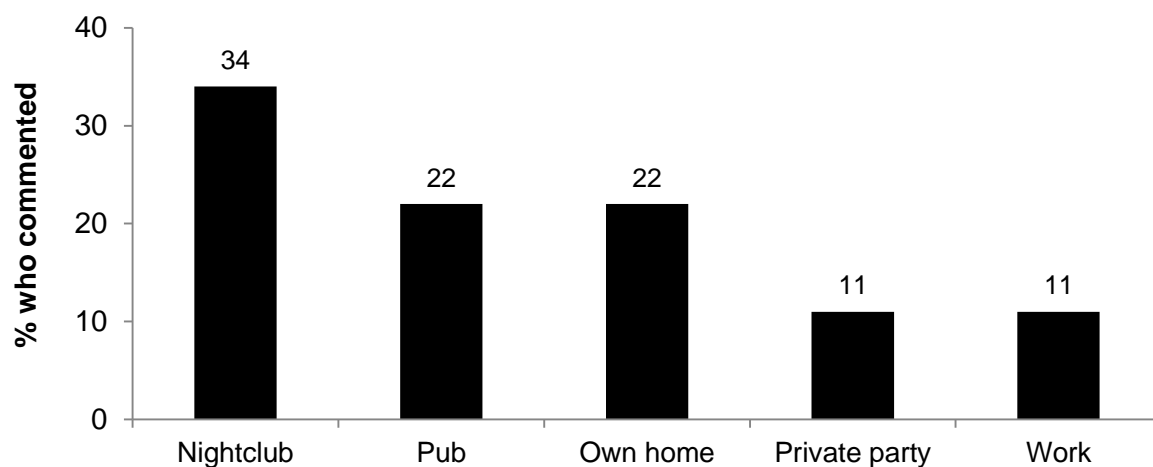
**Figure 10: Last location cocaine was purchased from among EDRS participants, NT**



**Source: EDRS participant interviews 2013**

Of those who reported on the last venue where they spent the most time intoxicated, the largest portion reported last using cocaine in public settings, including nightclubs (34%), pubs (22%) and at work (11%). However, a portion of respondents reported last using cocaine at private events, including in their own home (22%) or at a private party (11%) (Figure 11).

**Figure 11: Last location of cocaine use among EDRS participants, NT**



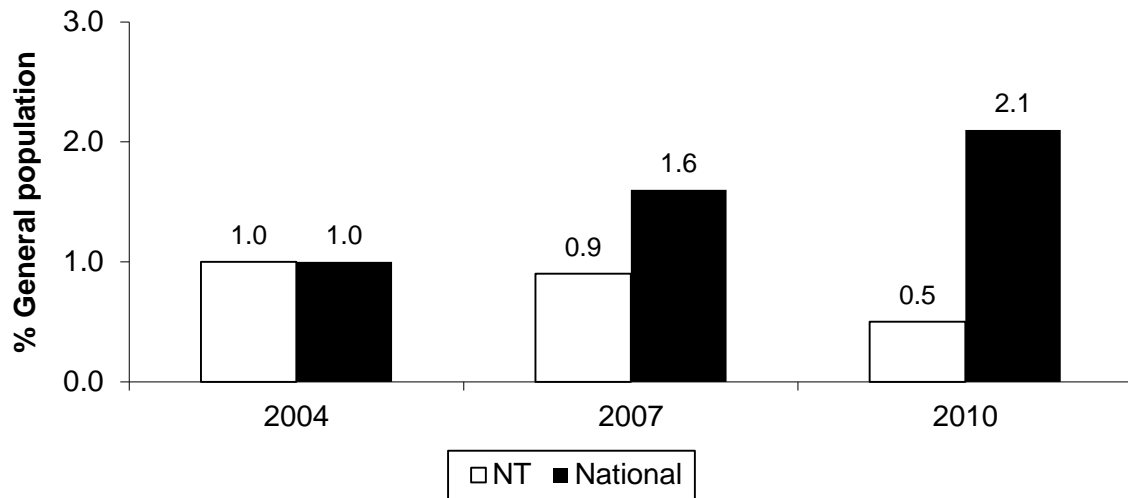
**Source: EDRS participant interviews 2013**

#### **4.4.3 Cocaine use in other populations**

##### *General population*

Reported recent use of cocaine across the Australian population has been increasing since 2004 (Figure 12). Despite this, the NT has shown a decreasing trend over this time period to 0.5% of the NT population reporting recent cocaine use. The authors revealed that in the NT, people aged 18-19 years were more likely to use cocaine than other age groups (Australian Institute of Health and Welfare, 2011a).

**Figure 12: Percentage of sample reporting recent\* cocaine use in the general population, NT and national**



**Source: Australian Institute of Health and Welfare (2002, 2005, 2008, 2011a)**

\* Used in the last 12 months

#### *Illicit Drug Reporting System*

A separate monitoring system investigating trends in the use of cocaine in injecting drug users has been conducted in NSW since 1996, VIC and SA since 1997 and nationally since 2000. This is called the Illicit Drug Reporting System, or IDRS, and reports and bulletins are available from the NDARC website ([http://ndarc.med.unsw.edu.au/group/drug-trends#menu\\_item\\_5](http://ndarc.med.unsw.edu.au/group/drug-trends#menu_item_5)).

#### **Key expert comments**

KE did not make any comments on the availability of cocaine or problems recently experienced from this illicit drug in the NT.

## 4.5 LSD use

### Summary:

- The majority of the sample had tried LSD at least once (64%) and two-fifths (40%) had used it recently.
- Compared to 2009, there was a significant increase in the proportion reporting recent use of LSD in 2013.
- LSD was used on a median of 2 days over the preceding six months.
- LSD was most often purchased from friends (75%) and used in a variety of public and private settings.

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. 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.

The majority (64%) of the sample had ever used LSD and two-fifths (40%) had used it recently. Respondents had first used LSD at a median age of 20 years (range 14-27).

### 4.5.1 LSD use among EDRS participants

LSD was used on a median of 2 days (range 1-15) over the preceding six months (Table 8). Of those who had used LSD, the vast majority (83%) had done so on a less than monthly basis, one-tenth (11%) had used it between monthly and fortnightly, and 6% had used LSD between fortnightly and weekly.

All respondents quantified their use in terms of tabs. They reported having used a median of 1 tab (range 1-3) during a 'typical' episode of use, and 1 tab (range 1-5) during the heaviest episode of use in the preceding six months (Table 8). All recent users of LSD had swallowed it and one participant reported to have also snorted it in the last six months.

Table 8 presents data across time on patterns of LSD use among EDRS participants. The proportions reporting lifetime and recent use of LSD have increased since 2013, with the increase in recent use reaching statistical significance. Despite this, the frequency of use and the quantities used appear to have remained relatively stable over the past years.

**Table 8: Patterns of LSD use among EDRS participants, NT**

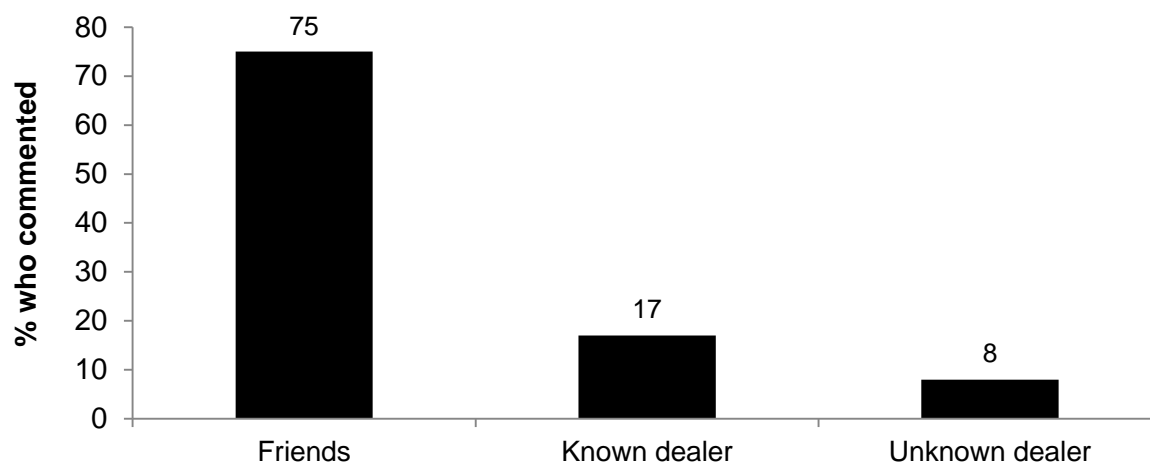
	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used (%)	70	60	47	64
Used last 6 mths (%)	33	16	11	40
<i>Of those who recently used:</i>	(n=22)	(n=9)	(n=7)	(n=18)
Median days used last 6 mths (range)	3 (1-14)	1.5 (1-8)	3 (1-12)	2 (1-15)
<i>Median quantities used (tabs):</i>				
Typical (range)	1 (1-3)	2 (0.5-3)	1 (0.75-2)	1 (1-3)
Heavy (range)	1.5 (1-8)	3 (0.5-11)	1 (0.75-3)	1 (1-5)

Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.5.2 Last source, purchase location and use location of LSD

Among those who commented (n=12), three-quarters last purchased LSD from friends (75%). The remaining one-quarter of recent LSD users had last purchased the drug from known (17%) or unknown dealers (8%) (Figure 13).

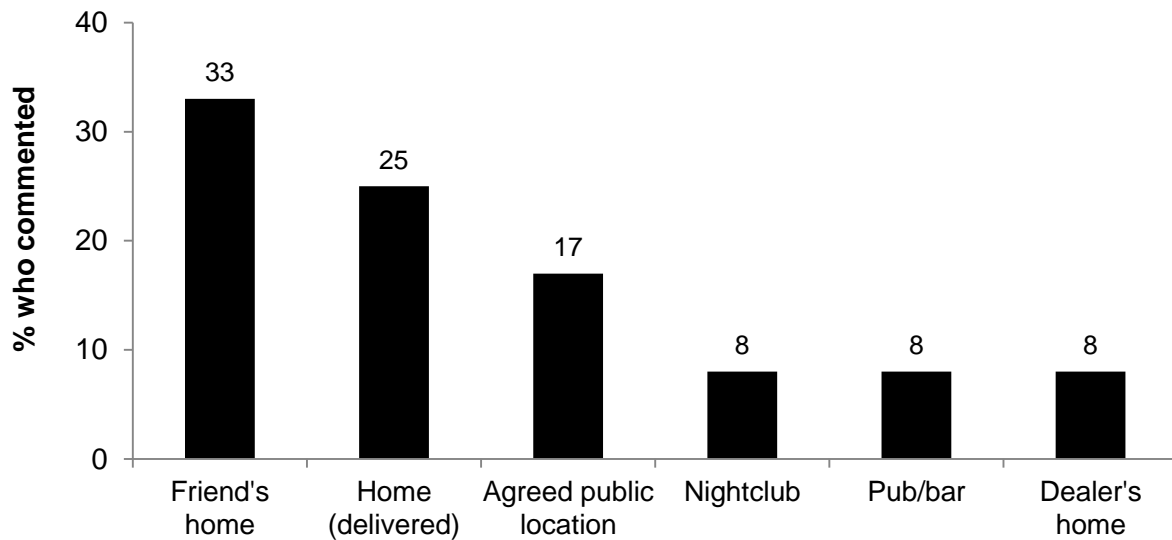
**Figure 13: Last source LSD was purchased from among EDRS participants, NT**



Source: EDRS participant interviews 2013

The largest proportion of participants reported last purchasing LSD in private settings. The most common private locations included a friend's home (33%) or their own home (25%). About one-third of recent LSD users had purchased in various public settings, including an agreed public location (17%), nightclub (8%) or pub/bar (8%) (Figure 14).

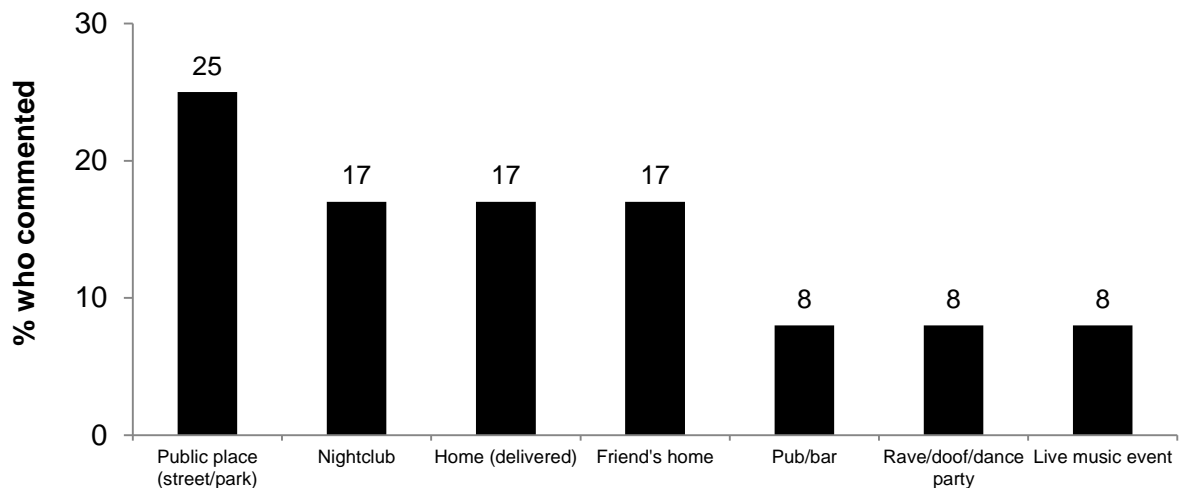
**Figure 14: Last location LSD was purchased from among EDRS participants, NT**



**Source: EDRS participant interviews 2013**

Participants reported on the last venue where they spent the most time intoxicated on LSD. These included a mixture of public and private settings, with the most common locations reported as a public place such as a street or park (25%), a nightclub (17%), their own home (17%) or a friend's home (17%) (Figure 15).

**Figure 15: Last location of LSD use among EDRS participants, NT**



**Source: EDRS participant interviews 2013**

**Key expert comments**

KE did not make any comments on the availability of LSD or problems recently experienced from this illicit drug in the NT.

## 4.6 Ketamine use

### Summary:

- Two-fifths of the sample had tried ketamine at least once and one-tenth had used it recently.
- Ketamine was used on a median of one day over the preceding six months.
- There was a significant increase in proportions reporting lifetime ketamine use from 2009 to 2013.

Ketamine is a rapid acting, dissociative anaesthetic that is used in veterinary surgery and less commonly in human surgery. Ketamine is a liquid that can be injected for legitimate use. 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 EDRS participants is probably diverted from veterinary sources or imported from overseas, making supply irregular compared with other illicit substances (Australian Crime Commission, 2008, 2009, 2010).

Two-fifths (40%) of the 2013 NT sample reported having ever used ketamine and approximately one-tenth (9%) had done so recently. Ketamine was first used at a median age of 20 years (range 15-27).

### 4.6.1 Ketamine use among EDRS participants

Ketamine had been used on a median of one day (range 1-2) by EDRS participants who had recently used ketamine. As such, all participants reported using ketamine on a less than monthly basis.

Four recent users of ketamine reported their use in terms of 'bumps'.<sup>4</sup> They reported using a median of 2.75 bumps on a typical occasion (range 1-6) and 3.5 bumps on the heaviest occasion (range 1-6) over the preceding six months. The only route of administration reported by those who had used ketamine in the past six months was snorting (100%). None of the recent ketamine users reported on their source, purchase location or use location of their most recent use of ketamine.

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<sup>4</sup> 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.

Table 9 presents data across time regarding patterns of ketamine use among participants interviewed in the EDRS. The proportions reporting lifetime use of ketamine increased significantly from 2009 to 2013, in which lifetime use returned to a similar level reported in 2007. Caution should be advised when interpreting the frequency and amounts of use due to small numbers reporting, however, it does appear that frequency of use has remained infrequent and there has been a slight decrease in the amounts used since 2007.

**Table 9: Patterns of ketamine use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used (%)	33	6	13	40
Used last 6 mths (%)	8	0	0	9
<i>Of those who recently used:</i>	(n=5)	(n=0)	(n=0)	(n=4)
Median days used last 6 mths (range)	1 (1-12)	- -	- -	1 (1-2)
<i>Median quantities used (bumps):</i>				
Typical (range)	4 (4)	-	-	2.75 (1-6)
Heavy (range)	8 (8)	-	-	3.5 (1-6)

Source: EDRS participant interviews 2007, 2008, 2009, 2013

**Key expert comments**

KE did not make any comments on the availability of ketamine or problems recently experienced from this illicit drug in the NT.

## 4.7 GHB use

### Summary:

- Compared to other illicit drugs, GHB had been used by a smaller proportion of participants in their lifetime (13%) and recently (2%).

Gamma-hydroxybutyrate (GHB) has been researched and used for a number of clinical purposes including as an anaesthetic (Kam & Yoong, 1998; Nicholson & Balster, 2001). In 1964, GHB was introduced in Europe as an anaesthetic agent particularly for children (Laborit, 1964; Vickers, 1968), but was not widely used due to the incidence of vomiting and seizures (Hunter, Long, & Ryrie, 1971). Research also examined the effectiveness of GHB as a narcolepsy treatment (Chin, Kreutzer, & Dyer, 1992; Mack, 1993; Mamelak, 1989) and for alcohol dependence and opioid withdrawal (Kam & Yoong, 1998; Nicholson & Balster, 2001).

In recent years, there has been documentation of the use of GHB as a recreational drug, in a range of countries around the world. Common street names for GHB in Australia include 'liquid ecstasy', 'fantasy', 'GBH', 'grievous bodily harm' and 'blue nitro'. Following restrictions on the availability of GHB, there have been reports of the production of GHB from its precursor, gamma-butyrolactone (GBL). The use of GBL, and a similar chemical, 1,4-butanediol (1,4-B), has also been documented (Ingels, Rangan, Bellezo, & Clark, 2000). GBL and 1,4-B are metabolised into GHB in the body. They may be used as substitutes for GHB, but are known to be pharmacologically different.

Six participants (13%) had ever used GHB and one EDRS participant (2%) reported having done so recently. GHB was first used at a median of 18 years (range 16-25).

### 4.7.1 GHB use among EDRS participants

Due to small numbers reporting, no findings were able to be published on recent GHB consumption patterns. However, Table 10 shows that lifetime and recent use rates in 2013 are notably similar to those recorded in 2009.

**Table 10: Patterns of GHB use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	<b>2013 (N=45)</b>
Ever used (%)	15	6	13	<b>13</b>
Used last 6 mths (%)	0	0	0	<b>2</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

<sup>^</sup> Small numbers reporting, interpret with caution

### Key expert comments

KE did not make any comments on the availability of GHB or problems recently experienced from this illicit drug in the NT.



## 4.8 Cannabis use

### Summary:

- Almost every participant had tried cannabis at least once and the vast majority had used it recently.
- Cannabis was used on a median of 24 days (i.e. once per week) over the preceding six months.
- The use of cannabis had remained relatively stable over time.
- The NT continued to have the highest proportion of recent cannabis users than any other jurisdiction, with the NT reporting an increase in use from 13.8% in 2007 to 16.5% in 2010.
- KE revealed that cannabis use was common amongst ERD users in Darwin.

Cannabis is derived from the cannabis plant (*Cannabis sativa*). While cannabis can be grown in almost any climate, it is being increasingly cultivated by means of indoor hydroponic technology. The main active ingredient in cannabis is delta-9-tetrahydrocannabinol (THC). Cannabis is used recreationally in three main forms: marijuana ('bush' or 'hydro' – see below for a description of these forms of marijuana); hashish ('hash'); and hash oil (National Drug and Alcohol Research Center, 2008). Cannabis remains the dominant illicit drug in Australia in terms of arrests, seizures and use (Australian Crime Commission, 2013).

Almost every participant in the 2013 EDRS (98%) had ever used cannabis and the majority (71%) reported having done so over the six months preceding the interview (Table 11). Cannabis was first used at a median age of 16 years (range 9-24). Males were significantly younger than females when they used cannabis for the first time (mean age 17.0 versus 15.1,  $U=112.0$ ,  $p<0.05$ ).

### 4.8.1 Cannabis use among EDRS participants

Recent cannabis users reported having used it on a median of 24 days (range 1-180), which equates to once per week on average. While 16% of users had used cannabis on a less than monthly basis and about one-quarter (23%) had used on a monthly to fortnightly basis, substantial proportions had used it more than fortnightly (13%), more than weekly (39%) or on a daily basis (10%). All recent users of cannabis had smoked it over the past six months and 13% reported having recently ingested it.

Recent users of cannabis were asked how much they had smoked on their last occasion of use. Twenty-two EDRS participants quantified their use in terms of joints and reported having smoked a median of 2 joints (range 0.3-4) on their last occasion of use. Five participants quantified their last use in terms of cones and reported having smoked a median of 6 cones (range 1-20) on their last occasion of use.

Trends in the use of cannabis are presented in Table 11. There was no significant change in the proportions reporting the lifetime or recent use of cannabis or in the number of days of use from 2009 to 2013.

**Table 11: Patterns of cannabis use among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Ever used (%)	100	93	93	<b>98</b>
Used last 6 mths (%)	95	40	60	<b>71</b>
<i>Of those who recently used:</i>	(n=63)	(n=22)	(n=40)	<b>(n=31)</b>
Median days used last 6 mths (range)	15 (1-180)	6 (1-180)	37 (1-180)	<b>24 (1-180)</b>

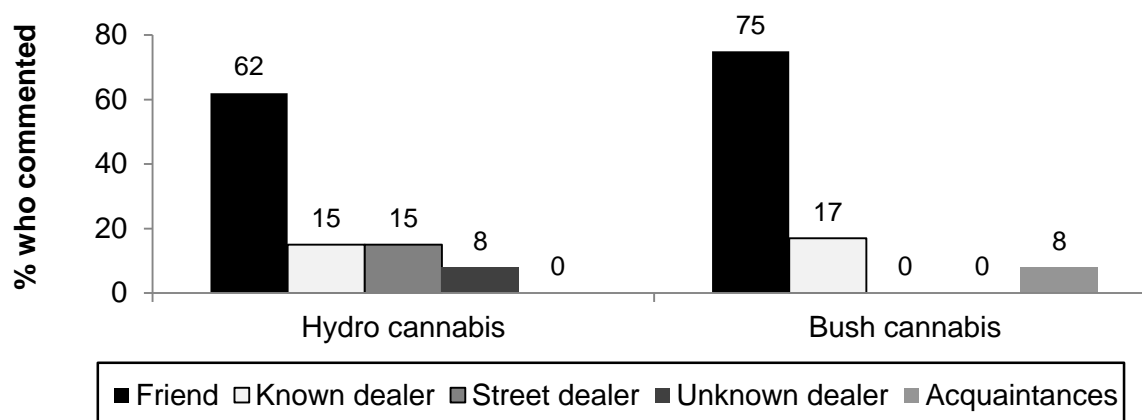
Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.8.2 Last source, purchase location and use location of hydro and bush cannabis

From 2006, the EDRS included a more detailed section about cannabis and made a distinction between indoor-cultivated ‘hydroponic’ cannabis (hydro) and outdoor-cultivated ‘bush’ cannabis. In 2013, only participants who were able to distinguish between hydro and bush provided information about their last purchase of cannabis.

Both hydro (62%) and bush (75%) were most commonly purchased from friends. However, a small proportion reported purchasing hydro and bush from various dealers (Figure 16).

**Figure 16: Last source that hydro and bush cannabis were purchased\* from among EDRS participants, NT**

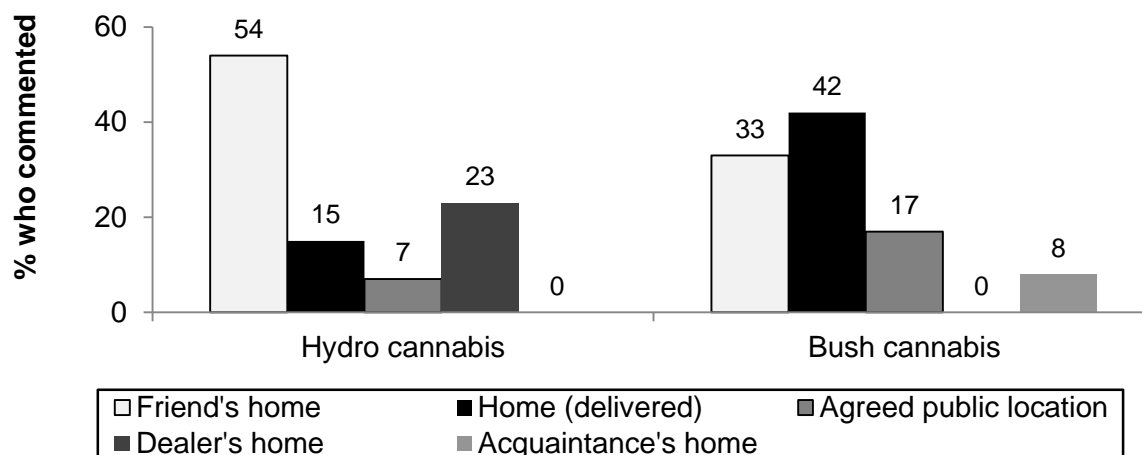


Source: EDRS participant interviews 2013

\* Of those who commented (n=13 for hydro, n=12 for bush)

The largest proportion of participants reported last purchasing both hydro and bush cannabis at a friend’s home (54% and 33% respectively) or having it delivered to their own home (15% and 42% respectively) (Figure 17).

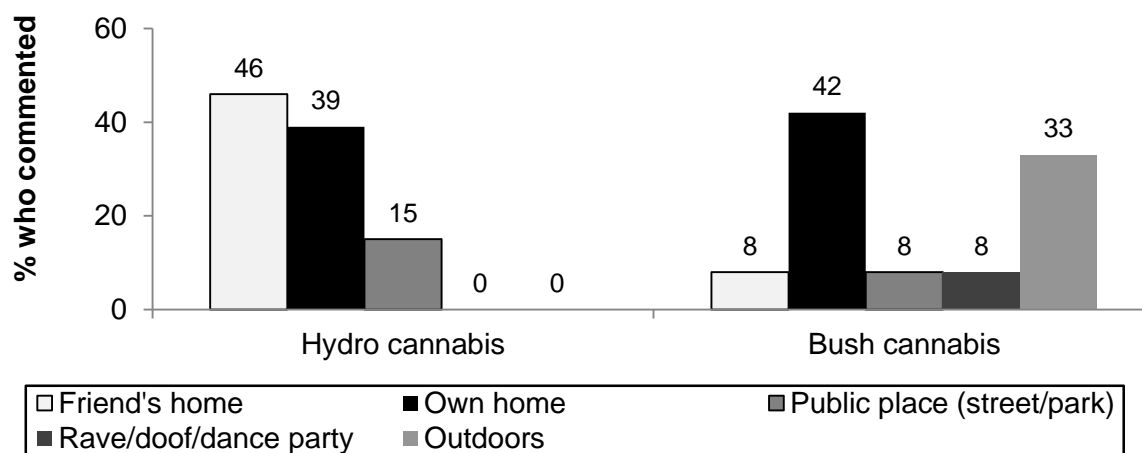
**Figure 17: Last location that hydro and bush cannabis were purchased\* from among EDRS participants, NT**



**Source: EDRS participant interviews 2013**  
 \*Of those who commented (n=13 for hydro, n=12 for bush)

Most participants who had recently used hydro reportedly last used it in a private setting, including a friend's home (46%) or their own home (39%). Those who had reported on the location of last using bush identified a mixture of both public and private settings, with the majority reporting their own home (42%) followed by outdoors (33%) (Figure 18).

**Figure 18: Last location of hydro and bush cannabis use\* among EDRS participants, NT**



**Source: EDRS participant interviews 2013**  
 \*Of those who commented (n=13 for hydro, n=12 for bush)

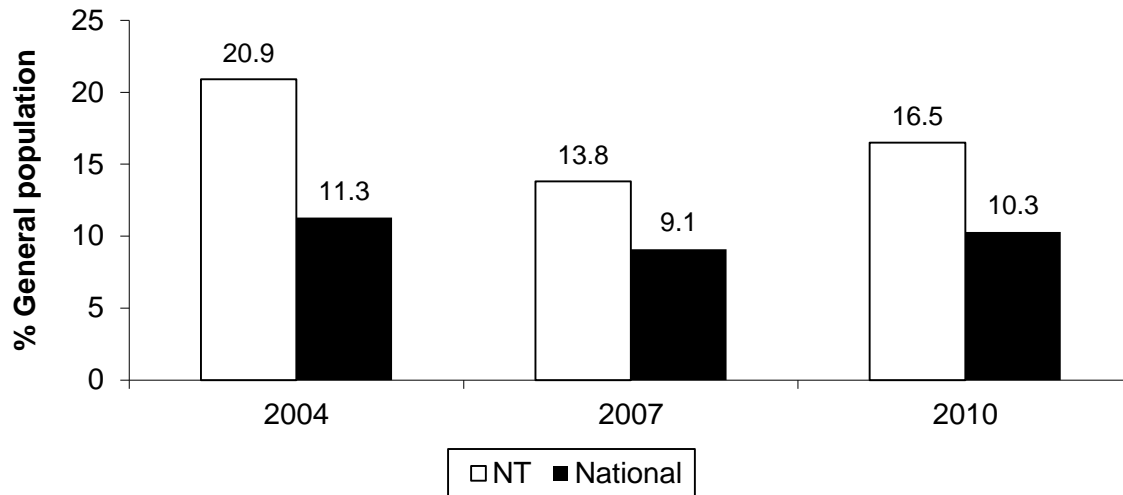
### 4.8.3 Cannabis use in other populations

#### General population

The proportion of the NT general population aged 14 years or over reporting recent use of cannabis increased from 13.8% in 2007 to 16.5% in 2010. The authors reported that since 1998, the NT has consistently had the highest proportion of recent cannabis users than any other jurisdiction. As such, the NT had the highest proportions of both males and females who recently used cannabis, and the NT recorded the highest proportion of recent users

among all age groups except those aged under 20 years (Figure 19) (Australian Institute of Health and Welfare, 2011a).

**Figure 19: Percentage of sample reporting recent\* cannabis use in the general population, NT and national**



**Source: Australian Institute of Health and Welfare (2002, 2005, 2008, 2011a)**

\* Used in the last 12 months

#### *Illicit Drug Reporting System (IDRS)*

A separate monitoring system investigating trends in the use of cannabis in IDU has been conducted in NSW since 1996, VIC and SA since 1997 and nationally since 2000. This is called the Illicit Drug Reporting System, or IDRS, and reports and bulletins are available from the NDARC website ([http://ndarc.med.unsw.edu.au/group/drug-trends#menu\\_item\\_5](http://ndarc.med.unsw.edu.au/group/drug-trends#menu_item_5)).

#### **Key expert comments**

All health and law enforcement KE reported that cannabis was one of the primary illicit drugs consumed by the ERD users who they had been in the most contact with over the past 6 months.

## 4.9 Other drug use

### Summary:

#### *Alcohol*

- Almost all 2013 NT REU reported lifetime use (98%) and recent use (96%) of alcohol.
- KE reported that alcohol continued to be one of the most problematic drugs among REU. Health KE identified the need for alternative health delivery systems at large-scale events to assist those who over-consume alcohol.

#### *Tobacco*

- Three-quarters of REU had used tobacco at least once (76%) and the majority (58%) had smoked within the past six months.

#### *Benzodiazepines*

- One-third of the group had recently used benzodiazepines. Illicit use was slightly more common than licit use.

#### *Antidepressants*

- One-in-ten REU had recently used antidepressants. Licit use was more common than illicit use.

#### *Inhalants*

- Similar proportions reported both lifetime and recent use of amyl nitrite (29%; 11%) and nitrous oxide (27%; 9%).

#### *MDA*

- Sixteen per cent reported lifetime use of MDA.

#### *Heroin and other opiates*

- One-in-ten reported lifetime use of heroin and other opiates.

#### *Mushrooms*

- Almost half (44%) the sample reported lifetime use of mushrooms and 13% had used mushrooms in the past six months.

#### *Pharmaceutical stimulants*

- One-fifth of the group had recently used pharmaceutical stimulants. Licit use was slightly more common than illicit use.

#### *Over the counter (OTC) drugs*

- Very small numbers reported recent illicit use of OTC codeine-containing products and OTC stimulants.

#### *Antipsychotics*

- Two NT participants reported lifetime use of antipsychotics.

#### *Performance and image enhancing drugs (PIED)*

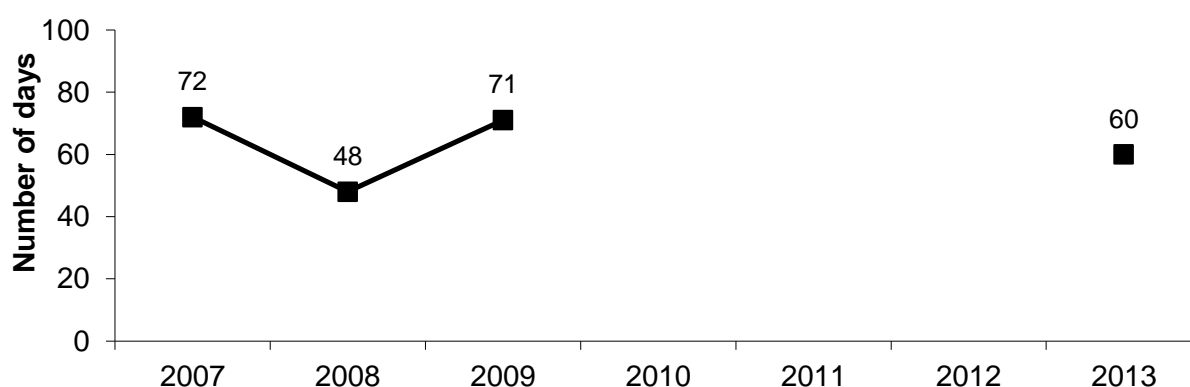
- Three participants reported lifetime use of PIED.

#### 4.9.1 Alcohol

Almost the entire 2013 sample of EDRS participants reported having used alcohol at least once (98%) and almost all of these (96%) reported having done so during the past six months. Participants had first used alcohol at a median age of 14 years (range 10-18). Participants reported having consumed alcohol on a median of 60 days (range 1-180) over the preceding six months and the majority of EDRS participants had used alcohol on a greater than weekly basis (77%) or a fortnightly to weekly basis (9%).

Figure 20 presents the median days of use of alcohol by EDRS participants within the six months preceding the interview across time. This figure appears to have remained relatively stable across the time points. See section 7.5 'Problematic alcohol use among EDRS participants' for a discussion of harmful alcohol use among EDRS participants in NT.

**Figure 20: Days of alcohol use among EDRS participants in the last six months, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### Key expert comments

KE commented that alcohol was currently the most problematic licit drug, with one KE reporting that alcohol abuse was increasing in the NT. Various alcohol-related health problems observed were alcohol withdrawal, overconsumption and alcohol-related assaults and violence.

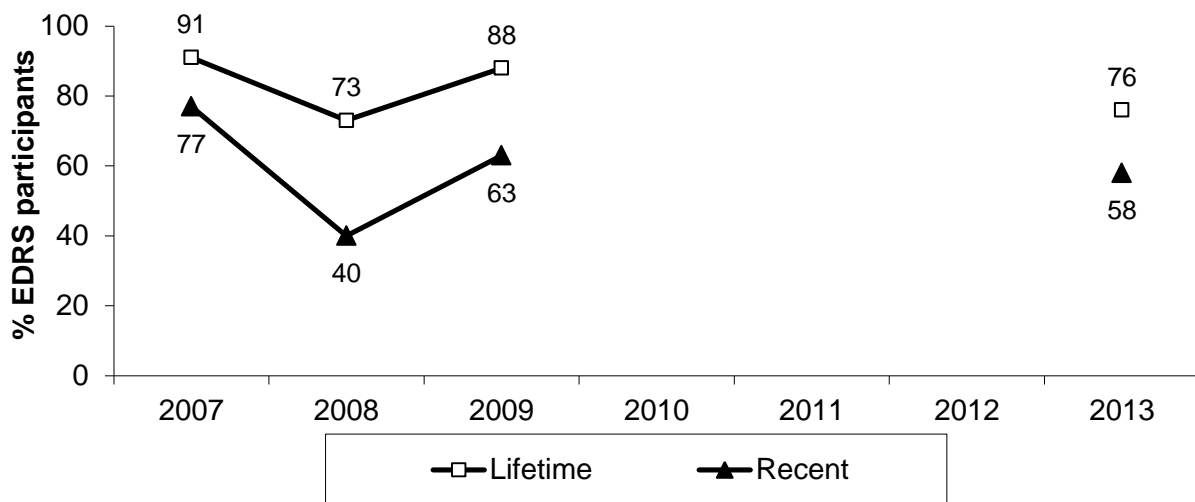
One health KE who worked at major events in Darwin, such as Bass in the Grass and Darwin Cup, observed that the majority of people attending are affected by alcohol due to overconsumption both at, and prior to, the event. Consequently, the hospital's Emergency Department, ambulance service and health professionals are overworked. Given that there is only one Emergency Department for the 300km radius that Darwin is located in, this KE felt that from a service point of view, different models of health service delivery need to be employed for local events.

On a side note, it was commented by another health KE that speed and crystal users tended to drink more alcohol than others as they cannot accurately gauge their own level of intoxication. In response to these issues, the tightening of the Responsibility of Alcohol Service (RSA) guidelines was suggested.

### 4.9.2 Tobacco

Three-quarters (76%) of EDRS participants interviewed in 2013 had used tobacco at some point and the majority (58%) reported having done so over the preceding six months. Tobacco was first used at a median age of 15 years (range 10-20). Tobacco had been used on a median of 180 days (range 3-180) over the preceding six months and the majority of those who had recently used tobacco were daily (54%) or weekly (39%) smokers. The proportion of EDRS participants using tobacco in their lifetime and over the past six months slightly decreased between 2009 and 2013 (Figure 21).

**Figure 21: Proportion of EDRS participants reporting lifetime and recent tobacco use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### Key expert comments

It was uncommon for KE to comment on tobacco use among ERD users. However, one health KE did comment that pre-existing health conditions were exacerbated by smoking, such as emphysema, and that higher levels of these problems were observed in ATSI individuals.

### 4.9.3 Benzodiazepines

Almost one-third (31%) of the sample reported having ever used any benzodiazepines and one-in-ten (11%) reported having done so recently. Among those who had recently used them, benzodiazepines had been used on a median of 1 day (range 1-20) in the last six months. Compared to 2009 figures, there was a significant increase in the proportion reporting lifetime use of benzodiazepines in 2013, however, recent use over this time period remained relatively stable (Figure 22).

#### *Licit benzodiazepines*

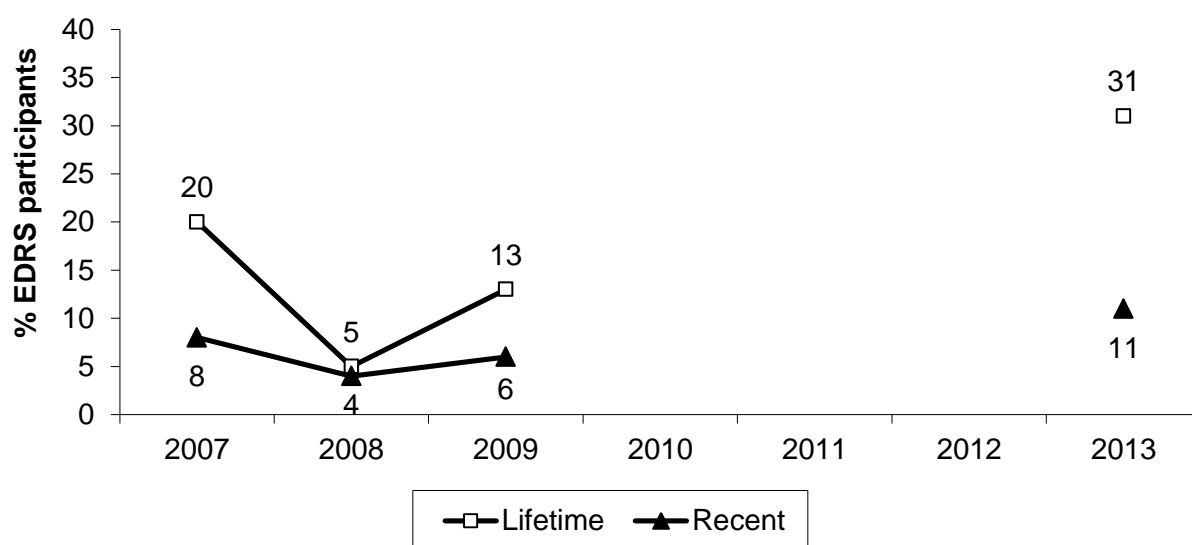
Less than one-fifth (16%) of EDRS participants reported having ever used licitly obtained benzodiazepines and 2 participants (4%) had done so recently. Licit benzodiazepines were first used at a median age of 20 years (range 17-24). Of the two recent users, they had used

licit benzodiazepines on a median of 10.5 days (range 1-20) over the six months prior to the interview and both reported swallowing as their only route of administration over this period.

*Illicit benzodiazepines*

Less than one-fifth (18%) of EDRS participants had ever used illicitly obtained benzodiazepines, and 3 participants (7%) had done so over the preceding six months. They were first used at a median age of 22 years (range 17-28) and were either swallowed (67%) or snorted (33%). Illicit benzodiazepines had been used on a median of 1 day (range 1) in the last six months.

**Figure 22: Proportion of EDRS participants reporting lifetime and recent benzodiazepine use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

**4.9.4 Antidepressants**

Just over one-in-ten (13%) of participants reported having ever used antidepressants and 7% had done so over the preceding six months. Given the small sample who had recently used antidepressants (n=3), data on routes of administration and the median days of use are not presented here. Figure 23 presents data from 2007 onwards on the reported lifetime and recent use of any antidepressants. Both of these proportions have remained relatively stable from 2009 to 2013.

*Licit antidepressants*

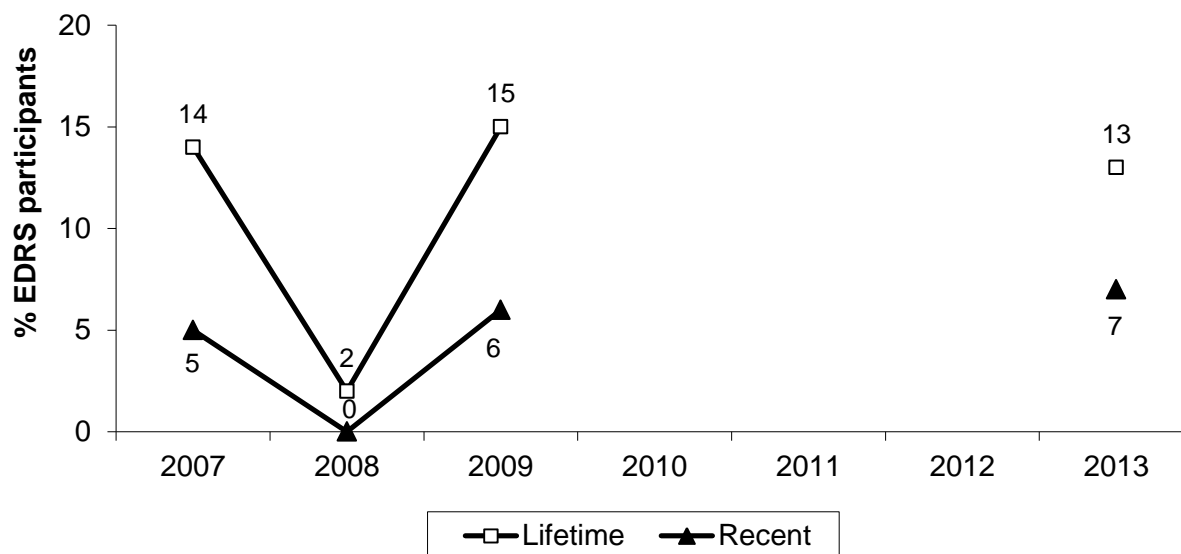
One-tenth of the sample (13%) had ever used licitly obtained antidepressants and 7% had done so over the preceding six months. Licit antidepressants were first used at a median age of 20 years (range 16-32).

*Illicit antidepressants*

One participant reported having ever used illicit antidepressants, however, this participant had not used them over the past six months.



**Figure 23: Proportion of EDRS participants reporting lifetime and recent antidepressant use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.9.5 Inhalants

##### *Amyl nitrite*

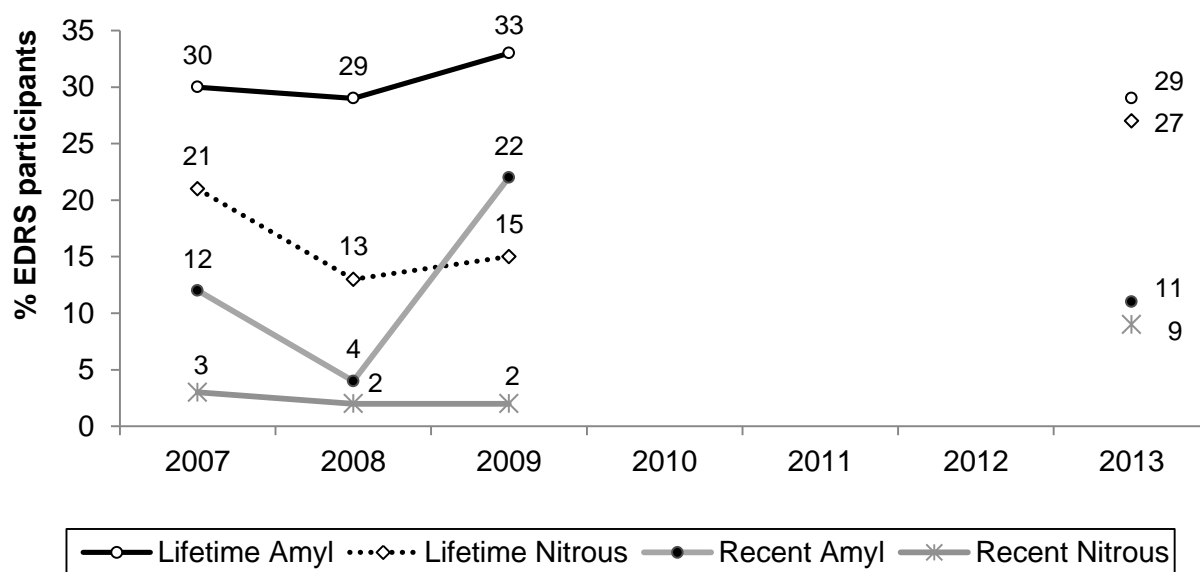
Almost one-third (29%) of EDRS participants interviewed had ever used amyl nitrite and one-in-ten (11%) had used it over the preceding six months. Amyl nitrite was first used at a median age of 19 years (range 15-25). Those who had recently used it had done so on a median of 2.5 days (range 2-4) over the preceding six months, with all recent users of amyl nitrite reportedly using it on a less than monthly basis.

##### *Nitrous oxide*

Approximately one-quarter (27%) of the sample reported having ever used nitrous oxide and 9% had done so recently. Nitrous oxide was first used at a median age of 18 years (range 15-26). Among those who had used it over the last six months, nitrous oxide had been used on a median of 2.5 days (range 1-26) during this time, with the majority reporting that they used it on a less than monthly basis (75%).

Figure 24 presents trends across time of the proportions of the EDRS samples that had ever used, and had recently used, both amyl nitrite and nitrous oxide. The proportions reporting lifetime use of both drugs remained relatively stable from 2009 to 2013, however, there appeared to be an increase in the proportion of participants reporting recent use of both drugs over the past four years.

**Figure 24: Proportion of EDRS participants reporting lifetime and recent amyl nitrite and nitrous oxide use, NT**



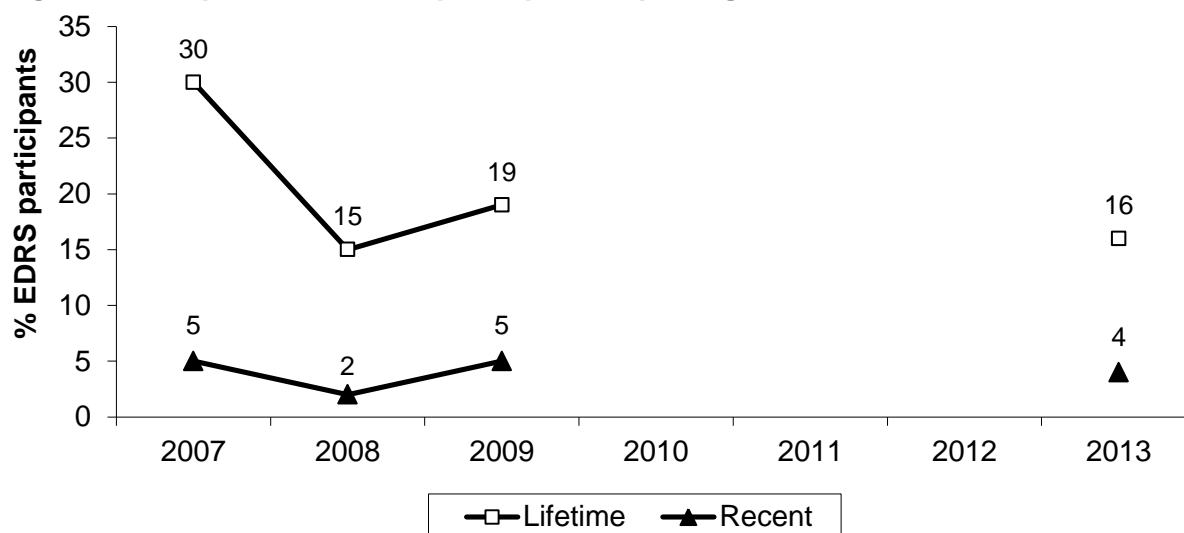
Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.9.6 MDA

Sixteen per cent of participants in the 2013 EDRS reported having ever used MDA, and 2 participants (4%) reported they had used it over the preceding six months. MDA was first used at a median age of 21 years (range 13-28). Given the small sample who had recently used MDA (n=2), data on routes of administration and the median days of use are not presented here.

The proportion of EDRS participants who have used MDA recently and in their lifetime has appeared to have remained relatively steady in 2013 compared to prior years (Figure 25).

**Figure 25: Proportion of EDRS participants reporting lifetime and recent MDA use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.9.7 Heroin and other opiates

##### *Heroin*

About one-in-ten (11%) of EDRS participants reported that they had ever used heroin, however, no participants reported using it in the preceding six months. The median age that heroin was first used was 22 years (range 17-28). Due to no participants reporting recent use of heroin, data was not collected on the median days of use and routes of administration.

##### *Methadone and buprenorphine*

No participants in the 2013 NT EDRS reported lifetime use of either methadone or buprenorphine.

##### *Other opiates*

While five respondents (11%) had ever used a licitly obtained opiate (other than methadone or buprenorphine), only one participant (2%) had used a licitly obtained opiate recently. Two participants (4%) had ever used illicitly obtained opiates (other than heroin, methadone or buprenorphine), however, none of these participants had used them over the six months prior to the interview.

##### *Opiate use in other populations*

A separate monitoring system investigating trends in the use of opioids in injecting drug users has been conducted in NSW since 1996, VIC and SA since 1997 and nationally since 2000. This is called the Illicit Drug Reporting System, or IDRS, and reports and bulletins are available from the NDARC website ([http://ndarc.med.unsw.edu.au/group/drug-trends#menu\\_item\\_5](http://ndarc.med.unsw.edu.au/group/drug-trends#menu_item_5)).

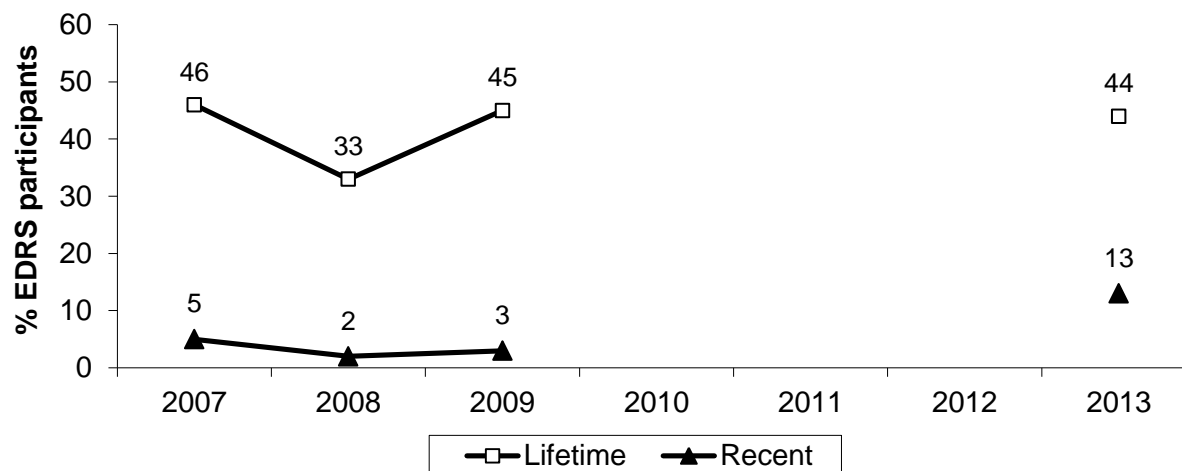
#### **Key expert comments**

It was uncommon for KE to comment on opioid use among ERD users. However, one health KE did comment that they had observed a couple of intentional opiate suicides in their line of work.

#### 4.9.8 Mushrooms

Two-fifths (44%) of the EDRS participants interviewed in 2013 reported having ever used mushrooms and 13% had done so over the preceding six months. Mushrooms were first used at a median age of 18.5 years (range 15-25). Those who had recently used mushrooms had done so on a less than monthly basis and the main route of administration described by users of mushrooms was swallowing. Although lifetime use of mushrooms appears to have remained relatively stable from 2009 to 2013, there has been a notable increase in recent use proportions (Figure 26).

**Figure 26: Proportion of EDRS participants reporting lifetime and recent mushroom use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

#### 4.9.9 Pharmaceutical stimulants

Almost one-fifth (18%) of participants in 2013 reported having ever used pharmaceutical stimulants and one participant (2%) had done so within the six months preceding the interview. There had been a minor decrease in lifetime and recent use of pharmaceutical stimulants from 2009 to 2013. Given such a small sample of recent users, details regarding frequency and quantity of use are not presented.

##### *Licit pharmaceutical stimulants*

While five participants reported having used licitly obtained pharmaceutical stimulants, only one EDRS participant had used them recently. Licitly obtained pharmaceutical stimulants were first used at a median age of 20 years (range 14-26).

##### *Illicit pharmaceutical stimulants*

Four participants (9%) had ever used illicitly obtained pharmaceuticals, however, no participants had done so over the preceding six months. Illicit pharmaceutical stimulants were first used at a median age of 18.5 years (range 15-22).

#### 4.9.10 Over the counter drugs

##### *Codeine*

Sixteen per cent of the sample reported having ever used over the counter codeine-containing products for non-pain use and two participants (4%) reported having done so over the preceding six months. These products were first used at a median age of 20.5 years (range 18-23). Due to a small sample of recent users, data on frequency and quantity of use are not presented.

##### *Stimulants*

One-tenth of the sample (9%) reported having ever used over the counter stimulants (such as Sudafed and Codral) for non-medicinal use and only one participant (2%) had used them recently. These products were first used at a median age of 20 years (range 19-20). Given such a small sample of recent users, details regarding frequency and quantity of use are not presented.

#### **4.9.11 Antipsychotics**

Two participants (4%) in 2013 reported having ever used antipsychotics (one licit; one illicit). The participant who reported obtaining antipsychotics illicitly had done so within the six months preceding the interview. Given such a small sample of recent users, details regarding frequency and quantity of use are not presented.

#### **4.9.12 Performance and image enhancing drugs (PIED)**

Three participants reported lifetime use of steroids, however, there were no reports of steroid use in the preceding six months in the 2013 NT EDRS sample. The median age of first use of PIED was 21 years (range 16-24).

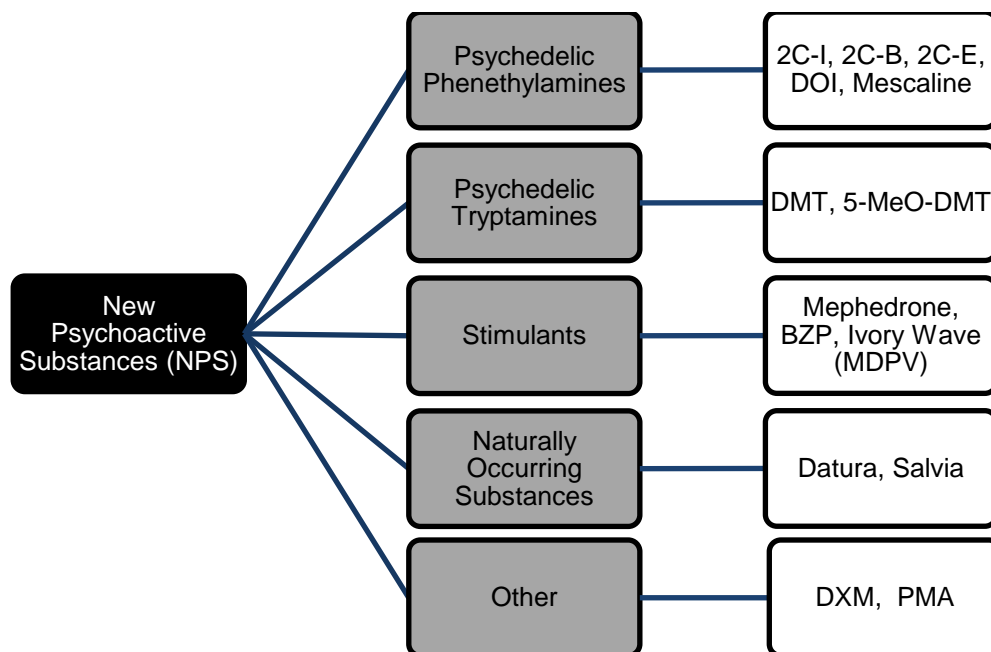
## 4.10 New psychoactive substance (NPS) use

### Summary:

- Three-fifths reported having ever used NPS and one-quarter reported using NPS in the last six months.
- The most common psychoactive substances used among Darwin EDRS participants included Kronik, herbal high blends, DMT and capsules with unknown contents.
- KE expressed concern over the increasing supply and use of NPS in Darwin, given that little is known about the adverse effects of these substances.

From 2010 onward, the EDRS attempted to systematically investigate a group of emerging drugs known as 'psychoactive substances' (also known as research chemicals, analogues, legal highs, herbal highs, party pills). These drugs can be classified as outlined in Figure 27.

**Figure 27: New psychoactive substances (NPS) investigated by the EDRS**



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 12 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 Drugscope (<http://www.drugscope.org.uk/>) for more comprehensive information on these drugs.

**Table 12: New psychoactive substances**

Street name	Chemical name	Information on drug	Information on use and effects
<i>Psychedelic Phenethylamines</i>			
2C-I	2,5-dimethoxy-4-iodophenethylamine	A psychedelic drug with stimulant effects	Recent reports suggest that 2C-I is slightly more potent than the closely related 2C-B. A standard oral dose of 2C-I is between 10-25mg.
2C-B	4-Bromo-2,5-dimethoxyphenethylamine	A psychedelic drug with stimulant effects	2C-B is sold as a white powder sometimes pressed in tablets or gel caps. The dosage range is listed as 16-24mg. Commonly taken orally but can also be snorted.
2C-E	2,5-dimethoxy-4-ethylphenethylamine	A psychedelic drug with stimulant effects	Mostly taken orally and is highly dose-sensitive. 2C-E is commonly active in the 10-20mg range.
DOI (death on impact)	2,5-dimethoxy-4-iodoamphetamine	A psychedelic phenethylamine	Requires only very small doses 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. <sup>5</sup>
Mescaline	3,4,5-trimethoxyphenethylamine	A hallucinogenic alkaloid	First isolated in 1896 from the peyote cactus of northern Mexico. A standard dose for oral mescaline use ranges from 200-500mg.
<i>Psychedelic Tryptamines</i>			
DMT	Dimethyl tryptamine	A hallucinogenic drug in the tryptamine family	Similar to LSD though its effects are said to be more powerful. Pure DMT is usually found in crystal form but has been reportedly sold in powder form. <sup>6</sup>
5-MeO-DMT	5-methoxy-N,N-dimethyltryptamine	A naturally occurring psychedelic tryptamine present in numerous plants and in the venom of the <i>Bufo alvarius</i> toad	5-MeO-DMT is comparable in effects to DMT, however, it is substantially more potent. It can be injected, smoked or sniffed and the effects rarely last more than two hours. 5-MeO-DMT is mostly seen in crystalline form <sup>7</sup> but has been reportedly sold in powder form.

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

<sup>6</sup> Drugscope: <http://www.drugscope.org.uk/resources/drugsearch/drugsearchpages/dmt>

<sup>7</sup> Erowid: [http://www.erowid.org/chemicals/5meo\\_dmt/5meo\\_dmt.shtml](http://www.erowid.org/chemicals/5meo_dmt/5meo_dmt.shtml)

**Table 12: New psychoactive substances (continued)**

Street name	Chemical name	Information on drug	Information on use and effects
<i>Stimulants</i>			
Mephedrone	4-methyl-methcathinone	A stimulant which is closely chemically related to amphetamines	Reportedly produces a similar experience to drugs like amphetamines, 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). <sup>8</sup>
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. BZP is used orally at doses of between 70-150mg and effects are reported to last 6-8 hours. <sup>9</sup>
MDPV / Ivory wave	Methylenedioxypropyl-alerone (3,4-methylenedioxy)	A cathinone derivative	More potent than other cathinones. Lidocaine (a common local anesthetic) is frequently used as a cutting agent, to give users the numbing sensation in the mouth or nose which is associated with drugs of high purity (e.g. high-purity cocaine). <sup>10</sup>
<i>Naturally Occurring Substances</i>			
Datura	Commonly <i>Datura innoxia</i> and <i>Datura stramonium</i> . Contains Atropine and Scopolamine. Also known as Angel's Trumpet	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. <sup>11</sup>

<sup>8</sup> Drugscope: <http://www.drugscope.org.uk/resources/drugsearch/drugsearchpages/mephedrone>

<sup>9</sup> Erowid: [http://www.erowid.org/chemicals/bzp/bzp\\_basics.shtml](http://www.erowid.org/chemicals/bzp/bzp_basics.shtml)

<sup>10</sup> Drugscope: [http://www.drugscope.org.uk/Media/Press+office/pressreleases/ivory\\_wave\\_MDPV](http://www.drugscope.org.uk/Media/Press+office/pressreleases/ivory_wave_MDPV)

<sup>11</sup> Drugscope: <http://www.drugscope.org.uk/resources/drugsearch/drugsearchpages/datura>



**Table 12: New psychoactive substances (continued)**

Street name	Chemical name	Information on drug	Information on use and effects
<i>Naturally Occurring Substances (continued)</i>			
Salvia	<i>Salvia divinorum</i> (contains Salvinorin A)	Salvia is derived from the American plant <i>Salvia divinorum</i> , a member of the mint family	At low doses (200-500mcg) 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. <sup>12</sup>
LSA	<i>d</i> -lysergic acid amide	A naturally occurring psychedelic found in plants such as Morning Glory and Hawaiian Baby Woodrose seeds	LSA has some similarities in effect to LSD, but is generally considered much less stimulating and can be sedating in larger doses.
<i>Other Psychoactive Substances</i>			
DXM	Dextromethorphan	A semisynthetic opiate derivative which is legally available over the counter in the US	Commonly found in cough suppressants, especially those with 'DM' or 'Tuss' in their names. It is a dissociative drug that is almost always used orally, although pure DXM powder is occasionally snorted. Recreational doses range from 100-1,200mg or more. <sup>13</sup>
PMA	Paramethoxyamphetamine; 4-methoxy-amphetamine	A synthetic hallucinogen that has stimulant effects	Ingesting a dose of less than 50mg (usually one pill or capsule) without other drugs or alcohol induces symptoms reminiscent of MDMA, although PMA is more toxic than MDMA. Doses over 50mg are considered potentially lethal (due to the risk of overheating). Pure PMA is a white powder, but street products can also be beige, pink or yellowish. Today it is usually made into pressed pills. <sup>14</sup>
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.
Methylone	3,4-methylenedioxy- <i>N</i> -methylcathinone	An entactogen and stimulant of the phenethylamine, amphetamine, and cathinone classes	Reported dosages range from 100-250mg orally. Effects are primarily psychostimulant in nature.

<sup>12</sup> Drugscope: <http://www.drugscope.org.uk/resources/drugsearch/drugsearchpages/salvia>

<sup>13</sup> Erowid: [http://www.erowid.org/chemicals/dxm/dxm\\_basics.shtml](http://www.erowid.org/chemicals/dxm/dxm_basics.shtml)

<sup>14</sup> Drugscope: <http://www.drugscope.org.uk/resources/drugsearch/drugsearchpages/pma>

Amongst the 2013 NT EDRS sample, 60% reported having ever used NPS and 27% reported using NPS in the last six months. The most common psychoactive substances ever used among Darwin EDRS participants were Kronic (38%), herbal highs (33%), DMT (16%) and capsules with unknown contents (11%). However, the proportions who had used psychoactive substances in the last six months were notably lower. Those most commonly used over the preceding six months were herbal highs (18%), Kronic (13%) and capsules with unknown contents (7%) (Table 13).

**Table 13: NPS use among EDRS participants, NT**

	<b>2013 (N=45)</b>
<i>Kronic</i>	
ever used (%)	<b>38</b>
used last 6 mths (%)	<b>13</b>
<i>Herbal highs</i>	
ever used (%)	<b>33</b>
used last 6 mths (%)	<b>18</b>
<i>DMT</i>	
ever used (%)	<b>16</b>
used last 6 mths (%)	<b>2</b>
<i>Capsule (contents unknown)</i>	
ever used (%)	<b>11</b>
used last 6 mths (%)	<b>7</b>
<i>2C-B</i>	
ever used (%)	<b>9</b>
used last 6 mths (%)	<b>2</b>
<i>Other synthetic cannabinoids</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>4</b>
<i>Mescaline</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>4</b>
<i>Salvia</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>4</b>
<i>2C-I</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>2</b>
<i>Mephedrone</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>2</b>

**Source: EDRS participant interviews 2013**

**Table 13: NPS use among EDRS participants, NT (continued)**

	<b>2013 (N=45)</b>
<i>K2 / Spice</i>	
ever used (%)	<b>7</b>
used last 6 mths (%)	<b>0</b>
<i>Methylone</i>	
ever used (%)	<b>4</b>
used last 6 mths (%)	<b>4</b>
<i>BZP</i>	
ever used (%)	<b>4</b>
used last 6 mths (%)	<b>0</b>
<i>DXM</i>	
ever used (%)	<b>4</b>
used last 6 mths (%)	<b>0</b>
<i>MDPV / Ivory Wave</i>	
ever used (%)	<b>2</b>
used last 6 mths (%)	<b>2</b>
<i>Datura</i>	
ever used (%)	<b>2</b>
used last 6 mths (%)	<b>0</b>
<i>LSA</i>	
ever used (%)	<b>2</b>
used last 6 mths (%)	<b>0</b>
<i>2C-E</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>5-IAI</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>5-MeO-DMT</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>Benzo Fury / 6-APB</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>DOI (Death On Impact)</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-

**Source: EDRS participant interviews 2013**

**Table 13: NPS use among EDRS participants, NT (continued)**

	<b>2013 (N=45)</b>
<i>MDAI</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>Methoxetamine / MXE</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>MPTP</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-
<i>PMA</i>	
ever used (%)	<b>0</b>
used last 6 mths (%)	-

**Source: EDRS participant interviews 2013**

**Key expert comments**

KE expressed concern over the increasing supply and use of NPS in Darwin.

Law enforcement KE commented that NPS were causing notable problems due to the associated legal issues and the untested nature of the drugs available. KE highlighted that the harms of these substances are not known and this is very concerning in both the short- and long-term. Health KE mirrored these comments by explaining that because NPS are not regulated, they cannot always predict outcomes due to differences in the drugs in terms of strength and purity. Furthermore, KE felt that the level of harm from these NPS would vary according to dose, route, duration of use and combination with other substances.

Law KE reported that some synthetic ATS substances are becoming more prevalent due to the availability of these substances to be purchased over the internet, imported without detection, and then pressed and sold as MDMA.

## 5 DRUG MARKET: PRICE, PURITY, AVAILABILITY

### 5.1 Ecstasy

#### Summary:

- *Price*: \$35 per tablet.
- *Purity*: Currently medium and mostly stable.
- *Availability*: Currently easy to very easy to obtain and stable.
- KE reported that ecstasy-type substances were difficult to obtain due to limited supply in the NT.

#### 5.1.1 Price

The majority (89%) of participants were able to comment on the price of ecstasy tablets in Darwin. The median price was reported by users to be \$35 per tablet (range 15-50) (Table 14). While half of the group (50%) reported that the price of ecstasy tablets had remained stable, the remaining half reported that the price had increased (23%) or fluctuated (23%) over the six months preceding the interview.

No participants were able to comment on the price of ecstasy powder, ecstasy capsules (commonly referred to as caps) or MDMA crystal.

**Table 14: Median price of ecstasy purchased by EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Price per tablet (\$) (range)	50 (35-60)	50 (30-50)	50 (17-70)	35 (15-50)
<i>Price change:</i>				
Increased (%)	12	0	5	23
Stable (%)	76	80	83	50
Decreased (%)	9	4	3	4
Fluctuated (%)	3	9	9	23
Don't know (%)	0	7	0	-

**Source:** EDRS participant interviews 2007, 2008, 2009, 2013

**Note:** Response option 'don't know' was removed from analyses from 2010 onward

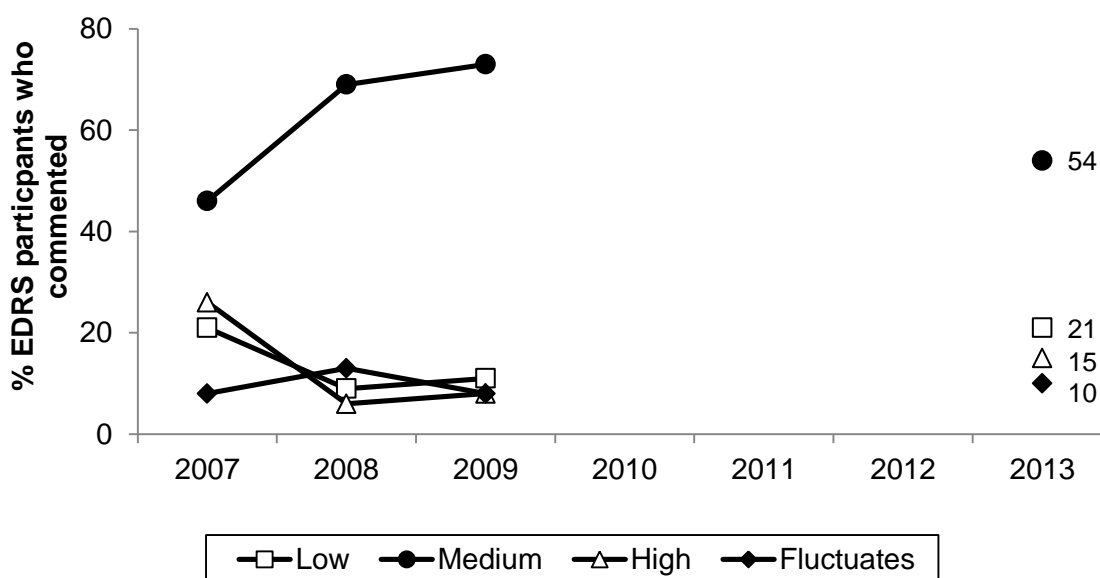
Participants were asked questions regarding their purchasing of ecstasy over the last six months. Participants reported that they had purchased ecstasy from a median of 3 people (range 1-20). While one-quarter (24%) of the sample usually purchased ecstasy for themselves only, the majority (73%) had purchased ecstasy for themselves and others. When asked about how frequently they purchased ecstasy, the majority of participants reported that they had bought ecstasy monthly or less (71%). Smaller proportions reported purchasing ecstasy fortnightly or less (17%) or weekly or less (12%). The median number of tablets purchased was 4 (range 1-20).

### 5.1.2 Purity

#### Current purity

Figure 28 presents EDRS participants' reports of ecstasy purity across time. In 2013, the majority of the sample reported that the current purity of ecstasy was 'medium' (54%). Twenty-one per cent of participants reported that ecstasy purity was 'low', 15% reported that it was 'high', and the remaining 10% indicated that the purity had fluctuated. Compared to the reports of ecstasy purity in 2009, it appeared that the purity of ecstasy in 2013 may be lower than previous years.

**Figure 28: EDRS participants' reports of current ecstasy purity, NT**



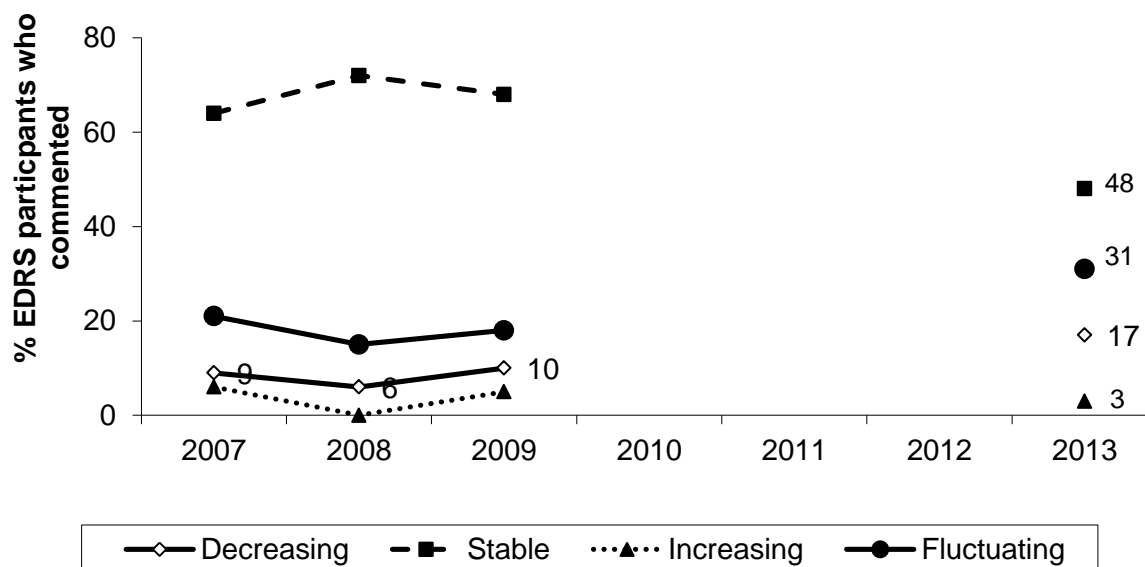
**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

**Note:** Response option 'don't know' was removed from analyses from 2010 onward

#### Purity change

Figure 29 presents EDRS participants' reports of changes in the purity of ecstasy over the six months prior to the interview. Almost half of the sample reported that the purity of ecstasy remained stable (48%), however, one-third (31%) reported that ecstasy purity had fluctuated. An additional 17% reported that purity of ecstasy had decreased, and the remaining 3% reported that purity had increased. It appeared in the NT that there was a greater fluctuation of ecstasy purity in 2013, which contributed to a decrease in the proportion reporting stable purity compared to 2009.

**Figure 29: EDRS participants' reports of change in ecstasy purity in the past six months, NT**

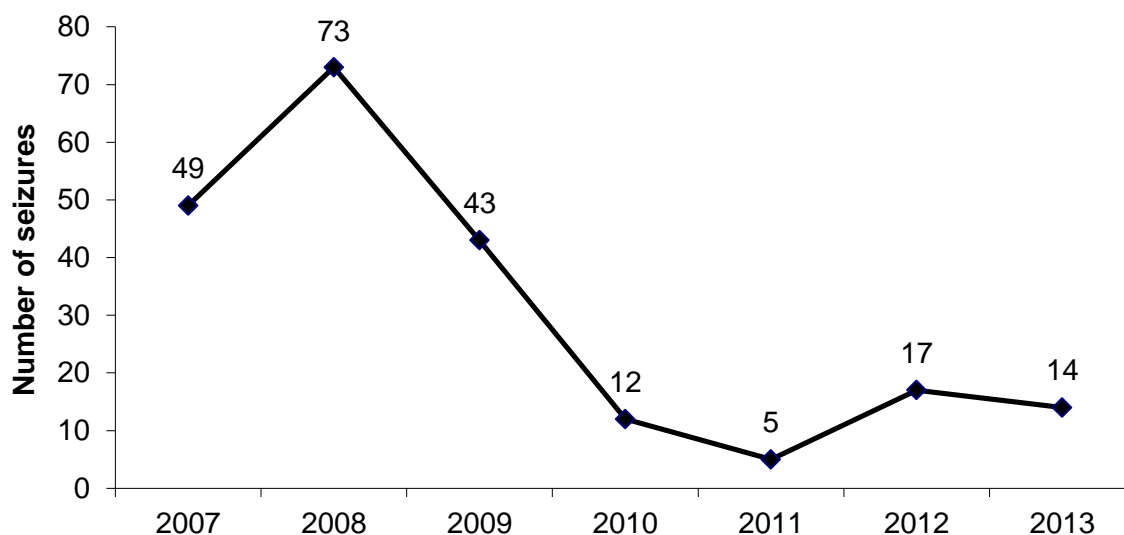


**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

**Note:** Response option 'don't know' was removed from analyses from 2010 onward

Figure 29 presents data on the number of ecstasy seizures made by the NT police. It should be noted that the data does not relate to purity, and the drug name under which the seizure is coded is the drug that it is traded as, and has not been forensically tested. There was a noticeable decline in ecstasy seizures from 2008 to 2010 in the NT. Since 2010, the number of ecstasy seizures has remained relatively stable, with less than 20 seizures recorded per year.

**Figure 30: Number of ecstasy seizures, NT, 2007-2013**



**Source: NT Police Real-time Online Information Management System (PROMIS)**

**Note:** Drugs are classified according to information available to police at the time of seizure; however, no toxicological analyses are undertaken to establish the content of drugs found

### 5.1.3 Availability

The majority (71%) of EDRS participants interviewed in 2013 reported that it was currently 'easy' or 'very easy' to obtain ecstasy. The majority (58%) of respondents indicated that the availability of ecstasy had remained stable over the preceding six months (Table 15).

**Table 15: Reports of availability of ecstasy in the past six months by EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
<i>Current availability:</i>				
Very easy (%)	33	16	32	<b>42</b>
Easy (%)	47	78	59	<b>29</b>
<i>Availability:</i>				
Stable (%)	65	78	71	<b>58</b>
Easier (%)	12	2	12	<b>4</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

**Note:** Response option 'don't know' was removed from analyses from 2010 onward

#### Key expert comments

Only a few KE were able to comment on the price, purity or availability of ecstasy in Darwin, and these comments were mixed.

One law enforcement KE reported that MDMA was of low purity and the price had decreased in the past year. In contrast, one health KE had been told by an individual visiting from Victoria that, compared to Melbourne, the purity of an MDMA pill was medium but notably more expensive (\$50 in Darwin; \$20 in Melbourne).

In terms of availability, KE reported that ecstasy-type substances were difficult to obtain due to limited supply in the NT, and as such younger users were starting to use other recreational drugs such as crystal.



## 5.2 Methamphetamine

### Summary:

#### *Speed*

- *Price:* \$300 per gram and stable.
- *Purity:* Currently high and appeared to be stable.
- *Availability:* Reports variable.

#### *Base*

- No data available for 2013.

#### *Crystal*

- *Price:* \$300 per gram and reportedly stable.
- *Purity:* Currently medium to high and reportedly stable.
- *Availability:* Currently easy to obtain.
  
- KE agreed that crystal had become easier to access, although all forms of methamphetamine were notably more expensive in the NT than other jurisdictions.

### 5.2.1 Price

#### *Speed*

Six participants reported on the price of speed over the six months prior to the interview (Table 16), however, since smaller numbers reported on each individual price, these figures must be interpreted with caution. The median price reported the last time speed was purchased was \$300 a gram (range \$250-450), which is in keeping with that recorded in 2009 (Table 16).

All participants who commented (n=4) believed the price of speed had remained stable over the preceding six months. This is in keeping with the price stability noted above.

#### *Base*

No participants were able to report on the price of base in the NT, and as such there is no data available for 2013.

#### *Crystal*

Only four participants were able to comment on the price of crystal over the preceding six months. The median price for a gram of crystal was \$300 (range \$200-600), however, caution is advised due to small numbers reporting (Table 16). Only two participants commented on changes to the price of crystal over this time, and both reported that it had remained stable.

**Table 16: Median price of various methamphetamine forms purchased by EDRS participants, NT**

	2007	2008	2009	2013
<i>Speed</i>	n=23	n=8	n=24	n=5
Point (\$) (range)	50 (50) <sup>^</sup>	-	50 (50)	-
Gram (\$) (range)	250 (100-350)	300 (15-700) <sup>^</sup>	300 (100-800)	<b>300 (250-450)<sup>^</sup></b>
<i>Base</i>	n=12	n=1	n=3	n=0
Point (\$) (range)	35 (30-40) <sup>^</sup>	-	55 (50-60) <sup>^</sup>	-
Gram (\$) (range)	350 (200-500) <sup>^</sup>	400 (400) <sup>^</sup>	350 (300-400) <sup>^</sup>	-
<i>Crystal</i>	n=9	n=0	n=3	n=4
Point (\$) (range)	45 (40-50) <sup>^</sup>	-	100 (50-100) <sup>^</sup>	<b>200 (200)<sup>^</sup></b>
Gram (\$) (range)	250 (100-350) <sup>^</sup>	-	1000 (1000) <sup>^</sup>	<b>300 (200-600)<sup>^</sup></b>

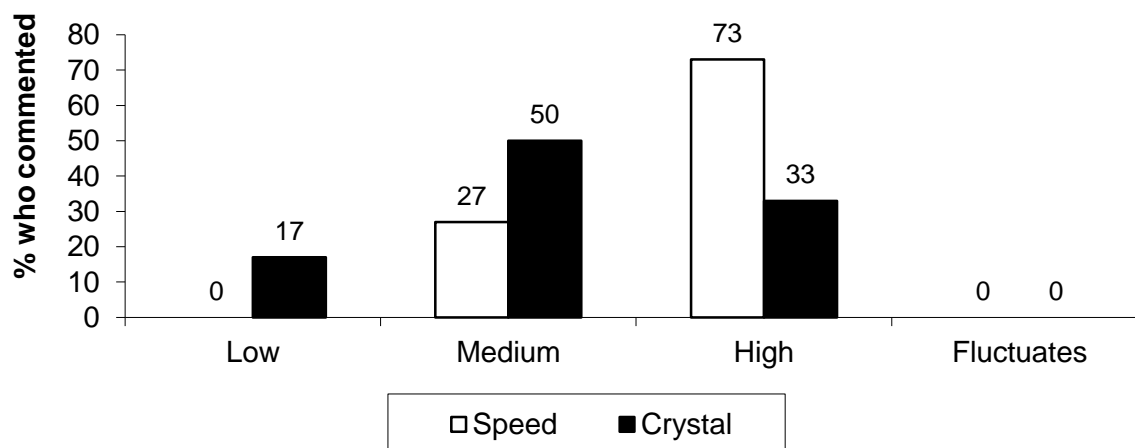
Source: EDRS participant interviews 2007, 2008, 2009, 2013

<sup>^</sup> Small numbers reporting, interpret with caution

### 5.2.2 Purity

Figure 31 illustrates that the current purity of speed was mostly 'high' (73%). In contrast, there was more variability in the reports of the purity of crystal, with half the sample reporting that purity was 'medium' (50%), one-third reporting the purity as 'high' (33%) and the remaining 17% reporting current crystal purity as 'low'. Unfortunately there was no data available on the purity of base in the NT for 2013.

**Figure 31: EDRS participants' reports of current methamphetamine purity\*, NT**



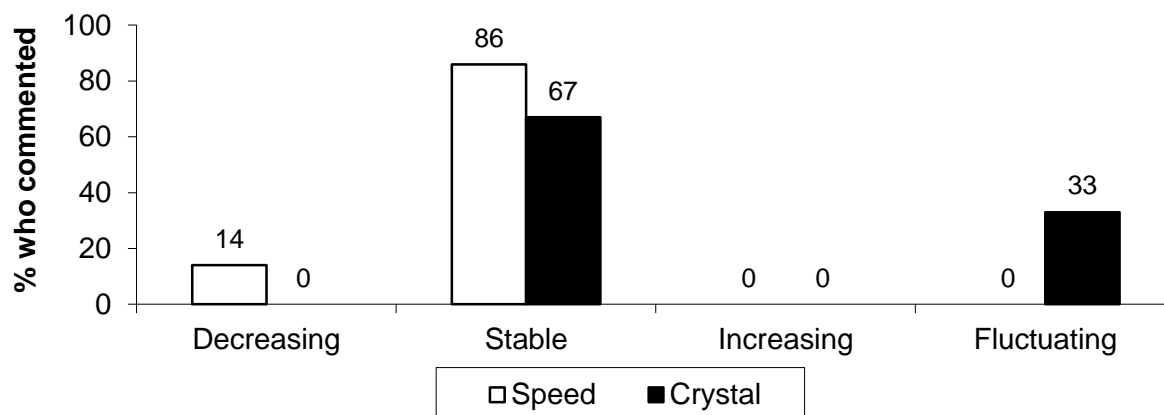
Source: EDRS participant interviews 2013

Note: 'Don't know' responses removed

\* Of those who commented (speed n=11; crystal n=6). Due to base n=0, no data was available.

Figure 32 presents data on the perceived change in purity of the forms of methamphetamine over the six months preceding the interview. The purity of speed was largely reported to have remained stable (86%), although a minority (14%) felt it had decreased recently. Only three participants reported on the purity of crystal; two participants reported crystal purity as 'stable' and the other reported that crystal purity had been 'fluctuating'. No data was available on the change of base purity.

**Figure 32: EDRS participants' reports of changes in methamphetamine purity in the past six months\*, NT**



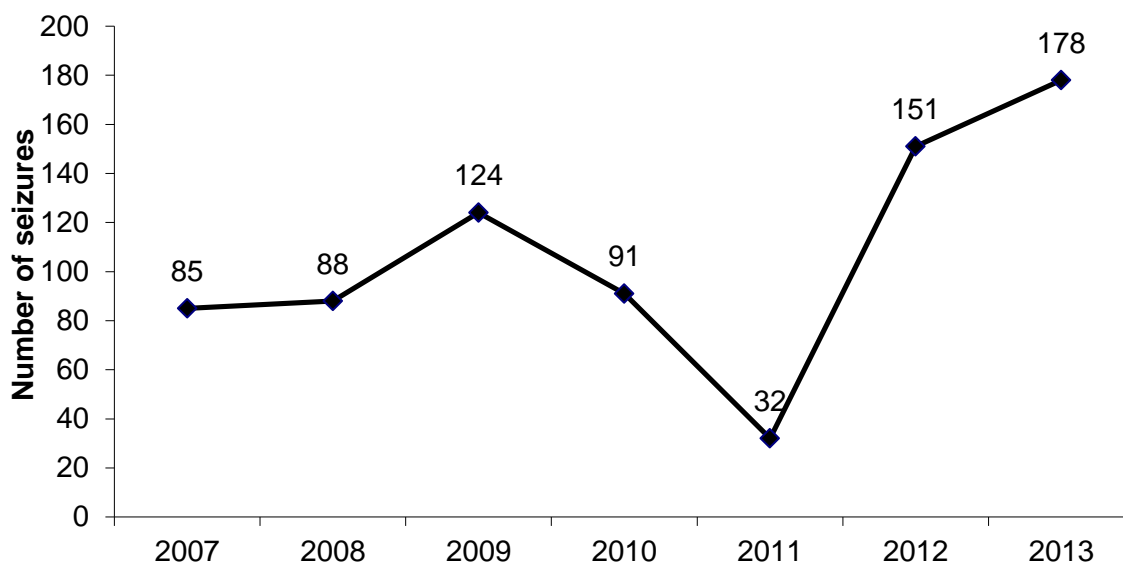
**Source: EDRS participant interviews 2013**

**Note:** 'Don't know' responses removed

\* Of those who commented (speed n=7; crystal n=3). Due to base n=0, no data was available.

Figure 33 Figure 29 presents data on the number of amphetamine/methamphetamine seizures made by the NT police. It should be noted that the data does not relate to purity, and the drug name under which the seizure is coded is the drug that it is traded as, and has not been forensically tested. The number of amphetamine/methamphetamine seizures remained relatively stable from 2007 to 2010, however there was a noticeable decline in 2011. Since this time, there has been a sharp increase in the number of seizures in the NT, which continues to be rising.

**Figure 33: Number of amphetamine/methamphetamine seizures, NT, 2007-2013**



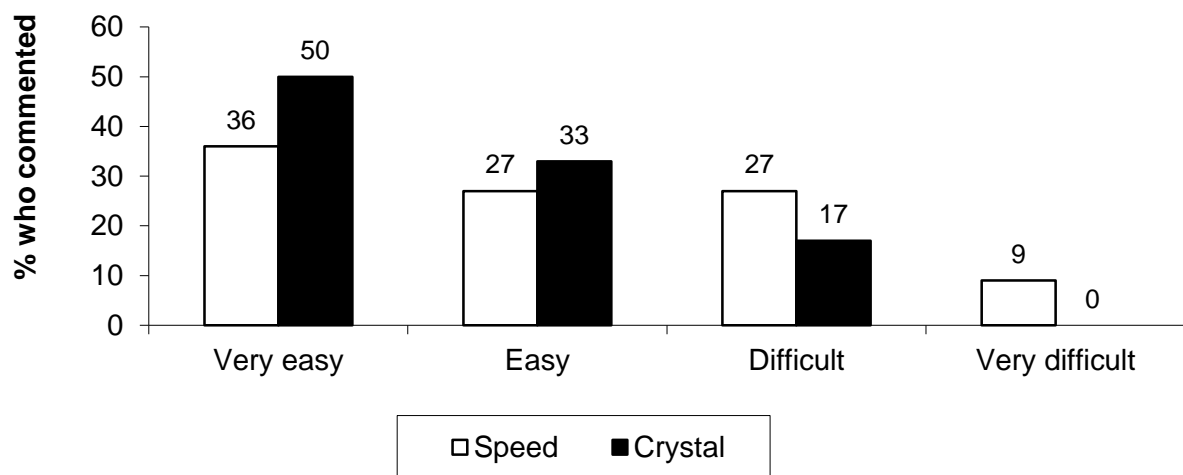
**Source: NT Police Real-time Online Information Management System (PROMIS)**

**Note:** Drugs are classified according to information available to police at the time of seizure; however, no toxicological analyses are undertaken to establish the content of drugs found

### 5.2.3 Availability

Poor agreement was found among participants commenting on the current availability of speed. Although the majority of the sample reported that speed availability was 'easy' (27%) or 'very easy' (32%), a sizeable proportion of respondents reported that speed was 'difficult' (27%) or 'very difficult' (9%) to currently obtain. Crystal was considered to be either 'easy' (33%) or 'very easy' (50%) to obtain at the time of interviewing in 2013 (Figure 34). Unfortunately no participants were able to report on the current availability of base.

**Figure 34: EDRS participants' reports of current availability of methamphetamine forms\*, NT**



**Source: EDRS participant interviews 2013**

\* Of those who commented (speed n=11; crystal n=6). Due to base n=0, no data was available.

Very small numbers reported on the change in availability of speed and crystal over the six months prior to interviewing, and as such these figures should be interpreted with caution. All five participants who commented on the change of speed availability reported that it had been 'stable'. Two participants commented on the change of crystal availability, with one reporting that it had recently been 'stable' and the other reporting that availability had become 'more difficult'.

### **Key expert comments**

KE reported that, similarly to other illicit drugs in the NT, methamphetamine prices were significantly more expensive in Darwin than other capital cities such as Sydney and Melbourne. One health KE who had recently spoken to a methamphetamine user from the east coast reported that although the prices of methamphetamine were much higher in the NT, the purity was mediocre compared to Melbourne and Sydney. As such, he hypothesised that the health of users in the NT was more negatively affected due to the use of a lower quality product.

KE comments on the price, purity and availability of speed and crystal were mixed. One KE reported that the price of crystal was stable, whereas another said it was decreasing. In terms of purity, one said that crystal purity was low and stable, and the other said NT crystal was medium and increasing.

There appeared to be consensus among KE that the availability of crystal was increasing in Darwin. One KE who had regular contact with users reported that they often described crystal as their party drug of choice. This KE felt that the low availability of ecstasy in Darwin had further reinforced crystal as a party drug, especially with younger users.

Both law and health KE reported that those who used speed primarily snorted it, whereas smoking was the primary route of administration for crystal users. No KE provided comment on base.

## 5.3 Cocaine

### Summary:

- *Price*: \$325 per gram, stable.
- *Purity*: High although appears to have fluctuated.
- *Availability*: Currently easy to obtain, stable.

### 5.3.1 Price

Six participants were able to comment on the price of cocaine, and as such caution should be taken when interpreting the results in this section. The median price per gram was \$325 (range \$300-450). This figure has continued to remain relatively stable since the previous data collection point in 2009 (Table 17).

The three participants who commented on whether the price of cocaine had changed in the NT over the preceding six months believed that it had remained stable.

**Table 17: Median price of cocaine purchased by EDRS participants, NT**

	2007 (n=5)	2008 (n=2)	2009 (n=5)	2013 (n=6)
Per gram (\$) (range)	350 <sup>^</sup> (250-1200)	350 <sup>^</sup> (300-400)	325 <sup>^</sup> (50-350)	325 <sup>^</sup> <b>(300-450)</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

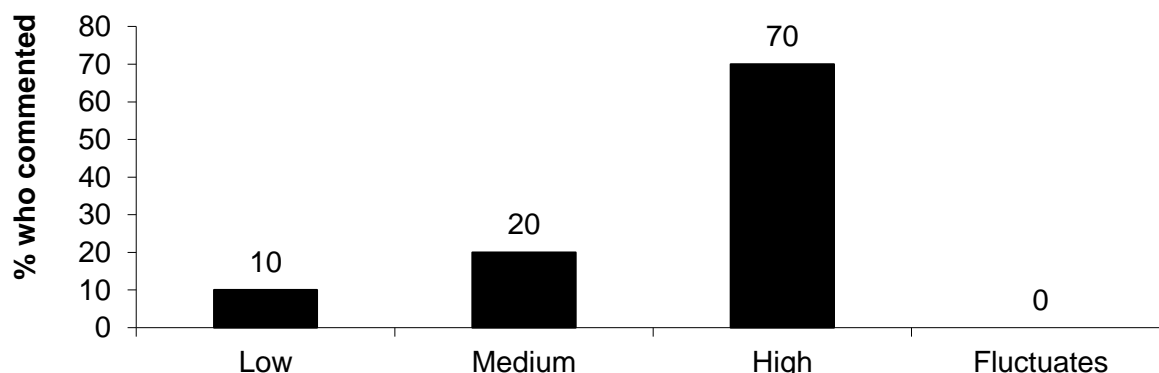
<sup>^</sup> Small numbers reporting, interpret with caution

### 5.3.2 Purity

Ten EDRS participants were able to comment on the current purity of cocaine. The majority of participants rated cocaine purity as 'high' (70%), followed by 'medium' (20%) and 'low' (10%) (Figure 35).

There was poor agreement amongst participants who were able to comment on how the purity of cocaine had changed over the preceding six months. Three participants (50%) reported that cocaine purity had fluctuated, two participants (33%) believed cocaine purity had increased, and one participant (17%) reported an increase in cocaine purity.

**Figure 35: EDRS participants' reports of current purity of cocaine\*, NT**



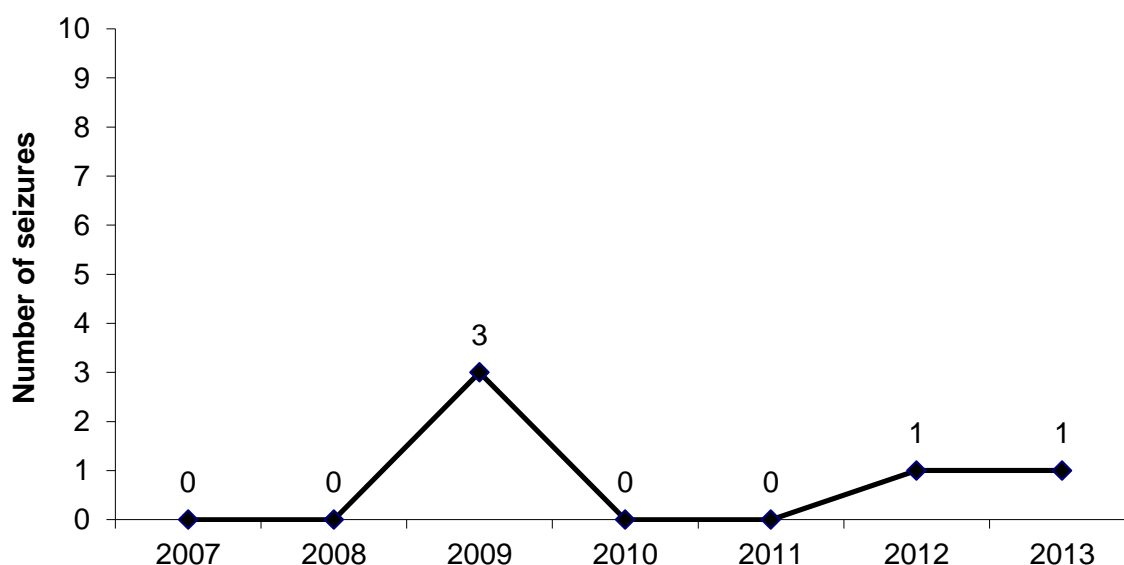
**Source: EDRS participant interviews 2013**

**Note:** Response option 'don't know' was removed from analyses

\* Of those who commented (n=10)

Figure 36 Figure 29 presents data on the number of cocaine seizures made by the NT police. It should be noted that the data does not relate to purity, and the drug name under which the seizure is coded is the drug that it is traded as, and has not been forensically tested. The number of cocaine seizures has continued to remain low over time in the NT.

**Figure 36: Number of cocaine seizures, NT, 2007-2013**



**Source: NT Police Real-time Online Information Management System (PROMIS)**

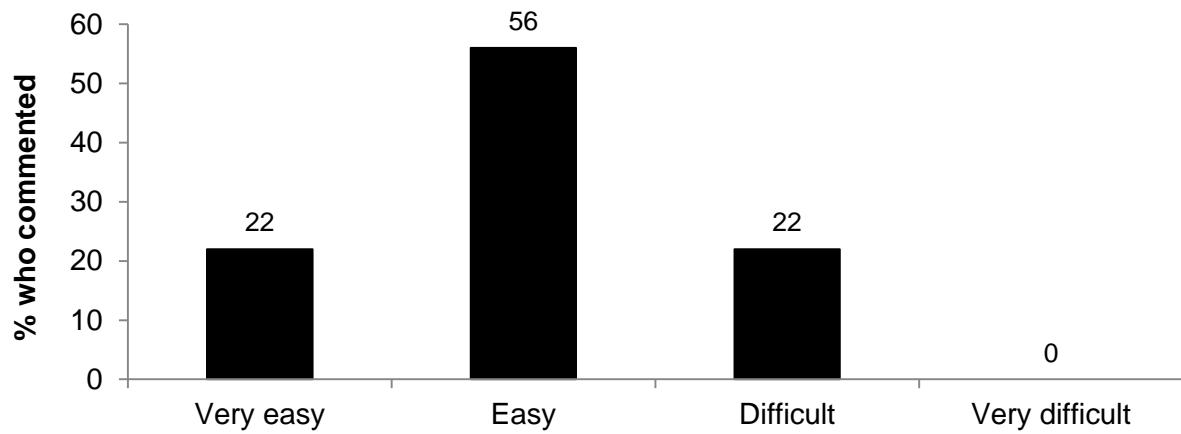
**Note:** Drugs are classified according to information available to police at the time of seizure; however, no toxicological analyses are undertaken to establish the content of drugs found

### 5.3.3 Availability

Nine participants were able to comment on the availability of cocaine. Of these, the majority (78%) believed cocaine was currently either 'easy' or 'very easy' to obtain. However, the remaining one-fifth (22%) reported that it was currently 'difficult' to obtain (Figure 37).

Two-thirds (67%) of those who commented (n=6) stated that the availability of cocaine had remained stable over the preceding six months.

**Figure 37: EDRS participants' reports of current availability of cocaine\*, NT**



**Source: EDRS participant interviews 2013**

**Note:** Response option 'don't know' was removed from analyses  
\* Of those who commented (n=9)

**Key expert comments**

KE did not provide comment on the price, purity or availability of cocaine in the NT.



## 5.4 LSD

### Summary:

- *Price*: \$35 per tab, stable.
- *Purity*: Currently medium to high, stable.
- *Availability*: Currently easy to very easy to obtain, stable.

### 5.4.1 Price

Nine participants reported on the price of LSD (Table 18). The median price last paid for a tab of LSD was \$35 (range \$20-50), which appears to have increased notably compared to the median prices reported in previous years. The majority of those who commented (80%; n=4) reported that the price had remained stable over the preceding six months, with only a small portion reporting that the price had decreased (20%; n=1).

**Table 18: Median price of LSD purchased by EDRS participants, NT**

	2007 (n=24)	2008 (n=5)	2009 (n=3)	2013 (n=9)
Per tab (\$) (range)	25 (20-30)	20 <sup>^</sup> (15-20)	25 <sup>^</sup> (20-40)	35 <sup>^</sup> (20-50)

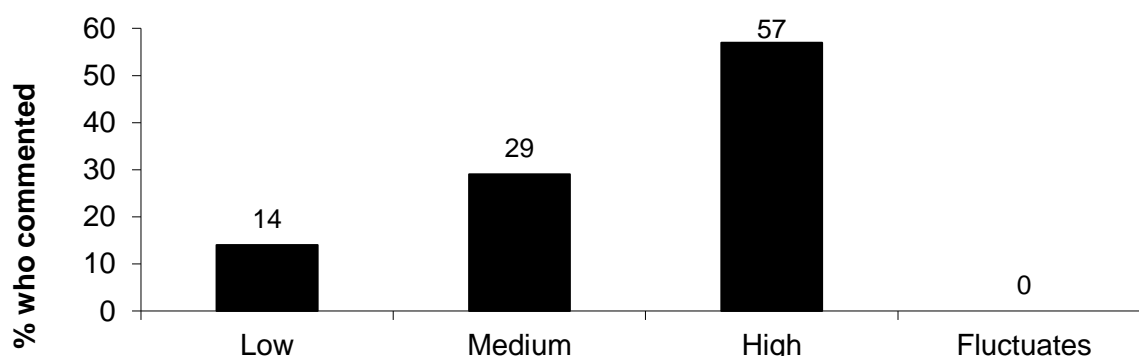
Source: EDRS participant interviews 2007, 2008, 2009, 2013

<sup>^</sup> Small numbers reporting, interpret with caution

### 5.4.2 Purity

Fourteen participants commented on the purity of LSD. Of these, 57% reported that LSD was currently of 'high' purity and 29% reported 'medium' purity (Figure 38). The majority reported that purity had remained stable (88%) over the past six months, however, a smaller proportion (12%) reported that it had decreased.

**Figure 38: EDRS participants' reports of current purity of LSD\*, NT**



Source: EDRS participant interviews 2013

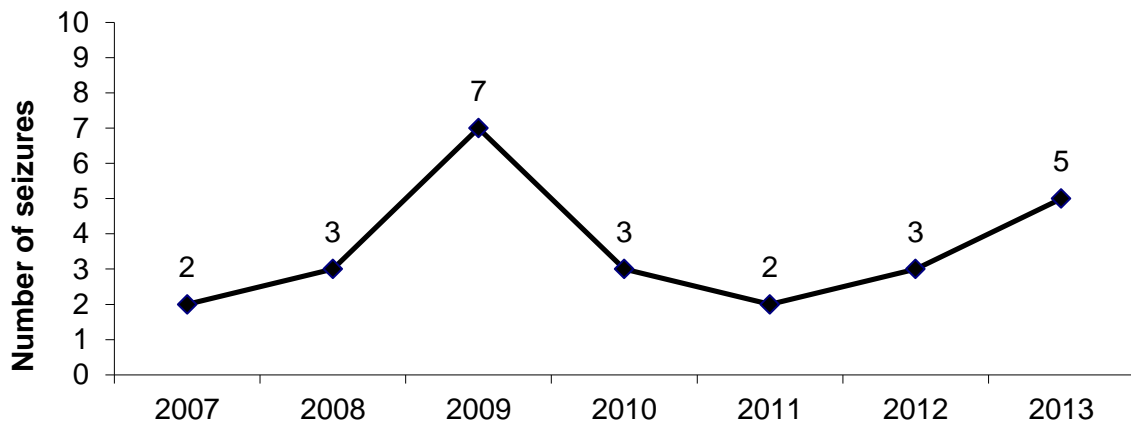
Note: Response option 'don't know' was removed from analyses

\* Of those who commented (n=14)

Figure 39 presents data on the number of LSD seizures made by the NT police. It should be noted that the data does not relate to purity, and the drug name under which the seizure is

coded is the drug that it is traded as, and has not been forensically tested. LSD seizure numbers have remained low over time in the NT, with less than ten seizures per year.

**Figure 39: Number of LSD seizures, NT, 2007-2013**



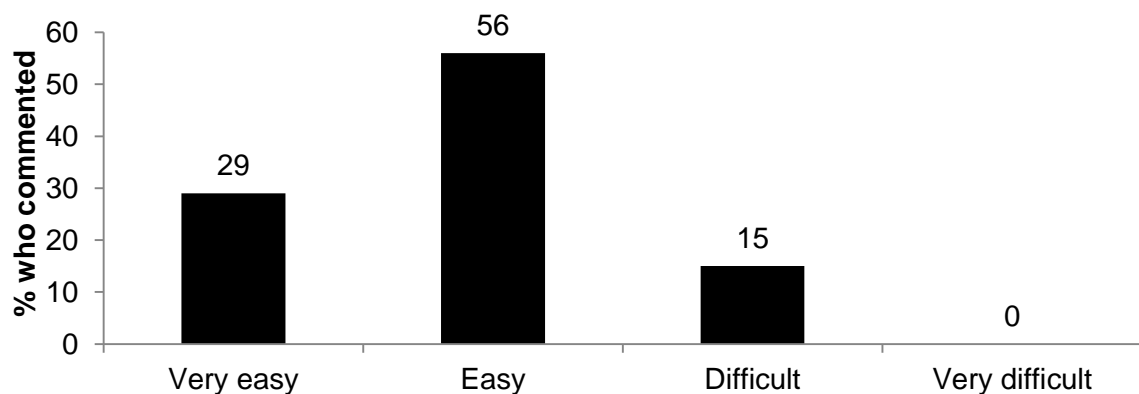
**Source: NT Police Real-time Online Information Management System (PROMIS)**

**Note:** Drugs are classified according to information available to police at the time of seizure; however, no toxicological analyses are undertaken to establish the content of drugs found

### 5.4.3 Availability

Thirteen participants commented on the availability of LSD. The majority of respondents (85%) believed that LSD was currently 'easy' or 'very easy' to obtain, however, 15% reported that it was 'difficult' (Figure 40). The majority of those who commented on availability of LSD reported that it had remained stable (88%) and 12% reported that availability had fluctuated over the past six months.

**Figure 40: EDRS participants' reports of current availability of LSD\*, NT**



**Source: EDRS participant interviews 2013**

**Note:** Response option 'don't know' was removed from analyses

\* Of those who commented (n=13)

**Key expert comments**  
 KE did not provide comment on the price, purity or availability of LSD in the NT.

## 5.5 Ketamine

### Summary:

- There was no NT data reported on the price, purity or availability of ketamine for 2013.

No participants in the NT EDRS provided information on the price, purity or availability of ketamine in Darwin for 2013.

### Key expert comments

KE did not provide comment on the price, purity or availability of ketamine in the NT.

## 5.6 GHB

### Summary:

- There was no NT data reported on the price, purity or availability of GHB for 2013.

No participants in the NT EDRS provided information on the price, purity or availability of GHB in Darwin for 2013.

### Key expert comments

KE did not provide comment on the price, purity or availability of GHB in the NT.

## 5.7 Cannabis

From 2006, the EDRS included a more detailed section about cannabis and made a distinction between indoor-cultivated 'hydroponic' cannabis (hydro) and outdoor-cultivated 'bush' cannabis for price, potency and availability. In 2013, only participants who were able to distinguish between hydro and bush provided information about the price, purity and availability of cannabis.

### Summary:

#### *Hydro*

- *Price*: \$40 per gram; \$320 per ounce, stable.
- *Potency*: Currently medium to high, stable.
- *Availability*: Currently easy to very easy to obtain, stable.

#### *Bush*

- *Price*: \$30 per gram; \$200 per ounce, stable.
  - *Potency*: Currently medium, stable.
  - *Availability*: Currently very easy to obtain, stable.
- KE reported that the price of cannabis had remained stable, although the purity had declined in the past 12 months.

### 5.7.1 Price

Table 19 presents the reported price for one ounce and one gram of hydro and bush cannabis.<sup>15</sup> These data should be interpreted with caution since in 2008 participants were asked to report the 'median' price paid for these quantities, whereas from 2009 participants were asked to report what they paid the last time they purchased this amount. Caution is also advised when interpreting the data presented due to small sample sizes. It appears that while prices for hydro and bush in 2013 compared to 2009 are less expensive per ounce, they are slightly more expensive per gram.

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<sup>15</sup> Data regarding the price of hash or hash oil is not presented here due to small numbers reporting.

**Table 19: Median price of hydroponic and bush cannabis purchased by EDRS participants, NT**

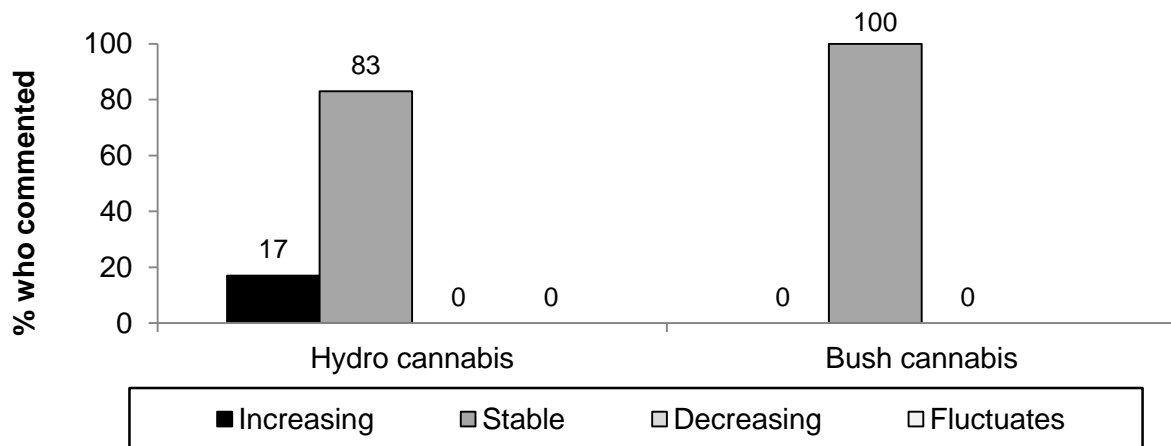
	2007	2008	2009	2013
<i>Hydro</i>				
Per ounce (\$) (range)	n=22 350 (200-500)	n=2 <sup>^</sup> 350 (350)	n=6 <sup>^</sup> 360 (150-500)	n=3 <sup>^</sup> <b>320 (300-400)</b>
Per gram (\$) (range)	n=4 <sup>^</sup> 22.5 (15-30)	n=3 <sup>^</sup> 20 (17-30)	n=8 <sup>^</sup> 30 (10-30)	n=2 <sup>^</sup> <b>40 (30-50)</b>
<i>Bush</i>				
Per ounce (\$) (range)	n=7 <sup>^</sup> 300 (180-400)	n=3 <sup>^</sup> 300 (250-300)	n=3 <sup>^</sup> 320 (250-400)	n=2 <sup>^</sup> <b>200 (150-250)</b>
Per gram (\$) (range)	n=1 <sup>^</sup> 30 (30)	n=3 <sup>^</sup> 20 (10-20)	n=6 <sup>^</sup> 22.5 (10-50)	n=1 <sup>^</sup> <b>30 (30)</b>

Source: EDRS participant interviews 2007, 2008, 2009, 2013

<sup>^</sup> Small numbers reporting, interpret with caution

Participants were asked about changes to the price of hydro and bush over the preceding six months. The vast majority reported that it had been stable both for hydro (83%) and bush (100%) (Figure 41).

**Figure 41: EDRS participants' reports of price change of hydro and bush cannabis\*, NT**



Source: EDRS participant interviews 2013

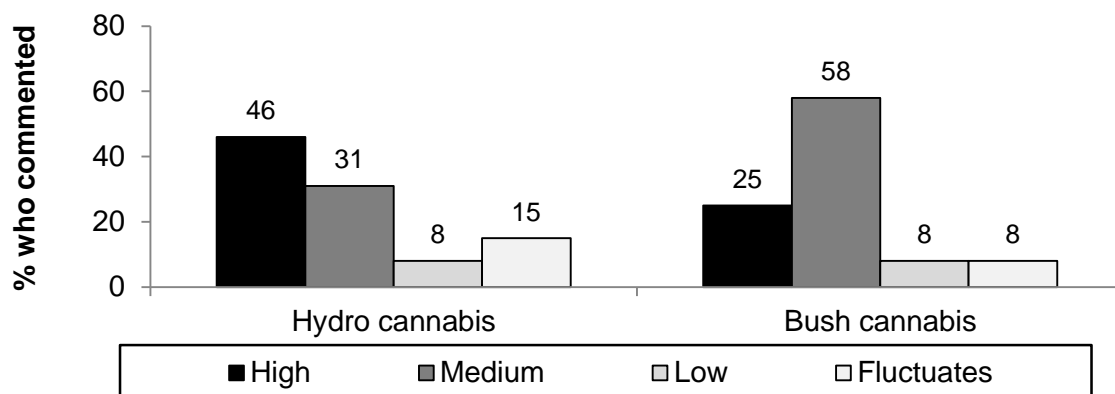
Note: Don't know responses removed from analyses

\* Of those who commented (n=12 for hydro, n=6 for bush)

### 5.7.2 Potency

Figure 42 presents participants' perceptions of the current potency of hydro and bush cannabis. The largest proportions of participants reported that hydro was currently of 'high' or 'medium' potency (46% and 31% respectively), whereas over half of those who commented reported that bush was currently of 'medium' potency (58%).

**Figure 42: EDRS participants' reports of current potency of hydro and bush cannabis\*, NT**

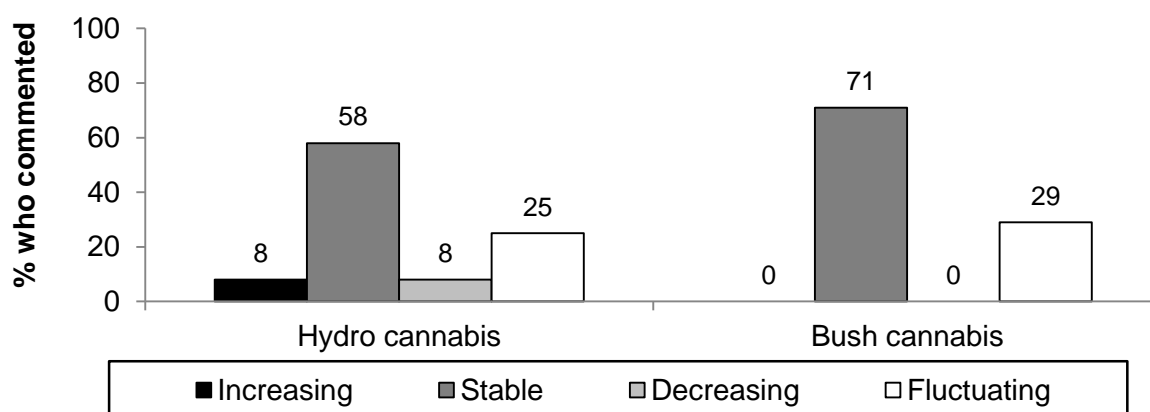


**Source: EDRS participant interviews 2013**

\* Of those who commented (n=13 for hydro, n=12 for bush)

Participants were asked to comment on changes in the potency of cannabis over the preceding six months. Respondents agreed that the potency of hydro and bush had remained relatively stable over this time, however, about one-quarter felt that both hydro and bush potency had fluctuated over this timeframe (Figure 43).

**Figure 43: EDRS participants' reports of change in potency of hydro and bush cannabis over the last six months\*, NT**

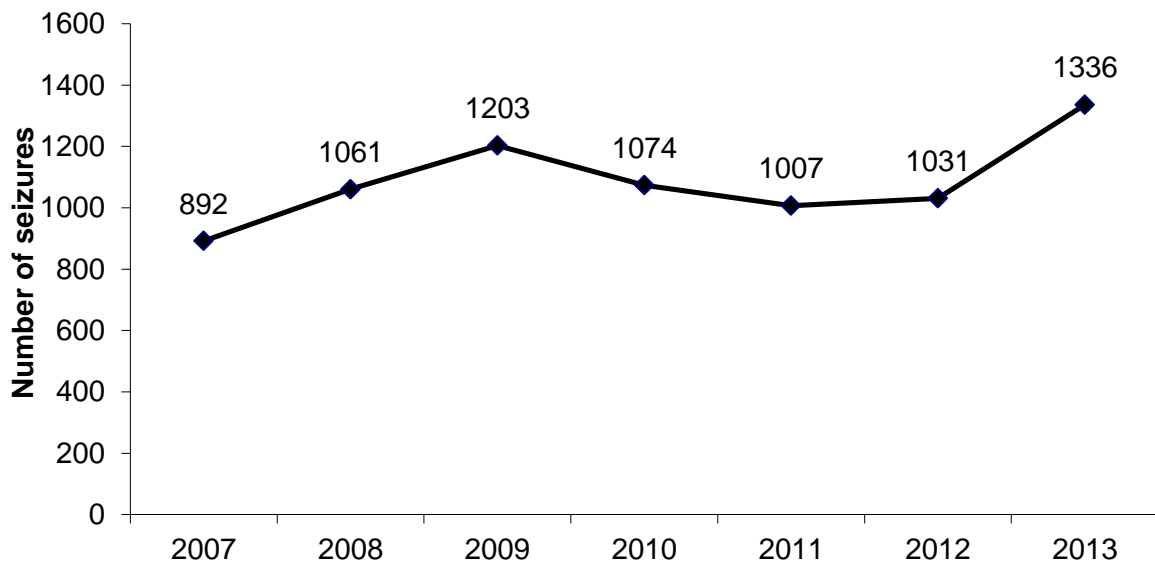


**Source: EDRS participant interviews 2013**

\* Of those who commented (n=12 for hydro, n=7 for bush)

Figure 44 Figure 29 presents data on the number of cannabis seizures made by the NT police. It should be noted that the data does not relate to purity, and the drug name under which the seizure is coded is the drug that it is traded as, and has not been forensically tested. There has been a steady increase in the number of cannabis seizures per year, with 2013 recording the highest number of seizures in the NT over the past seven years.

**Figure 44: Number of cannabis seizures, NT, 2007-2013**



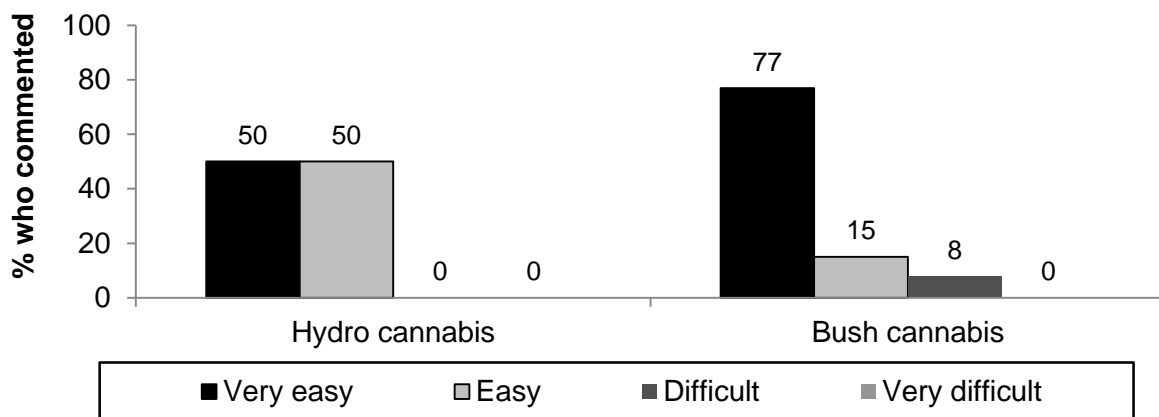
**Source: NT Police Real-time Online Information Management System (PROMIS)**

**Note:** Drugs are classified according to information available to police at the time of seizure; however, no toxicological analyses are undertaken to establish the content of drugs found

### 5.7.3 Availability

Figure 45 presents data on the EDRS participants reported current availability of hydro and bush. All respondents believed that hydro was currently 'easy' or 'very easy' to obtain. Similarly, the majority of respondents reported that bush was 'easy' (15%) or 'very easy' (77%) to obtain in Darwin.

**Figure 45: EDRS participants' reports of current availability of hydro and bush cannabis\*, NT**



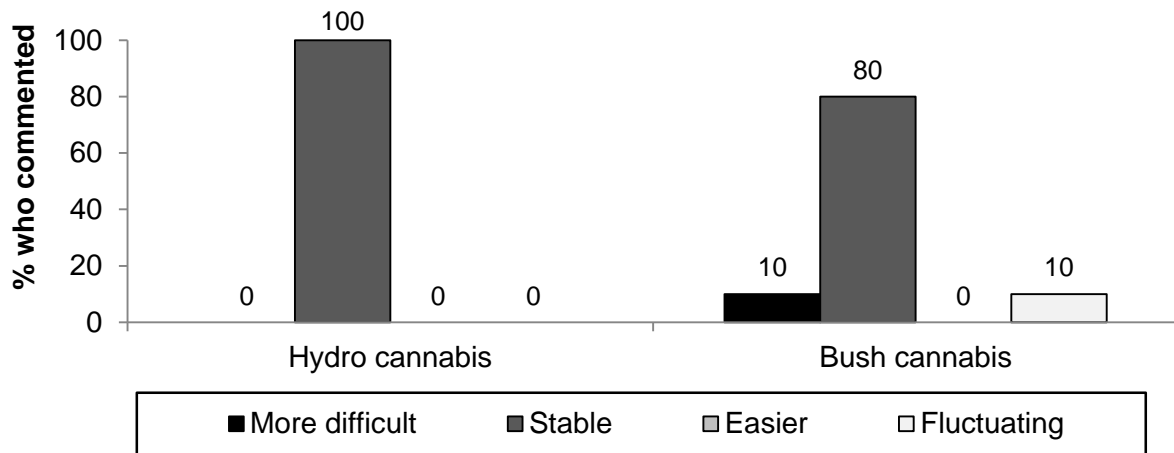
**Source: EDRS participant interviews 2013**

\*Of those who commented (n=12 for hydro, n=13 for bush)



The majority of those who commented reported that the availability of both hydro and bush had remained stable over the preceding six months (Figure 46).

**Figure 46: EDRS participants' reports of change in availability of hydro and bush cannabis over the last six months', NT**



**Source: EDRS participant interviews 2013**

Of those who commented (n=11 for hydro, n=10 for bush)

**Key expert comments**

Two KE who commented on cannabis both agreed that the price in the NT had remained stable. One indicated that cannabis purity was currently low and the level of purity had decreased over the past 12 months. Neither KE distinguished between hydro or bush cannabis when making these comments.

## 6 HEALTH-RELATED TRENDS ASSOCIATED WITH ERD USE

### Summary:

#### *Overdose and hospital admissions*

- Just over one-tenth of participants reported having overdosed on a stimulant drug (13%) and/or a depressant drug (13%) throughout their lifetime.
- Hospital admissions in which the principal diagnosis was amphetamines or cannabis decreased in 2011/12.

#### *Service usage*

- Only one respondent reported that they had recently accessed a medical or health service in relation to their drug use.
- Treatment episodes for ecstasy and cocaine have remained relatively low over time in the NT. In contrast, presentations where amphetamine or cannabis was the principal drug of concern notably increased since 2006/07.

#### *Self-reported problems associated with ERD use*

- Participants commonly reported that their drug use interfered with responsibilities (19%), resulted in exposure to risk of injury (16%) and/or caused repeated social problems (7%). Recurrent drug-related legal problems were not reported by ERD users (0%).

#### *Mental health*

- Nine per cent of the group had recently experienced a mental health problem. Mood and anxiety disorders were most commonly reported.
- Participants completed the K10. Just over one-third displayed 'distress' to some degree, with one-tenth of the group falling into the 'high' or 'very high' distress categories.

### 6.1 Overdose

Participants were asked if they had ever overdosed on a stimulant drug or a depressant drug. In both instances, 'overdose' was defined as presenting with symptoms consistent with either stimulant toxicity (e.g. nausea and vomiting, chest pains, tremors, increased body temperature or heart rate, seizure, extreme paranoia, anxiety, panic or agitation, hallucinations, excited delirium) or symptoms consistent with a 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

Approximately one-in-ten (13%) participants reported having overdosed on a stimulant drug throughout their lifetime. Participants reported having experienced a median of 2 overdoses

(range 1-6), and that their last overdose had occurred a median of 31 months ago (range 1-84). Of the 13 overdose episodes these participants reported in their lifetimes, they most commonly attributed these to 'both consuming too much and consuming a bad/adulterated pill' (8 episodes) or 'consuming too much' (3 episodes).

Two participants (4%) reported having overdosed on a stimulant drug within the preceding 12 months. One attributed their stimulant overdose to 'consumed too much' and the other reported that they 'consumed a bad/adulterated pill'. Among these two participants, one overdosed at a friend's home and the other overdosed at a live music event. The participant who overdosed at the live music event felt that there was no sober person present to assist them.

The two participants who had recently overdosed (i.e. within the last year) were asked to identify the main drug to which they attributed their last overdose and also to identify other drugs they had used. Ecstasy was reported by both participants as the drug to have caused the overdose, however, these participants had been using multiple drugs on that occasion. Both had also been using alcohol and one of the participants had also used cannabis on this occasion.

Of the two participants who overdosed within the preceding year, the most severe symptoms reported included passing out (n=1) and nausea (n=1). Neither of the two participants who had recently overdosed on a stimulant drug received any treatment or sought information about stimulant overdose or treatment after their most recent overdose.

Participants were asked how long they had been partying prior to overdosing on the last occasion. The two participants had been partying for three and four hours respectively. Both respondents reported that the overdose had occurred on a normal night out rather than a heavy session.

One of the two participants who recently overdosed on a stimulant reported taking at least one precaution in the last six months to avoid bad effects from ecstasy-type (stimulant) pills. That is, the participant now uses less quantity of stimulant drugs.

### **6.1.2 Depressant overdose**

Thirteen per cent of the current sample of EDRS participants reported having ever overdosed on a depressant drug. Those who had overdosed reported having done so on a median of 3 occasions (range 1-50) with the most recent having occurred a median of 3 months prior to the interview (range 1-72). Four participants reported having overdosed on a depressant drug within the year preceding the interview.

Alcohol (100%) was the main drug that participants attributed their most recent depressant overdose to. In contrast to those who recently experienced a stimulant overdose, the majority (n=3) of those who had recently overdosed on a depressant drug reported not having used any other drugs on that occasion. However, the remaining participant reported also using cannabis with alcohol prior to their most recent depressant overdose.

The four participants were asked where they were when they last overdosed within the past 12 months. The majority occurred in public locations such as pubs (n=2) and nightclubs (n=1). One participant, however, did report last overdosing on a depressant at a friend's

home. Two of the four participants reported that there had been a sober person present at the time of overdose who was able to assist them.

All four participants reported the most severe symptom of their depressant overdoses as vomiting (100%). One participant also reported collapsing during their depressant overdose. Two of the four participants who had recently experienced a depressant overdose reported that they did not receive any formal treatment or care on the last occasion, however, the remaining two participants reported that they were monitored by friends. None of the participants sought information about drug overdose or treatment following their depressant overdose.

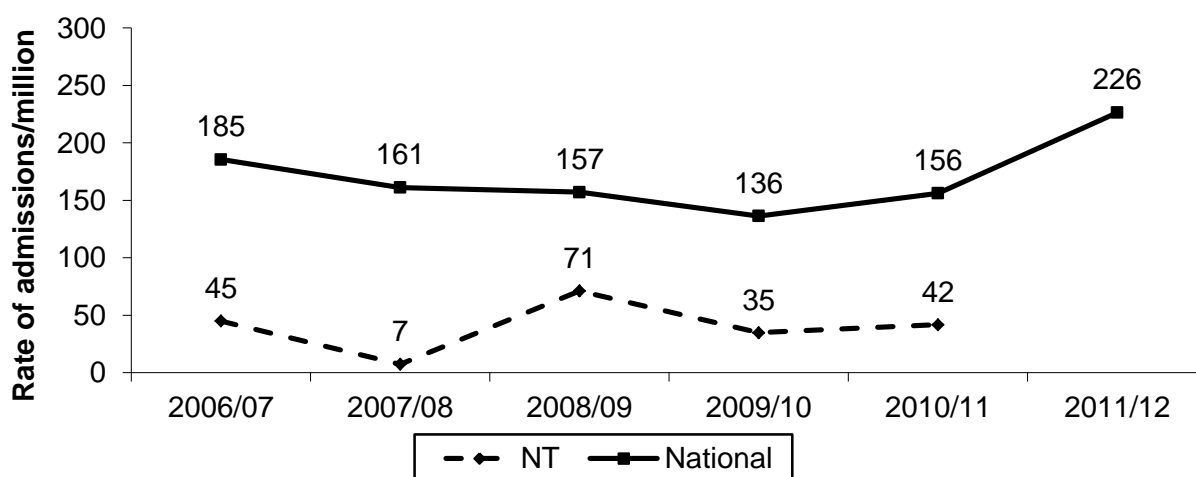
Participants reported that on their last occasion of overdosing on a depressant drug, they had been partying for a median of 5 hours (range 3-8). Three respondents reported that the overdose had occurred on a heavy session (75%) rather than on a normal night out.

## 6.2 Hospital admissions

### 6.2.1 Methamphetamine

The rate per million of inpatient hospital admissions among persons aged 15-54 years in which amphetamines were the principal diagnosis is shown in Figure 47 below. A principal diagnosis is defined as having been chiefly responsible for occasioning the patient's episode of care in hospital. The NT rate for 2011/12 is not presented because numbers were too low to calculate the rate. However, it can be derived that compared to 2010/11, the rate for amphetamine-related hospital admissions in the NT declined in 2011/12, which is in contrast to the national rate which increased over this time period.

**Figure 47: Rates per million persons of principal amphetamine-related hospital admissions among persons aged 15-54, NT and nationally, 2006/07-2011/12\***



**Source: National Hospital Morbidity Database, AIHW; Roxburgh and Burns (in press)**

**Note:** The NT rate for 2011/12 is not presented because numbers were too small

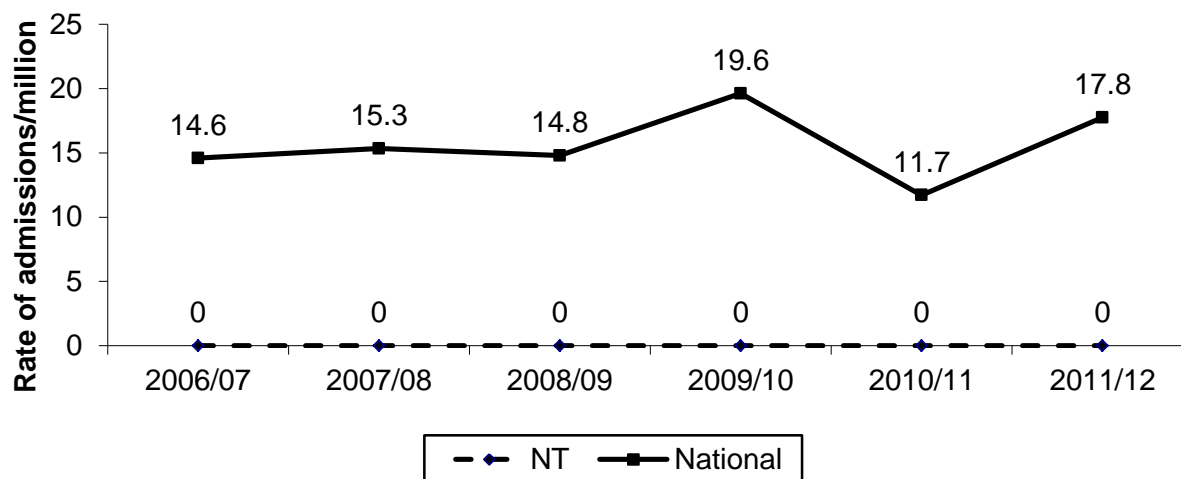
\* Data for 2012/13 were unavailable at time of publication

### 6.2.2 Cocaine

The rates of inpatient hospital admissions where cocaine was the principal diagnosis per million people aged 15-54 years are shown in Figure 48. The national rate increased to 17.8

per million persons in 2011/12, whilst the NT continued to report no incidences of cocaine-related admissions.

**Figure 48: Rates per million persons of principal cocaine-related hospital admissions among persons aged 15-54, NT and nationally, 2006/07-2011/12\***



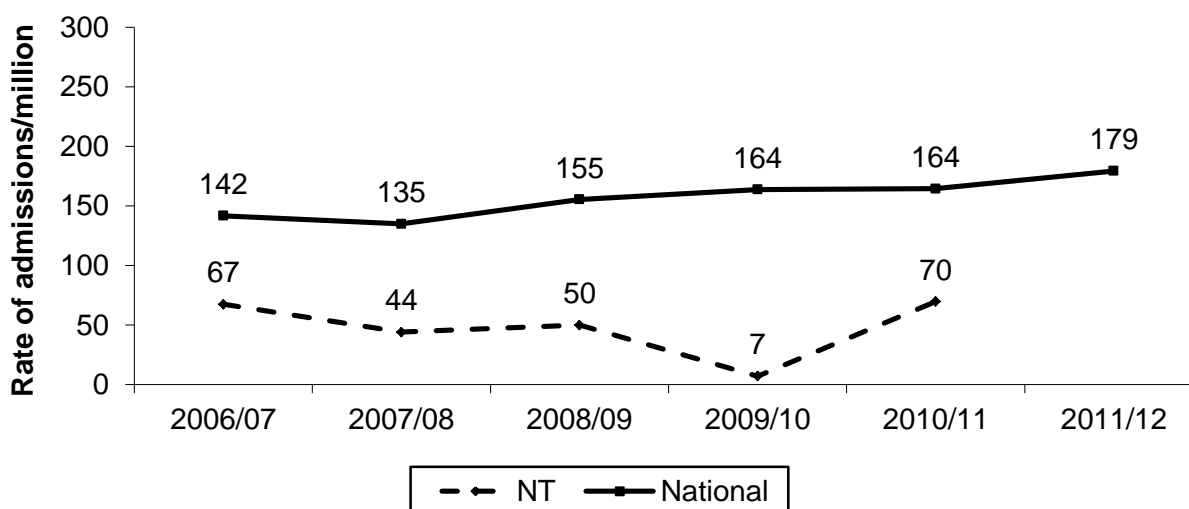
Source: National Hospital Morbidity Database, AIHW; Roxburgh and Burns (in press)

\* Data for 2012/13 were unavailable at time of publication

### 6.2.3 Cannabis

Figure 49 shows the rates of hospital admissions where cannabis was the principal diagnosis per million people aged 15-54 years. Cannabis-related admissions nationally have steadily increased over time, with 2011/12 representing the highest rate recorded. The NT rate for 2011/12 is not presented because numbers were too low to calculate the rate. However, it can be derived that compared to 2010/11, the rate for cannabis-related hospital admissions in the NT declined in 2011/12.

**Figure 49: Rates per million persons of inpatient hospital admissions where cannabis was the principal diagnosis aged 15-54 years, NT and nationally, 2006/07-2011/12\***



Source: National Hospital Morbidity Database, AIHW; Roxburgh and Burns (in press)

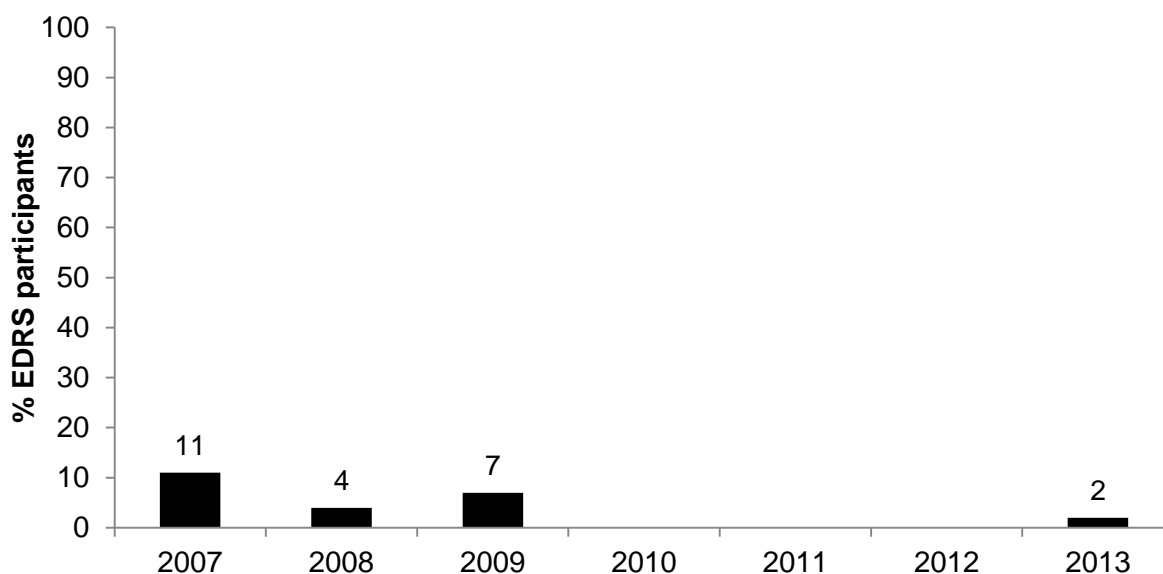
Note: The NT rate for 2011/12 is not presented because numbers were too small

\* Data for 2012/13 were unavailable at time of publication

### 6.3 Help-seeking behaviour

Participants were asked if they had accessed any medical or health services in relation to their alcohol and/or drug use in the last six months. Only one EDRS participant (2%) interviewed in 2013 reported that they had done so. It is concerning to note that although the proportion of participants seeking medical or health services have been low in past years, the 2013 sample had the lowest recorded proportion of EDRS participants who recently accessed these services for their alcohol and/or drug use (Figure 50).

**Figure 50: Proportion of EDRS participants who recently accessed a medical or health service in relation to drug use, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

EDRS participants were asked whether they had thought about contacting any services or health professionals for reasons relating to their drug use, but failed to do so. Again, only one participant reported that they had thought about it but had not made contact with any services or health professionals. This participant reported that they did not make contact because they felt they 'already knew everything they were going to tell me'.

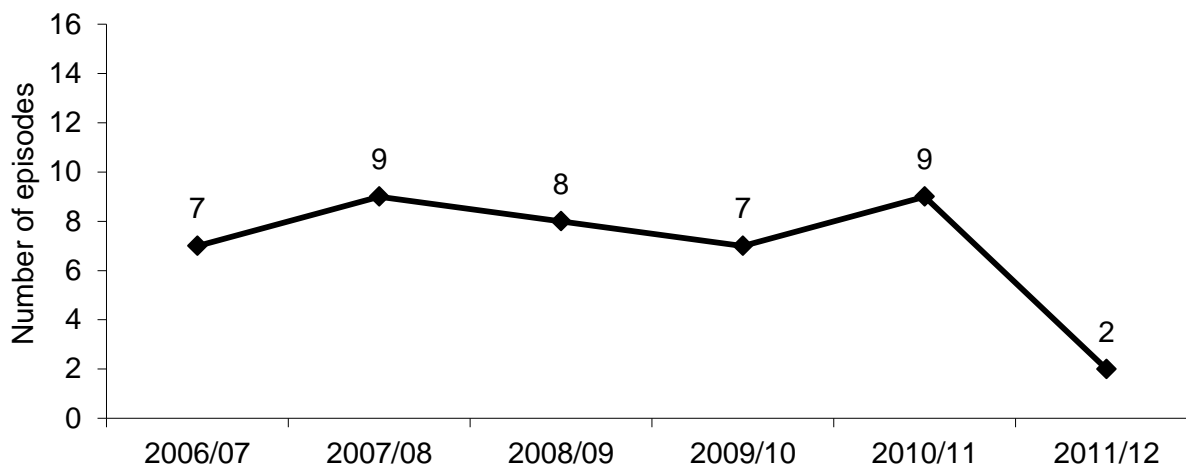
To ascertain whether participants had any contact with health professionals, participants were asked whether they had been to any health services for any reason in the preceding six months. Just over half the sample (51%) reported accessing a health service in the past six months. The most common health professionals these participants reported consulting during this time included a GP (83%) and/or dentist (35%). Other health services accessed by one participant per service included the emergency department, inpatient hospital treatment, outpatient hospital treatment, drug and alcohol counsellor and psychologist.

## 6.4 Drug treatment

### 6.4.1 Ecstasy

The number of closed treatment episodes based on the date of commencement where the principal drug of concern was ecstasy has declined in the NT since 2010/11 (Figure 51).

**Figure 51: Number of ecstasy treatment episodes, NT 2006/07 to 2011/12**



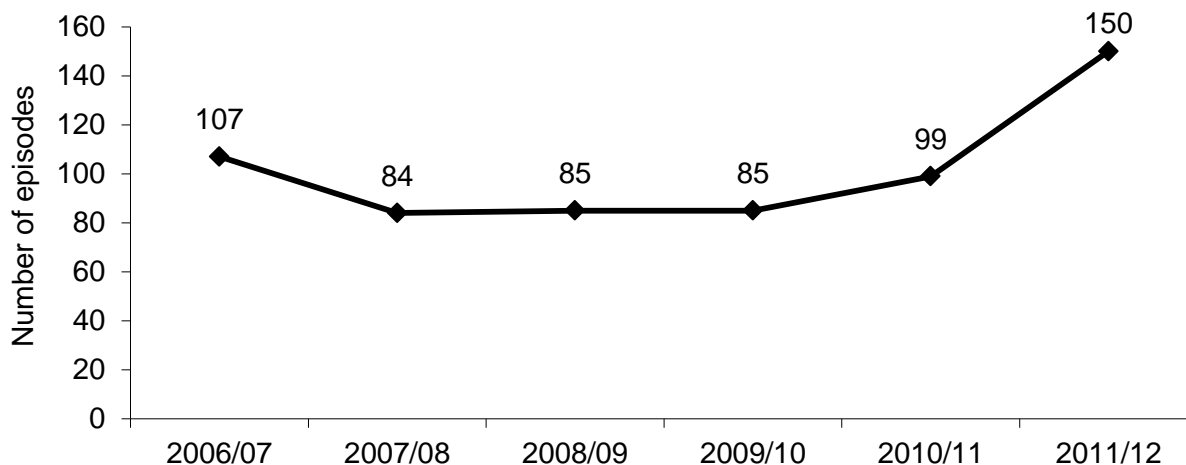
**Source: AODTS NMDS (AIHW, 2013)**

**Note:** The AODTS NMDS is based on closed treatment episodes, and so some episodes may be excluded if they were not closed in the financial year.

### 6.4.2 Methamphetamine

The number of closed treatment episodes based on date of commencement where amphetamine was the principal drug of concern has increased from 2009/10 (Figure 52), with 2011/12 recording the highest number of episodes since data collection commenced (2003/04).

**Figure 52: Number of methamphetamine treatment episodes, NT 2006/07 to 2011/12**



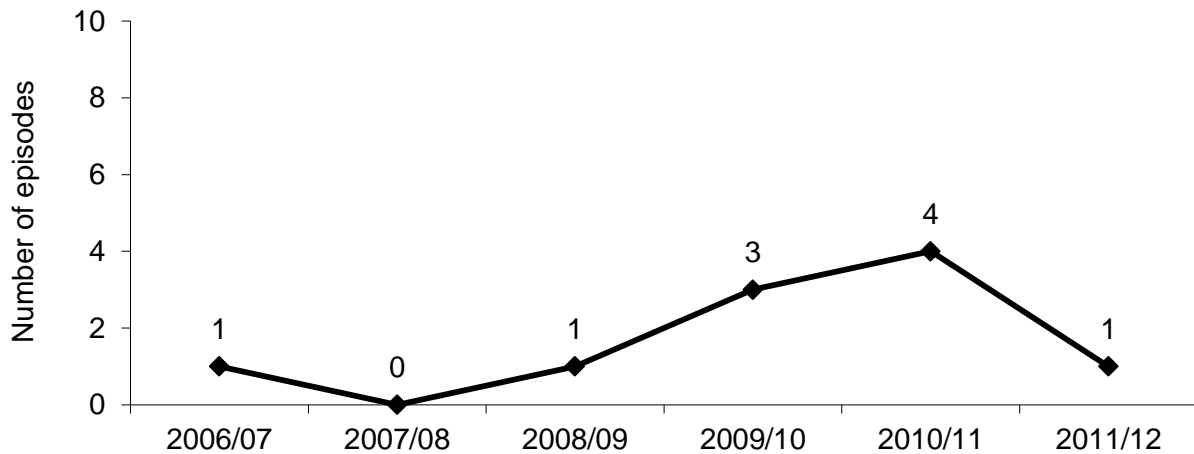
**Source: AODTS NMDS (AIHW, 2013)**

**Note:** The AODTS NMDS is based on closed treatment episodes, and so some episodes may be excluded if they were not closed in the financial year.

### 6.4.3 Cocaine

The number of closed treatment episodes based on date of commencement where cocaine was the principal drug of concern has remained low and stable across time (Figure 53).

**Figure 53: Number of cocaine treatment episodes, NT 2006/07 to 2011/12**



**Source: AODTS NMDS (AIHW, 2013)**

**Note:** The AODTS NMDS is based on closed treatment episodes, and so some episodes may be excluded if they were not closed in the financial year.

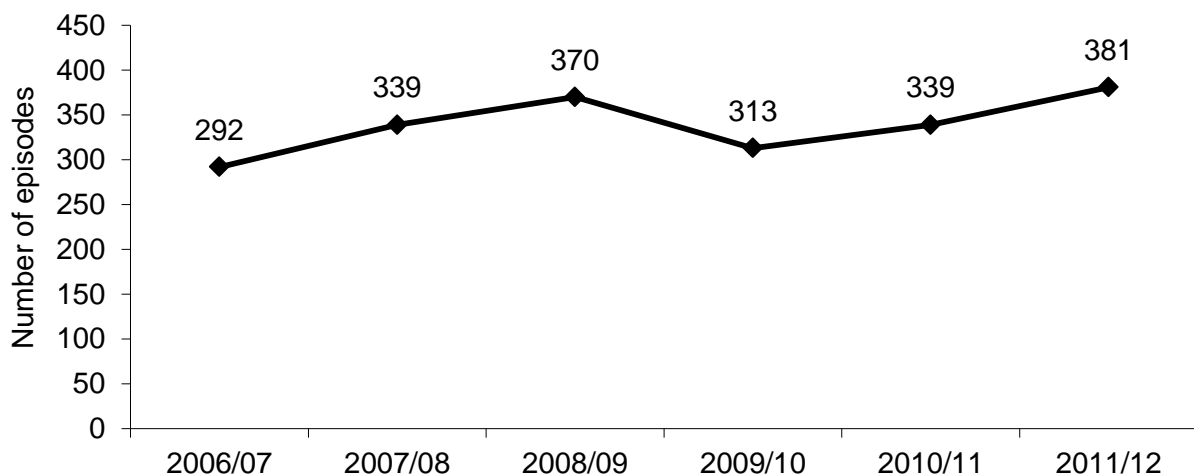
### 6.4.4 Ketamine

There have been no reported treatment-seeking episodes for ketamine use in the NT during the period 2003/04-2011/12.

### 6.4.5 Cannabis

Figure 54 shows the number of closed treatment episodes based on the year of commencement where the principal drug of concern was cannabis. These data show that presentations for cannabis have gradually increased since 2006/07 in the NT.

**Figure 54: Number of cannabis treatment episodes, NT 2006/07 to 2011/12**



**Source: AODTS NMDS (AIHW, 2013)**

**Note:** The AODTS NMDS is based on closed treatment episodes, and so some episodes may be excluded if they were not closed in the financial year.



## 6.5 Other self-reported problems associated with ERD use

Participants were asked about a range of other problems associated with their drug use. Participants were asked if, in the past six months, their drug use had recurrently interfered with their responsibilities at home, work or school; if they had recurrently found themselves in situations where they were under the influence of any drug and could have gotten themselves or others hurt, or put themselves or others at risk; if their drug use had caused repeated problems with family, friends or people at work or school; or if they had any recurrent drug-related legal problems (Table 20).

- About one-fifth of the 2013 sample (19%) reported that their drug use had recurrently interfered with their responsibilities at home, at work or at school. Cannabis was the drug most commonly associated with these problems followed by alcohol and ecstasy.
- Sixteen per cent of the sample reported recurrently finding themselves in situations where they were under the influence of a drug and could have caused injury either to themselves or others, or put themselves or others at risk. Respondents most commonly identified alcohol as the main drug causing these problems followed by cannabis.
- Only 7% reported that their use of drugs had caused repeated problems with family, friends or people at work or school in the six months prior to the interview. This proportion of participants all identified alcohol as causing these problems.
- No participants in 2013 reported experiencing recurring legal problems due to drug use.

Overall, it was evident that a sizeable proportion of EDRS participants experienced problems associated with their drug use across multiple domains and that these were most commonly associated with the use of alcohol, cannabis and ecstasy.

**Table 20: Self-reported drug-related problems among EDRS participants, NT**

Problems in the following areas (last 6 mths):	Any drug (N=43)	Alcohol	Cannabis	Ecstasy
Responsibility (%)	19	25	50	25
Risk (%)	16	71	29	0
Social (%)	7	100	0	0
Legal (%)	0	-	-	-

Source: EDRS participant interviews 2013

## 6.6 Mental health and psychological distress

### 6.6.1 Self-reported mental health

Participants were asked whether they had experienced any mental health problems over the previous six months (Table 21). Almost one-in-ten (9%) had recently experienced a mental health problem, which is notably lower than that recorded among the general population of a similar age range (16-24 years (26%) and 25-34 years (25%) (Australian Bureau of Statistics, 2007)). Mood disorders were those most commonly reported by far. Three-quarters (75%) of those who experienced a mental health problem sought assistance from a health professional, and two-thirds (67%) had been prescribed medication (most commonly antidepressants and benzodiazepines).

Trends over time in self-reported mental health problems and help-seeking behaviours around these are presented in Table 21. Although there are small numbers reporting, it appeared that the 2013 sample had a lower proportion of participants presenting with mental health issues, however, of those who did present, the majority sought help from a health professional.

**Table 21: Mental health problems among EDRS participants, NT**

	2008 (N=55)	2009 (N=67)	2013 (N=45)
Any mental health problem recently (%)	7	21	9
<i>Of these (%):</i>			
Depression	100	86	100
Anxiety	75	43	25
Panic	25	14	25
Bipolar Disorder	-	-	50
Mania	50	14	0
Paranoia	50	7	0
Personality Disorder	25	-	0
Schizophrenia	-	-	0
Drug-Induced Psychosis	-	7	0
Obsessive Compulsive Disorder	-	7	25
Sought help from health professional <sup>^</sup> (%)	0	43	75
Prescribed medication <sup>^</sup> (%)	-	36	67

**Source: EDRS participant interviews 2008, 2009, 2013**

<sup>^</sup> Percentage of those who had recently experienced a mental health problem

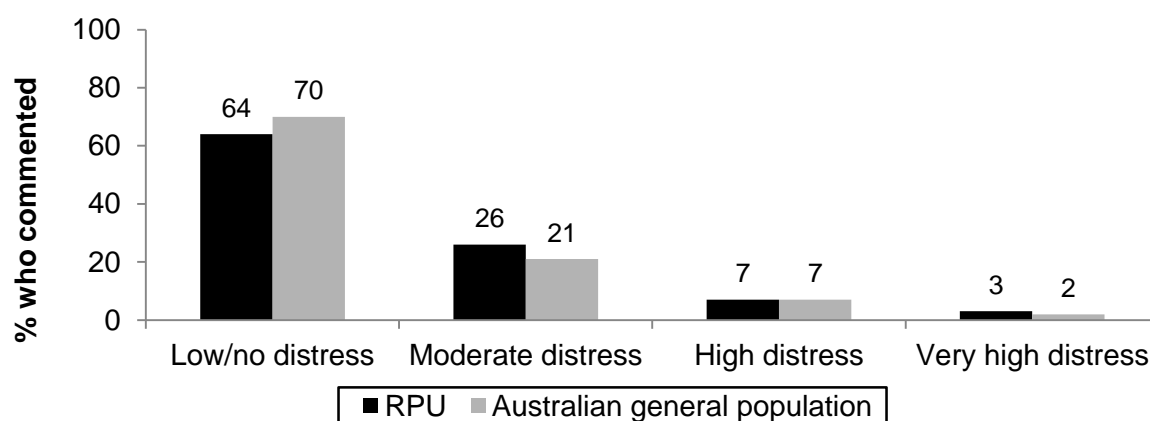
### 6.6.2 Kessler Psychological Distress Scale (K10)

From 2006, the EDRS has included the 10-item Kessler Psychological Distress Scale (K10) (Kessler et al., 2002), which is a questionnaire designed to measure the level of distress and severity associated with psychological symptoms in population surveys. The minimum score is 10 and the maximum is 50. Scores ranging from 10-15 are classified as 'low/no distress', 16-21 'moderate distress', 21-29 'high distress' and 30-50 'very high distress' (Australian Institute of Health and Welfare, 2008).

The median score for participants was 14 (range 9-30). The majority of participants' scores fell into the 'low/no distress' (64%) category. The remaining 36% displayed distress to some degree, including 'moderate distress' (26%), 'high distress' (7%) or 'very high distress' (3%) (Figure 55).

Figure 55 compares the spread of EDRS participants' scores across these four categories with those of the general Australian population. Across the three distress categories (moderate/high/very high), there are a higher proportion of EDRS participants in these categories compared to the Australian general population. It appears that overall EDRS participants are more likely to experience some level of psychological distress compared to the wider Australian public.

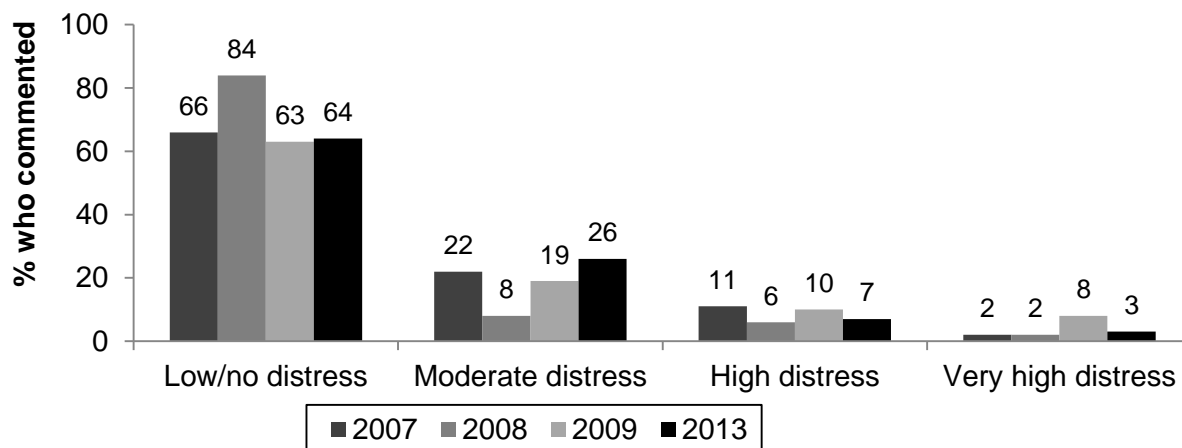
**Figure 55: K10 scores for EDRS participants compared with the general Australian population, NT**



Source: EDRS participant interviews 2013; Australian Institute of Health and Welfare (2008)

Figure 56 presents data across time on the proportions of each sample from 2007 to 2013 that fell into each distress category. While data appear to have remained relatively stable over time, there appeared to be an increase in the proportion of respondents scoring 'moderate distress' in 2013 compared to prior years.

**Figure 56: K10 scores across time for EDRS participants, NT**



Source: EDRS participant interviews 2007, 2008, 2009, 2013

## 7 RISK BEHAVIOURS

### Summary:

- Sixteen per cent (n=6) of the sample had ever injected a drug and 2 participants had done so recently.
- Three-quarters of the sample had recently had penetrative sex with a casual partner. Just under half the sample did not use a sexual barrier on the last occasion (regardless of whether or not they were intoxicated). The main reasons were that the partner was using contraception, they agreed not to or they did not want to use contraception.
- The majority (80%) of the sample had recently driven a vehicle. Of these, half had done so while over the legal blood alcohol limit and one-third had driven after having taken an illicit drug.
- Participants completed the Alcohol Use Disorders Identification Test (AUDIT). The vast majority (89%) of the group fell in the 'harmful drinking' range.

### 7.1 Injecting risk behaviour

Sixteen per cent of participants (n=6) had ever injected a drug and four per cent (n=2) had done so within the past six months. Among those who had ever injected, the median number of drug types injected<sup>16</sup> was 1 (range 1-2) and, among recent injectors, the median number of drug types injected was also 1 (range 1) (Table 22).

**Table 22: Injecting risk behaviour among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	<b>2013 (N=45)</b>
Ever injected (%)	26	16	31	<b>16</b>
Median number of drugs ever injected <sup>^</sup> (range)	2 (1-8)	3 (1-13)	4 (1-14)	<b>1 (1-2)</b>
Injected last 6 mths (%)	15	7	25	<b>4</b>
Median number of drugs injected last 6 mths <sup>#</sup> (range)	2 (1-2)	2 (1-2)	2 (1-8)	<b>1 (1)</b>

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

<sup>^</sup> Of those who had ever injected

<sup>#</sup> Of those who had injected in the last 6 months

<sup>16</sup> This figure was calculated without combining licit and illicit benzodiazepines, pharmaceutical stimulants or antidepressants and may be higher than previous years where these drug types had been combined.

### **7.1.1 Lifetime injectors**

#### *Patterns of lifetime injecting drug use*

The median age of initiation for respondents who had ever injected was 21 years (range 18-27). Of these participants (n=6), half reported that the first drug injected was speed (n=3) or heroin (n=3). Interestingly, only a handful of drug types had ever been injected by these participants, including heroin (n=3), speed (n=3), steroids (n=2) and alcohol (n=1).

### **7.1.2 Recent injectors**

#### *Patterns of recent injecting drug use*

Participants who had injected a drug in the six months prior to the interview (n=2) reported having injected any drug a median of 13.5 times (range 3-24) over this period. Participants were asked about the last time they had injected a drug. Both participants reported that they last injected speed, with one reporting the location of their last injection as their own home whereas the other had injected in a car.

#### *Injecting risk behaviour*

No respondents reported having used a needle after someone else in the past six months. One of the two recent injectors had used a filter after someone else. No other injecting equipment was reportedly used by the respondents after someone else in the past six months.

#### *Context of injecting*

One participant reported usually injecting alone, whereas the other recent injector reported commonly injecting with their regular sex partner in the past six months. Neither of the two recent injectors had injected while 'under the influence' or 'coming down' from ecstasy and other drugs over the past six months.

#### *Obtaining needles*

Respondents were asked to identify where they had obtained needles from over the preceding six months. One participant obtained their needles from a needle and syringe program, whereas the other recent injector obtained their needles from a chemist.

### **7.1.3 Injecting drug use in other populations**

#### *General population*

The 2010 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2011b) report indicates that the proportion of the general population in NT aged 14 years or over who had injected a drug in the past 12 months had remained relatively stable at 0.5% (versus 0.6% in 2007). The NT figure is slightly higher when compared with the Australian general population in 2010 (0.4%).

## 7.2 Sexual risk behaviour

Participants were asked questions about their recent sexual activity, particularly with regards to penetrative sex. This was defined as ‘penetration by penis or fist of the vagina or anus’. Given the sensitive nature of these questions, participants were given the option of self-completing this section of the questionnaire.

Approximately three-quarters (70%) of the sample reported having had penetrative sex with at least one casual partner (i.e. someone who was not a regular partner) over the preceding six months. Of the 30 participants who reported penetrative sex with a casual partner, 26 participants (84%) reported having done so while under the influence of alcohol or drugs (Table 23). The drugs most commonly used were ecstasy, cannabis, alcohol and cocaine.

**Table 23: Trends in sexual activity with casual partners in the past six months among EDRS participants, NT**

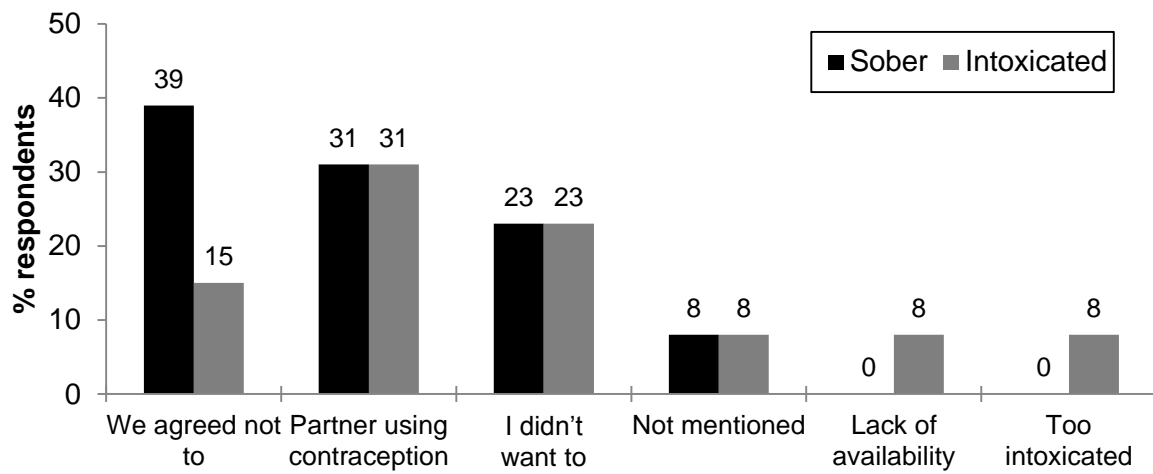
	2007 (N=67)	2008 (N=55)	2009 (N=67)	2013 (N=43)
Casual penetrative sex (%)	92	62	60	<b>70</b>
<i>No. of sexual partners (%):*</i>				
1 person	38	21	28	<b>7</b>
2 people	13	32	22	<b>12</b>
3-5 people	25	32	22	<b>26</b>
6-10 people	16	12	15	<b>21</b>
10+ people	8	6	11	<b>5</b>
Penetrative sex with casual partner while on drugs*	97	79	72	<b>84</b>
<i>Drugs used (%):</i>				
Ecstasy	85	82	88	<b>62</b>
Cannabis	38	7	18	<b>42</b>
Alcohol	72	85	56	<b>35</b>
Cocaine	-	-	-	<b>19</b>
Crystal	3	-	6	<b>12</b>
LSD	-	-	-	<b>12</b>
Speed	22	4	21	<b>8</b>
Ketamine	-	-	-	<b>4</b>
Base	2	-	6	-

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

\* Of those who had penetrative sex in the last 6 months

Participants were also asked whether they had used a protective sexual barrier the last time they had penetrative sex with a casual partner. Half of the sample had done so when they were sober (52%), however less than half had done so while under the influence of drugs or alcohol (44%). The major reasons for not using protection were either that they agreed not to or the sexual partner was using contraception (Figure 57).

**Figure 57: Reasons for not using protective barriers among EDRS participants, NT**



**Source: EDRS participant interviews 2013**

### 7.3 Driving risk behaviour

Participants were asked a series of questions regarding driving and the use of alcohol and other drugs (Table 24). The majority (80%) of participants in 2013 had driven a car, motorcycle or other vehicle in the preceding six months. Of these participants who had driven, just over half (54%) had done so over the legal blood alcohol limit.<sup>17</sup> Those who had driven over the legal limit reported having done this on a median of 2 occasions (range 1-30) in the preceding six months, and the majority (90%) were on their full drivers licence during this time. Almost two-fifths (39%) of those who had driven during the last six months had been subject to a roadside breath test within that time. One participant reported having tested over the legal blood alcohol limit at least once.

Approximately one-third (36%) of those who had recently driven had done so after using an illicit drug on a median of 3 occasions (range 1-180). The drugs most commonly used prior to driving included cannabis (62%), ecstasy (46%) and speed (39%) (Table 24).

**Table 24: Drug driving in the last six months among EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
Driven a car in the past six months (%)	82	86	73	80
Driven over the limit of alcohol* (%)	74	30	88	54
Driven after taking an illicit drug* (%)	76	49	55	36
<i>Of those who had driven after taking a drug:</i>				
<i>Drug (%)</i>	n=41	n=23	n=27	n=13
Cannabis	63	17	41	62
Ecstasy	76	91	85	46
Speed	46	4	26	39
Cocaine	2	-	-	15
LSD	15	4	4	8
Crystal	10	-	11	8
Benzodiazepines	-	-	-	8
Mushrooms	-	-	-	8
Base	15	4	7	-

**Source: EDRS participant interviews 2007, 2008, 2009, 2013**

\* Of those who had driven a car in the last six months

Participants were asked a series of questions focusing on the last occasion on which they drove after taking an illicit drug. The drugs most commonly reported as having been taken on the last occasion were cannabis (62% of respondents), ecstasy (39%), speed (31%), cocaine (15%) and LSD (8%). Participants reported having driven a median of 1 hour (range 0-15) after taking an illicit drug.

When asked how they thought their recent use of drugs had impacted on their driving ability on the last occasion, two-thirds believed that they had been impaired (31% 'quite impaired')

<sup>17</sup> Participants reported according to their own perception of their blood alcohol content.



and 39% 'slightly impaired'). The remaining one-third (31%) believed that there had been no impact on their driving ability. Interestingly, no participant believed that their driving ability had been improved from their prior drug use.

Only two participants in the 2013 NT sample who had driven a vehicle in the past six months had been tested by a police roadside drug testing van in their lifetime. Both participants reported a negative result from being tested for driving under the influence of illicit drugs. Fourteen per cent of participants who had driven recently reported that the introduction of roadside drug testing had changed their behaviour, as they were more likely to organise a taxi or another driver after using illicit drugs or not drive at all after illicit drug use.

Participants were asked the hypothetical question of, 'Out of the next 100 people in this state to drive after taking drugs, how many do you think will be caught?'. Of the participants who had driven a vehicle in the preceding six months, they predicted that a median of five out of 100 people who used illicit drugs prior to driving would be caught (range 0-35). Participants were then asked how many times they expected to drive after taking drugs in the next six months. The majority of participants (61%) reported that they would not drive under the influence of drugs in the next six months, however, the remaining 14 participants indicated that they would drive after taking illicit drugs at least once during this time (range 0-180).

## **7.4 Problematic alcohol use among EDRS participants**

### **7.4.1 Alcohol Use Disorders Identification Test (AUDIT)**

The Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) was designed by the World Health Organization as a brief screening scale to identify individuals with alcohol problems, including those in early stages. It is a 10-item scale, designed to assess three conceptual domains: alcohol intake; dependence; and adverse consequences (Reinert & Allen, 2002).

Total scores of eight or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence (Babor, de la Fuente, Saunders, & Grant, 1992). Higher scores indicate greater likelihood of hazardous and harmful drinking; higher scores may also reflect greater severity of alcohol problems and dependence, as well as a greater need for more intensive treatment (Babor et al., 1992).

The median score on the AUDIT for the NT 2013 sample was 14 (range 0-33). The vast majority (89%) of EDRS participants scored in the harmful range (i.e. total score of 8 or more). There was no significant difference between male and female median scores (12 versus 13). The AUDIT guidelines (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) indicate four 'zones' into which total scores on the test can be divided. In the current sample, one-tenth (11%) scored in zone 1 (low risk drinking or abstinence), half the sample (53%) scored in zone 2 (alcohol in excess of low-risk guidelines), one-fifth (18%) scored in zone 3 (harmful or hazardous drinking) and the remaining one-fifth (18%) scored in zone 4 (possible alcohol dependence – may be referred for evaluation and possible treatment).

## 7.5 Ecstasy dependence

It has been traditionally believed that dependence on MDMA (the active ingredient in ecstasy) is unlikely given the relatively infrequent use patterns exhibited by ecstasy users (i.e. fortnightly or weekly). However, there is nonetheless evidence from animal research of a dependence potential for MDMA which is relatively attenuated and displays unique characteristics compared with other drugs. Little work has been done to characterise a dependence syndrome among ecstasy users (Bruno et al., 2009a).

In 2013, participants were asked questions from the Severity of Dependence Scale (SDS) adapted to investigate ecstasy dependence. The SDS is a five-item questionnaire designed to measure the degree of dependence on a variety of drugs. The SDS focuses on the psychological aspects of dependence, including impaired control of drug use, and preoccupation with, and anxiety about, use. The SDS appears to be a reliable measure of the dependence construct. It has demonstrated good psychometric properties with heroin, cocaine, amphetamine and methadone maintenance patients across five samples in Sydney and London (Dawe, Loxton, Hides, Kavanagh, & Mattick, 2002). A total score was created by summing responses to each of the five questions. Possible scores range from 0 to 15.

Two cut-off scores are presented below of three or more and four or more. A cut-off score of three or more was used as these scores have been recently found in the literature to be a good balance between sensitivity and specificity for identifying problematic dependent ecstasy use (Bruno, Gomez, & Matthews, 2011). Eleven per cent of NT participants recorded a score of three and above. The cut-off of four and above is a more conservative estimate which has been used previously in the literature as a validated cut-off for methamphetamine dependence (Bruno et al., 2009b; L. Topp & Mattick, 1997). Two per cent of participants scored four or above.

The median SDS score was 1 (range 0-4). Half of participants (49%) obtained a score of zero on the ecstasy SDS, and one-quarter (24%) obtained a score of 1 on the scale; that is, the majority of respondents reported no or few symptoms of dependence in relation to ecstasy use. These findings are supported by responses of the majority of participants (87%) reporting 'never or almost never' thinking that their use of ecstasy was out of control and 91% reporting that they would find it 'not difficult to stop or miss a prospective dose of ecstasy'.

## 8 LAW ENFORCEMENT-RELATED TRENDS ASSOCIATED WITH ERD USE

### Summary:

- Seven per cent of participants had reportedly been arrested over the past year.
- Just over one-in-ten had committed a crime within the past month; most commonly drug dealing and property crimes.
- In 2011/12, there was a notable decline in the number of arrests in the NT for amphetamines. In contrast, arrests increased to their highest levels observed for cannabis use/possession. Consumer and provider arrests remained stable and low for cocaine and hallucinogen use/possession.
- The majority of participants (78%) reported that half or more of their friends had used ecstasy during the previous six months.

### 8.1 Reports of criminal activity among EDRS participants

Less than one-in-ten (7%) EDRS participants interviewed in 2013 had reportedly been arrested over the preceding 12 months. There had been two arrests for alcohol and driving offences and one arrest for public order (drunk and disorderly).

Three participants (7%) had dealt drugs in the month leading up to the interview. Of these, all reported dealing on a daily basis. Three EDRS participants (7%) had committed a property crime over the last month, which was mostly less than once per week (n=2). For both fraud and violent crime, one participant had engaged in these crimes (once a week and less than once a week respectively).

Table 25 presents data across time on both self-reported criminal activity and arrests among samples of EDRS participants. Compared to past years, the 2013 participants reported less criminal activity in the month preceding the interview, particularly in terms of recent drug dealing.

**Table 25: Criminal activity reported by EDRS participants, NT**

	2007 (N=66)	2008 (N=55)	2009 (N=67)	2013 (N=45)
<i>Any crime (past month) %:</i>	18	18	33	13
Drug dealing	10	18	31	7
Property crime	5	0	3	7
Fraud	0	2	0	2
Violent crime	1	0	5	2
<i>Arrested past 12 months (%)</i>	5	2	9	7

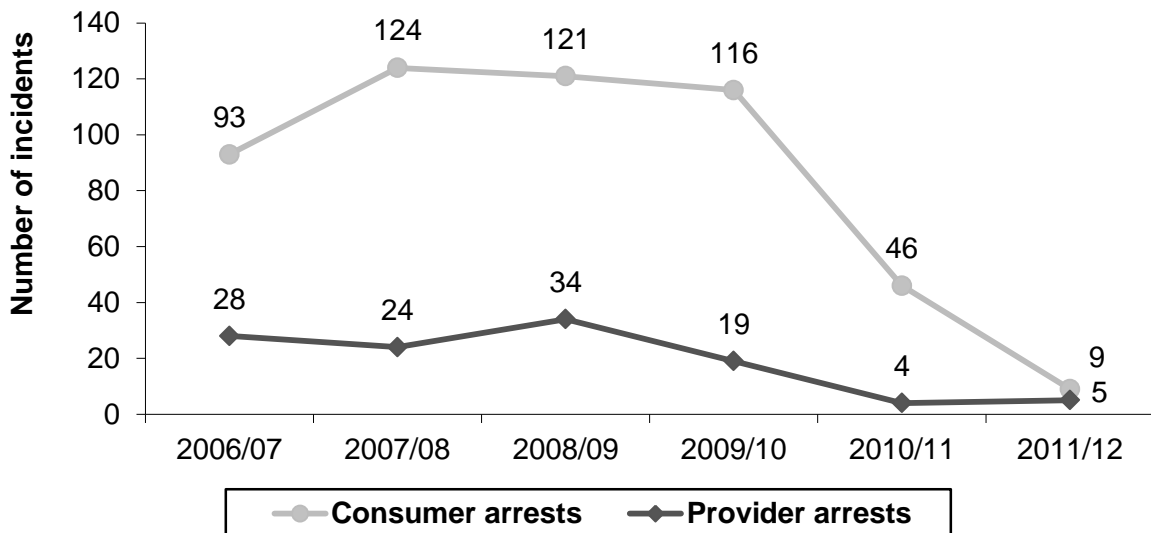
Source: EDRS participant interviews 2007, 2008, 2009, 2013

## 8.2 Arrests

### 8.2.1 Methamphetamine

Figure 58 shows the recorded incidents of amphetamine consumer and provider arrests for the NT. There appears to have been a notable decline in the number of arrests in the NT from 2008/09 onward.

**Figure 58: Recorded incidents of amphetamine arrests in the NT, 2006/07-2011/12**

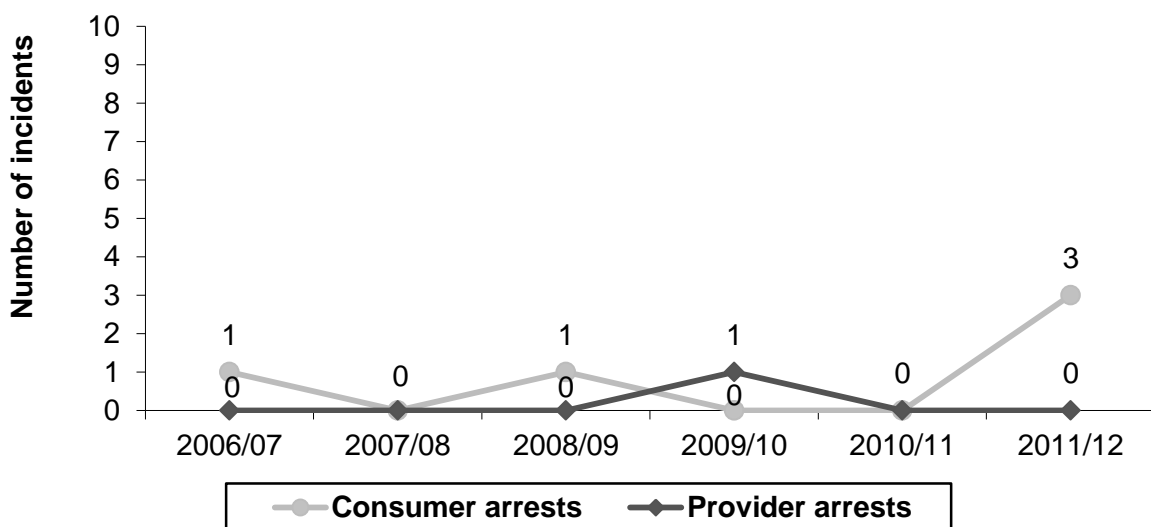


Source: ACC (2008, 2009, 2010, 2011, 2012, 2013)

### 8.2.2 Cocaine

The number of recorded incidents for cocaine arrests have remained mostly stable since 2006/07 (Figure 59). The handful of arrests made each year may reflect the limited supply and availability of cocaine in the NT.

**Figure 59: Recorded incidents of cocaine arrests in the NT, 2006/07-2011/12**

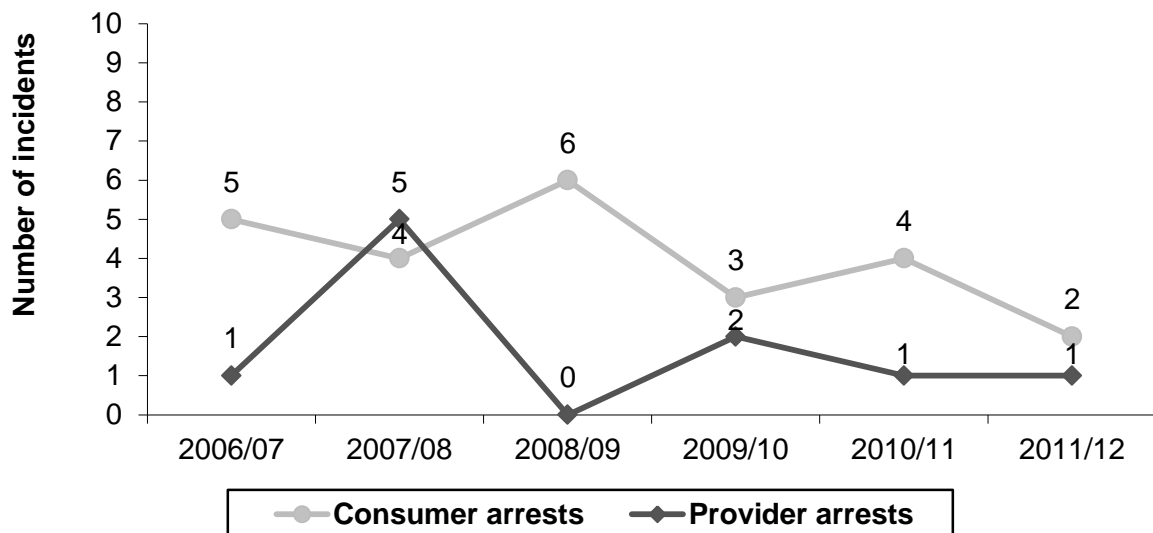


Source: ACC (2008, 2009, 2010, 2011, 2012, 2013)

### 8.2.3 Hallucinogens

In relation to consumer and provider arrests of hallucinogens, such as LSD and mushrooms, numbers continued to remain low in the NT. However, there has appeared to be a slight decrease in arrests since 2007/08 (Figure 60).

**Figure 60: Recorded incidents of hallucinogen arrests in the NT, 2006/07-2011/12**

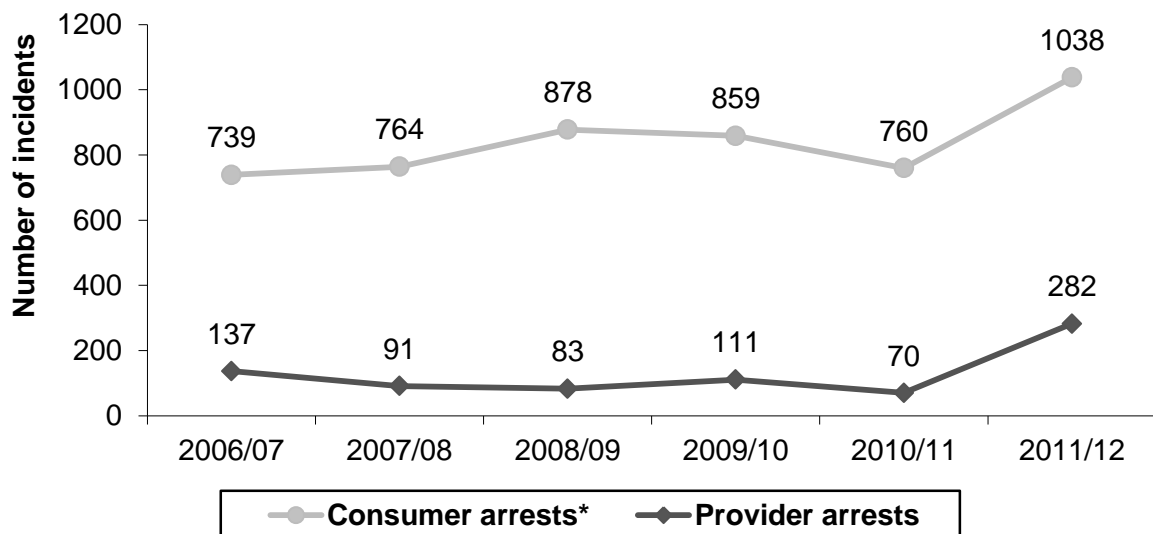


Source: ACC (2008, 2009, 2010, 2011, 2012, 2013)

### 8.2.4 Cannabis

Figure 61 shows the number of police-recorded consumer and provider arrests of cannabis in the NT. In 2011/12, the number of arrests notably increased for both consumer and provider offences to their highest levels observed since 2006/07.

**Figure 61: Recorded incidents of cannabis arrests in the NT, 2006/07-2011/12**



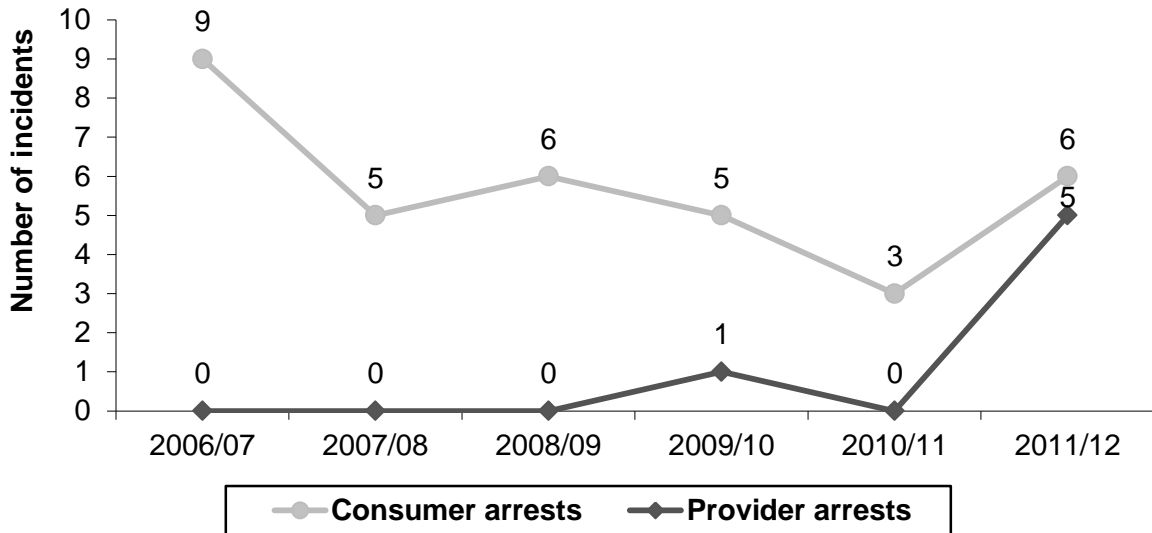
Source: ACC (2008, 2009, 2010, 2011, 2012, 2013)

\* Consumer arrests for cannabis includes drug infringement notices

### 8.2.5 Steroids

The number of arrests of consumers and providers for steroid possession has remained relatively low over time (Figure 62). However, the graph below shows that in 2011/12, there was a slight increase in the number of consumer and provider arrests for steroids compared to previous years.

**Figure 62: Recorded incidents of steroid arrests in the NT, 2006/07-2011/12**



Source: ACC (2008, 2009, 2010, 2011, 2012, 2013)

### 8.3 Perceptions of changes in peer drug use

All NT participants in 2013 reported that at least a few of their friends had used ecstasy during the previous six months. The majority of participants (78%) reported that half or more of their friends had used ecstasy during the previous six months (7% 'all'; 42% 'most'; 29% 'about half'). One-fifth (22%) of participants reported that 'a few' of their friends had used ecstasy.

One-quarter (27%) of participants had perceived changes in drug use amongst their social group. Some of the more common themes in participant's comments included the following:

- There was increasing experimentation with 'new drugs' including ice, herbal highs and NPS. One participant specifically mentioned exploring the use of 'research chemicals' such as 'tripstacy', which is believed to be part of the 2C family.
- Comments regarding the use of ecstasy were mixed. One participant reported that their friends were moving away to MDMA, while another participant commented that the availability of ecstasy was more difficult during the two weeks over Christmas, but availability returned to normal levels by New Years Eve.
- Backpackers indicated an increase in overall drug use since arriving in Australia. One backpacker commented that they had never taken ecstasy before arriving in Darwin, and another noted that they and their peers had consumed significantly more alcohol and other drugs since residing in Australia.
- There was a concerning comment that festival attendees who see police sniffer dogs in the venue are inclined to swallow all of their drugs at once to avoid being caught, especially if they are already intoxicated.



## 9 SPECIAL TOPICS OF INTEREST

### Summary:

- Backpackers who engaged in ERD use were:
  - 24 years old, mostly male (61%), heterosexual, well-educated and from a variety of English and non-English speaking backgrounds.
  - Backpackers had used a median of five drug types in the past six months, the most common including cannabis (100%), ecstasy (91%), alcohol (87%), tobacco (65%) and LSD (57%).
  - Anecdotally, female backpackers revealed that they often received drugs as gifts from male friends when in social settings, however, they were not aware of what drug type they were consuming.
  - Backpackers reported overdoses in the last six months on stimulant (4%) and depressant (22%) drugs.
  - One-quarter accessed a health service over the last six months, however, no one accessed a health service for their drug use.
  - The majority of backpackers' K10 psychological distress scores fell into the 'low/no distress' (65%) category. Only one backpacker reported a mental health problem recently.
  - Most backpackers (78%) reported having casual penetrative sex in the past six months, with almost all of these participants (94%) reporting that they had sex under the influence of drugs.
  - Three-quarters (78%) reported driving a vehicle in the past six months. Of these individuals, two-fifths had driven over the alcohol limit and one-quarter had driven after consuming a drug.
  - One-quarter reported engaging in criminal activity during the month prior to the interview. Almost one-fifth had reportedly been arrested over the preceding 12 months.
- Two-fifths (44%) knew a person/people who had injected an illicit drug in their lifetime. Of these participants, two-thirds knew of a friend/acquaintance who had injected in the past 12 months.
- Eleven per cent had been offered drugs to inject in the past 12 months, however, the overwhelming majority (91%) reported that they were extremely unlikely to inject a drug in the future.

### 9.1 Backpackers sub-sample

Over the last few years, the NT EDRS has had difficulty obtaining a sample of ERD users of meaningful size. It has been hypothesised that this has been due to a number of reasons, including that Darwin comprises of a number of backpackers who were using ERD, but were not meeting the EDRS eligibility criteria (e.g., been a resident of Darwin for the last 12 months). In 2013, the research team decided to also interview a sub-sample of backpackers who had used ERD in Australia at least twice in the past six months. The aim of this module was to examine demographics, drug use, health-related trends, risk behaviours and criminal activity amongst this group. To date, there is very little literature on the risk factors facing

backpackers in Darwin, and, as such, this section aims to provide preliminary data to address this knowledge gap.

The backpackers' sub-sample comprised of 23 participants who had arrived in Australia from 2011 to 2013. Twelve of these participants were included in the REU/RPU sample, as they reported regular use of psychostimulants (used at least six times) in Australia over the past six months. As shown in Table 26, over the 12 months prior to the interview, the backpackers had spent an average of 6 months in Australia (range 1-12) and 3 months in Darwin (range 1-8).

The mean age of backpackers was 24 years old (range 19-34). Over half the sample was male (61%) and one-third (35%) were from English-speaking backgrounds. The backpackers comprised of individuals from a range of countries, including Canada (17%), New Zealand (17%), France (17%), Italy (9%), USA (9%), Argentina (4%), Germany (4%), Netherlands (4%), South Africa (4%), Sweden (4%), Switzerland (4%) and the UK (4%).

All of the backpackers reported their sexual orientation as heterosexual. Just over half the sample was currently single (57%) and a further 35% had a regular partner. Half reported that they had no fixed address (44%) at the time of the interview, which included staying at a friend's rent-free or in a caravan park. An additional 26% reported that they were living in a rental property and 26% were living in a boarding house or hostel.

**Table 26: Demographic characteristics of backpackers, NT**

	<b>2013 (n=23)</b>
<i>Of the past 12 months:</i>	
How many months in Australia (mean, range)	6 (1-12)
How many months in Darwin (mean, range)	3 (1-8)
Mean age (years)	24
Male (%)	61
English-speaking background (%)	35
Heterosexual (%)	100
Mean number of school years	12
Tertiary qualifications (%)	65
Unemployed (%)	52
Part-time/casual employment (%)	26
Full-time employment (%)	17
Mean weekly income (\$) (range)	950 (200-3,077)
Prison history (%)	0
Currently in drug treatment (%)	0

**Source: EDRS participant interviews 2013**

The vast majority of backpackers had completed Grade 12 (96%) and most had a tertiary qualification (65%). Half of the sample were currently unemployed (52%). Those participants who received an income over the month prior to interview (87%) reported that this came

mostly in the form of a wage/salary (78%). Fifteen participants disclosed their weekly income, which equated to a mean of \$950 (range 200-3,077).

Table 27 shows that the median number of drugs ever used for backpackers was 7 (range 3-17) and a median of 5 drug types (range 3-7) had been used in the last six months. Injection as a route of administration amongst this group was rare. About one-fifth (22%) reported bingeing on stimulants or related drugs in the past six months. Half of the backpackers reported that cannabis (52%) was their drug of choice, followed by alcohol (22%) and ecstasy (9%).

**Table 27: Drug use patterns of backpackers, NT**

	<b>2013 (n=23)</b>
Median no. drug types ever used (range)	7 (3-17)
Median no. drug types used recently (range)	5 (3-7)
Ever injected any drug (%)	9
Recently injected any drug (%)	0
Binged in the last six months (%)	22
<i>Drug of choice (%):</i>	
Cannabis	52
Alcohol	22
Ecstasy	9
<i>Recently used (%):</i>	
Cannabis	100
Ecstasy	91
Alcohol	87
Tobacco	65
LSD	57
Herbal highs	39
Crystal	26
MDA	17
Mushrooms	17
Speed	9
Cocaine	9
Ketamine	4
Amyl nitrite	4
OTC codeine	4
Used other drugs with ecstasy (%)	82
Used other drug to come down from ecstasy (%)	46

**Source: EDRS participant interviews 2013**

During the six months prior to the interview, the majority of backpackers reported use of a number of substances, including cannabis (100%), ecstasy (91%), alcohol (87%), tobacco (65%) and LSD (57%) (Table 27). Those who had used ecstasy reported that during their

last session, the majority had used other drugs with ecstasy (82%) including cannabis (50%), more than five standard drinks of alcohol (50%), tobacco (50%), less than five standard drinks of alcohol (22%) and energy drinks (22%). Just under half of the sample of backpackers reported using other drugs to come down from ecstasy, which included cannabis (100%) and tobacco (10%).

Anecdotally, female backpackers revealed to interviewers that they often received drugs as gifts from male friends when in social settings. Some female backpackers reported they often did not know what drugs they had consumed in these situations, and could only speculate on the drug type after consumption.

Health-related trends for backpackers have been detailed in Table 28. As shown below, during the six months prior to interview, one backpacker reported a stimulant drug overdose (4%) and five backpackers experienced a depressant drug overdose (22%). The backpacker who reported a stimulant overdose believed that they had consumed a bad/adulterated ecstasy pill (in conjunction with alcohol) whilst at a live music event. The five backpackers who reported at least one depressant overdose in the past six months reported that this was caused primarily from alcohol consumption (combined with cannabis (n=2); cocaine (n=1); ecstasy (n=1)). These backpackers were in a mixture of private (n=3) and public (n=2) settings at the time of overdosing. Only three backpackers reported accessing treatment, and no one sought treatment or information about the overdose or drug use after the episode.

**Table 28: Health-related trends amongst backpackers, NT**

	<b>2013 (n=23)</b>
Overdosed on stimulant drug past six months (%)	4
Overdosed on depressant drug past six months (%)	22
Recently sought help from a health professional for D&A use (%)	0
Recently thought about seeking help from a health professional for D&A use (%)	0
Recently been to a health service for any reason (%)	26
<i>K10 psychological distress scores (%):</i>	
No/low distress	65
Moderate distress	23
High distress	6
Very high distress	6
Self-reported mental health problem past six months (%)	4
<i>Self-reported problems from drug use (%):</i>	
Responsibility problems	22
Risk problems	13
Social problems	9
Legal problems	4

**Source: EDRS participant interviews 2013**

During the six months prior to interview, none of the backpackers reported that they sought, or thought about seeking, help from a health professional for their drug and/or alcohol use. Twenty-six per cent of participants reported accessing at least one health service during this time for any reason, which included visits to the hospital (Emergency Department (n=1); inpatient treatment (n=2); outpatient hospital (n=1), GP (n=2), dentist (n=2) or ambulance (n=1).

Table 28 shows that the majority of backpackers' K10 psychological distress scores fell into the 'low/no distress' (65%) category. The remaining one-third displayed distress to some degree, including 'moderate distress' (23%), 'high distress' (6%) or 'very high distress' (6%). When asked about recent mental health issues, only one backpacker reported that they had experienced a mental health problem in the last six months.

Backpackers reported on whether their drug use had led to various problems in their lives over the past six months. One-fifth (22%) of backpackers reported that drug use had contributed to responsibility problems, which was primarily due to cannabis (n=2), alcohol (n=1), cocaine (n=1) or ecstasy (n=1) use. Thirteen per cent reported that alcohol (n=2) and cannabis (n=1) use had caused them to put themselves or others at risk. Two participants reported that drug use had caused social problems, primarily due to alcohol (n=1) or cocaine (n=1) use. One participant reported that they had recently experienced legal problems due to their cannabis use.

Table 29 outlines engagement in various risk behaviours, including sexual activity, driving and problematic alcohol consumption. In terms of sexual risk behaviours, 78% of backpackers reported having casual penetrative sex in the past six months. The majority reported having multiple sexual partners during this time, and 94% reported having penetrative sex while on drugs, including ecstasy (47%), alcohol (41%), cannabis (41%), LSD (18%), cocaine (12%) and crystal (6%). Just over half of backpackers reported using a protective sexual barrier during the last occasion of sexual intercourse with a casual partner when under the influence of drugs (56%) and sober (61%).

Three-quarters (78%) of backpackers reported driving a vehicle in the past six months. Of these individuals, two-fifths (39%) had driven over the alcohol limit and one-quarter (28%) had driven after consuming an illicit drug (cannabis (n=4); herbal highs (n=1)). Table 29 also details the results of the Alcohol Use Disorders Identification Test (AUDIT), which identifies harmful alcohol consumption patterns through four 'zones' into which total scores on the test can be divided. Amongst the backpackers' sample, one-third (30%) scored in zone 1 (low risk drinking), one-third (30%) scored in zone 2, one-quarter (26%) scored in zone 3 and the remaining one-tenth (13%) scored in zone 4 (possible alcohol dependence – may be referred for evaluation and possible treatment).

**Table 29: Risk behaviours amongst backpackers, NT**

	<b>2013 (n=23)</b>
Casual penetrative sex (%)	78
<i>No. of sexual partners (%):*</i>	
1 person	9
2 people	4
3-5 people	35
6-10 people	22
10+ people	9
Penetrative sex with casual partner while on drugs*	94
Driven a car in the past six months (%)	78
Driven over the limit of alcohol# (%)	39
Driven after taking an illicit drug# (%)	28
<i>AUDIT zones based on total scores about alcohol use (%):</i>	
Zone 1: Low risk drinking	30
Zone 2: Drinking in excess of low-risk guidelines	30
Zone 3: Harmful or hazardous drinking	26
Zone 4: Possible alcohol dependence	13

**Source: EDRS participant interviews 2013**

\* Of those who had penetrative sex in the last 6 months

# Of those who had driven a car in the last six months

Table 30 details the proportion of backpackers who reported engagement in criminal activity. One-quarter (26%) reported engaging in criminal activity during the month prior to the interview. These criminal activities included drug dealing (13%), property crime (9%), fraud (9%) and violent crime (4%). Interestingly, a notable proportion (17%) of backpackers had reportedly been arrested over the preceding 12 months.

**Table 30: Criminal activity amongst backpackers, NT**

	<b>2013 (n=23)</b>
<i>Any crime past month (%):</i>	26
Drug dealing	13
Property crime	9
Fraud	9
Violent crime	4
Arrested last 12 months (%)	17

**Source: EDRS participant interviews 2013**

## 9.2 Exposure to injecting

Interviews with KE, conducted as part of the 2012 EDRS, identified that there could be an increasing number of young people injecting as a route of administration. KE reported that they have noticed an increasing number of young people presenting to emergency services with injection-related problems, indicating that in addition to an increase in young people injecting, there could be a lack of awareness around safe injecting practices. While rates of injecting drug use among EDRS samples have traditionally been extremely low, identifying risk of injecting could have important harm reduction implications, particularly in relation to education around blood-borne viruses and safe injecting practices.

The aim of this module was to investigate the risk of injecting drug use among ERD users by: (a) identifying the level of exposure to injecting; (b) investigating attitudes toward the practice of injecting drugs; and (c) investigating beliefs around the likelihood of injecting a drug in the future.

In relation to exposure to injecting, two-fifths (44%) of EDRS participants reported knowing a few friends or acquaintances who had injected an illicit drug in their lifetime, whilst half (51%) reported that they did not know of any person who had injected (Table 31).

**Table 31: Exposure to injecting, NT**

	2013 (N=45)
<i>What proportion of your friends/acquaintances have ever injected a drug illicitly? (%)</i>	
Most	0
About half	2
A few	42
None	51
I don't know	4
<i>Of those who knew someone who has injected, have any of the following injected a drug in the past 12 months? (%)</i>	n=20
A friend/acquaintance	65
A (non-partner) family member	0
Partner	5
No one	35
<i>Of those who know someone who has injected, have they ever injected around you? (%)</i>	n=20
Yes	24
<i>Have you been offered drugs to inject in the past 12 months? (%)</i>	n=45
Yes	11
<i>Have you ever seriously considered injecting a drug? (%)</i>	n=45
Yes	4
No	87
I have already injected a drug	9

Source: EDRS participant interviews 2013

Of those who knew of a person/people who had injected previously, they were asked, in the last 12 months, what relationship they had with the people that had injected. The majority reported that their relationship to this person/people was a friend or acquaintance (65%) and a smaller proportion reported that they were a partner (5%).

One-third (35%) reported that they did not know anybody who had recently injected a drug in the last 12 months. Also of this group that knew of lifetime injectors, they were asked if they had ever been directly exposed to the injecting practice, that is, in the vicinity of the injecting practice taking place, to which one-quarter (24%) answered positively. Smaller numbers of the whole sample reported having been offered drugs to inject (11%) in the last 12 months, and had ever seriously considered injecting a drug (4%).

Table 32 shows that the main reasoning for this sample for not injecting a drug was that it was not the preferred route of administration (ROA) (27%), fear of needles (24%), do not use drugs that are injectable (i.e., cannabis) (13%) and concern about injecting-related injury (13%). The main reasoning for this sample to consider injecting a drug was to have a stronger drug effect (7%) and to get high/have fun (4%), however, the vast majority of NT participants (82%) reported that they 'would not consider' injecting a drug. Finally, participants were asked to rate on a scale of 1-10 (where 1 means 'extremely unlikely' and '10' means 'extremely likely') how likely they would be to inject a drug in the future, to which the overwhelming majority (91%) endorsed '1' which was 'extremely unlikely'.

**Table 32: Reasons for considering injecting as a ROA, NT**

	<b>2013 (N=45)</b>
<i>Main reason for not injecting a drug (%)</i>	
Not my preferred administration	27
Fear of needles	24
Do not use drugs that are injectable	13
Concern about injection-related injury	13
Concerns about dependence	9
Other	4
Social stigma associated with injecting	2
I will continue to inject no matter what	2
I don't know how to inject myself	2
No access to injecting equipment	2
<i>Main reason for injecting a drug (%)</i>	
Would not consider	82
To have stronger drug effect	7
Get high/have fun	4
Curiosity	2
Preferred route of administration	2
Other	2

**Source: EDRS participant interviews 2013**



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