

S.E. Reddel, D. Horyniak, P. Dietze & P. McElwee

**VICTORIAN DRUG TRENDS 2010
Findings from the
Illicit Drug Reporting System (IDRS)**

Australian Drug Trends Series No. 58

**VICTORIAN
DRUG TRENDS
2010**



**Findings from the
Illicit Drug Reporting System
(IDRS)**

**Siobhan Reddel, Danielle Horyniak,
Paul Dietze & Paul McElwee**

**The Macfarlane Burnet Institute for Medical Research
and Public Health
&
Turning Point Alcohol and Drug Centre**

Australian Drug Trends Series No. 58

ISBN 978-0-7334-3024-4

©NDARC 2011

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. All other rights are reserved. Requests and enquiries concerning reproduction and rights should be addressed to the information manager, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW 2052, Australia

Table of Contents

List of Tables	8
List of Figures	9
Acknowledgements.....	10
Abbreviations.....	11
Glossary of Terms.....	13
Guide to days of use/injection.....	13
Executive Summary.....	14
Background.....	14
Summary of 2010 Victorian IDRS methodology.....	15
Demographics of the sample.....	15
Consumption pattern results	15
Drug market: Price, purity, availability and purchasing patterns	18
Health-related trends associated with drug use	19
Law enforcement-related trends associated with drug use	20
Special topics of interest	21
Conclusions.....	22
1. Introduction	23
1.1. Study aims	24
2. Method	24
2.1. Survey of PWID.....	24
2.2. Survey of KE.....	25
2.3. Other indicators	26
2.4. Data analysis.....	28
3. Demographics	28
3.1. Overview of the IDRS participant sample	28
4. Consumption patterns	30
4.1. Current drug use.....	31
4.2. Heroin	35
4.2.1. Key points.....	35
4.2.2. Prevalence of heroin use.....	35
4.2.3. Current patterns of heroin use	35
4.2.4. Forms of heroin used	37
4.3. Methamphetamine	38
4.3.1. Key points.....	38
4.3.2. Prevalence of methamphetamine use	38
4.3.3. Current patterns of methamphetamine use.....	39
4.4. Cocaine	41
4.5. Cannabis	42
4.5.1. Key points.....	42
4.5.2. Prevalence of cannabis use	42
4.5.3. Current patterns of cannabis use.....	43
4.6. Other opioids.....	43
4.6.1. Methadone.....	43
4.6.2. Buprenorphine	45

4.6.3.	Buprenorphine-naloxone	46
4.6.4.	Morphine.....	47
4.6.5.	Oxycodone.....	48
4.6.6.	Over the counter codeine	50
4.6.7.	Other opioids.....	50
4.7.	Other drugs	50
4.7.1.	Ecstasy	50
4.7.2.	Hallucinogens	51
4.7.3.	Benzodiazepines.....	51
4.7.4.	Anti-histamines	53
4.7.5.	Anti-psychotics	54
4.7.6.	Pharmaceutical stimulants.....	54
4.7.7.	Inhalants.....	55
4.7.8.	GHB.....	55
4.7.9.	Steroids.....	55
4.7.10.	Melanin	55
4.7.11.	Alcohol and tobacco.....	55
5.	Drug market: Price, purity, availability and purchasing patterns.....	57
5.1.	Heroin	57
5.1.1.	Key points.....	57
5.1.2.	Price.....	57
5.1.3.	Availability	59
5.1.4.	Purity	59
5.2.	Methamphetamine	61
5.2.1.	Key points.....	61
5.2.2.	Price.....	62
5.2.2.1.	Speed.....	62
5.2.2.2.	Crystal methamphetamine	63
5.2.2.3.	Base	63
5.2.3.	Availability	63
5.2.3.1.	Speed.....	63
5.2.3.2.	Crystal methamphetamine	64
5.2.3.3.	Base	64
5.2.4.	Purity	64
5.2.4.1.	Speed.....	64
5.2.4.2.	Crystal methamphetamine	65
5.2.4.3.	Base	65
5.3.	Cocaine	65
5.4.	Cannabis	67
5.4.1.	Key points.....	67
5.4.2.	Price.....	67
5.4.3.	Availability	69
5.4.4.	Potency.....	70
5.5.	Methadone	71
5.6.	Buprenorphine	71
5.7.	Buprenorphine-naloxone	71
5.8.	Morphine.....	72

5.9.	Oxycodone.....	73
6.	Health-related trends associated with drug use	75
6.1.	Overdose and drug-related fatalities	75
6.1.1.	Heroin	75
6.1.1.1.	Self-reported overdose	75
6.1.1.2.	Non-fatal heroin overdose attended by ambulance	76
6.1.1.3.	Heroin-related deaths	77
6.1.2.	Other drugs	77
6.1.2.1.	Self-reported overdose	77
6.1.2.2.	Other drug related events attended by ambulance	78
6.2.	Drug treatment.....	79
6.2.1.	Heroin	79
6.2.1.1.	ADIS	79
6.2.1.2.	DirectLine calls	79
6.2.1.3.	Pharmacotherapy consumers	80
6.2.2.	Methamphetamine	81
6.2.2.1.	DirectLine calls	81
6.2.3.	Cocaine	82
6.2.3.1.	DirectLine calls	82
6.2.4.	Cannabis	83
6.2.4.1.	DirectLine calls	83
6.3.	Hospital admissions.....	83
6.3.1.	Heroin	84
6.3.2.	Methamphetamine	85
6.3.3.	Cocaine	86
6.3.4.	Cannabis	87
6.4.	Injecting risk behaviours	88
6.4.1.	Sharing of injecting equipment	88
6.4.2.	Injection-related health problems	89
6.4.2.1.	Blood Borne Viral Infections (BBVI)	90
6.5.	Mental health problems and psychological distress.....	92
6.5.1.	Kessler Psychological Distress Scale (K10)	92
6.6.	Driving risk behaviour.....	93
7.	Law-enforcement related trends associated with drug use.....	95
7.1.	Reports of criminal activity	95
7.1.1.	Dealing and trafficking	96
7.1.2.	History of incarceration.....	96
7.2.	Arrests	96
7.2.1.	Heroin	97
7.2.2.	Methamphetamine	97
7.2.3.	Cocaine	98
7.2.4.	Cannabis	98
7.3.	Expenditure on illicit drugs.....	98
8.	Special topics of interest.....	99
8.1.	Height, weight and Body Mass Index.....	99
8.2.	Alcohol Use Disorders Identification Test	101
8.3.	Stimulant and opioid dependence	102

8.4.	Personal Wellbeing Index.....	102
8.5.	Sexual health	104
8.6.	General medical practitioner service use.....	106
8.7.	Social networks	108
9.	Study limitations	110
10.	Implications.....	111
	References	114

List of Tables

Table 1: Demographic characteristics of the PWID sample, 2009-2010	29
Table 2: Injection history and patterns of current drug use, 2009-2010	30
Table 3: Drug use history and current pattern of drug use, 2010	32
Table 4: Drug use on day prior to interview, 2004-2010	34
Table 5: Colours and forms of heroin used in the preceding six months, 2010	37
Table 6: Characteristics of alprazolam users, 2010	53
Table 7: Price of most recent heroin purchase, 2009-2010	58
Table 8: Price of most recent methamphetamine purchase, 2009-2010 *	63
Table 9: Price of most recent cannabis purchase, 2009-2010	68
Table 10: Price of most recent morphine purchase, 2009-2010	73
Table 11: Price of most recent oxycodone purchase, 2009-2010	74
Table 12: PWID self-reported injecting risk practices (past month), 2003-2010	89
Table 13: Self-reported injection-related health problems (past month), 2006-2010	90
Table 14: New HIV diagnoses in Victoria where injecting drug use has been identified as the likely exposure factor, 1999-2009	91
Table 15: Prevalence of IDU related new diagnoses of HIV and HCV, Victoria, 2010	91
Table 16: Levels of psychological distress among PWID compared with the general population 2009-2010	93
Table 17: Use of illicit drugs prior to driving (past six months), 2005-2010	94
Table 18: Criminal activity reported by PWID during the last month, 2003-2010	95
Table 19: Consumer and provider arrests, Heroin and other opioids, 2008-2009	97
Table 20: Consumer and provider arrests, amphetamine-type stimulants, 2008-2009	97
Table 21: Consumer and provider arrests, cocaine, 2008-2009	98
Table 22: Consumer and provider arrests, cannabis, 2008-2009	98
Table 23: Self-reported height, weight and BMI amongst PWID Victoria	100
Table 24: AUDIT-C among PWID, Victoria, 2010	101
Table 25: Personal wellbeing of PWID compared with the general population	103
Table 26: Sexual health Victoria PWID, 2010	105
Table 27: General Medical Practitioner visits among PWID, Victoria, 2010	107
Table 28: Social networks among survey participants, Victoria, 2010	109

List of Figures

Figure 1: Number of days of heroin use in previous six months, 1997-2010.....	36
Figure 2: Percentage of PWID reporting recent methamphetamine use, 2000-2010	40
Figure 3: Number of days of methamphetamine use in the previous six months, 1997-2010*	41
Figure 4: Percentage of PWID reporting recent Methadone injection, 2001-2010	44
Figure 5: Percentage of PWID reporting recent buprenorphine and buprenorphine-naloxone injection, 2002-2010	45
Figure 6: Percentage of PWID reporting recent morphine use and injection, 2001-2010	48
Figure 7: Percentage of PWID reporting recent benzodiazepine use and injection, 1997-2010	52
Figure 8: Median price of a gram and cap of heroin estimated from PWID purchases, 1997-2010	59
Figure 9: Average purity of heroin seizures by Victorian law enforcement, July 2009-June 2010	60
Figure 10: Average purity of methamphetamine seizures by Victorian law enforcement, July 2009-June 2010.....	62
Figure 11: Average purity of cocaine seizures by Victorian law enforcement, July 2009 to June 2010	66
Figure 12: Median price of a gram and ounce of cannabis estimated from PWID purchases, 1997-2010*	69
Figure 13: Self-reported experience of heroin overdose, 1997-2010	75
Figure 14: Number of non-fatal heroin overdoses attended by AV, Melbourne, 2008-2009	76
Figure 15: Heroin-related deaths in Victoria, 1991-2009	77
Figure 16: Number of ambulance attendances where amphetamines were mentioned, Melbourne, 2008-2009	78
Figure 17: DirectLine calls where the drug of concern was identified as heroin or other opioids, 1999-2009	80
Figure 18: Victorian pharmacotherapy consumers, by type of opioid substitution therapy, 1985-2010.....	81
Figure 19: DirectLine calls where the drug of concern was identified as amphetamines or other stimulants, 1999-2009	82
Figure 20: DirectLine calls where the drug of concern was identified as cocaine, 1999-2009	82
Figure 21: DirectLine calls where the drug of concern was identified as cannabis, 1999-2009	83
Figure 22: Opioid-related hospital admissions, 1999-2008.....	84
Figure 23: Amphetamine-related hospital admissions, 1999-2008	85
Figure 24: Cocaine-related hospital admissions, 1999-2008	86
Figure 25: Cannabis-related hospital admissions, 1999-2008.....	87

Acknowledgements

The 2010 Victorian Illicit Drug Reporting System (IDRS) study was funded by the Australian Government Department of Health and Ageing (AGDH&A). The national IDRS study is coordinated by the National Drug and Alcohol Research Centre (NDARC), at the University of New South Wales (UNSW), Sydney.

I am grateful to the survey participants and the key experts who participated in this study. I would also like to thank Rebecca Jenkinson for her support in coordinating the participant interviews and assisting in securing ongoing ethics approval. Particular thanks goes to Danielle Horyniak (2009 Victorian IDRS Coordinator) who provided valuable statistical support and undertook some of the key expert interviews. In addition I would like thank Jessica Andrews, Stuart Armstrong, Cerissa Papanastasiou, Tara Newen, Daniel O’Keefe and Peter Higgs for their assistance with recruitment and interviewing of research participants.

Finally my gratitude to Anita Feigin, the 2010 Ecstasy and related Drugs Reporting System (EDRS) Coordinator and Paul Dietze (IDRS Principal Investigator) for their assistance and support.

Special thanks go to the following organisations for contributing space and/or staff time in assisting the team with recruiting and interviewing for the people who inject drugs survey component of the study.

- Southern Hepatitis/HIV/AIDS Resource and Prevention Service (SHARPS), Frankston;
- Access Health, St Kilda;
- InnerSpace, Collingwood;
- Open Family, Footscray; and
- South East Alcohol and Drug Services (SEADS), Dandenong.

Thanks also go to Belinda Lloyd (Turning Point Alcohol and Drug Centre), Graeme Wilson and Joanne Gerstner-Stevens (Victoria Police), Malcolm Dobbin, Rob Knight, Roland Jauernig (Victorian Department of Health (VDoH)) and Amanda Roxburgh (NDARC) for assisting with access to, and the analysis and collation of indicator data; to Paul McElwee (The Burnet Institute) for database development and support; to Mr Chris Milton, Dr Robyn Davies and Mr Joe Upston and colleagues of the AGDH&A; and to Dr Lucy Burns, Natasha Sindicich and Jennifer Stafford for assistance as the National Coordinators of the 2010 IDRS.

Abbreviations

ABS	Australian Bureau of Statistics
ACC	Australian Crime Commission
ADIS	Alcohol and Drug Information Service
AFP	Australian Federal Police
AGDH&A	Australian Government Department of Health and Ageing
AIHW	Australian Institute of Health and Welfare
ATS	Amphetamine-Type Stimulants
A&TSI	Aboriginal and/or Torres Strait Islander
AUDIT-C	Alcohol Use Disorders Identification Test-Consumption
AV	Ambulance Victoria
BBVI	Blood-borne viral infection
BMI	Body Mass Index
CPH	Centre for Population Health
DPMP	Drug Policy Modelling Project
EDRS	Ecstasy and related Drugs Reporting System
GHB	Gamma-hydroxy-butyrate
GP	General Practitioner
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDRS	Illicit Drug Reporting System
KE	Key Expert
K10	Kessler Psychological Distress Scale
LSD	Lysergic acid diethylamide
MDMA	3,4-methylenedioxymethamphetamine
MSM	Men who have Sex with Men

MVA	Motor Vehicle Accident
NCHECR	National Centre in HIV Epidemiology and Clinical Research
NDARC	National Drug and Alcohol Research Centre
NDSHS	National Drug Strategy Household Survey
NHMD	National Hospital Morbidity Database
NSP	Needle and Syringe Program
ORT	Opiate Replacement Therapy
OTC	Over the Counter
PDI	Party Drugs Initiative
PBS	Pharmaceutical Benefits Scheme
PCR	Patient Care Record
PWI	Personal Wellbeing Index
PWID	People who inject drugs regularly
REU	Regular ecstasy user
SD	Standard Deviation
SDS	Severity of Dependence Scale
SEADS	South East Alcohol and Drug Services
SF-8	Short-Form 8 Health Survey
SHARPS	Southern Hepatitis/HIV/AIDS Resource and Prevention Service
STI	Sexually Transmitted Infection
TGA	Therapeutic Goods Administration
UNSW	University of New South Wales
VACIS	Victorian Ambulance Clinical Information System
VDoH	Victorian Department of Health
VIFM	Victorian Institute of Forensic Medicine

Glossary of Terms

Cap	Small amount, typically enough for one injection
Illicit pharmaceuticals	Pharmaceuticals (e.g. antidepressants, antipsychotics, benzodiazepines, morphine, oxycodone, methadone, buprenorphine) obtained from a prescription in someone else's name, e.g. through buying them from a dealer or obtaining them from a friend, partner, etc. The definition does not distinguish between the inappropriate use of illicitly obtained pharmaceuticals, such as the injection of buprenorphine or morphine, and appropriate use
Licit pharmaceuticals	Pharmaceuticals 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 purchased through a dealer or prescribed to a partner, friend, etc
Lifetime injection	Injection (typically intravenous) on at least one occasion in the participant's lifetime
Lifetime use	Use on at least one occasion in the participant's lifetime via one or more of the following routes of administration: injecting, smoking, snorting or swallowing
Methadone	'Methadone' (with a capital 'M') is used to refer to both methadone syrup and methadone tablets, also known as physeptone
Point	0.1 gram, although may also be used as a term referring to an amount for one injection (similar to a 'cap'; see above)
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: injecting, smoking, snorting or swallowing
Session	A single continuous period of drug use
Use	Use via one or more of the following routes of administration: injecting, smoking, snorting or swallowing

Guide to days of use/injection

6 days	Monthly use/injection (past six months)
12 days	Fortnightly use/injection
24 days	Weekly use/injection
90 days	Use/injection every second day
180 days	Daily use/injection

Executive Summary

Background

In 1998 the Australian Government Department of Health and Ageing (AGDH&A) commissioned the National Drug and Alcohol Research Centre (NDARC) to implement a national Illicit Drug Reporting System (IDRS), aimed at monitoring emerging trends related to the use of heroin, methamphetamine, cocaine and cannabis. The IDRS study provides nationally comparable data with respect to patterns of illicit drug use and related harms, and provides a basis for better informing future policy and research initiatives.

The majority of available data sources related to patterns of illicit drug use and related morbidity and mortality are *lag indicators*, where the most recent data available may be up to 12 months old in some cases, and are therefore insufficient on their own for strategic early warning purposes. The IDRS serves as a strategic early warning mechanism because it supplements available secondary indicator data sources with *lead indicators*, such as direct surveys with groups of people who inject drugs (PWID) and key experts (KE). Findings from successive IDRS studies conducted in metropolitan Melbourne have informed health, law enforcement and community sector responses to illicit drugs in Victoria since 1997¹. Some recent examples of where the IDRS methodology or Victorian data have been used include:

- in the development of research into cocaine markets in Victoria and New South Wales (Shearer, Johnston et al. 2005);
- in Stage One of Australia's Drug Policy Modelling Project (DPMP) (Moore, Caulkins et al. 2005);
- in policy development and review activities and inquiries conducted by the Victorian Government (Di Natale and Ritter 2003; Drugs and Crime Prevention Committee 2004; Drugs and Crime Prevention Committee 2006; Victorian Department of Health 2006; Victorian Department of Health 2007);
- in the annual *Victorian Drug Statistics Handbook* (Abu-Rajab, Palmer et al. 2009);
- in a national survey examining attitudes, understanding and experiences of drug-driving (Mallick, Johnston et al. 2007);
- in research into the use of amphetamine-type stimulants (ATS) and early intervention of methamphetamine-related harms (Jenkinson and Quinn 2008); and
- in research into the self-reported well-being of PWID (Dietze, Stooze et al. 2010).

Victorian IDRS data have also been disseminated widely at conferences and community forums, and through posters, magazine articles, and peer-reviewed publications.

¹ For specific examples of how previous Victorian IDRS findings have been utilised please refer to: Fry & Miller, 2001 & 2002; Jenkinson, Fry & Miller, 2003; Jenkinson, Miller & Fry, 2004; and Jenkinson & O'Keeffe, 2005 & 2006; Jenkinson & Quinn, 2007.

Summary of 2010 Victorian IDRS methodology

The Centre for Population Health (CPH) at the Macfarlane Burnet Institute for Medical Research and Public Health conducted the Melbourne arm of the 2010 IDRS study between June and September 2010. The project consisted of:

1. a structured survey of 151 PWID recruited from a number of sites across the metropolitan Melbourne area;
2. semi-structured interviews with 25 KE from a variety of professional settings, selected according to their knowledge about illicit drug use, and level of contact with illicit drug users, during the six months preceding the survey; and
3. analysis of secondary indicator data.

Data collected via these three methods were analysed in order to identify illicit drug-related trends in Melbourne for the 2009/2010 financial year. Where appropriate, these data were also compared to findings from the 1997-2009 IDRS studies.

Demographics of the sample

One hundred and fifty-one PWID were interviewed for the 2010 Victorian IDRS. The mean age was 35 and 70% of the sample was male. Eighty-eight percent of survey participants were born in Australia and nine percent reported that they were Aboriginal and/or Torres Strait Islander. Eighty-nine percent of respondents were not employed at the time of the interview and 59% resided in stable accommodation.

Consumption pattern results

Current drug use

The mean age at which survey participants reported their first injection of a drug was 18 years, with the first drug usually being heroin (58%) or amphetamine (39%). The sample's main drugs of choice were heroin, speed or cannabis and the most commonly injected drugs of the preceding month were heroin, speed, buprenorphine and morphine.

Heroin

Heroin continues to be the most commonly used injectable illicit drug among the IDRS survey participants, with 85% reporting use within the six months preceding interview. Just over two-thirds of all survey participants (68%) reported that heroin was their drug of choice compared with 56% of survey participants in 2009.

The prevalence of recent heroin use among the sample was comparable to previous years (79% in 2009 and 86% in 2008); however, the frequency of heroin use increased from a median of 51 days in the six months preceding interview in 2009 to 74 days in 2010. This was a comparable figure to the median frequency of use in 2008 of 81 days.

Among the 128 survey participants reporting recent heroin use, all had injected, with only small numbers of survey participants reporting recent heroin smoking. As in past years, PWID reported most commonly using white or off-white rock heroin, of south-east Asian origin.

Methamphetamine

The IDRS currently collects information on the use, price, purity and availability of the three main forms of methamphetamine: 'speed', crystal methamphetamine and 'base,' as well as amphetamine liquid and pharmaceutical stimulants such as dexamphetamine.

Reports of any recent methamphetamine use among the 2010 IDRS sample were frequent (58% of survey participants); however, this was an overall decrease from the 2009 rate of 70% and patterns of use also varied between different amphetamine types. In particular the prevalence of recent speed and base used decreased significantly (53% and 3% respectively), whilst recent crystal methamphetamine and liquid amphetamine use remained stable in comparison with 2009. The frequency of recent amphetamine use was relatively stable compared with previous years.

Findings from the 2010 IDRS indicate a continuing decline in the prevalence of reported recent amphetamine use. These changes are likely to be reflective of decreasing purity and availability of these drugs, and should continue to be monitored.

Cannabis

Cannabis was the most widely used illicit drug in the 2010 IDRS sample, similar to previous years. Ninety-eight percent of survey participants in 2010 reported using the drug in their lifetime and 81% in the preceding six months. Frequency of reported cannabis use was 180 days in the preceding 180, with 51% of respondents reporting daily use (as opposed to 11% in 2009). Hydroponic cannabis was again the most commonly recorded type of cannabis used.

Other drugs

Other opiate use was common in the 2010 IDRS sample, as in previous years, but the type of opiate varied amongst the survey participants.

Fifty-one percent of respondents reported recent Methadone use and 16% recent illicit Methadone use. Eleven percent reported recent injection of Methadone, which occurred on a median of five days.

Twenty-eight percent of respondents reported recent buprenorphine use and 21% reported recent illicit buprenorphine use. Recent buprenorphine injection was reported by 25% of survey participants, and injection of any form of buprenorphine on a median of 72 days.

Buprenorphine-naloxone use in the preceding six months was reported by 39% of the sample and 24% reported recent illicit use. Recent injection of this drug was reported by 21%, an increasing trend mostly likely representing the expanding percentages of patients prescribed this drug in the community over time. Either licit or illicit buprenorphine-naloxone was recently injected on a median of 10 days.

Thirty-five percent of survey participants reported recent use of morphine, with the majority reporting recent illicit use (30%) versus licit use (6%). Twenty-nine percent of the sample had injected either licit or illicit morphine recently on a median of six days. Morphine was significantly more likely to be the both the last drug injected (5% of the sample) and the drug most often injected in the last month (7% of the sample) in comparison to the 2009 cohort (1% and 1% respectively).

Oxycodone use was roughly stable compared to 2009 with 31% of the sample indicating recent use and 29% recent injection of either illicit or licit forms on a median number of

four days. Similarly to morphine, more of the sample reported illicit versus licit use (28% versus 3%).

Use of other opiates (and in particular injection of these) was limited. Twenty-six percent of the sample reported using over the counter (OTC) codeine recently on a median of six days but only one participant reported recent injection. Similarly, 14% reported recent use of 'other' opioids with a single participant reporting recent injection. Panadeine Forte® was the main 'other' opiate that was used by the sample.

Participants of the Victorian IDRS frequently report polydrug use. Thus use of additional prescription and non-prescription drugs which were not opiates was also common in the 2010 sample.

For example almost all of the IDRS survey participants reported lifetime use of both alcohol and tobacco, with 69% reporting alcohol and 93% tobacco use in the past six months. The majority of tobacco users were daily smokers (94%), while alcohol was consumed approximately once a week (median=24 days in the previous six months).

Similarly, 69% of the sample reported recent use of benzodiazepines, although a much smaller proportion reported recent injection (4%). Illicit recent use of benzodiazepines was reported on a median of 12 days. Diazepam continued to be the main benzodiazepine used by respondents in comparison to alprazolam. However, both illicit and licit alprazolam were used more frequently than diazepam. In particular, if the client was using prescribed alprazolam, the median number of days used in the previous six months was 180, as opposed to 72 for diazepam. There was a trend for an increased number of alprazolam users (as opposed to other benzodiazepine users) to have ever been in prison. A similar trend was noted for driving under the influence of drugs in the preceding six months.

In the 2010 Victorian IDRS survey, participants were informally asked about their use of Unisom® capsules (diphenhydramine hydrochloride) given indications of use raised by KE previously. Twenty-one percent reported lifetime injection of this OTC drug and 10% reported injecting it in the preceding six months.

The sample was not asked specifically about illicit anti-psychotic use; however, several KE raised concerns about the increasing numbers of PWID using anti-psychotics illicitly, and in particular quetiapine (Seroquel®). One KE reported that patients had been referred for help with 'withdrawing' from this medication.

KE also reported emerging groups of youth injecting drugs such as steroids and melanin (a tan enhancer). Concerns were raised that such groups did not consider themselves to be PWID and were poorly educated as to safe injecting practices.

Pharmaceutical stimulants continued to be used by small numbers of survey participants in the 2010 sample; however, all use was of illicit and not licit forms of these drugs. Thirteen percent reported use in the last six months with 9% citing recent injection of illicit pharmaceutical stimulants on a median of four days.

As in previous years in Victoria, reports of recent cocaine use among the IDRS sample remained infrequent, with just 14% of survey participants reporting having used cocaine during the six months preceding interview and 9% injecting the drug. Among those reporting recent use, the frequency of use remained low (median=five days).

The sample also recorded low numbers of people using hallucinogens and ecstasy. Seven percent of respondents reported recent use of hallucinogens but none reported recent injection, whilst 5% reported recent ecstasy use and 3% recent injection of this drug.

Drug market: Price, purity, availability and purchasing patterns

Heroin

The median prices were roughly stable at \$50 per cap and \$310 per gram. Heroin was reported as easy or very easy to obtain and the purity low to medium. The source was generally a known dealer at an agreed public location. The average purity of seizures by Victorian police was 26.5%.

Methamphetamine

The median prices of points of speed and crystal methamphetamine were \$50 and \$100 respectively. Grams of speed were priced at \$200 and grams of crystal methamphetamine at \$500. Methamphetamine types in general were considered generally easy to obtain with the suggestion that speed was becoming slightly more difficult and crystal methamphetamine a little easier to purchase. The drug was generally sourced through known dealers or friends and purity varied from low to medium if speed through to medium to high if crystal methamphetamine. The average purity of seizures by Victorian police was 21%, which was higher than in the preceding financial year but similar to those prior to 2008-2009.

Cocaine

From the small numbers of survey participants able to report price, purity and availability figures for cocaine, approximate costs of \$50 for a point, \$100 for a cap and \$400 for a gram could be determined. Current purity was reported to be high and stable with variable ease of access by the respondents. The mean purity of cocaine seizures was 42%, which is stable compared to previous years.

Cannabis

Prices remained remarkably stable for cannabis with \$20 per gram being proposed for both hydroponic and bush cannabis. An ounce was reported to cost \$250 for hydroponic and \$225 for bush cannabis. Both types of cannabis were reported to be easy or very easy to obtain and commonly purchased from known dealers or friends. Potency was medium to high and stable.

Methadone

A limited number of survey participants were able to give purchasing details for illicit methadone. Of those responding there was a reasonable consensus of one dollar per millilitre (which contains five milligrams of methadone). Availability was reported as easy or very easy and stable.

Buprenorphine

The cost of illicit buprenorphine was reported to be five dollars for two milligrams and a median price of \$20 for eight milligram tablets. There were a variety of responses to the question of accessibility and 53% of respondents reported that it was more difficult to obtain this drug illicitly in the preceding six months. This correlates with the decrease in percentages of patients being treated with buprenorphine as opposed to the buprenorphine-naloxone combination.

Buprenorphine-naloxone

Similarly to buprenorphine the median price for the buprenorphine-naloxone combination was five dollars for a two milligram tablet. The median price of eight milligrams was lower at \$10, but comparisons should be made with caution as relatively low numbers of survey participants could comment on the price of both buprenorphine and buprenorphine-naloxone. Illicit buprenorphine-naloxone was reported to be very easy or easy to obtain and access to illicit supplies of the drug stable.

Morphine

The most commonly reported purchased amount and brand of morphine was 100 milligrams tablets of MS Contin®. These were reported to cost a median of \$50 and the price was stable compared to 2009. Perceptions of availability varied widely; however, most survey participants reported stability in ease of access to illicit forms of morphine. Morphine was more likely to be purchased from friends (60%) than known dealers (17%).

Oxycodone

Eighty milligrams of OxyContin® was the most commonly reported dose and brand of oxycodone reported to be purchased by respondents. These tablets cost a median of \$40 which was stable in comparison to 2009. Similarly to morphine, perceptions varied over ease of availability to this drug illicitly amongst the sample; however, again it was agreed that ease of such access had remained stable. Again like morphine the drug was most frequently purchased through friends (76%).

Health-related trends associated with drug use

Overdose and drug-related fatalities

More than half the survey participants reported an overdose of heroin in their lifetime (60%) but overdose in the preceding six months was limited to 8% of respondents. There were 1,230 non-fatal heroin overdoses attended to by Ambulance Victoria during 2009. Only seven survey participants reported overdosing on other drugs in the year preceding interview with a variety of illegal and legal drugs implicated.

Drug treatment

During the 2009-2010 financial year, 53,960 courses of treatment were delivered to 32,015 clients² in Victorian specialist alcohol and drug services³. This was an increase of almost nine percent on the previous year. Alcohol was the most frequent drug of concern, followed by cannabis and then heroin.

During 2009, DirectLine responded 40,775 calls; a drug of concern⁴ was identified in 53% of these calls. Heroin was identified as a drug of concern in 13% of all drug-identified calls. Other opiates were indicated in an additional 31% of all drug-identified calls. Seven percent of all drug-identified calls indicated amphetamine as the drug of concern. This percentage is the lowest recorded for 10 years. Cannabis accounted for a further 10% of drug-identified calls whilst similarly to previous years cocaine only accounted for a very

² Clients in specialist alcohol and drug services include both drug users and non-users. Non-users may include partners, family or friends.

³ Federal and state government funded.

⁴ A caller or user may have more than one drug of concern and totals have been adjusted for multiple drugs of concern.

small percentage of such calls of concern (1%). According to the Victorian Department of Health in 2010, 13,199 clients were recorded as being on pharmacotherapy programs, with the largest percentage prescribed methadone (65%, n=8,523). Around one-third of pharmacotherapy clients were prescribed buprenorphine-naloxone (30%, n=3,919) and the remainder of clients were receiving buprenorphine (6%, n=757).

Hospital separations

Data for 2008/2009 hospital separations for Victoria and Australia were not available at the time this report was compiled. The data up to 2007/2008 show that whilst opioid-related hospital admissions account for the highest percentage of drug-related admissions, this number has remained relatively stable at both a state and national level.

Injecting risk behaviours and health problems

Fifteen percent of Victorian IDRS 2010 survey participants reported borrowing a used needle in the preceding month and 21% reported lending a used needle to someone else. Reports of recently of lending and borrowing needles were roughly similar to previous years but reports of sharing any other injecting equipment increased significantly from 27% in 2009 to 48% in 2010.

Blood borne viral infections attributable to illicit drug use were stable in Victoria in 2009 and other injection related health problems were generally reported less frequently by the 2010 cohort than in previous other IDRS.

Mental health problems and psychological distress

Sixty-two percent of the sample reported that they had experienced a mental health problem in the six months preceding the interview with most reporting experience of high prevalence disorders such as depression and anxiety. There were, however, some significant percentages of respondents reporting lower prevalence conditions such as schizophrenia and panic disorder (20% and 9% respectively).

Driving risk behaviour

Of the 55 respondents who reported recently driving a vehicle 22% reported having driven under the influence of alcohol and 80% after taking illicit drugs. Of the respondents who commented on the self-perceived effect of illicit drugs on their driving ability over half reported that it had no effect or slightly improved their driving skills.

Law enforcement-related trends associated with drug use

Reports of criminal activity

Fifty-five percent of survey participants reported being arrested in the 12 months preceding the IDRS study, with the largest proportion being related to property crime. Forty-one percent reported engaging in any crime in the preceding month and 57% reported ever having been to prison.

Arrests

The number of heroin, methamphetamine and cannabis-related arrests remained stable in 2008-2009 compared to the previous reported year. Whilst still relatively small number of cocaine consumer arrests increased by 30% from 65 to 92.

Expenditure on illicit drugs

The median amount spent by Victorian IDRS respondents the day prior to the survey was \$17.50 (an amount which includes those respondents who reported not spending any money the day before).

Special topics of interest

Height, weight and Body Mass Index (BMI)

The BMI was calculated for the survey participants who reported both height and weight in the Victorian 2010 IDRS sample. Of these, more than 10% gave figures which meant that they were 'underweight' (compared with 2.6% of the general population). In particular, 23% of females were calculated to be underweight in the sample in comparison with 3.7% of the general population.

Alcohol Use Disorders Identification Test (AUDIT-C)

In the AUDIT-C test, a cut-off score of five or above indicates that further assessment is required for problems with alcohol dependence and risky drinking. The mean score for the 2010 survey participants was 4.2; however, 42% of the sample scored five or more.

Stimulant and Opioid Dependence Score

Studies indicate that a severity of dependence scale (SDS) of four is indicative of dependence for methamphetamine users and five or more is generally accepted as the cut-off for heroin dependence. In the Victorian IDRS sample the median methamphetamine SDS was 1.0. In contrast the median opioid SDS was eight, with 84% of those recently using an opioid and completing the questionnaire scoring five or above. Heroin was indicated as the opiate of most concern amongst those completing this section.

Personal Wellbeing Index (PWI)

The mean total PWI of the 2010 Victorian IDRS sample was once again significantly lower than a recent population sample taken from a combination of Australian states. Moreover, the 2010 survey participants reported lower scores in each of the domains except health in comparison with the 2009 IDRS sample.

Sexual health

In the preceding two years over half the participant group reported that they had been tested for a sexually transmitted infection, with more than half of these being tested by a general practitioner. Fifty-seven percent of women reported having a pap-smear in the previous two years, again with the majority (68%) being performed by a GP.

General medical practitioners

Eighty-five percent of the Victorian survey participants reported visiting a GP in the 12 months preceding the IDRS for a physical or mental health problem on a median of 12 occasions. Sixty-three percent of these respondents reported visiting a GP for mental health problems, with the majority reporting visiting the same GP.

Social networks

Twenty-seven percent of survey participants reported contact with a family member every day whilst 15% reported either no contact or family. The majority of respondents were able to rely on one or two family members. Fifty-four percent of the sample reported contact with friends on a daily basis and the majority were able to rely on one or two friends.

Conclusions

The results of the 2010 Victorian IDRS study indicate that the majority of illicit drug markets in Melbourne have remained stable over the last 12 months.

Key changes detected in the 2010 IDRS were:

- Heroin was once again reported to be the main drug of choice, similar to the 2008 sample but in contrast to the 2009 sample (where it was reported to be amphetamine).
- Differing patterns of use of the three main types of amphetamines were noted, with speed and liquid amphetamine use declining and ice and base use stabilising. Overall, amphetamine use continues to decline.
- Whilst still a relatively small percentage, the rate of survey participants reporting morphine as their last drug injected as well as the drug most frequently injected in the last month increased significantly in comparison to 2009.
- The continuing emergence of illicit markets and inappropriate use of other 'licit' medications, aside from benzodiazapines, including antipsychotics such as quetiapine and anti-histamines such as Unisom®.
- An increase in sharing of injecting equipment besides needles.

On the basis of these findings, we recommend:

1. continued monitoring of illicit drug markets for trends in price, purity, availability, patterns of drug use, and related outcomes;
2. expansion of Victoria's routine drug trend monitoring, through new methods and new sentinel groups, such as users within rural/regional drug markets, to improve the understanding of intersecting drug markets and related outcomes;
3. further research into drug-driving, particularly in regard to peoples' understanding of impairment and the circumstances in which they drive soon after taking illicit drugs;
4. further research to explore the nature and extent of prescription and OTC drug use among the general population as well as people who inject drugs in Melbourne, and the health harms associated with prescription drug misuse;
5. further research to monitor changing patterns of benzodiazepine use;
6. additional support to patients with dual-diagnoses of psychotic disorders such as schizophrenia and illicit-drug use; and
7. further education to the PWID populace on the harms of sharing any forms of injecting equipment as opposed to problems with sharing needles.

1. Introduction

In 1998, the Australian Government Department of Health and Ageing (AGDH&A) commissioned the National Drug and Alcohol Research Centre (NDARC) to implement a national Illicit Drug Reporting System (IDRS), following a successful pilot study in Sydney (1996) and a multi-state trial (1997) (Hando, O'Brien et al. 1997; Hando and Darke 1998; Hando, Darke et al. 1998). The 1998 IDRS study was conducted in New South Wales, Victoria and South Australia (McKetin, Darke et al. 1999), with each state undertaking a survey of people who inject drugs (PWID), a key expert (KE) survey, and analysis of available secondary indicator data. In 1999, the IDRS study was replicated in New South Wales, Victoria and South Australia, with all other remaining states and territories participating through the collection of secondary indicator data and completion of KE interviews. In 2000, the IDRS became a truly national drug trend monitoring system when all states and territories conducted the complete study. This is the thirteenth year that the IDRS study has been conducted in Melbourne.

The aim of the IDRS study is to monitor emerging trends related to the use of heroin, methamphetamine, cocaine and cannabis. The IDRS study provides nationally comparable data with respect to patterns of illicit drug use and related harms, and provides a basis for better informing future policy and research initiatives.

The *Victorian Drug Trends 2010* report summarises data collected during the months of June through October 2010 as part of the Melbourne arm of the 2010 IDRS study. The findings of this report pertain primarily to the 2009-2010 financial year, unless otherwise indicated. The report provides an outline of the methods utilised in collecting data for this period, and then presents a socio-demographic and drug use history overview of the sample of PWID. The main study findings are then presented for recent trends in the use of heroin, methamphetamine, cannabis, and other drugs. Following this, drug-related harms, general health, and other issues of significance are examined.

For details regarding illicit drug trends for the whole of Victoria up to 2007, readers should refer to the annual Victorian Drug Statistics Handbook (Victorian Department of Human Services 2008). Readers are also referred to the forthcoming Australian Drug Trends 2010 monograph for national IDRS data and jurisdictional comparisons (available from NDARC, University of New South Wales, Sydney).

1.1. Study aims

The primary aims of the 2010 Victorian IDRS were:

- To document the market characteristics (i.e. price, purity, availability) and patterns of use of heroin, methamphetamine and cannabis among PWID in Victoria;
- To identify and document any drug-related harms and relevant trends among this population; and
- To detect and document emerging drug trends of national significance that may require further and more detailed investigation.

2. Method

This study replicates the IDRS methodology used annually since 1997, incorporating: a survey of PWID, interviews with KE recruited from a variety of professional settings, and analysis of secondary indicators of illicit drug trends in Victoria. The information provided by these three methods has been used to identify trends and outcomes associated with illicit drug use in Victoria.

2.1. Survey of PWID

Structured face-to-face interviews were conducted with 151 current PWID recruited from metropolitan Melbourne during June-July 2009. In order to be eligible to participate in the study, respondents must have reported that they had injected at least monthly in the six months prior to interview, and had resided in Melbourne for at least the previous 12 months. Convenience sampling was facilitated by posted advertisements and recruitment notices distributed throughout needle and syringe programs (NSP), as well as snowballing methods (recruitment of friends and associates via word of mouth).

Five agencies assisted the research team as recruitment and interview sites for the PWID survey component of the study:

- Southern Hepatitis/HIV/AIDS Resource and Prevention Service (SHARPS), Frankston;
- Access Health, St Kilda;
- InnerSpace, Collingwood;
- Open Family, Footscray; and
- South East Alcohol and Drug Services (SEADS), Dandenong.

The structured interview schedule employed in this study comprised core questions used in previous IDRS studies conducted in Melbourne. The interview schedule contained questions relating to demographics; drug use; the price, purity and availability of drugs; crime; risk-taking behaviour; health; and general trends. The average duration

of each interview was approximately 38 minutes (range=10-76 minutes) and survey participants were reimbursed \$40 for their time and out-of-pocket expenses. Ethics approval for this study was obtained from the Alfred Hospital Human Research Ethics Committee, the Peninsula Health Human Research and Ethics Committee, and the Victoria Police Research Coordinating Committee.

2.2. Survey of KE

A total of 25 KE (11 females and 14 males) participated in face-to-face and telephone interviews between July and October 2010. The majority were recruited from the pool of KE who had taken part in previous IDRS and/or Ecstasy and related Drug Reporting System (EDRS) studies (Horniyak, Dietze et al. 2009). Other KE participants were recruited as replacements for, or alternatives to, previous participants drawn from the same agencies/services, on the basis of referrals received from professionals in the field, or as individuals representing agencies/services not previously surveyed.

KE involved in the 2009 IDRS consisted of: direct health workers, e.g. hospital staff, general practitioners (GPs), drug and alcohol nurses and pharmacists (n=8), NSP and outreach workers, drug and alcohol counsellors and social workers (n=8), law enforcement personnel (n=4), and others including lawyers, policy makers, forensic investigators, researchers and court services workers (n=5). Excluding law enforcement personnel, participants were selected on the basis of having had average weekly contact with illicit drug users over the preceding six months; and/or contact with 10 or more different illicit drug users during that period; and/or expert knowledge in one or more areas relating to the use, possession, manufacture, and/or trafficking of illicit substances.

While some KE participants were screened after they had received sample copies of the KE interview schedule, project information sheet and consent form – providing them with the opportunity to consider whether they would be able to address questions from the interview schedule – other KE were deemed eligible after telephone screening and did not wish or request to receive an advance copy of materials. The KE interview schedule included sections on the characteristics of people currently involved in the drug market, characteristics of the drug market itself (price, purity and availability) and recent trends in illicit drug use.

As per 2009, the 2010 survey focussed on the drug or drugs KE perceived to be ‘most problematic’ at the time of interview. A total of 56 responses were elicited in this area of questioning. The drugs named as most problematic by KE were most commonly alprazolam (Xanax, a short-acting benzodiazepine) (n=13), heroin (n=9), alcohol (n=9), prescription opiates in pill form (including buprenorphine, morphine and oxycodone) (n=7), and amphetamines (n=7). Other drugs nominated as problematic by small numbers of KE were cannabis, paint, non-specified benzodiazepines, Gamma-hydroxybutyrate (GHB), tobacco, MDMA (3,4-methylenedioxymethamphetamine or ecstasy), diphenhydramine hydrochloride (Unisom), and cocaine.

KE interviews took an average of 49 minutes to complete (range=30-90 minutes). Detailed notes were made by the interviewer(s) during each interview, and raw data was transcribed and coded soon after the conclusion of the interview using Microsoft Excel.

2.3. Other indicators

Information collected from the PWID survey and KE interviews was supplemented by data obtained from a number of secondary indicator sources. Data relating to trends for the 2009-2010 financial year are reported, unless otherwise indicated. For secondary indicators where current data are unavailable, the most recently available data have been included.

Indicator data sources presented in this report include:

Surveys reporting on the prevalence of illicit drug use in Victoria

- Data on the prevalence of drug use in the community are typically derived from large-scale population surveys. The most recent population survey from which estimates of illicit drug use within the community are available is the 2007 National Drug Strategy Household Survey (NDSHS) (2007 National Drug Strategy Household Survey: State and Territory supplement 2008; Australian Institute of Health and Welfare 2008).

Drug seizure purity levels

- The Drug Analysis Branch of the Victoria Police Forensic Services Department conducts purity analyses for all drug seizures made by the Victoria Police. Since 2001, the Victoria Police Forensic Services Department has provided drug purity data for inclusion in the IDRS report. This report presents data for the 2009-2010 financial year.

Drug-related arrest data

- Information pertaining to drug-related arrests in Victoria has been obtained from the Australian Crime Commission (ACC). The Victoria Police and the Australian Federal Police (AFP) provide arrest data to the ACC for the Illicit Drug Data Report. This report presents drug-related arrest data for the 2008-2009 financial year.

Specialist drug treatment presentations

- The Victorian Department of Health (VDoH; formerly the Department of Human Services or DHS) funds community-based agencies to provide specialist alcohol and drug treatment services across the state. The collection of client information is a mandatory requirement and occurs via a formalised client data collection system called the Alcohol and Drug Information System (ADIS). The ADIS data presented in this report represents courses of treatment and client numbers for the 2009-2010 financial year.
- The Drugs and Poisons Regulation Group of the VDoH maintains a database that records all methadone, buprenorphine and buprenorphine-naloxone permits in Victoria. This is the major source of information regarding the characteristics of consumers of the Victorian pharmacotherapy programs and is an important source

of information regarding treatment for opiate dependence. Data from the quarterly phone census of client numbers for the period January 1985 to October 2010 are presented in the current report.

- DirectLine is a 24-hour specialist telephone service in Victoria (operated by Turning Point Alcohol and Drug Centre) that provides counselling, referrals and advice about drug use and related issues. All calls to DirectLine are logged to an electronic database that can provide information about callers' drugs of concern, calls from drug users, and calls about drug users. This report presents data for the period 1999 to 2009.

Ambulance attendances at non-fatal drug overdoses and other episodes

- Turning Point Alcohol and Drug Centre manages an electronic drug-related ambulance attendance database, comprising information obtained from the Victorian Ambulance Clinical Information System (VACIS) as well as those previously extracted and coded from ambulance Patient Care Records as part of Turning Point's 'Ambulance Attendance at Heroin Overdose Project' (Dietze, Cvetkovski et al. 2000). Reliable data is available from June 1998 (with missing data for various short periods from that time). Although the database includes overdose-related calls for all types of drugs, the dataset is best suited to the monitoring of non-fatal, opioid-related overdose, due to the availability of a biological marker of opioid (primarily heroin) involvement (i.e. the administration of Naloxone and subsequent patient response). Data for the period 2007 to 2009 are presented in this report.

National Hospital Morbidity Database

- The National Hospital Morbidity Database (NHMD) is compiled by the Australian Institute of Health and Welfare (AIHW). It is a collection of electronic records for admitted patients in public and private hospitals in Australia. *Principal diagnosis* (the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of care in hospital) has been reported. This report presents drug-related (opioid, amphetamine, cocaine and cannabis) hospital admissions for Victoria and Australia, 1999/2000-2007/2008, taken from the 2009 report as 2009/2010 data were not available at the time of going to print.

Heroin-related fatalities

- Mortality information from heroin-related deaths was obtained from data collated by the Victorian Institute of Forensic Medicine (VIFM) and the VDoH from the National Coronial Information System. This report presents data from 1991 to 2009.

Blood-borne viral infections surveillance data

- Blood-borne viral infections (BBVI), such as the human immuno-deficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV), are a major health risk for individuals who inject drugs. The Communicable Diseases Section, Public Health Branch of the VDoH records notifications of infectious diseases in Victoria. Data from 1999 to 2009 are presented in this report.
- The Australian Needle and Syringe Program Survey has been conducted yearly by the National Centre in HIV Epidemiology and Clinical Research (NCHECR) since 1995. It is designed to supplement sentinel BBVI surveillance efforts via a short questionnaire

on demographic and behavioural characteristics of NSP clients and serological testing of finger-prick blood samples. Data presented in this report are from the 2004 to 2009 data collections (National Centre in HIV Epidemiology and Clinical Research 2010).

2.4. Data analysis

For continuous, normally distributed variables, *t*-tests were employed, with the mean and standard deviation (SD) reported. The *rank-sum* test was used to compare non-parametric continuous variables, with medians and ranges reported. Categorical variables were analysed using χ^2 tests for percentages and χ^2 tests for trends over time. All analyses on PWID survey data were conducted using Stata 11.0 (Statacorp LP, Texas, 2007), with a significance level of $p < 0.05$.

Content analysis was used for the open-ended responses in KE interviews (Kellehear 1993). Categorical data for KE estimates of drug price, purity and availability were analysed using Microsoft Excel.

3. Demographics

3.1. Overview of the IDRS participant sample

A total of 151 PWID were interviewed in 2010. Participants were recruited from five different sites across Melbourne: St Kilda (Inner South), Dandenong (Outer South), Frankston (Outer South-East), Collingwood (Inner North) and Footscray (Inner West), with approximately 30 survey participants recruited from each site. The majority of survey participants resided in areas local to the recruitment sites.

Participants typically heard about the study either from the NSP (58%, $n=85$) or through word of mouth (39%, $n=58$). Thirty-nine survey participants (26%) reported having participated in a previous IDRS study. The demographic characteristics of the 2010 PWID sample were roughly comparable to 2009 and are summarised in Table 1. Just over two-thirds of survey participants were male and aged around 35 years. Less than two-thirds of respondents reported living in secure accommodation at the time of interview, with just under a quarter residing in a boarding house, hostel or shelter and a further 14% reporting homelessness or having no fixed address.

The majority of survey participants were born in Australia (88%), with other survey participants being born in the United Kingdom, New Zealand, the United States, Holland, Malta, the Ukraine and Sudan. Those born outside of Australia had resided here for a median of 20 years (range=8-48). Thirteen survey participants identified as being of Aboriginal and/or Torres Strait Islander (A&TSI) origin (9%), compared with 6% in 2009 and 3% in 2008.

The mean grade completed at school was Year 10 (range=Grade 6-Year 12); a significant percentage of survey participants had acquired trade or technical qualifications since leaving school, and a few had attained a university qualification. The large majority of

survey participants were unemployed at the time of interview and therefore most reported receiving a government pension, allowance or benefit as their main source of income. Participants reported receiving a median range of income of \$250-\$399 per week and more than half of the sample reported having ever been imprisoned.

Table 1: Demographic characteristics of the PWID sample, 2009-2010

	2009 (N=150)	2010 (N=151)
Mean age (years)	35 (SD=7.4)	35 (SD=7.3)
Male (%)	63	70
Heterosexual (%)	88	91
Aboriginal and/or Torres Strait Islander (A&TSI) (%)	6	9
Accommodation (%)		
Own house/flat (includes renting)	53	52
Parents'/family house	13	7
Boarding house/hostel	22	20
Shelter/refuge	3	3
Drug treatment residence	0	0
No fixed address/homeless	9	14
Unknown		4
Employment (%)		
Not employed	83	89
Full-time	1	3
Part-time/casual	11	6
Home duties	3	0
Student	1	1
Mean school education (years)	10	10
Tertiary education (%)		
None	49	54
Trade/technical	47	37
University/college	5	9
Prison history (%)	55	57

Source: IDRS PWID interviews

4. Consumption patterns

Table 2 summarises the drug consumption patterns of the 2010 Victorian IDRS PWID survey participants. The mean age at which survey participants reported their first injection was 18 years, with the first drug injected being either usually either heroin or speed. Heroin was also the most common drug of choice, followed by speed or cannabis. Heroin was also reported to be the most commonly injected drug in the previous month and most frequently last injected drug. The PWID sample most commonly reported their main drug of choice to be heroin, speed or cannabis. Morphine was the drug most commonly injected in the last month by 7% of the sample as opposed to 1% in 2009 ($p<0.01$).

Table 2: Injection history and patterns of current drug use, 2009-2010

	2009 (N=150)	2010 (N=151)
Mean age at first injection (years)	19 (SD=5.7)	18 (SD=5.1)
First drug injected (%)		
Heroin	47	58
Amphetamine	49	39
Other drugs	4	3
Drug of choice (%)		
Heroin	56	68
Methamphetamine	20	15
Cannabis	13	9
Morphine	1	3
Cocaine	3	1
Other drugs	7	4
Drug injected most often in last month (%)		
Heroin	55	68
Methamphetamine	30	11
Morphine	1	7
Buprenorphine	9	10
Other drugs	5	4
Last drug injected (%)		
Heroin	52	67
Methamphetamine	27	13
Morphine	1	5
Cocaine	1	0
Buprenorphine	13	11
Other drugs	5	4
Frequency of injecting in last month (%)		
Weekly or less	25	25
More than weekly	37	35
Once a day	19	13
Two to three times per day	15	22
More than three times per day	3	5
Currently in drug treatment (%)	63	58

Source: IDRS PWID interviews

4.1. Current drug use

The main reasons given by the 25% (n=38) of survey participants who reported most commonly injecting a drug other than their drug of choice were that it was more available (7%, n=10); their choice of drug being non-injectable (i.e. cannabis) (7%, n=11); or that it was cheaper (5%, n=8).

Forty percent of respondents reported having injected drugs at least once per day in the preceding month in 2010 compared with 37% of 2009 and 47% of 2008 survey participants.

Eighty-eight survey participants (58%) reported receiving treatment for their drug use at the time of the survey. Methadone substitution therapy was the most common reported treatment amongst this group (53%, n=46), followed by buprenorphine-naloxone (Suboxone®) maintenance therapy (24%, n=21). Buprenorphine substitution therapy (Subutex®) and drug counselling were each reported by eight survey participants as their current treatment (9% of those reporting current treatment). The time-range of the current treatment episode varied between one week and 18 years with a median of 12 months. Forty-one of 145 respondents denied ever having been in any form of drug treatment (28%).

Table 3 shows the self-reported lifetime drug use, and that of the preceding six months (hereafter recent) of the PWID survey sample. Almost all respondents reported lifetime use of tobacco, methamphetamines, heroin, cannabis, alcohol, and benzodiazepines.

The drugs most commonly reported as being used in the six months preceding interview were tobacco, benzodiazepines, heroin, cannabis and alcohol. The drugs most commonly reported to have been injected during the past six months were heroin (85%) and methamphetamine (58%).

Table 3: Drug use history and current patterns of drug use, 2010

	Ever used (%)	Ever injected (%)	Injected last 6mths (%)	Med. days injected* last 6mths	Ever smoked (%)	Smoked last 6mths (%)	Ever snorted (%)	Snorted last 6mths (%)	Ever swallowed+ (%)	Swallowed last 6mths+ (%)	Used^ last 6mths (%)	Med. days in treatment* last 6mths	Med. days used^ last 6mths*
Heroin	99	99	85	72	40	1	13	0	26	5	85		74
Homebake heroin	24	24	5	5	3	0	1	0	3	0	5		12
<i>Any heroin (inc. homebake)</i>	99	99	85	74	40	1	13	0	26	5	85		74
Methadone (prescribed)	73	18	5	36					72	40	40	180	180
Methadone (not prescribed)	41	14	4	2					39	14	16		3
Physeptone (prescribed)	9	3	1	4	0	0	0	0	9	2	2	16	16
Physeptone (not prescribed)	15	11	1	2	1	0	1	0	9	1	3		1
<i>Any methadone/physeptone</i>	83	27	11	5					83	49	51		180
Buprenorphine (prescribed)	46	25	7	84	0	0	1	0	39	9	9	172	123
Buprenorphine (not prescribed)	48	43	20	24	2	0	1	0	23	6	21		30
<i>Any buprenorphine (exc. Buprenorphine-naloxone)</i>	67	51	25	72	2	0	1	0	47	13	28		60
Buprenorphine-naloxone (prescribed)	44	19	7	10	1	1	1	0	39	20	20	90	68
Buprenorphine-naloxone (not prescribed)	37	28	17	12	1	0	1	0	20	12	24		6
<i>Any buprenorphine-naloxone</i>	62	36	21	10	2	1	1	0	48	28	39		39
Morphine (prescribed)	23	17	3	5	0	0	0	0	18	4	6		166
Morphine (not prescribed)	74	68	27	6	1	0	0	0	33	9	30		6
<i>Any morphine</i>	83	74	29	6	1	0	0	0	43	13	35		6
Oxycodone (prescribed)	11	8	3	22	0	0	0	0	9	3	3		30
Oxycodone (not prescribed)	64	59	27	3	1	0	1	0	21	6	28		5
<i>Any oxycodone</i>	68	60	29	4	1	0	1	0	26	9	31		6
Over-the-counter codeine	49	5	1	1	0	0	0	0	47	25	26		6
Other opiates (not elsewhere classified)	19	2	1	2	3	1	0	0	16	12	14		4

Source: IDRS PWID interviews

[^] Refers to any route of administration (injecting, smoking, swallowing, and/or snorting)

* Among those who had used/injected

* Refers to/includes sublingual administration of buprenorphine

Drug Class	Ever used (%)	Ever injected (%)	Injected last 6mths (%)	Med. days injected ⁺ last 6mths	Ever smoked (%)	Smoked last 6mths (%)	Ever snorted (%)	Snorted last 6mths (%)	Ever swallowed ⁺ (%)	Swallowed last 6mths ⁺ (%)	Used [^] last 6mths (%)	Med. days in treatment ⁺ last 6mths	Med. days used [^] last 6mths ⁺
Speed powder	97	95	52	6	29	7	50	5	41	5	53		9
Amphetamine liquid	18	14	3	4					6	0	3		4
Base/point/wax	24	20	3	5	6	1	2	0	5	1	3		5
Ice/shabu/crystal	83	77	35	4	43	12	11	0	13	2	36		5
<i>Any form methamphetamine[#]</i>	97	97	58	10	50	15	52	5	47	6	60		10
Pharmaceutical stimulants (prescribed)	9	3	0	0	1	0	1	0	7	0	0		0
Pharmaceutical stimulants (not prescribed)	33	22	9	2	0	0	2	1	23	6	13		4
<i>Any form pharmaceutical stimulants</i>	38	23	9	2	1	0	3	1	29	6	13		4
Cocaine	59	39	9	6	9	1	34	6	10	0	14		5
Hallucinogens	62	11	0	0	2	0	2	0	60	7	7		2
Ecstasy	69	34	3	2	2	0	8	1	65	5	5		4
Benzodiazepines (prescribed)	71	11	1	5	1	0	0	0	71	49	49		90
Benzodiazepines (not prescribed)	79	13	3	10	1	0	1	1	79	55	56		12
<i>Any form benzodiazepines</i>	89	17	4	8	2	0	1	1	89	73	74		60
Alcohol	99	7	0	0					99	69	69		24
Cannabis	98										81		180
Inhalants	21										0		0
Tobacco	97										93		180
Steroids	8										1		1

Source: IDRS PWID interviews

[^] Refers to any route of administration (injecting, smoking, swallowing, and/or snorting)

^{*} Among those who had used/injected

⁺ Refers to/includes sublingual administration of buprenorphine

[#] Category includes speed powder, base, crystal/ice and amphetamine liquid (does not include pharmaceutical stimulants)

NR=Not reported

Ninety-four percent of respondents (n=142) reported using at least one drug type on the day preceding interview, with the most commonly used drugs being reported as cannabis, heroin, alcohol and benzodiazepines (Table 4).

Table 4: Drug use on day prior to interview, 2004-2010

Type of drug (%)	2005 (N=150)	2006 (N=150)	2007 (N=149)	2008 (N=150)	2009 (N=150)	2010 (N=151)
Cannabis	48	44	42	53	43	51
Heroin	45	37	40	45	37	36
Alcohol	25	23	21	24	28	28
Benzodiazepines	27	18	31	30	23	17
Buprenorphine	25	17	12	10	16	9
Methadone	12	11	17	25	26	12
Buprenorphine-naloxone	-	3	3	8	5	7
Morphine	7	6	9	7	3	5
Other opiates	0	1	4	3	0	0
Antidepressants	14	1	7	4	9	6
Speed	9	15	10	13	8	8
Base	0	0	0	0	1	0
Crystal methamphetamine	0	1	2	2	3	1
Cocaine	1	1	1	3	2	0
Oxycodone						1

Source: IDRS PWID interviews

4.2. Heroin

4.2.1. Key points

	• Recent use by 85% of survey participants – this figure is stable compared to 2009 • Median frequency of use increased to 74 days in 2010 from 51 days in 2009 (but was similar to the 2008 figure of 81 days) • White or off-white rock was the most commonly used form of heroin
--	---

4.2.2. Prevalence of heroin use

While population-based surveys show few people in the community report the use of heroin (Australian Institute of Health and Welfare 2008), this was the most widely used injectable illicit drug by the 2010 IDRS respondents. Ninety-nine percent of the sample (n=150) reported lifetime use of heroin, and 85% (n=128) reported recent use. The prevalence of recent heroin use among the IDRS sample has remained relatively stable over the last five years, whilst the percentage of respondents who nominated heroin as their main drug of choice in 2010 was 68%, which was higher than the 2009 sample of 56%, but similar to that of 2008 (73%).

Of the 334 survey participants interviewed in Victoria as part of the Australian Needle and Syringe Exchange Program Survey in 2009, 61% (n=205) reported that heroin was the last drug they had injected (National Centre in HIV Epidemiology and Clinical Research 2010).

Over the past five years, the percentage of NSP survey participants reporting heroin as their most recent drug of injection has fluctuated from as high as 61% in 2010 to a low of 36% in 2006.

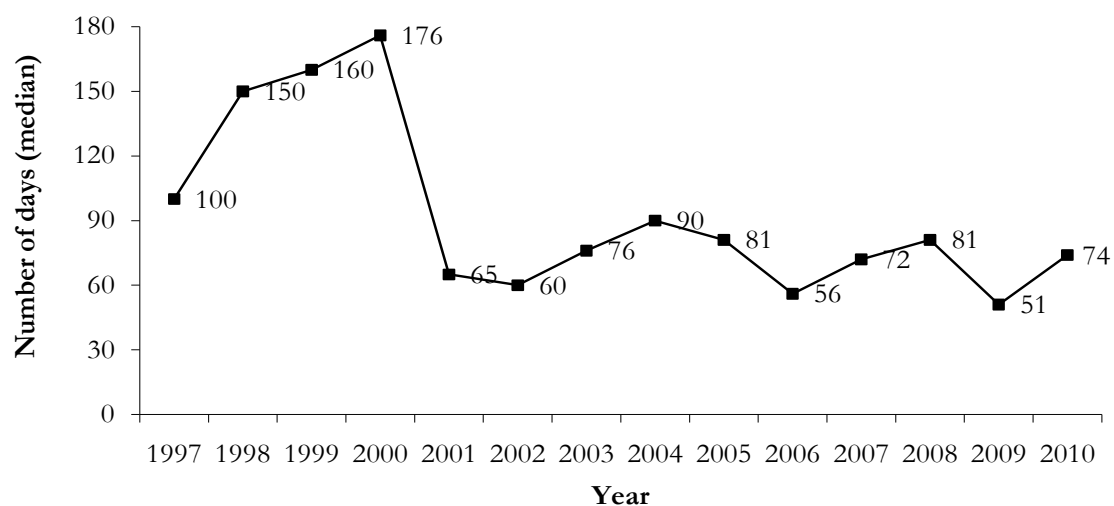
4.2.3. Current patterns of heroin use

One hundred and twenty-eight survey participants (85%) in the 2010 IDRS survey reported recent heroin use, with all reporting recent injection. Very small percentages of recent heroin users also reported smoking heroin (heating heroin and inhaling the resulting vapours) (1%), and consuming heroin orally (5%). Most KE reported that the majority of heroin users were injecting the drug; however, it was noted by one KE that smokers of heroin were more likely to be of Vietnamese ethnicity than from another population group.

Whilst the frequency of recent heroin use increased in 2010 from a median of 51 days in 2009 to 74 days (from a maximum 180 days), this increase was not significant (Figure 1).

The 2009 IDRS reported the lowest frequency of injecting ever recorded in a Victorian IDRS, but the two years prior elicited a similar number of median days to 2010. As with previous years, the reported frequency of heroin use in the IDRS may be skewed by the significant proportion of survey participants accessing pharmacotherapy treatment, who may then be able to limit their heroin use to once or twice per week.

Figure 1: Number of days of heroin use in previous six months, 1997-2010



Source: IDRS PWID interviews 2010

Heroin was mentioned as a problematic drug by nine KE. The demographic profile of heroin users, as described by these KE, was similar to that of previous years' samples: predominantly males, aged in their 20s to 50s, with low levels of education. Whilst several KE mentioned an ongoing aging population of heroin users (now facing other health issues of middle age) there was also the suggestion of a small emerging younger population, who were felt to perhaps represent second generation PWID.

Most heroin users were reported to be unemployed and receiving a government pension, allowance or benefit as their main source of income. Heroin users were proposed to be predominantly of Caucasian background; however, in particular regions more than half of heroin users were reported to be of south-east Asian origin.

KE reported that most heroin users with whom they had contact had experienced some level of interaction with the criminal justice system, with many having been incarcerated at least once. One KE, an outreach lawyer, suggested that increased police presence in certain districts was affecting people's ability to access support services, including health services. It was also suggested that there was significant variation in severity of sentencing and that more people were being incarcerated for first offences and 'small stuff', which might be more appropriately dealt with by community-based orders or rehabilitation programs.

As in previous years, heroin was noted to have a significant effect on all parts of a user's life, leading to BBVI risk, employment and parenting problems, psychological sequelae and criminality. Problems with accessing housing and employment were suggested to be intrinsically interlinked with notable mental and general health problems amongst the heroin using population by KE. High prevalence mental health disorders such as

depression and anxiety were most commonly noted; however, several KE also reported a number of clients with chronic psychotic or personality disorders. Whilst a number of clients were reported to have access to mental health care plans and counselling via a GP, as with previous years, KE reported that engagement with dedicated dual-diagnosis mental health services for those patients most at risk was, on the whole, lacking.

As in 2009, ongoing demand for pharmacotherapy treatment was noted by a number of KE. One informant suggested that the ongoing demand was a reflection on ongoing trouble with heroin use amongst the PWID that they worked with. In some areas the difficulty in accessing pharmacotherapy treatment was highlighted, due to lack of medical prescribers available. In another area of Melbourne, a new local clinic offering pharmacotherapy treatment was reported to have impacted on the local market by enabling access to low-threshold treatment for clients, which in turn led to them having more control of their heroin use.

4.2.4. Forms of heroin used

The use of different coloured heroin may require an additional step, such as the use of citric acid or heating, in the preparation for injection. In 2010, IDRS survey participants were asked about the different colours and forms of heroin used recently, and whether they used heat or acid to prepare the drug mix for their most recent injection.

Among those who reported recent heroin use, white or off-white powder was the most commonly used form (Table 5). There was an increase from 2009 in terms of both percentages of respondents reporting powder use as well as those reporting use of brown/beige heroin.

Table 5: Colours and forms of heroin used in the preceding six months, 2010

(Bracketed numbers on the right are from 2009 for comparison)

Heroin colour and form	Forms of heroin used in the preceding six months (n=116) (2009 (n=117))	Form of heroin most used in the past six months (n=121) (2009 (n=115))
White/off-white (%)		
Powder	54 (19)	11 (8)
Rock	87 (91)	70 (78)
Brown/beige (%)		
Powder	31 (15)	1 (3)
Rock	60 (24)	18 (9)
Other colour (%)		
Powder (yellow)	0	0
Rock (yellow)	0	0
Homebake heroin (%)	5	NR

Source: IDRS PWID interviews

One hundred and one survey participants completed the questions relating to their most recent episode of heroin use. Nineteen (19%) reported using heat to prepare their most recent heroin injection, with heat predominantly being used to prepare white heroin (13 of the 16 respondents who reported the colour of heroin for which heat was used). Three of the 101 respondents reported using acid to prepare their most recent heroin injection.

Recent IDRS have reported that the majority of heroin used in Melbourne is white or off-white rock. In accordance with this, in 2010, 70% of responding recent heroin users reported most frequently using white or off-white rock heroin. However, there was a significant increase from 2009 in the percentage of respondents stating that they most commonly used brown rock (18% versus 9%: $p < 0.05$). Moreover, there were significant increases in the different forms used by respondents in the preceding six months, with an increase in white powder use (54% versus 19%: $p < 0.01$), an increase in brown/beige powder use (31% versus 15%: $p < 0.01$), and an increase in brown/beige rock use (60% versus 24%: $p < 0.01$).

Six KE commented on the type of heroin commonly used by their clients, with most reporting that their clients generally used white heroin that they believed to be of south-east Asian origin. This was supported by the law-enforcement KE who suggested that most seized heroin was believed to originate from the Golden Triangle region.

However, in accordance with the subtle changes in use noted above, one KE working with PWID mentioned some more recent reports of brown (Afghan) heroin, which was in contrast to the law-enforcement KE who suggested that this type has not been seen in Melbourne seizures recently.

4.3. Methamphetamine

4.3.1. Key points

	• The prevalence of recent speed and base use among the 2010 IDRS survey participants (53% and 3% respectively) decreased significantly compared to 2009. Recent crystal methamphetamine and amphetamine liquid use was stable compared with 2009 (36% and 3% respectively) • Frequency of recent amphetamine use remained stable
--	--

4.3.2. Prevalence of methamphetamine use

Different forms of methamphetamine are currently available in Australia. The IDRS survey currently collects information from PWID on the use, price, purity and availability of the three main forms of methamphetamine: speed, base and crystal methamphetamine (ice), along with information on the use of amphetamine liquid and pharmaceutical stimulants (e.g. dexamphetamine).

It is estimated that around 2% of the Victorian population aged 14 years and over used methamphetamine in the 12 months prior to the 2007 NDSHS (Australian Institute of

Health and Welfare 2008). However, as in previous years, almost all of the IDRS PWID survey respondents (97%, n=147) reported having ever used at least one of the three main forms of methamphetamine (speed, base or crystal methamphetamine). However, recent use of methamphetamines was reported by just over half of survey participants (58%, n=90), a significant drop from 70% (n=105) in 2009 ($p<0.05$). While 15% of IDRS respondents reported methamphetamine to be their main drug of choice compared with 20% in 2009, this decrease was not statistically significant.

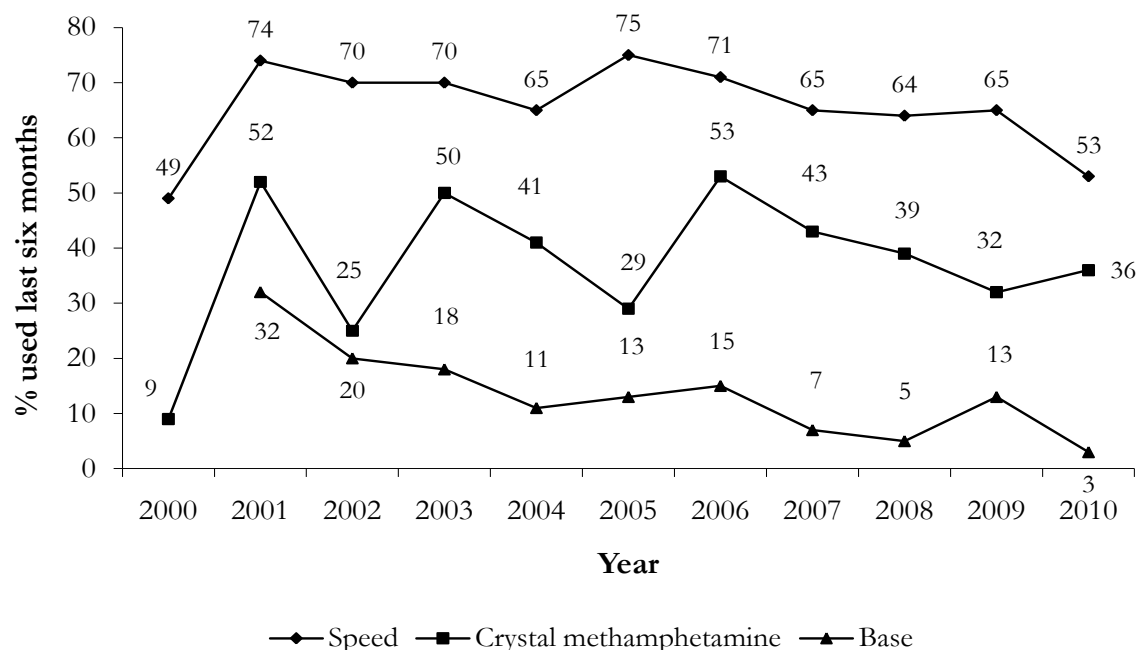
Reports of lifetime injection of methamphetamine were common, with 95% of survey participants reporting lifetime speed injection, and 77% of survey participants reporting lifetime injection of crystal methamphetamine. However, there was a significant drop in the percentage of survey participants reporting amphetamine as the drug most often injected in the last month (11%) in comparison with 30% in 2009 ($p<0.01$). Moreover, the percentage of IDRS respondents reporting an amphetamine to be their last drug injected was also significantly reduced from 2009 data (13% vs. 27%, $p<0.01$).

In 2009, 13% of the 334 NSP clients interviewed in Victoria as part of the Australian NSP survey reported that the drug they had most recently injected was methamphetamine (National Centre in HIV Epidemiology and Clinical Research 2010). The percentage of NSP survey interviewees reporting methamphetamine as their most recent drug of injection has decreased over the last three years, from a peak of 35% in 2006.

4.3.3. Current patterns of methamphetamine use

Speed was reportedly the most commonly used type of methamphetamine, recently used by 53% of respondents (Figure 2). This was a significant reduction from the 2009 figure of 65% of survey participants ($p<0.05$). Similarly, there was a significant drop in the recent use of base amphetamine from 13% in 2009 to 3% in 2010 ($p<0.01$). In contrast, reports of recent use of crystal methamphetamine (36%) and amphetamine liquid (3%) were stable in comparison with 2009.

Figure 2: Percentage of PWID reporting recent methamphetamine use, 2000-2010



Source: IDRS PWID interviews 2010

Injecting was the most commonly reported route of administration for methamphetamine, with recent injection of speed reported by 58% of respondents and recent injection of crystal methamphetamine reported by 35%. Reports of recent injection of base, amphetamine liquid and pharmaceutical stimulants were uncommon. Reports of recent use of methamphetamine by other routes of administration were also uncommon, with only 15% of IDRS survey participants reporting recent smoking and 5% reporting recent snorting of any form of methamphetamine.

Seven KE listed amphetamine as a particularly problematic drug class amongst the clients with whom they had contact in 2010. Amphetamine was mostly reported as usually being injected by users. One KE suggested that the media may have misrepresented crystal methamphetamine use and that people weren't really using this drug to the extent that may have been suggested previously. The reduced purity of crystal methamphetamine reported over the last few years may be confusing the issue, as some PWID are likely to be injecting speed which they erroneously believe to be crystal methamphetamine (see section 5.3: Amphetamine: cost, availability and purity).

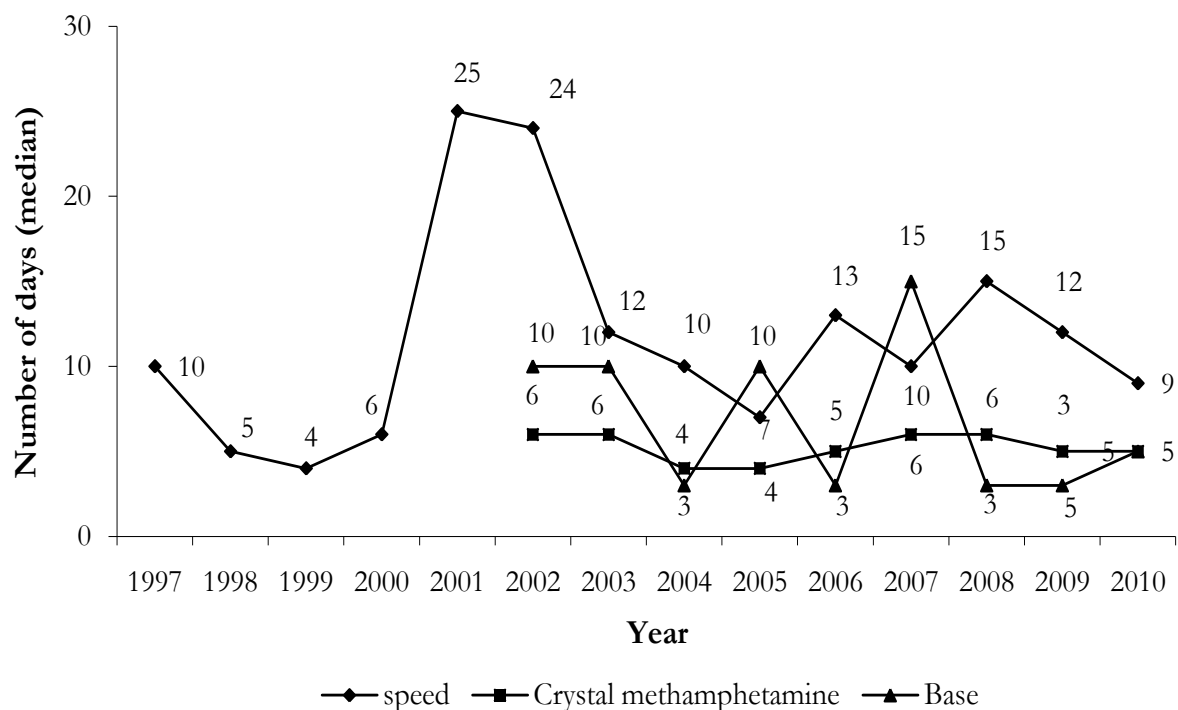
KE suggested that regular methamphetamine users were likely to be of Anglo-Saxon or European descent. The age group was considered slightly younger than that of heroin users, generally around 20-30 years, although some older users were also noted. Whilst most chronic methamphetamine users were reported to have issues with employment and low-levels of education, like those who injected heroin, a sub-group of high-functioning, professional users was also mentioned. Amphetamine users who are also

men-who-have-sex-with-men (MSM) were suggested by one KE as usually being part of this high-functioning sub-group.

As with heroin use, chronic amphetamine use was noted by KE to be associated with various physical and social issues. In particular, violence was mentioned by two KE as an issue with amphetamine use, especially in relation to bingeing on the drug and then losing touch with reality. Acute and chronic psychosis issues were also raised as a problem associated with long-term amphetamine use.

Frequency of recent amphetamine use remained relatively stable compared with the previous years (Figure 3).

Figure 3: Number of days of methamphetamine use in the previous six months, 1997-2010*



Source: IDRS PWID interviews

* Data not available for base and crystal methamphetamine prior to 2002

4.4. Cocaine

Eighty-eight survey participants (59% of the sample) in the IDRS survey reported ever having used cocaine; however, only 21 survey participants (14%) reported recent use, which was similar to the number recorded in 2009. Only one participant reported cocaine to be their drug of choice.

As in 2009, despite the low prevalence of current cocaine use amongst the IDRS sample, several KE mentioned that cocaine use appeared to be on the increase in Melbourne. It was also suggested that whilst cocaine was traditionally used by a higher functioning, wealthier group of people who use drugs, consumption of this drug was now spreading beyond this demographic in some areas to more experimental use. In addition, one KE reported that a small group of PWID who had injected heroin and Unisom in the past (a toxic combination to veins) and therefore 'have no veins left', were now reliant on a non-injected combination of heroin and cocaine to achieve the same euphoria.

As in previous years, the most commonly reported route of cocaine administration was via injection, with 14 of the 21 recent cocaine users reporting injecting the drug (67%). Twenty-nine percent of recent users reported snorting cocaine in the previous six months and 5% smoking the drug.

As in 2008, the most commonly reported route of cocaine administration was injection, reported by 18 (78%) of the 23 survey participants who reported recent cocaine use. Four percent of survey participants (n=6) reported recently snorting cocaine and 1% (n=2) reported recently smoking cocaine. Cocaine use was reported on a median of just five days (range=1-98 days) in the previous six months, a low figure similar to previous years, suggesting that cocaine use among PWID surveyed in Melbourne continues to be either opportunistic or experimental.

Seventeen survey participants commented on the forms of cocaine that they had recently used. Of these 14, (82%) reported using powder, and five (29%) reported using rock. Powder was also the form of cocaine most commonly used by 12 people (71%), with the other five mostly using rock (29%).

4.5. Cannabis

4.5.1. Key points

	• Cannabis remains the most frequently used illicit drug by the IDRS survey sample • Frequency of use increased significantly compared with 2009, but was similar to years before that • Cannabis is accessed primarily through social networks and known dealers
--	---

4.5.2. Prevalence of cannabis use

Almost 9% of Victorians aged 14 years and over reported using cannabis within the 12 months preceding interviews for the NDSHS (Australian Institute of Health and Welfare 2008), making cannabis the most widely used illicit drug in the state. Cannabis was also one of the most widely used illicit drugs by survey participants in the 2010 IDRS, with 98% of survey participants (n=147) reporting lifetime cannabis use, and 81% of survey

participants (n=122) reporting recent use. The percentage of IDRS respondents reporting recent cannabis use has remained stable over the past five years ($p>0.05$).

As in previous IDRS surveys, questions related to cannabis were asked separately for hydroponic cannabis and bush (naturally grown) cannabis, as well as hash/hash oil (Jenkinson and O'Keeffe 2005; Jenkinson and O'Keeffe 2006; Jenkinson and Quinn 2007; Quinn 2008; Hornyak, Dietze et al. 2009; Quinn 2009). One hundred and four respondents answered the questions on the forms of cannabis they had used, with 98 (94%) reporting use of hydroponically grown cannabis. Recent use of bush cannabis was also common, reported by 49% of survey participants. Reports of the use of hash or hash oil were rare, reported by only 5% and 4% of survey participants, respectively. Most respondents reported that hydroponically grown cannabis was the form of cannabis most used recently (89%, n=92). The prevalence of use of different cannabis forms was consistent with previous IDRS years.

4.5.3. Current patterns of cannabis use

Cannabis use was reported on a median of 180 days (range=1-180 days) among IDRS respondents who reported recent cannabis use. Of the 122 respondents who reported recent cannabis use, 51% (n=62) reported daily use of the drug.

Three KE reported cannabis as a particularly problematic drug, reporting that the main issues were its frequency of use that, like heroin, took over other aspects of day-to-day living. Mental health effects of heavy use, such as psychosis were also noted to be of concern. One KE reported that more people were seeking to withdraw from cannabis as the sole drug of dependence than previously.

4.6. Other opioids

4.6.1. Methadone

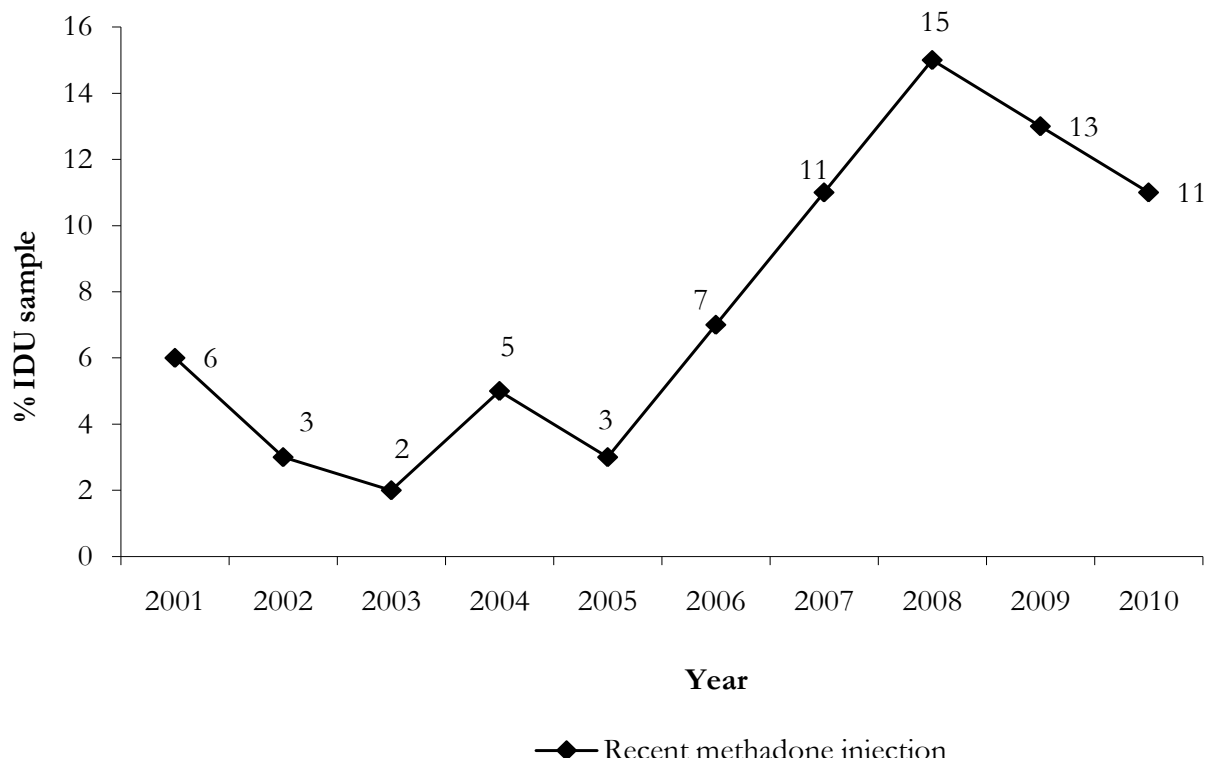
For the purposes of the IDRS study, the category 'Methadone' includes methadone syrup and methadone in tablet form (known as Physeptone). Eighty-three percent of the 2010 IDRS survey participants (n=126) reported having ever used any form of Methadone –either licit (prescribed) or illicit – a finding similar to previous years. Fifty-one percent of IDRS respondents (n=77) reported using any Methadone during the six months preceding interview.

Reports of the lifetime use of illicit methadone were relatively frequent (41%, n=62). However, reports of recent illicit methadone use were less common, reported by 16% (n=24) of all IDRS survey participants. The percentage of IDRS respondents reporting recent use of illicit methadone has remained stable over the past four years. Among survey participants who reported recent use of illicit methadone, use was reported on a median of only three days (range=1-180), a frequency comparable to 2009 (median=5 days).

Thirteen survey participants (9%) reported lifetime use of illicit physeptone, and only four (2%) reported recent use. As in 2009, illicit physeptone use appears to be either experimental or opportunistic, with respondents reporting recent use on between just one and three days.

Lifetime injection of any methadone or physeptone was reported by just over a quarter of all IDRS survey participants (27%, n=41), with recent methadone or physeptone injection reported by 11% of all IDRS survey participants (n=17). The percentage of IDRS survey participants reporting recent Methadone injection has increased significantly since 2005 ($p<0.05$), with a peak in 2008. However, the 2010 figure was comparable to 2009 (Figure 4).

Figure 4: Percentage of PWID reporting recent Methadone injection, 2001-2010



Source: IDRS PWID interviews

Among those reporting recent injection, injection of methadone syrup was more common than injection of physeptone tablets (88% of recent Methadone injectors compared with 24%). However, unlike the injecting habits of 2009 recent injectors, in 2010 rates of injection of Methadone were approximately the same for both licit and illicit forms (53% vs. 47%). Recent Methadone injection was reported on a median of five days (range=1-180 days).

None of the KE interviewed in 2010 regarded methadone as a specifically problematic drug; however, some commented on issues of vein care surrounding the injection of methadone, given that it is now diluted into large volumes. An inner city NSP stopped free distribution of butterfly needles during 2010 (for cost reasons) but noted that before they did so people were coming from the outer suburbs to collect these, ostensibly for the injection of larger volumes of fluid such as methadone.

4.6.2. Buprenorphine

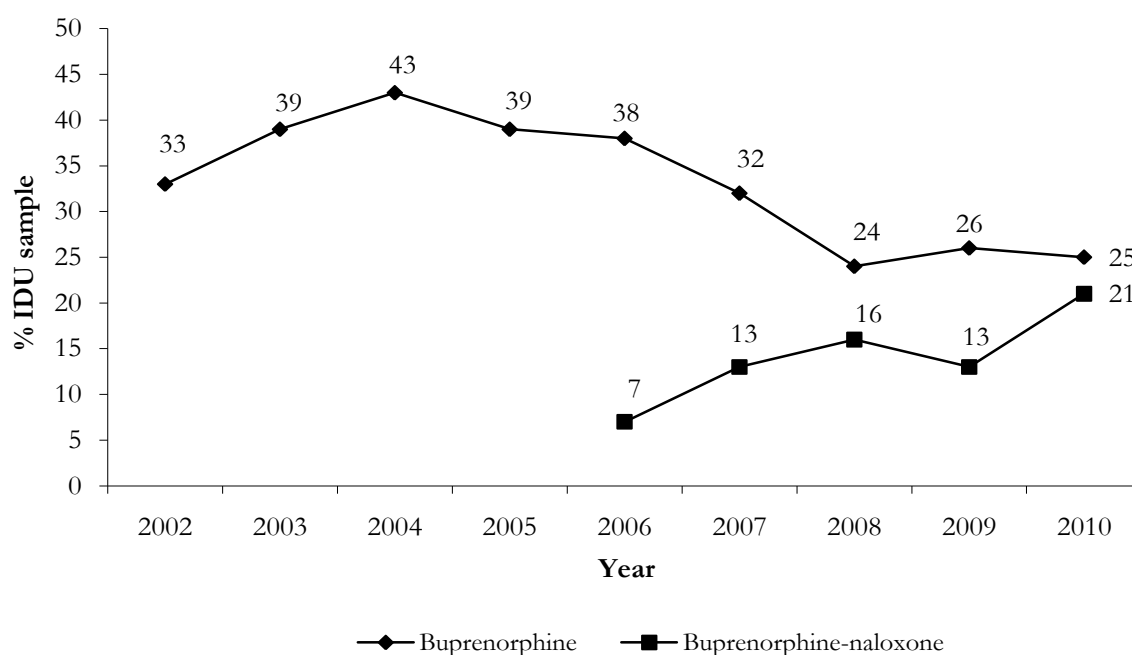
Around two-thirds of IDRS respondents reported lifetime use of buprenorphine (Subutex®) (67%, n=102) and 28% of respondents reported recent buprenorphine use (n=42).

As in previous years, respondents were asked about both prescribed (licit) and non-prescribed (illicit) use of buprenorphine. Forty-eight percent (n=72) of the sample reported ever using illicit buprenorphine, and 21% (n=31) reported recent illicit buprenorphine use. The percentage of IDRS survey participants reporting recent illicit buprenorphine use was similar to that reported by the 2009 sample (25%). Frequency of reported illicit buprenorphine use was low at a median of 30 days (range=1-180 days), similarly to 2009.

Fourteen participants reported on why they used illicit buprenorphine with seven (50%) suggesting that this was to substitute for heroin or other opiates, four (29%) reporting that it was for self-treatment and two (14%) reporting that it was for the purposes of intoxication.

Lifetime injection of any buprenorphine (licit or illicit) was reported by 77 survey participants (51%), and recent buprenorphine injection was reported by 37 survey participants (25%). The percentage of IDRS survey participants reporting recent injection remained stable compared with 2009, following a period of significant decline from a peak of 43% in 2004 ($p<0.05$) (Figure 5).

Figure 5: Percentage of PWID reporting recent buprenorphine and buprenorphine-naloxone injection, 2002-2010



Source: IDRS PWID interviews

Reports of recent injection of illicit buprenorphine (20%, n=30) were more common than recent injection of prescribed buprenorphine (7%, n=10). However, recent injection of prescribed buprenorphine, on a median of 84 days (range=1-164 days), occurred more frequently than recent injection of illicit buprenorphine, with a median of 24 days (range=1-180 days). Frequency of prescribed buprenorphine injection increased slightly from 2009, where injection was reported on a median of 65 days; however, this increase was not statistically significant. In contrast, recent injection of illicit buprenorphine decreased from a median of 48 days in 2009 (again, this difference was not statistically significant). The median frequency of injection of any form of buprenorphine was reported as 72 of the previous 180 days (range=1-180).

Whilst no KE mentioned buprenorphine as a particularly problematic drug, one KE discussed a group of young buprenorphine users who were perceived to be mostly second-generation PWID who had mostly come from relatively dysfunctional families. Such youth were suggested to be poly-drug users of buprenorphine along with speed and cannabis and who 'wouldn't know heroin if it jumped up and bit them in the arse'. The KE's concern about this generation was that they appeared very ill-informed and not receptive to advice about drug using.

4.6.3. Buprenorphine-naloxone

Initially, Subutex[®] was the only buprenorphine preparation available in Australia for the treatment of opioid dependence. A second sublingual preparation, Suboxone[®], containing buprenorphine and naloxone was approved by the Therapeutic Goods Administration (TGA) in July 2005 (Lintzeris and al. 2006), and became available on the Pharmaceutical Benefits Scheme (PBS) in April 2006 (Australian Government Department of Health and Ageing 2006). Buprenorphine-naloxone was developed to limit the abuse potential of buprenorphine by reducing the potential for injection, especially by opioid-dependent users who are not in treatment (Lintzeris and al. 2006). The advantage of buprenorphine-naloxone for some consumers is the potential for unsupervised dosing.

Over half of the 2010 IDRS sample reported lifetime use of buprenorphine-naloxone (licit or illicit) (62%, n=94), and over one-third reported recent use (39%, n=59). The percentage of survey participants reporting lifetime use of buprenorphine-naloxone is slightly higher than that found in 2009 (54%), consistent with increases from 2007 (45% in 2008 and 33% in 2007). However, this increase is best attributed to the incrementally increasing number of PWID accessing buprenorphine-naloxone combined with a reduction in buprenorphine (without naloxone) prescribing.

Reports of lifetime use of licit buprenorphine-naloxone were more frequent than reports of illicit buprenorphine-naloxone use (reported by 44% vs. 37% of IDRS survey participants). However, recent illicit buprenorphine-naloxone use was reported by more respondents than licit use (24% vs. 20% of respondents). Reported frequency of illicit buprenorphine-naloxone use decreased from a median of 12 days in 2009 to six days in 2010; however, this increase was not statistically significant.

Thirteen survey participants responded to a question about why they most commonly used illicit buprenorphine-naloxone. Of these, six (46%) suggested that it was to

substitute for heroin or other opiates, three (23%) said that it was for self-treatment purposes, and another three stated that it was to become intoxicated.

In comparison to 2009, lifetime injection of buprenorphine-naloxone was reported by a slightly, but not significantly larger, percentage of the 2010 IDRS sample (36%, n=55 in comparison to 28%, n=42 in 2009). Recent buprenorphine-naloxone injection was reported by 32 survey participants (21%) (Figure 9). The increasing trend over time of recent buprenorphine-naloxone injection ($p<0.002$) probably reflects the increasing number of people being prescribed this medication, which in turn would influence both licit and illicit availability. Recent injection of illicit buprenorphine-naloxone was more commonly reported than recent injection of prescribed buprenorphine-naloxone (17%, n=25 compared with 7%, n=11). The reported frequency of buprenorphine-naloxone injection decreased from 25 days in 2009 to 10 days in 2010; however, this was not a significant change.

4.6.4. Morphine

Over four-fifths of IDRS survey participants reported lifetime use of morphine (83%, n=125). This was a significant increase from lifetime reported use of morphine in the 2009 sample (71%, n=107: $p<0.02$). However, the percentage of survey participants reporting recent morphine use in 2010 (35%, n=53) was similar to 2009.

Both lifetime and recent use of illicit morphine were more commonly reported than licit morphine (74% compared with 30% and 23% compared with 6%, respectively). There has been no significant change in the prevalence of recent illicit morphine use over the past eight years (Figure 6).

The reported frequency of recent illicit morphine use remained low, with use reported on a median of six days (range=1-180 days), the same median number of days as in 2009.

Between 22 and 26 survey participants responded to questions regarding the reason for their illicit morphine use. Of these, 17 (65%) suggested that it was to substitute for heroin or other opiates, nine (38%) that they used morphine for intoxication and five that it was for self-treatment (22%).

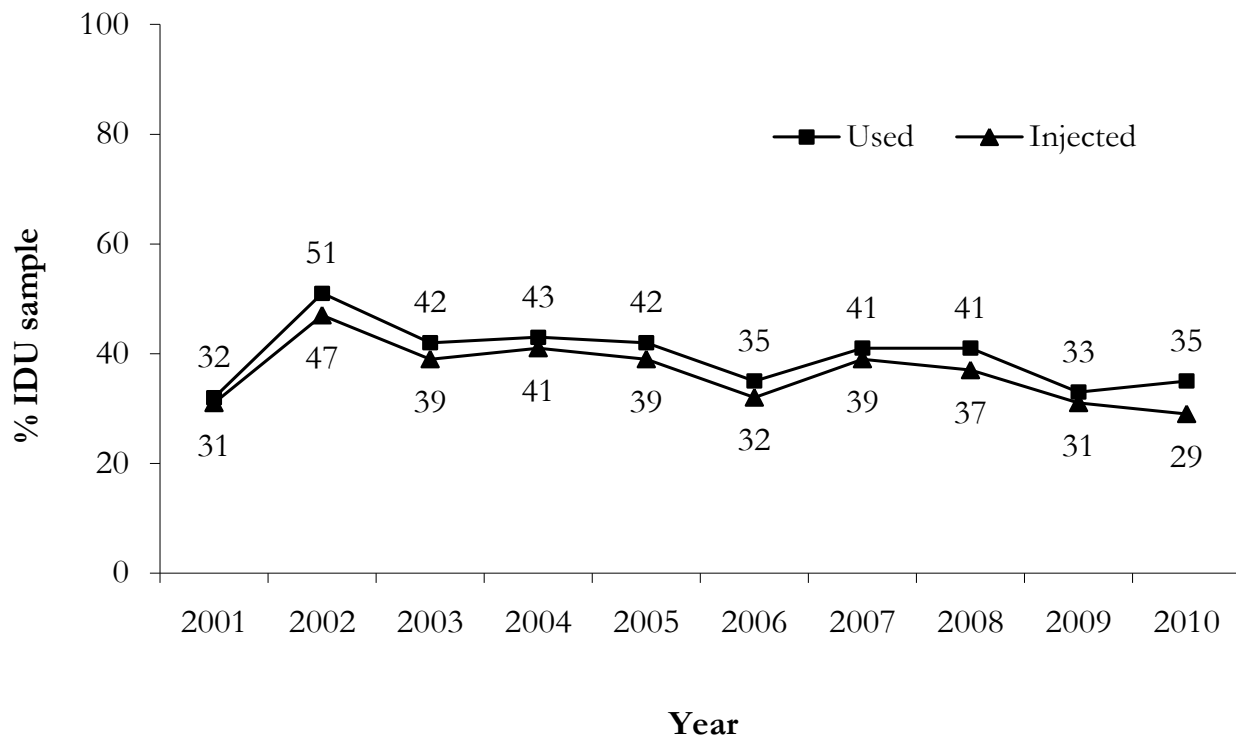
Survey participants in the 2010 IDRS most frequently reported injection as the mode of illicit morphine administration, with 27% of the sample (n=40) reporting recent injection and 68% (n=102) reporting ever injecting illicit morphine. In contrast, recent injection of licit morphine was reported by just 3% of the sample (n=5). Thirty-three percent of the survey participants (n=49) reported having ever swallowed illicit morphine with only 9% (n=13) reporting recently swallowing illicit morphine.

The percentage of IDRS survey participants reporting recent morphine injection has remained stable since 2001 ($p>0.05$) (Figure 6). However, in contrast, 7% of the 2010 cohort reported morphine to be the drug most commonly injected in the previous month (as opposed to 1% in 2009 ($p<0.01$)). Similarly, 5% of 2010 respondents indicated that morphine was the drug last injected, whereas in 2009 this figure was also only 1% ($p<0.05$).

Recent morphine injection was reported on a median of six days (range=1-180 days), a similar figure to 2009.

Forty-five survey participants reported the brand of morphine most commonly used recently, with 62% of respondents (n=28) reporting most commonly using MS Contin[®], and 29% (n=13) most commonly reporting using Kapanol[®].

Figure 6: Percentage of PWID reporting recent morphine use and injection, 2001-2010



Source: IDRS PWID interviews

4.6.5. Oxycodone

In 2010, 68% (n=102) of IDRS survey participants reported ever having used a form of oxycodone, which is a similar figure to the 65% (n=97) reported in 2009. There was a slight but not significant increase in reports of recent oxycodone use with 31% reporting this in 2010 in comparison to 27% in 2009 (n= 47 and 40 respectively).

Patterns of oxycodone use were similar to patterns of morphine use: lifetime illicit oxycodone use was more commonly reported than lifetime licit oxycodone use (64% compared with 11%) and similarly recent illicit oxycodone use (28%) was more commonly reported than recent licit use (3%).

The frequency of illicit oxycodone use remained low, with use reported on a median of five days (range=1-180 days), the same as in 2009.

Of the 15 respondents who reported on the reasons that they were likely to use illicit oxycodone, nine (64%) suggested that it was a substitution for heroin, seven (47%) that they used it to become intoxicated, and three (20%) that it was for self-treatment.

Participants in the 2010 IDRS most frequently reported injection as the mode of illicit oxycodone administration, with 27% of the sample (n=41) reporting recent injection. Recent oxycodone injection was reported on a median of four days (range=1-180 days), a similar figure to 2009.

Thirty-two survey participants reported the brand of oxycodone most commonly used recently, with 31 naming Oxycontin and the remaining respondent naming Oxynorm.

Seven KE reported that opiates in pill form were problematic: their concern related to buprenorphine and buprenorphine-naloxone as well as morphine and oxycodone. Several KE expressed concern about vein care in relation to injecting tablets 'that weren't meant to be injected'. Another KE reported that because of the long-acting nature of most of these pills, people who had overdosed would need to be taken to hospital for monitoring (and potentially more antidote), placing a significant burden on the system. One KE suggested that oxycodone was the stand-out drug of the prescription opiates that were being illicitly used, suggesting that oxycodone users were more likely to be marginalised and using the drug clandestinely. Another KE reported that morphine was often preferred as it was easier to mix up for injection, but harder to find on the street market.

Prescription opiates such as morphine and oxycodone were suggested to be more commonly used in rural areas, where heroin was less available. In addition, a few KE suggested that some users preferred to inject prescription opiates to be sure of what they were getting, as some survey participants also indicated. KE also suggested that if there was a regular supply this was well guarded from other users, which would explain the variability in reports of ease of access of both morphine and oxycodone in the responses to the survey of PWID. Finally, KE suggested that non-injecting users were most frequently women and often 'burnt out' and that people were surprised about how dependent they could become on drugs such as oxycodone and morphine. More education for GPs in prescribing these medications was advocated as well as more support for GPs in terms of real-time pharmaceutical monitoring of prescription use by patients. Two KE suggested that there might be some GPs prescribing oxycodone or morphine instead of methadone or buprenorphine for opiate dependence because the costs to the patients were considerably cheaper. To this end, a number of KE repeated previous years' commentary about the need for government-subsidised opiate replacement therapy (ORT) in order to enable people to stabilise off illicit drugs.

On a similar theme, ex-prisoners who are on ORT whilst incarcerated have four weeks of therapy subsidised post-release. Two KE expressed concern that previously incarcerated patients often ceased to stay on an ORT program once the subsidised period was over, suggesting that the lack of ongoing support for ORT programs leads to a likelihood of recidivism of crime in order to pay for their ongoing opiate dependency.

4.6.6. Over the counter codeine

In 2010, survey participants were asked about the use of over the counter (OTC) codeine separately. In previous years OTC codeine has been included under 'other opioids'. In Victoria, 39 respondents (26%) reported recently using OTC codeine on a median of six days in the preceding six months. Only one respondent reported injecting OTC codeine recently. The main brand used was Nurofen Plus®.

4.6.7. Other opioids

Nineteen percent of survey participants (n=29) reported ever using other opiates (not elsewhere classified), with 14% (n=21) reporting recent use. This figure for recent use was significantly higher than that found in 2009 (where only one participant reported recent use); however, in the 2009 IDRS, Panadeine Forte® was often misclassified as OTC codeine, rather than the prescription medication that it is. In the 2010 sample, 13 of the 21 respondents who recently used other opiates reported that the main brand was Panadeine Forte® (62%). The other reported opiates recently used included tramadol, dextropropoxyphene, opium and pure codeine in roughly equal proportions. The method of administration of other opiates was also predominantly oral with 18 of the 21 recent users of other opiates reporting taking the drugs via this route (86%). Only one participant recorded smoking and one participant reported injecting other opiates via these means recently.

4.7. Other drugs

4.7.1. Ecstasy

Just over two-thirds (69%, n=104) of survey participants reported having ever used ecstasy (3,4-methylenedioxymethamphetamine or MDMA) in their lifetime, but only 5% (n=8) reported recent ecstasy use. The prevalence of recent ecstasy use among the IDRS PWID sample has been decreasing significantly over time, from a peak of 39% in 2001 ($p<0.01$).

Among those who reported recent ecstasy use, all reported using ecstasy in pill form (100%, n=8), while one participant reported also using ecstasy powder. Use of ecstasy was infrequent, reported at a median of four days (range=2-60 days) in the six months prior to interview.

Of those who reported recent ecstasy use, all reported taking it orally (n=8) and half also reported administering it via injection (n=4). One participant also reported recently snorting ecstasy. Overall, the prevalence of reported ecstasy injection was only 3%. This finding was concordant with that noted in 2009, in that there has been a significant decline in the percentage of IDRS survey participants reporting recent injection of MDMA from a peak of 21% in 2001 ($p<0.01$).

Reports of ecstasy injection were infrequent, with nine survey participants reporting having injected ecstasy on a median of two days (range=1-20 days).

While the PWID surveyed in the 2010 IDRS study were able to provide some information on ecstasy trends in Melbourne, a clearer picture of ecstasy use can be gained through contact with other sentinel groups, such as psycho-stimulant or regular ecstasy users (REU). For the past eight years, the EDRS (formerly the Party Drugs Initiative or PDI), which employs a similar methodology to the IDRS study, has been conducted in every Australian jurisdiction. One component of this study involves the collection of information from REU on patterns of use and market characteristics of 'party drugs', including ecstasy, GHB, and ketamine. Results from the 2010 EDRS study will be available in early 2011.

4.7.2. Hallucinogens

Just under two-thirds (62%, n=93) of the 2010 IDRS sample reported lifetime use of hallucinogenic drugs such as magic mushrooms and lysergic acid diethylamide (LSD). However, recent use of these drugs was rare, reported by just 10 survey participants (7%). Among those reporting recent use, 22% (n=2) reported mostly using LSD and 78% (n=7) reported using magic mushrooms. Eleven percent of survey participants (n=16) reported ever injecting any type of hallucinogen but no respondent reported recent injection.

4.7.3. Benzodiazepines

As in previous years, the vast majority of survey participants in the 2010 IDRS survey reported having ever used any benzodiazepines, either licitly or illicitly (89%, n=135). Recent benzodiazepine use was also common, reported by 111 survey participants (74%) (Figure 7). The prevalence of recent benzodiazepine use was stable compared with recent years but remained under the peak that was reached prior to the withdrawal of Temazepam gel capsules from the market in 2004.

The recent use of illicitly obtained benzodiazepines was more commonly reported (56%, n=84) than the recent use of licitly obtained benzodiazepines (49%, n=74). Of the 109 benzodiazepine users who commented, more than half reported using predominantly prescribed benzodiazepines (55%, n=60).

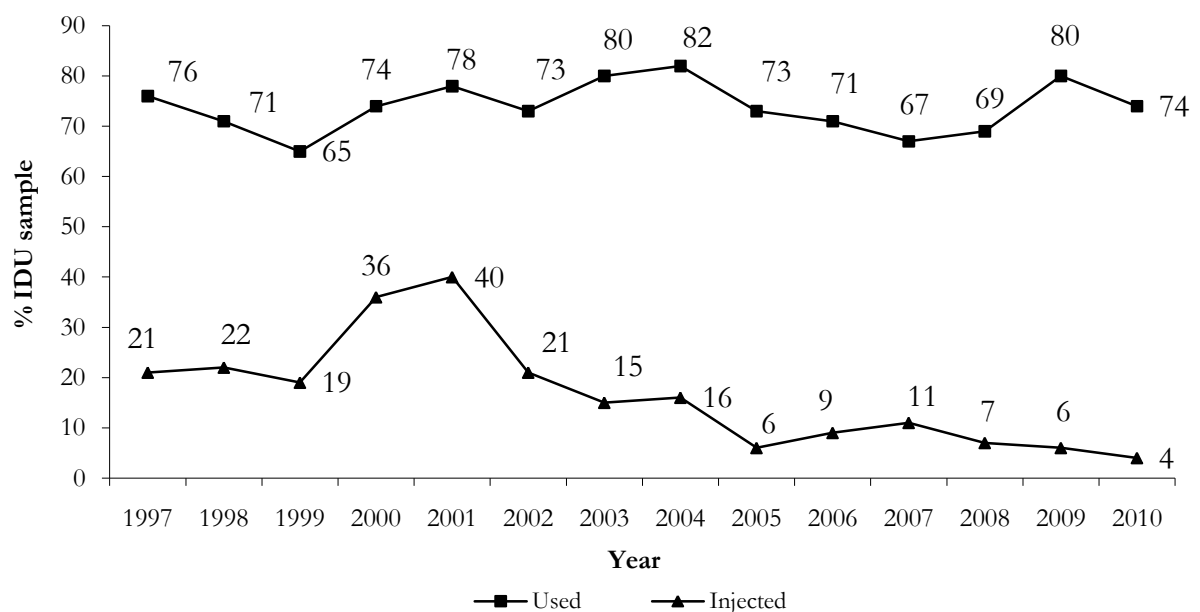
The reported frequency of benzodiazepine use differed between those who obtained their benzodiazepines predominantly licitly (median of 90 days, range=2-180 days), compared to those who predominantly used illicit benzodiazepines (median of 12 days, range=1-180 days). Whilst the median number of days of illicit use was similar to 2009 figures, the reported frequency of licit use dropped from 180 days in 2009 to 90 days in 2010.

In 2010, 26 (17%) survey participants reported having ever injected any benzodiazepines, and six (4%) survey participants reported recently having injected any benzodiazepines (Figure 7). The percentage of PWID who reported recent benzodiazepine injection increased significantly between 1999 and 2001 ($p<0.05$), then decreased significantly between 2001 and 2004 ($p<0.05$). The reduction in this route of administration was probably reflective of changes made in May 2002 to the prescribing authority for Temazepam on the PBS (Breen, Degenhardt et al. 2004), and also the impact of the Temazepam Injection Prevention Initiative implemented by the VDoH in November 2001 (Dobbin 2002). In March 2004, all Temazepam gel-cap formulations

were withdrawn from the market (Wilce, 2004). Reported rates of benzodiazepine injection significantly reduced over time since 2004, and in 2010 are at the lowest rates found in the IDRS ($p<0.02$).

One hundred survey participants reported on the main brand of benzodiazepine used recently, with the most commonly used brands being Valium® (diazepam) with 65% and Xanax® (alprazolam) with 22%. The percentage of survey participants reporting Xanax® as the brand of benzodiazepine most used decreased significantly from 34% in 2009 ($p<0.05$), although this is the same percentage as that reported in 2008.

Figure 7: Percentage of PWID reporting recent benzodiazepine use and injection, 1997-2010



Source: IDRS PWID interviews

Whilst diazepam continued to be the main benzodiazepine used by respondents, alprazolam was used more *frequently* than diazepam. In particular, if the client was using prescribed (licit) alprazolam, the median number of days used in the previous six months was 180 (range=1-180) as opposed to 72 for diazepam (range=1-180). Alprazolam users did not differ to other benzodiazepine users in any demographic characteristics. However, as with 2009, alprazolam users were significantly less likely to use licit forms of the drug in comparison to other benzodiazepine users (Table 6).

Table 6: Characteristics of alprazolam users, 2010

Characteristic	Alprazolam users n=22 n (%)	Other BZD users n=78 n (%)
Mainly used licit BZDs	6 (28.6)	51 (65.4)
Ever been in prison	16 (72.7)	39 (50.7)
Driven under the influence of illicit drugs (last 6 months)	8 (100)	19 (70.4)

Source: IDRS PWID interviews 2010

There was a trend for an increased number of alprazolam users to have ever been in prison. A similar trend was noted for driving under the influence of drugs in the preceding six months (Table 6).

As was the case in 2009, benzodiazepines were nominated as a particularly problematic class of drugs by 14 KE; of these, 13 specifically mentioned alprazolam. This was the largest number of concerns raised by the 2010 KE for any drug.

KE were uniform in their concern about inappropriate use of alprazolam, particularly in terms of its ability to affect the actions of people and cause them to behave out of character in labile, chaotic and unmanageable ways. Increased crime and risky behaviour were reported to be associated with use of this drug. Another concern about alprazolam in particular was its short-acting profile, meaning that users could suddenly 'crash' after appearing stable. Although use was thought to have stabilised over the preceding six months, KE thought that there were still large quantities of the drug available, and that reduced prescribing by better-informed GPs was being replaced by forged scripts and increased illicit use. Concern that less-informed and supported GPs might be being coerced to prescribe this drug in order to avoid conflict in a consultation was raised by two KE. One KE suggested that alprazolam was more readily available in outer suburban GP practices. The ongoing concern about alprazolam prescribing difficulties and use meant that several KE called for this benzodiazepine to be made a 'Schedule 8' medication in an effort to reduce availability, as this would mean the prescription of the drug would be more stringently regulated within certain medical specialities.

4.7.4. Anti-histamines

In response to ongoing reports on the use of Unisom® capsules (diphenhydramine hydrochloride) by KE in previous Victorian IDRS surveys, an assessment of this medication was undertaken in this year's study. Of the responding survey participants, 36 reported ever using, and 32 ever injecting, the drug (24% and 21% respectively). Of the 15 survey participants (10%) reporting any recent use, all reported injecting the drug. Of the 2010 KE mentioning Unisom®, the majority reported an increase in recent use, albeit in small pockets, with the suggestion by one that this drug was commonly used by those who had previously injected temazepam. Another KE reported that people were buying Unisom® from the internet and selling it on the street for a

considerable profit. Unisom® was reported by one KE to be mainly used by the Vietnamese population (in contrast to alprazolam being used by 'Anglos'), which is of note as only a small percentage of the 2010 survey participants in the IDRS were of Vietnamese origin.

4.7.5. Anti-psychotics

Participants in the IDRS survey were asked about their treatment with psychotropic medication including anti-psychotics. However, they were not asked about their illicit use of these medications. In 2010, several KE expressed concern about the antipsychotic quetiapine (Seroquel®) in particular, suggesting that there was an emerging street market and that this medication was being used by PWID without psychotic disorders. There was the suggestion by KE that, although used by still relatively small numbers, the effects of the drug could be severe, especially with users appearing to become oblivious to the world around them. Behavioural change was also noted, not in terms of increased aggressiveness as is noticed with alprazolam, but with users becoming more 'unreasonable' and 'agitated'.

One KE noted that some deaths had involved quetiapine as part of drug cocktail, but the problem at the moment was poorly defined. Two KE suggested that the very recent reduction in alprazolam use might be ascribed to an increase in quetiapine use as a substitute. One KE involved in treatment services noted that people have referred for help with misuse of this quetiapine.

New South Wales correctional services have also noted diversion of this medication, given its highly sedative effect⁵. There are also reports in the literature of illicit use of such medications in the United States, especially in combination with other illicit drugs (Gugger and Cassagnol 2008).

4.7.6. Pharmaceutical stimulants

Thirty-eight percent of 2010 IDRS survey participants (n=58) reported ever having used any form of pharmaceutical stimulant and 23% (n=35) of ever having injected these drugs. A greater number of survey participants reported lifetime use of illicit pharmaceutical stimulants (33%, n=50) as opposed to licit (9%, n=12). There were no survey participants in the 2010 sample who reported recent use of prescribed pharmaceutical stimulants. Of the 19 (13%) who reported recent use of illicit pharmaceutical stimulants, 13 (68%) reported injecting these. The median number of days of reported recent use of any form was four (range=1-20) and the median number of days of reported recent injection was two (range=1-20). This was a significant decrease in comparison with the frequency of recent injection reported in the 2009 sample.

⁵ Sue Henry-Edwards, NSW Correctional Services, personal communication.

4.7.7. Inhalants

Twenty-one percent of the 2010 IDRS survey participants (n=31) reported having ever used any inhalants; however, no-one reported recent use. Two KE indicated that they thought paint was a drug of particular concern and one noted that it was still seen being inhaled in a younger drug-using community, expressing specific concern about the acquired brain injury that use of this drug could entail. Another KE suggested that they were seeing young Aboriginal males with the effects of 'chroming' in their clinic in the last year, when previously this had not been seen in the inner city area.

4.7.8. GHB

Although the IDRS doesn't specifically ask participants about GHB, three KE mentioned this drug and one named it as a particular drug of concern. One KE suggested that use had dramatically increased amongst their clientele in the previous three to six months (evidenced by the type of injecting equipment being requested), whilst another had heard of other services reporting young people asking about injecting this. In addition, GHB was reported to be a bit of an issue in the 'Chapel Street party scene'.

4.7.9. Steroids

Several KE mentioned an increase in numbers of people accessing NSP for steroid injecting. Injectors of steroids were reported to be mostly young males and unlikely to be injecting other drugs. Some were reported to be body-builders but others just seeking to enhance their image. Concern was raised by a couple of KE about these users' lack of awareness about safe injecting habits and harm reduction techniques, particularly as they did not identify themselves as PWID and therefore did not necessarily reflect on health-related injecting messages targeted at PWID.

4.7.10. Melanin

Two KE reported a new population of young girls presenting at NSP for injecting equipment with which to inject melanin (a substance being used to pigment the skin and produce a fake tan). Similar to users of injected steroids, concerns were raised that this group is unaware of safe injecting practices and do not perceive themselves as PWID, therefore currently targeted harm reduction messages are unlikely to be of benefit.

4.7.11. Alcohol and tobacco

Reported alcohol and tobacco use were both prevalent among this sample of PWID, in accordance with previous years. Ninety-nine percent (n=149) of the sample reported lifetime alcohol use and 69% (n=103) recent use. Similarly, 97% (n=146) reported lifetime use of tobacco and 93% (n=140) recent use.

A small number of survey participants (n=11, 7 %) reported having ever injected alcohol. However, nobody reported recently having injected alcohol.

The median number of days of alcohol use for this group was 24 days (or approximately once a week in the previous six months), the same as in 2009. Twenty survey participants (13%) reported drinking alcohol on a daily basis. Among the 140 survey

participants who reported recent use of tobacco, 125 (94%) reported smoking daily, which was 83% of the entire sample.

Alcohol was mentioned by nine KE as a particularly problematic drug, an equivalent number to those who mentioned heroin in this context. Most concerns were about its easy availability and general social acceptability. Behavioural issues with high use and the issues of its depressant effect with other depressant drugs were also noted.

5. Drug market: Price, purity, availability and purchasing patterns

5.1. Heroin

5.1.1. Key points

Price	No significant change in median prices: Cap: \$50 compared with \$50 in 2009 Gram: \$325 compared with \$310 in 2009
Availability	- Heroin was considered easy or very easy to obtain by most IDRS participants, with availability stable over the past six months - Heroin was most commonly purchased through known dealers, with purchases generally made at an agreed public location
Purity	- IDRS respondents generally reported the purity of heroin over the past six months to be low (46%) or medium (28%), with purity generally remaining stable (37%) or decreasing (26%) - Average purity of drug seizures by Victoria Police: 26.5% (range=13.5%-34.5%).

5.1.2. Price

Information relating to the price, purity and availability of heroin was supplied by 124 survey participants (83%) who felt confident in their knowledge of the heroin market. Median price estimates are based on participant reports of the price paid at last purchase.

In 2010, the quantity of heroin most commonly reported as recently bought was a half-gram, with the median price paid for this quantity at last purchase being \$170 (range=\$100-\$350). Twenty survey participants reported recently purchasing a 'cap' (~0.1g) of heroin, with the current median price of a cap reported to be \$50 (range=\$20-\$100) (Table 7).

There were no significant changes between 2009 and 2010 in the price of any of the reported heroin quantities.

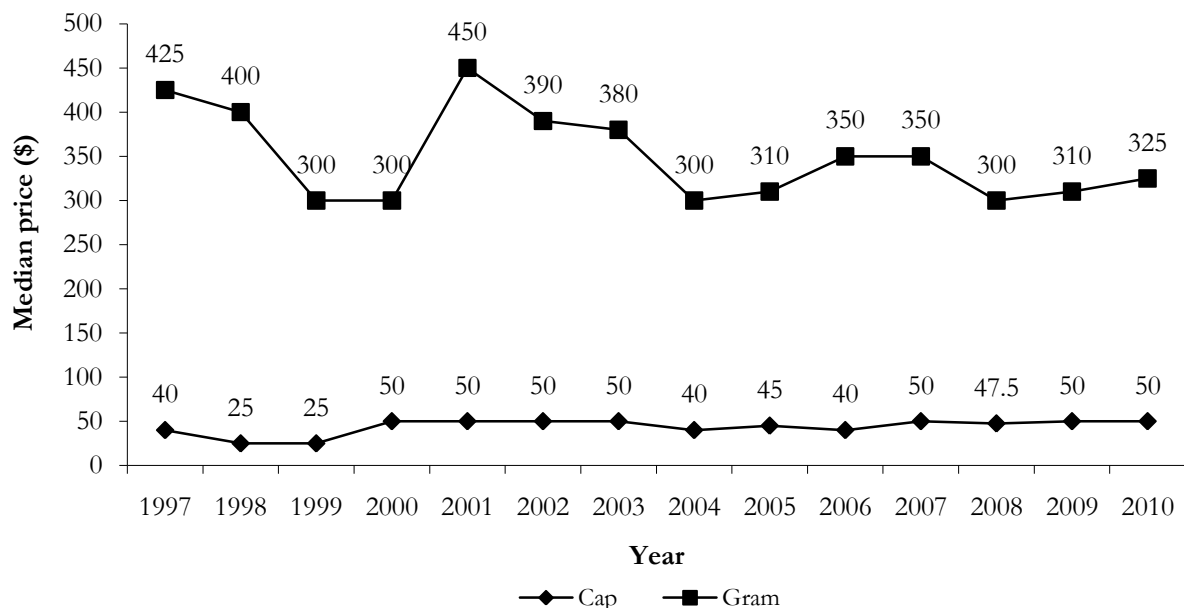
Table 7: Price of most recent heroin purchase, 2009-2010

Amount	Number of purchasers Median price (\$) (range)	
	2009	2010
Cap	n=45 50 (20-100)	n=20 50 (20-100)
Quarter-gram	n=16 100 (60-170)	n=10 125 (100-150)
Half-gram	n=57 180 (120-220)	n=49 170 (100-350)
Gram	n=20 310 (210-450)	n=6 325 (200-400)

Source: IDRS PWID interviews

Figure 8 shows the median price of most recent purchase of heroin among survey participants in the Victorian IDRS between 1997 and 2010. The reported price of a cap of heroin has remained stable since 2000, at \$40-\$50. The reported price per gram of heroin has fluctuated, however, peaking at \$450 in 2001, during the 'heroin drought' (Dietze and Fitzgerald 2002). The reported price for a gram of heroin has remained stable over the past five years at \$300-\$350.

Figure 8: Median price of a gram and cap of heroin estimated from PWID purchases, 1997-2010



Source: IDRS PWID interviews

The majority of PWID who commented on the price of heroin reported that it was stable recently (74%, a figure comparable to the 67% who reported as such in 2009). This percentage remained higher than in some previous years (e.g. 41% in 2006). Smaller percentages of PWID reported that the price of heroin had either decreased (8%, n=10) or increased (14%, n=17) recently. Four survey participants (3%) reported that the price of heroin had been recently fluctuating.

5.1.3. Availability

The majority of PWID respondents who commented on the availability of heroin (n=123) reported it as either very easy (58%) or easy (32%) to obtain at the time of interview. Over two-thirds of these respondents reported that heroin availability had been stable recently (70%). Three percent reported that heroin availability had fluctuated during that time.

About half of the survey participants reported that the last time they purchased heroin, it was bought from a known dealer (52%) with smaller percentages reporting recently buying heroin from a street dealer (25%) or a friend (18%). The most common venues for heroin purchase were at an agreed public location (38%), on the street (27%) or at a dealer's home (18%).

5.1.4. Purity

One hundred and twenty-three survey participants commented on current heroin purity, with most reporting purity to be low or medium (47% and 28% respectively).

Smaller percentages reported that heroin purity was high (13%, n=16) or fluctuating (12%, n=15).

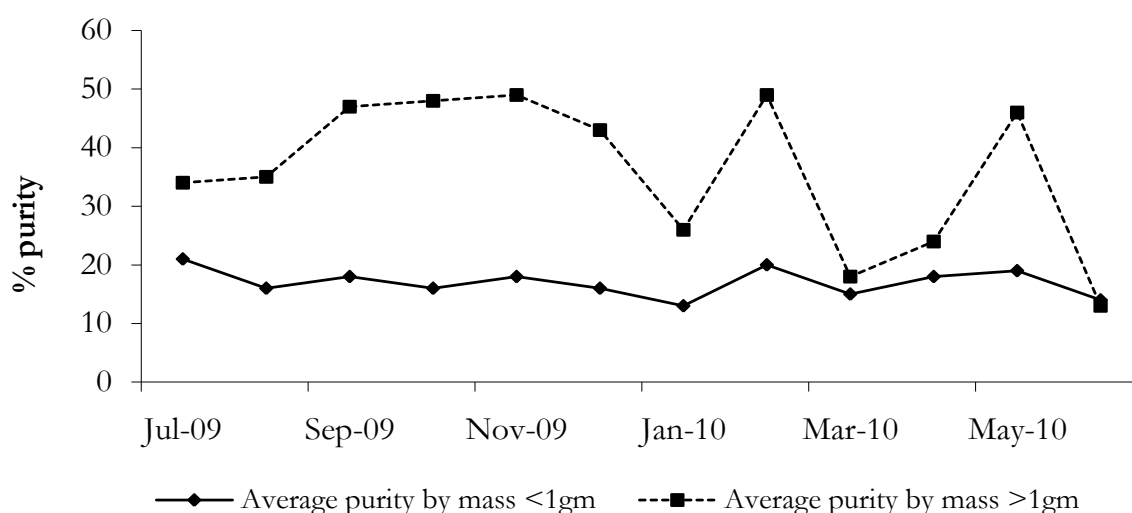
The same number of survey participants commented on whether they felt that heroin purity had recently changed, with around one-third reporting that purity had generally remained stable (38%). Around one-quarter of respondents felt that heroin purity had generally recently decreased (27%) and smaller percentages that heroin purity had increased or fluctuated (16% and 19% respectively).

All KE who commented on heroin suggested that it was readily available but that purity generally fluctuated. There were four KE, however, who suggested a very recent (within two months prior to the study) intermittent availability of very high-quality heroin, particularly if one knew who to call to get it. A law-enforcement KE also reported some high purity seizures in the range of 50%-70%. A forensic KE reported methysulfonylmethane as having been used more frequently in 2010 as a cutting agent. Tadalafil (a longer-acting form of Viagra®) has also been reported in low levels as a cutting agent.

The average purity level of heroin seizures (for <1g and >1g amounts) made by law enforcement agencies in Victoria during the 2009-2010 financial year is shown in Figure 9.

The overall average purity level of heroin seizures analysed between July 2009 and June 2010 was 26.5% (range=13.5%-34.5%). The average purity of smaller heroin seizures (<1g) was 17% (range=13%-21%), while the purity of larger seizures (>1g) was higher (average=36%, range=13%-49%). The average purity of heroin seizures made during 2009-2010 was slightly higher compared with 2008-2009 (22%), 2007-2008 (22%) and 2006-2007 (23%), though remains much lower than the average purities reported during the height of the heroin supply in Melbourne: 68% in 1998-1999, 60% in 1999-2000, 47% in 2000-2001 (Quinn 2008).

Figure 9: Average purity of heroin seizures by Victorian law enforcement, July 2009-June 2010



Source: Victoria Police Forensic Services Department

5.2. Methamphetamine

5.2.1. Key points

	Speed	Base	Crystal methamphetamine
Price: Point (median) Half-gram (median) Gram (median)	\$50 \$100 \$200		n/a \$100 \$500
	- No significant changes in the price of a point/cap, half-gram or gram of speed - An increase in the cost of crystal methamphetamine is indicated - There were insufficient purchasers of base to report figures for 2010		
Availability	- Very easy to easy to obtain - Remained stable over past six months, although 28% suggested it was more difficult	- Mostly easy - Stable	- Very easy to easy to obtain - Mostly availability stable, although 22% reported availability becoming easier
	Generally sourced from known dealers or friends		
Purity	- Low to medium - Purity stable or decreasing	- Medium to high - Stable	- Purity high to medium - Purity stable or increasing
	Average purity of drug seizures 21%, higher than in 2008-2009 but comparable to years preceding this one		

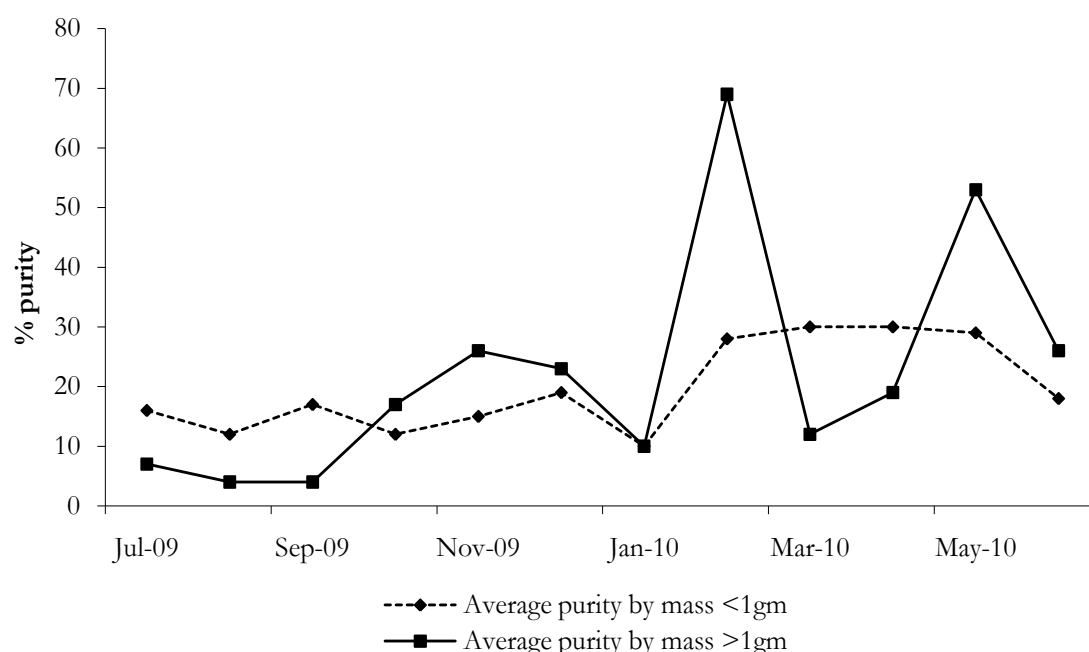
The average purities of <1g and >1g methamphetamine seizures by law enforcement agencies in Victoria during the 2009-2010 financial year are shown in Figure 10. The average purity of small seizures (<1g) was 20% (range=10%-30%), while the average purity of larger seizures was slightly higher, at 22.5% (range=4%-69%).

The mean purity of all seizures of methamphetamine analysed in Victoria during the 2009-2010 financial year was 21% which was higher than in 2008-2009 (12%) but similar to the few years before that (21% in 2007-2008, 18% in 2006-2007 and 19% in 2005-2006) (Jenkinson and O'Keeffe 2006; Jenkinson and Quinn 2007; Quinn 2008; Quinn 2009; Horyniak, Dietze et al. 2010). As per the KE reports, it can be noted that there were a few peaks of significantly high purity throughout this period.

As in previous years, there were very few amphetamine seizures (as opposed to methamphetamine seizures) made by law enforcement agencies in Victoria during the 2009-2010 financial year. The average purity of the amphetamine seized was also very

low (4.25%, range=1.5%-7%), which was under half the average purity of the 2008-2009 financial year.

Figure 10: Average purity of methamphetamine seizures by Victorian law enforcement, July 2009-June 2010



Source: Victoria Police Forensic Services Department

5.2.2. Price

Prices reportedly paid for speed, base and crystal methamphetamine by Melbourne PWID recruited as part of the IDRS in 2010 on the last occasion of purchase are presented in Table 8. The median price, price range, and the number of respondents who reported purchasing each quantity recently are also shown.

5.2.2.1. Speed

Sixty-one survey participants (40%) were able to comment on the current price of speed. Prices reported for the three most commonly purchased quantities of speed have remained relatively stable since 2003. In 2010, the median reported price of a point of speed was stable at \$50, the same price as 2009. Reported prices for a half-gram and gram of speed remained stable.

Of the 59 survey participants who commented on recent changes to the price of speed, the majority (78%) reported that the price of speed had remained stable. Eight percent of the sample reported that the price of speed had increased and 8% also said that it had decreased.

5.2.2.2. Crystal methamphetamine

Thirty-two survey participants (23% of all IDRS respondents) were able to comment on the current price of crystal methamphetamine. Points were the most commonly reported purchase amount, reportedly purchased for a median price of \$100 (range=\$40-\$150) (Table 8). The reported price of a point is double that of 2009. KE suggested that the price of high quality crystal methamphetamine was increasing but that many users were not aware that they may be getting speed cut with a crystalline substance instead of true crystal methamphetamine (which was therefore much cheaper and may have affected the results shown in Table 8).

Thirty-four survey participants also commented on changes to the price of crystal methamphetamine, with 50% (n=16) reporting that the price had remained stable, whilst 47% of respondents (n=15) reported that the price of crystal methamphetamine had been increasing recently.

Table 8: Price of most recent methamphetamine purchase, 2009-2010*

Amount	Speed		Crystal methamphetamine	
	2009	2010	2009	2010
Point (0.1 gram)	n=21 50 (20-50)	n=13 50 (20-100)	n=5 50 (20-70)	n=19 100 (40-150)
Half-gram	n=41 100 (80-200)	n=26 100 (50-150)	n=10 200 (100-300)	n=8 500 (400-500)
Gram	n=28 200 (150-260)	n=8 200 (100-350)	n=5 380 (200-440)	

Source: IDRS PWID interviews

* Base prices are not reported due to only very small numbers of participants being able to report recent purchase of this drug. Similarly, insufficient numbers of respondents were able to quote a price for recent purchase of a gram of crystal methamphetamine

5.2.2.3. Base

Very few survey participants were able to comment on the base market, meaning that prices have not been reported. The three respondents who were able to comment on the price of base all reported that the price had remained stable recently, which is consistent with findings from 2009.

5.2.3. Availability

5.2.3.1. Speed

Fifty-eight PWID were able to comment on the current availability of speed, with most reporting easy availability (very easy to obtain: 33%, n=19), easy to obtain: 33%, n=19), but some reporting that speed was difficult to obtain (26%, n=15) or very difficult to

obtain (9%, n=5). There was an increase in those survey participants suggesting that speed was difficult or very difficult to obtain compared to 2009 (35% vs. 14% of respondents able to comment about availability). In addition, 65% (n=37) of survey participants responding to this section suggested that ease of access was stable, but a further 28% (n=16) suggested that it was more difficult in the preceding six months. KE supported the suggestion that speed availability was decreasing. A law-enforcement KE suggested that low-purity speed was generally lab produced and that the number of lab seizures had increased in recent months.

Of the 56 survey participants who described their most recent speed purchase, the majority reported purchasing speed from a friend (52%, n=29) or known dealer (34%, n=19). Small numbers of survey participants reported purchasing speed from an acquaintance (4%, n=2) or street dealer (11%, n=6). The most commonly reported venues for speed acquisition were at a friend's home (29%, n=16), an agreed public location (25%, n=14) and a dealer's house (20%, n=11).

5.2.3.2. Crystal methamphetamine

The majority of those who commented on the current availability of crystal methamphetamine (n=34) reported that it was very easy (50%, n=17) or easy (29%, n=10) to obtain at present. The remaining seven respondents reported access to be difficult. Of those survey participants who commented on recent changes to crystal methamphetamine availability, over half reported it to be stable (66%, n=21) and one-fifth reported that it was becoming increasingly easy to obtain (22%, n=7). There was a suggestion that low-purity 'cut' crystal methamphetamine (i.e. speed powder cut with a crystalline substance to make it look like ice) had deterred some people from taking this drug, particularly as they had seen injecting-related abscesses on other users.

Crystal methamphetamine was reportedly most commonly purchased from friends (63%, n=19) and known dealers (23%, n=7), and most commonly purchased at an agreed public location (37%, n=11) or a friend's home (27%, n=8).

5.2.3.3. Base

Of the three survey participants who were able to comment on the availability of methamphetamine base, two reported that it was easy and one reported that it was very easy to obtain. All three respondents suggested that the ease of access had been stable over the preceding six months.

5.2.4. Purity

Methanesulfonylmethane was the drug most commonly used to cut methamphetamine in Victorian 2009-2010 seizures, according to laboratory analysis.

5.2.4.1. Speed

In 2010, almost half of the survey participants able to comment on speed purity reported the current purity of speed to be low (47%, n=28) with a further 41% suggested that it was of medium purity (n=24). Forty percent of respondents reported the purity to

be stable whilst a further 40% suggested that it was decreasing (n=24 and 23 respectively).

5.2.4.2. Crystal methamphetamine

Of the 33 survey participants who commented on the current purity of crystal methamphetamine, most reported it to be high (55%, n=18) or medium (30%, n=10). Most respondents also reported that the purity was stable (42%, n=13) or increasing (32%, n=10).

A law-enforcement KE suggested that high-quality crystal methamphetamine was generally imported from Asia rather than made locally. A few KE suggested that high quality crystal methamphetamine had been more recently available and law-enforcement KE indicated that a few high-quality seizures of this drug had been made recently. In general, however, purity was reported to be down to around 20% by forensic KE.

5.2.4.3. Base

Of the three respondents able to comment on perceived purity of base amphetamine two reported that it was high and one reported medium purity. All three noted that the purity of base had been stable over the preceding six months.

5.3. Cocaine

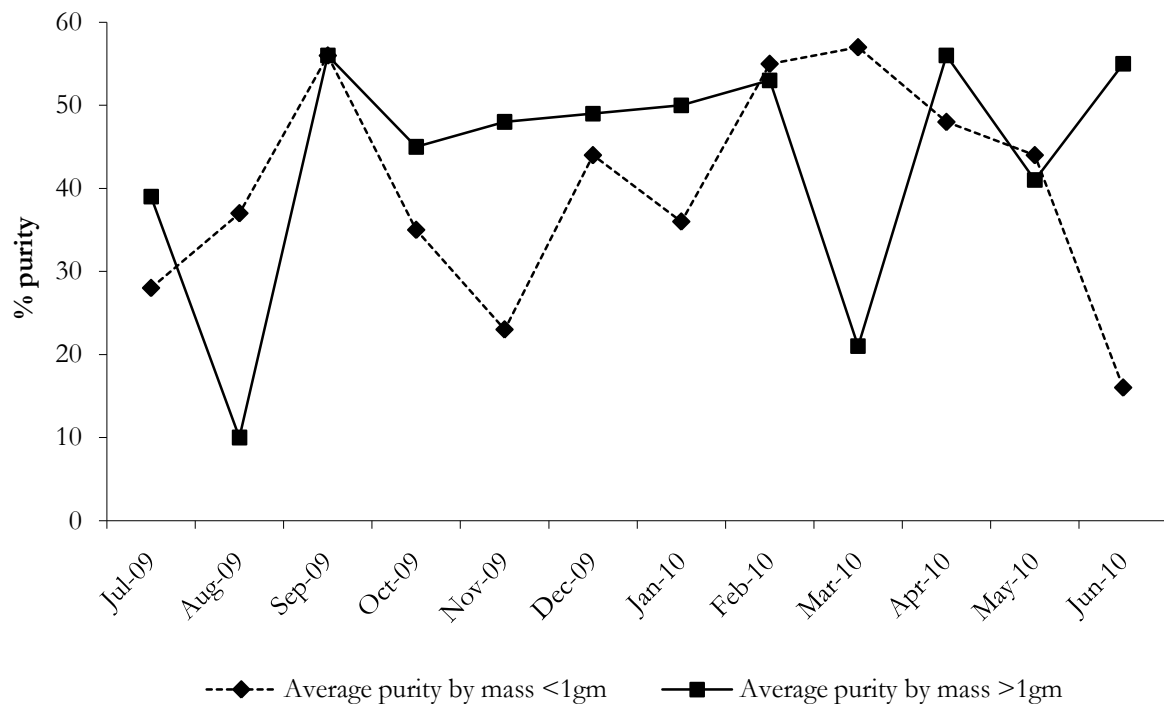
As in 2009, just eight survey participants (5% of the entire IDRS sample) were able to comment on the market characteristics of cocaine. As such, it is difficult to interpret trends from these data. Three survey participants reported that a cap of cocaine cost \$100 (in 2009 this amount was reported to cost \$50 and in 2008 it was \$100). The price paid for a point of cocaine was reported as \$50 (range=\$50-\$100, n=5). For a half-weight, one respondent reported paying \$180 whilst another paid \$200. Seven survey participants reported on the price they thought a gram of cocaine would cost with a median value of \$400 (range=\$200-\$400). Four of the respondents thought that the price of cocaine was stable (50%) and three thought that it was increasing (38%).

Six of the eight respondents (75%) reported that the current purity of cocaine was high. Five of these suggested that the purity was stable (63%) and three that it was decreasing (36%).

KE suggested that purity had increased in the previous 12 months with anything less than 50% purity being poorly received by consumers. Cocaine was mostly reported to be cut with diltiazem and levamisole.

The average purity levels of cocaine seizures analysed by law enforcement agencies in Victoria during the 2009-2010 financial year are shown in Figure 11. The average purity of cocaine seizures weighing less than one gram was 40% (range=16%-57%), while the average purity of larger seizures (>1 gm) was slightly higher, at 44% (range=10%-56%). The mean purity of all cocaine seizures overall was 42%. The average purity of cocaine seizures has remained stable at 30%-44% since 2000 (Horyniak, Dietze et al. 2010).

Figure 11: Average purity of cocaine seizures by Victorian law enforcement, July 2009 to June 2010



Source: Victoria Police Forensic Services Department

Reports about cocaine availability were mixed, with four survey participants (50%) suggesting that the drug was difficult to obtain and one that it was very difficult. Another respondent suggested that it was easy, whilst two more responded that it was very easy to access cocaine. Five of the eight respondents suggested that it was more difficult to obtain cocaine recently (63%). Cocaine seizures were suggested by KE to be higher in Victoria than in the past but still definitely not at the levels of the other regularly seized drugs.

Seven responding survey participants purchased cocaine last time either from friends (57%, n=4) or a street dealer (29%, n=2). The source venue of these seven purchases was distributed across home delivery, a friend's home, an agreed public location or a street market.

5.4. Cannabis

5.4.1. Key points

Price	• Prices generally remained stable at \$20/gram for both hydroponic and bush cannabis • Price per ounce remained stable for hydroponic cannabis (\$250), but increased from \$200 to \$220 for bush cannabis (compared with 2009)
Availability	• Both hydroponic and bush cannabis reported to be easy or very easy to obtain • Availability mostly stable • Both cannabis forms commonly purchased through known dealers or friends; however, study participants were more likely to report purchasing bush cannabis at a street drug market
Potency	• Hydroponic: Medium to high and stable • Bush: Medium to low and stable

5.4.2. Price

Information related to the price, purity and availability of hydro cannabis was reported by 80 survey participants and 14 respondents reported on these market characteristics for bush (Table 10.)

In 2010, the most commonly purchased quantity of hydroponic cannabis during the six months preceding interview was a quarter-ounce, with the median price reportedly paid for this quantity at last purchase being \$80 (range=\$50-\$90). Twenty-four survey participants reported recently purchasing a gram of hydroponic cannabis, with the median price paid being \$20 (range=\$15-\$25). The most commonly purchased amount of bush cannabis was a quarter-ounce, the median price of which was reported as slightly less than 2009 at \$70 (range=\$70-\$150).

The median reported prices of other commonly purchased hydroponic and bush cannabis amounts are shown in Table 9. There do not appear to be any significant changes between 2009 and 2010 in the reported price of most of the cannabis quantities – with any apparent differences deriving from only small numbers of reports, precluding statistical testing.

One participant paid \$30 for a gram of hash and two survey participants reported that a cap of hash oil was \$50.

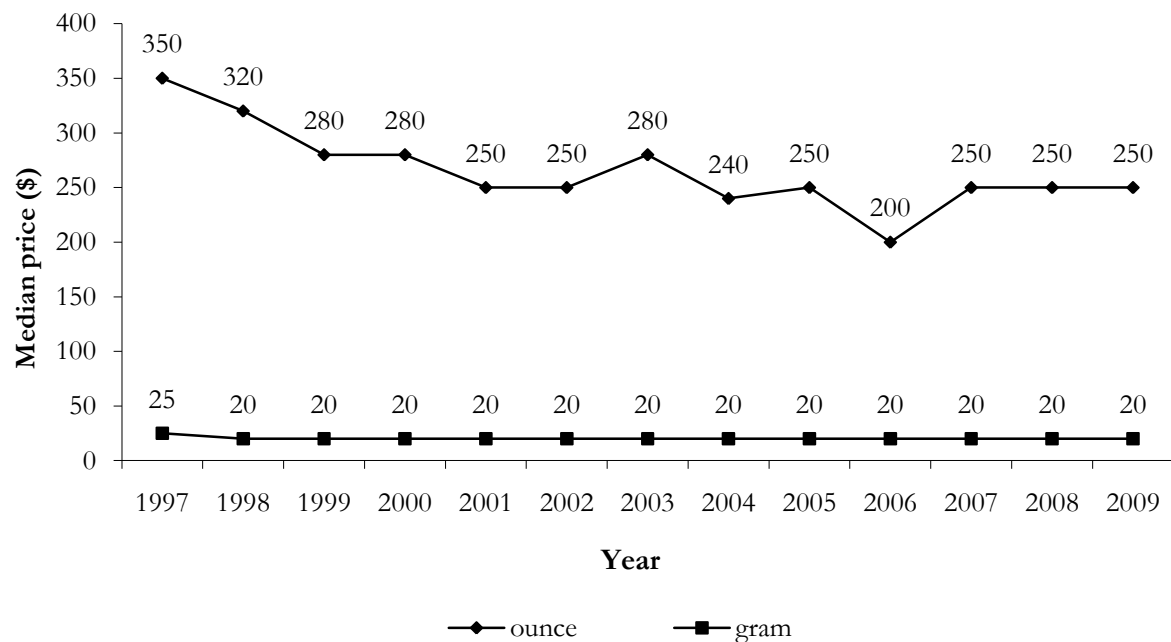
Table 9: Price of most recent cannabis purchase, 2009-2010

Amount	Number of purchasers Median price (\$) (range)			
	Hydroponic		Bush	
	2009	2010	2009	2010
Gram	n=43 20 (10-20)	n=24 20 (15-25)	n=16 20 (15-30)	n=5 20
Three grams	n=22 50 (40-50)	n=1 50	n=10 50 (30-50)	n=0
Quarter-ounce	n=57 80 (50-90)	n=25 80 (50-90)	n=22 80 (50-80)	n=7 70 (70-150)
Half-ounce	n=15 150 (100-180)	n=9 130 (80-150)	n=8 110 (100-150)	n=3 150 (120-200)
Ounce	n=19 250 (200-300)	n=19 250 (200-400)	n=11 200 (180-280)	n=1 220

Source: IDRS PWID interviews

Figure 12 shows the median reported price of a gram and an ounce of cannabis as reported by IDRS survey participants over the past decade. While the reported price of a gram of cannabis has remained stable at \$20, the price per ounce has been less consistent. The reported price of an ounce of cannabis has remained stable at \$250 since 2007, following a low of \$200 in 2006.

Figure 12: Median price of a gram and ounce of cannabis estimated from PWID purchases, 1997-2010*



Source: IDRS PWID interviews

* 2003-2010 prices reflect those for hydroponic cannabis only (the form most often used)

The majority of survey participants who commented on the price of cannabis reported that the price of both hydroponic and bush cannabis had remained stable recently: 72% (n=57) and 67% (n=8), respectively.

5.4.3. Availability

Eighty survey participants commented on the availability of hydroponic cannabis, with most reporting that it was either very easy (56%, n=45) or easy (31%, n=25) to obtain. Seventy-two percent of PWID who commented on the availability of hydroponic cannabis reported that availability had remained stable recently. KE consistently reported that cannabis was readily available and a law-enforcement KE reported that the number of seizures was constantly increasing.

The involvement of organised crime in the production and distribution of cannabis was reported by one KE to be a new element in the profile of this drug.

Thirteen survey participants were able to comment on the availability of bush cannabis. The majority of these people reported that bush cannabis was very easy (38%, n=5) or easy (46%, n=6) to obtain and most reported that availability had remained stable recently (75%, n=9).

Hydroponically grown cannabis was most frequently sourced the most recent time through friends (53%) or known dealers (37%), whilst naturally grown cannabis was most recently sourced through friends (57%) or street dealers (29%).

The locations where survey participants reported making their most recent cannabis purchase included a friend's home (37% of hydroponic purchases, and 29% of bush purchases), a dealer's home (34% hydroponic and 7% bush), or home delivery (4% hydroponic and 29% bush). Recent purchases of bush cannabis were most frequently reported as being made at a street market (36%, n=5), compared to only 8% (n=6) of hydroponic cannabis purchases. Some hydroponic purchases were also made in an agreed public location (18%, n=14).

5.4.4. Potency

Eighty survey participants reported on the current potency of hydroponic cannabis, with the majority reporting it to be high (58%, n=46), and a smaller number reporting it to be medium (34%, n=27). When asked to comment on recent changes to the strength of cannabis, the majority of IDRS survey participants reported that it had remained stable (67%, n=53). In contrast, the potency of bush cannabis was more likely to be reported as medium (50%, n=6) and low (33%, n=4). However, again, the majority of respondents to this section suggested that the potency of this form of cannabis was stable (75%, n=9).

5.5. Methadone

Only seven survey participants were able to comment on the price, purity and availability of illicit methadone syrup and no survey participants were able to comment on physeptone tablets. The price of illicit methadone was reported by five survey participants as one dollar per millilitre (which contains five milligrams of methadone).

Six of the seven respondents who commented on the price of methadone reported that the price had remained stable recently, and three of the seven reported that methadone was easy (n=2) or very easy (n=3) to obtain. Recent availability of methadone was reported as stable by six survey participants.

5.6. Buprenorphine

Nineteen survey participants (13%) were able to comment on the market characteristics for illicit buprenorphine. All of the respondents (n=6) who reported purchasing two milligrams of buprenorphine reported paying five dollars for the drug. The median price recently paid for 8 mg tablets of buprenorphine by the remaining 13 survey participants was \$20 (range=\$10-\$20). These prices were the same in the 2009 IDRS.

Nineteen survey participants commented on the availability of illicit buprenorphine, with a wide range of responses. Twenty-six percent (n=5) each suggested that it was very easy, easy and difficult to obtain, whilst the other four participants (21%) reported it to be very difficult to obtain. Fifty-three percent of respondents suggested that it was more difficult to access this drug illicitly in the last six months (n=10) whilst 42% (n=8) reported that access was stable.

At last purchase, survey participants reported that illicit buprenorphine was most commonly purchased from friends (53%, n=8) or known dealers (27%, n=4), with purchases made either at a street drug market (47%, n=7) or at an agreed public location (40%, n=6).

5.7. Buprenorphine-naloxone

Eighteen survey participants (12%) were able to answer questions about the price and availability of illicit buprenorphine-naloxone. A median price of \$5 (range=\$2.50-\$10) for 2 mg of buprenorphine-naloxone was reported by three survey participants, while the median of the prices reported by 11 survey participants, 8 mg of buprenorphine-naloxone was \$10 (range=\$10-\$20). Thirteen of the 17 survey participants who commented on the price of illicit buprenorphine-naloxone reported that the price of this drug had remained stable recently. Illicit buprenorphine-naloxone was reported to be very easy or easy to obtain by the majority of those who commented (50%, n=9 and 39%, n=7 respectively), with availability reportedly remaining stable recently (72%, n=13).

Buprenorphine-naloxone was reported as most commonly purchased through friends (69%, n=9) at their homes (62%, n=8).

5.8. Morphine

Thirty-one survey participants (21% of the sample) were able to comment on the price and availability of illicit morphine.

Prices paid for the two most commonly purchased brands of morphine, MS Contin[®] and Kapanol[®], on the last occasion of purchase by Melbourne PWID are presented in Table 10. The most commonly purchased amount of morphine reported in 2010 was 100 mg of MS Contin[®], the same as in 2009. The reported price of 100 mg of MS Contin[®] was stable at \$50 compared with 2009. Of the 30 survey participants who commented on the price of illicit morphine, the majority reported that it had remained stable recently (80%, n=24).

Among the 28 survey participants who commented on the availability of illicit morphine, perceptions varied widely, with eight survey participants (29%) reporting that it was very easy to obtain, 10 survey participants (36%) reporting that it was easy to obtain, nine survey participants (32%) reporting that it was difficult to obtain and one suggesting that it was very difficult to obtain. Most respondents, however, agreed that the availability of illicit morphine had recently remained stable (75%, n=21). A smaller number reported that it had become increasingly difficult to obtain (21%, n=6).

Illicit morphine was reported to be most commonly purchased through friends (62%, n=18) or known dealers (17%, n=5), with transactions generally made at an agreed public location (31%, n=9), at a friend's house (31%, n=9) or at a street market (24%, n=7).

Table 10: Price of most recent morphine purchase, 2009-2010

Amount*	Number of purchasers			
	Median price (\$)			
	(range)			
	MS Contin®		Kapanol®	
	2009	2010	2009	2010
10 mg tablet	-	n=5 5		
20 mg capsule	-	-	n=5 20 (10-20)	n=10 10
30 mg tablet	n=4 12.50 (10-15)	n=12 15 (10-20)	-	-
50 mg capsule	-	-	n=6 27.50 (20-50)	n=13 25 (20-30))
60 mg tablet	n=12 30 (10-40)	n=16 30 (15-60)	-	-
100 mg tablet/capsule	n=22 50 (25-50)	n=22 50 (20-100)	n=15 50 (30-100)	n=14 50 (30-50)

Source: IDRS PWID interviews

* MS Contin® comes in the form of 5 mg, 10 mg, 30 mg, 60 mg and 100 mg tablets, while Kapanol® is produced in 20 mg, 50 mg and 100 mg capsules. Only two survey participants reported purchasing 5 mg tablets of MS Contin®, data not shown

5.9. Oxycodone

Seventeen survey participants (11% of the sample) were able to comment on the market characteristics of illicit oxycodone.

As in 2009, the most commonly reported purchase amount of OxyContin® was 80 mg. The reported price for this amount of oxycodone was \$40, the same as that found in

2009. Only one participant reported buying 5mg Endone[®] tablets at \$2 apiece. Most reported that the price of illicit oxycodone had remained stable recently (76%, n=13).

Table 11: Price of most recent oxycodone purchase, 2009-2010

Amount	Number of purchasers	
	Median price (\$)	
	(range)	
	2009	2010
10 mg tablet		n=5 5 (5-10)
20 mg tablet	n=3 20 (10-40)	n=5 10 (10-15)
40 mg tablet	n=7 20 (10-30)	n=7 20 (20-40)
80 mg tablet	n=18 40 (40-60)	n=11 40 (40-50)

Source: IDRS PWID interviews

Perceptions were varied among the 20 survey participants who commented on the availability of illicit oxycodone, with seven (41%) and two (12%) of survey participants reporting that it was either difficult or very difficult to obtain whilst the other five (29%) and three (18%) reported that it was easy or very easy to access. However, it was generally agreed that availability had remained stable (71%, n=12).

Illicit oxycodone was most commonly reported as being purchased through friends (76%, n=13), with transactions generally made at a friend's home (47%, n=8), or an agreed public location, a dealer's home or with home delivery (12%, n=2 apiece).

6. Health-related trends associated with drug use

6.1. Overdose and drug-related fatalities

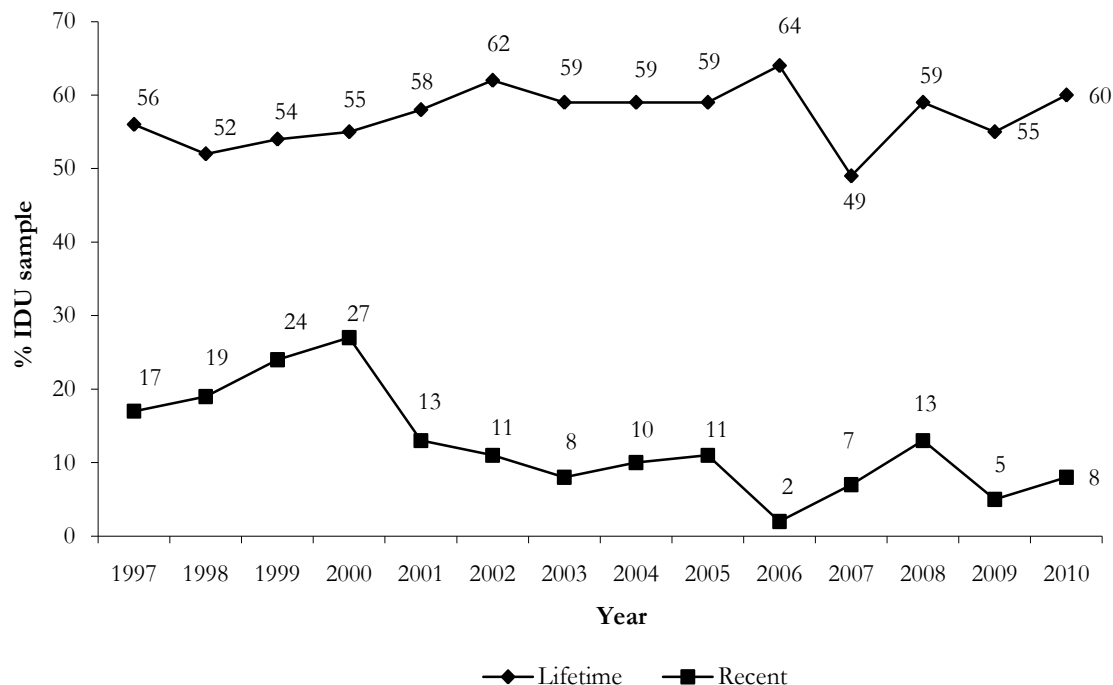
Information about overdose is collected from a number of different sources including IDRS survey participant self reporting, forensic databases and patient care records (PCR) completed by Melbourne paramedics (which are recorded on a database maintained by Turning Point).

6.1.1. Heroin

6.1.1.1. Self-reported overdose

The prevalence of lifetime and recent self-reported heroin overdose among IDRS survey participants from 1997 to 2010 are shown in Figure 13. In 2010, more than half of all survey participants (60%, n=90) reported that they had ever experienced a heroin overdose. However, recent heroin overdose was rare, reported by just 10 survey participants (8%).

Figure 13: Self-reported experience of heroin overdose, 1997-2010



Source: IDRS PWID interviews

The median reported length of time since last overdose was four years (range=1 month-25 years), with survey participants reporting having experienced a median of two

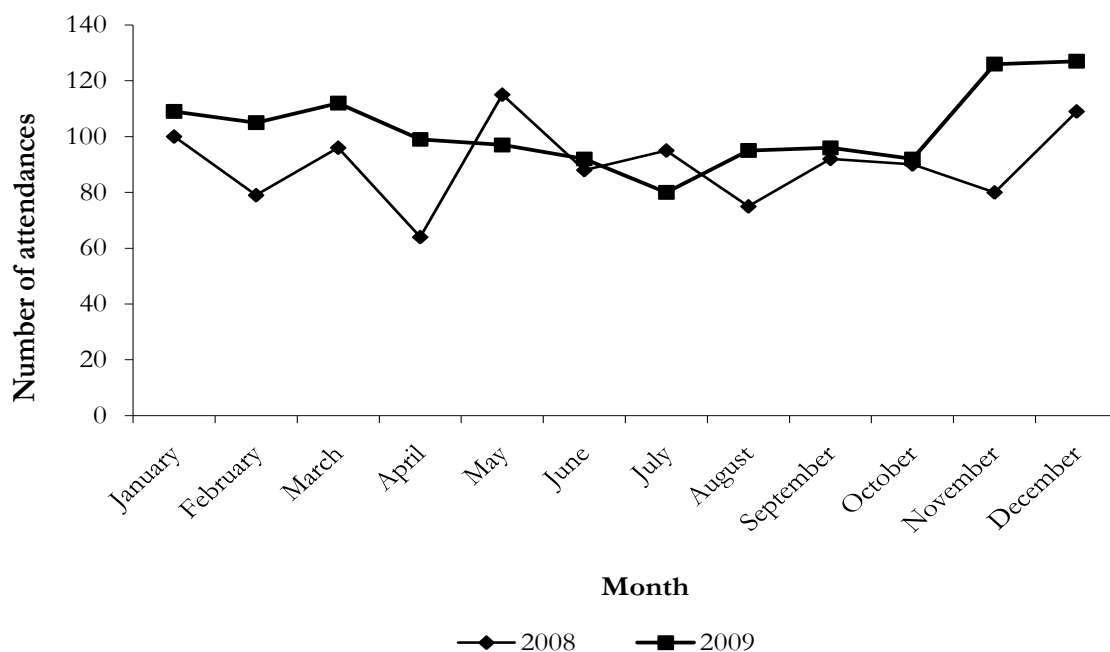
overdoses in their lifetime (range=1-30). Eighty-nine survey participants provided further information about their most recent heroin overdose, with 80% (n=71) reporting having been administered Narcan® (a fast-acting opioid antagonist given to reverse the effects of heroin overdose) at their last overdose.

6.1.1.2. Non-fatal heroin overdose attended by ambulance

Figure 14 shows the number of non-fatal heroin⁶ overdoses attended by Ambulance Victoria (AV), by month between January 2008 and December 2009 in the greater Melbourne area. The non-fatal heroin overdose case numbers reported are for those patients that respond to the heroin antagonist naloxone (Narcan®). During 2009, there were 1,230 non-fatal heroin overdoses attended by the AV, slightly higher than the previous year's total (1,083). The average number of attendances per month increased from 90 (range=64-115) in 2008 to 103 (range=80-127) in 2009. Monthly numbers of non-fatal heroin overdoses attended by ambulances in Melbourne continue to remain significantly lower than the peak of 461 recorded in December 1999 (Jenkinson, Miller et al. 2004).

The median age of a non-fatal heroin overdose in 2009 was 32 (range=14-98). There has been a slow incline in the median age over the decade from a median of 28 years in 2002.

Figure 14: Number of non-fatal heroin overdoses attended by AV, Melbourne, 2008-2009



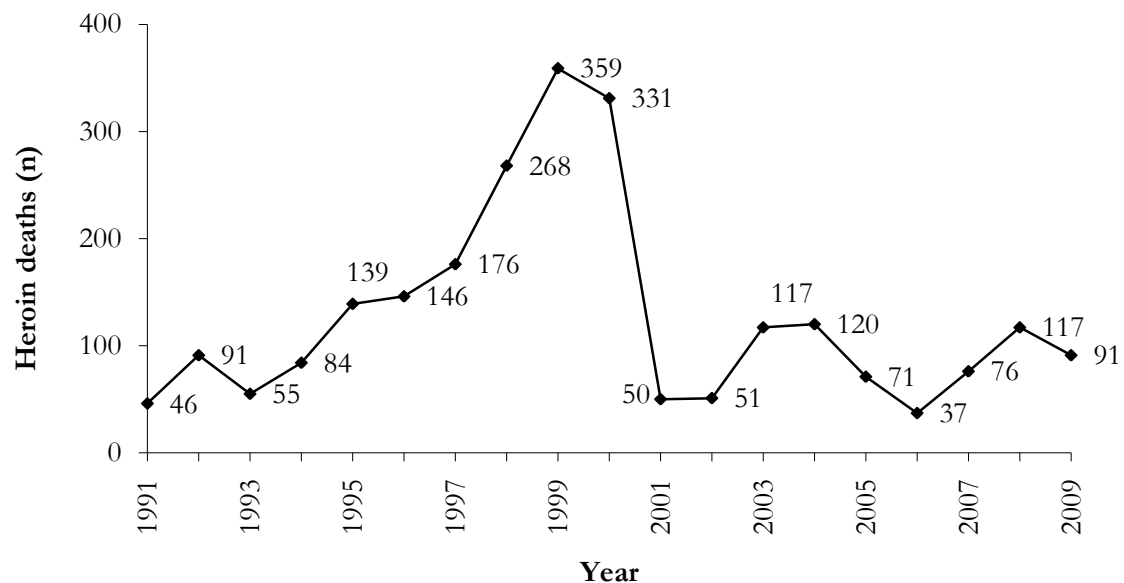
Source: AV; Turning Point Alcohol and Drug Centre

⁶ Note that this figure may include non-fatal overdoses for other opiates including heroin as all of these respond to Narcan®.

6.1.1.3. Heroin-related deaths

The data for trends in heroin-related mortality in Victoria are summarised in Figure 15 which shows an increasing trend in the number of heroin-related deaths in Victoria throughout the 1990s, before a dramatic decline in numbers between 2000 (n=331) and 2001 (n=50). The sharp decline in fatalities from 2000 to 2001 is consistent with the timing of what is known as a severe period of reduction in Melbourne's heroin supply (Fry and Miller 2001). During 2001 to 2004, the number of heroin-related deaths in Victoria again increased (to figures similar to those seen in the early to mid-1990s). However, since 2005 the figures have vacillated between 120 and 37, remaining much lower than the peak of 359 reported in 1999. In 2009, there were 91 reported heroin-related fatalities in Victoria (Victorian Department of Health 2011).

Figure 15: Heroin-related deaths in Victoria, 1991-2009



Source: VDoH, 1991-2008; National Coroner's Information System, 2009

6.1.2. Other drugs

6.1.2.1. Self-reported overdose

Thirty-one survey participants (21%) reported ever overdosing on any drugs other than heroin, with the median number of overdoses experienced being one (range=1-10). Participants reported having last overdosed on any other drugs a median of three years prior to interview (range=1 month-25 years).

Seven survey participants reported overdosing on any drugs (excluding heroin) during the year preceding interview. The drugs most commonly reported as being involved at

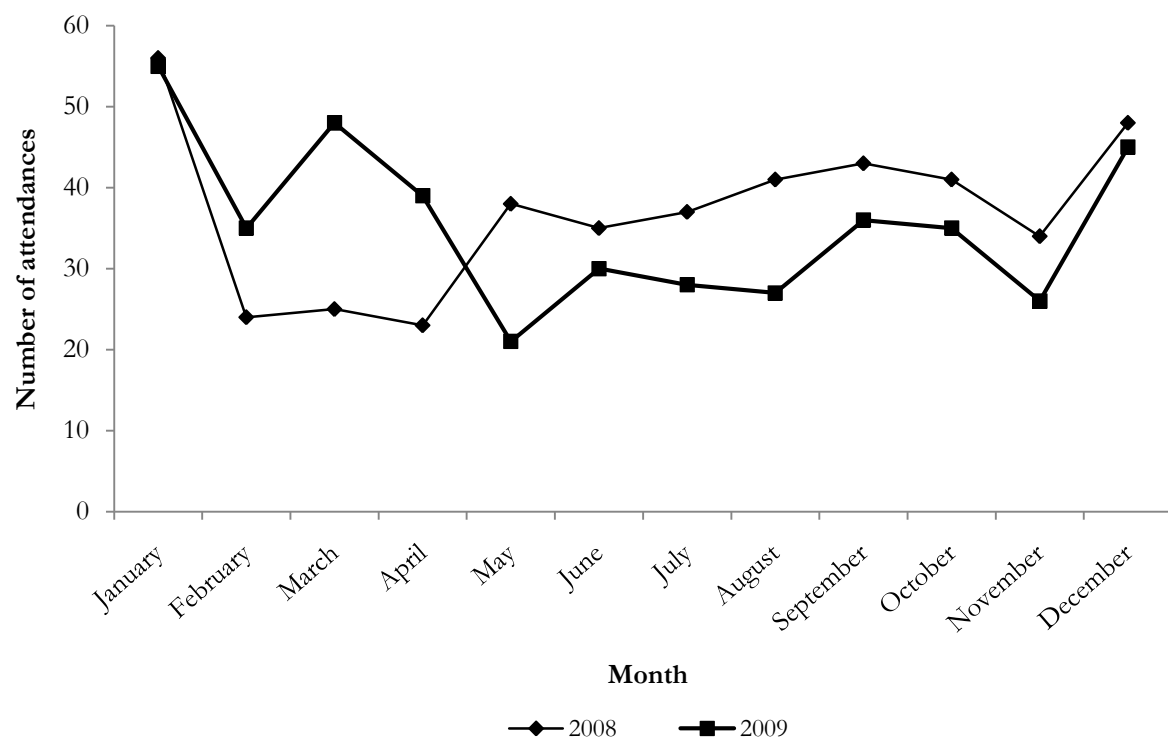
the time of last overdose (survey participants could name more than one) included benzodiazepines (n=4) and speed (n=3).

6.1.2.2. Other drug related events attended by ambulance

In contrast to heroin overdose, where response to naloxone is used at the definitive indicator of heroin overdose in the data above, non-heroin drug-overdose cases are only recorded when the drug names are specifically mentioned by the paramedics on the PCR. Therefore, the figures reported here should only be interpreted as indicators, and are likely to significantly under-report the actual number of people who had used these drugs and were subsequently attended by paramedics.

During 2009, paramedics reported attending a total of 425 amphetamine-related events, 20 fewer than the previous year (445). The number of attendances per month varied between 21 and 55 with an average of 35, compared with 2008 where the average was 37 (range=23-56) (Figure 16). The median age of cases was 25 years (13-58 years), slightly younger than 2008's 28 years.

Figure 16: Number of ambulance attendances where amphetamines were mentioned, Melbourne, 2008-2009



Source: AV; Turning Point Alcohol and Drug Centre

In 2009, the number of ambulance attendances for cocaine-related events increased from previous years to 104 in comparison with 57 in 2008 and 60 in 2007. The number of cocaine-related events attended by ambulance officers has increased by more than four-fold since 2003 (23 attendances). These data may reflect the comments made by some KE that there are increasing pockets of cocaine use in Melbourne, particularly amongst certain demographics (which are less likely to be captured by the IDRS study). The median age of cases presenting with cocaine-related events remained roughly stable at 29 years (range=16-70 years).

6.2. Drug treatment

6.2.1. Heroin

6.2.1.1. ADIS

During the 2009-2010 financial year, 53,960 courses of treatment were delivered to 32,015 clients⁷ in Victorian specialist alcohol and drug services⁸. The total number of both courses of treatment and numbers of clients increased by almost 9% compared with the 2008-2009 financial year (49,079 and 26,557 respectively).

Approximately 14% of the courses of treatment delivered to 13% of clients were for heroin-related problems, making heroin the most frequently occurring drug of concern after alcohol (47% of courses of treatment delivered to 45% of clients) and cannabis (23% of courses of treatment delivered to 22% of clients).

6.2.1.2. DirectLine calls

During 2009, DirectLine responded to 40,775 calls; a drug of concern⁹ was identified in 21,707 of these calls (53%). Heroin was identified as a drug of concern in 2,721 calls, representing 13% of all drug-identified calls to DirectLine that year. The percentage of drug-related calls where heroin was identified as a drug of concern steadily decreased from 1999 to 2002, and has remained fairly stable since then (Figure 17).

An additional 6,638 calls were made in 2009 where other opioids were identified as a drug of concern (31% of all drug-identified calls). The percentage of drug-identified calls regarding other opioids¹⁰ remained relatively stable in comparison to previous years (Figure 17).

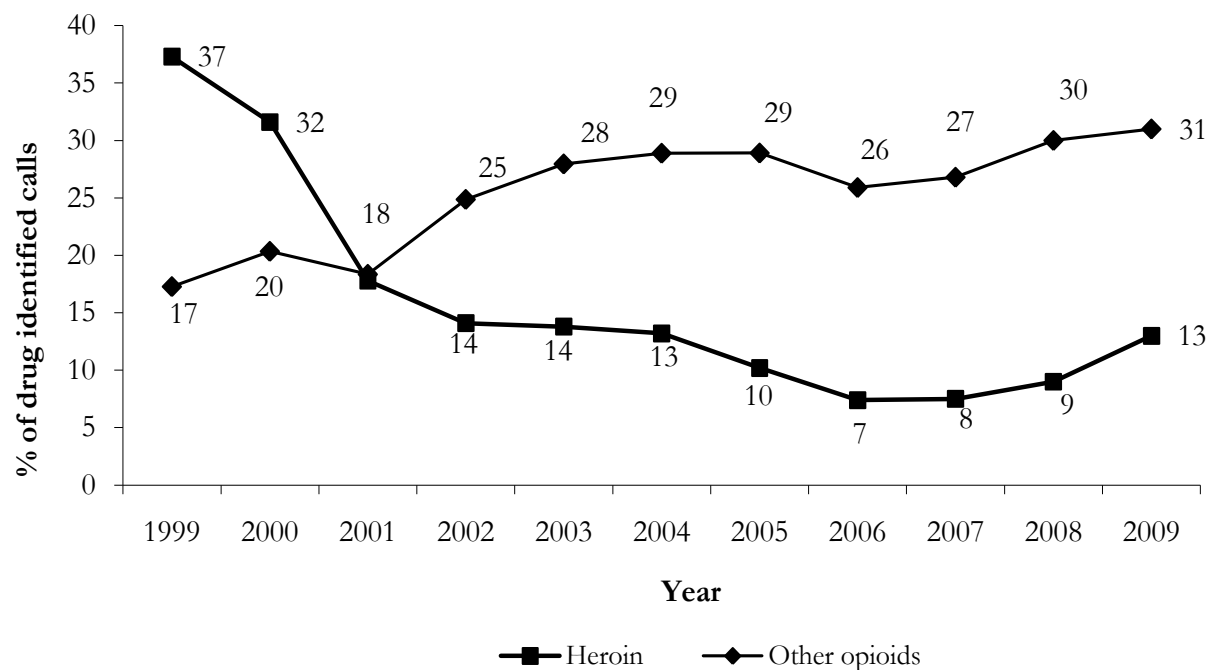
⁷ Clients in specialist alcohol and drug services include both drug users and non-users. Non-users may include partners, family or friends.

⁸ Federal and state government funded.

⁹ A caller or user may have more than one drug of concern and totals have been adjusted for multiple drugs of concern.

¹⁰ Other opioids include: licit and illicit methadone, buprenorphine, buprenorphine-naloxone, morphine and codeine.

Figure 17: DirectLine calls where the drug of concern was identified as heroin or other opioids, 1999-2009



Source: DirectLine; Turning Point Alcohol and Drug Centre

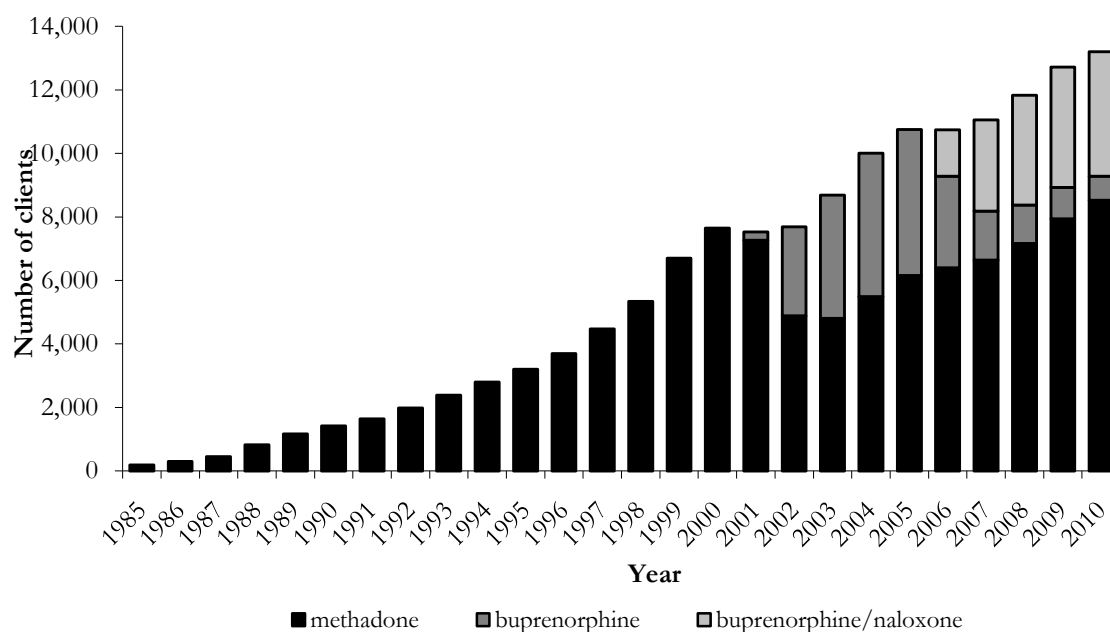
6.2.1.3. Pharmacotherapy consumers

The Drugs and Poisons Regulation Group at the VDoH records the annual number of methadone, buprenorphine and buprenorphine-naloxone clients in Victoria. These numbers are monitored through a phone census of all prescribing pharmacies.

The number of clients prescribed methadone maintenance therapy increased steadily from 181 in 1985 to over 7,500 clients in 2000 (Figure 18). In 2001, buprenorphine first became available on the PBS, and was prescribed to 258 clients. Over the next five years, the number of clients prescribed buprenorphine increased dramatically, peaking at 4,605 in 2005, while the number of clients prescribed methadone decreased accordingly, dropping to as low as 4,795 in 2003. Buprenorphine-naloxone became available on the PBS in 2006, and since that time a large number of buprenorphine consumers have been transferred to the combination product.

In 2010, 13,199 clients were recorded as being on pharmacotherapy programs, with the largest percentage prescribed methadone (65%, n=8,523). Around one-third of pharmacotherapy clients were prescribed buprenorphine-naloxone (30%, n=3,919) and the remainder of clients were receiving buprenorphine (6%, n=757).

Figure 18: Victorian pharmacotherapy consumers, by type of opioid substitution therapy, 1985-2010



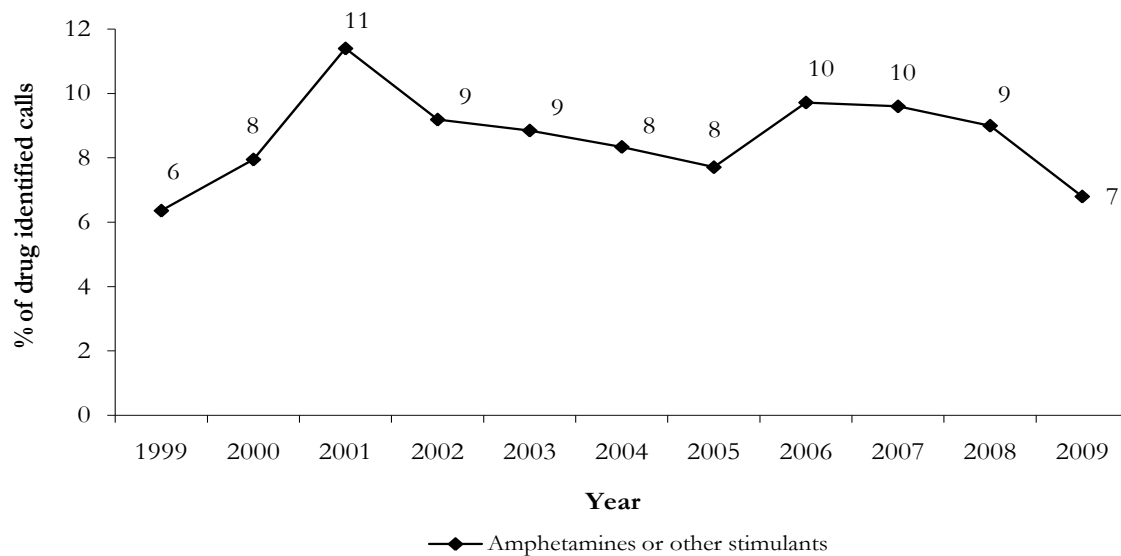
Source: Drugs and Poisons Regulation Group, VDoH

6.2.2. Methamphetamine

6.2.2.1. DirectLine calls

During 2009 DirectLine responded to 1,482 calls where amphetamines or other stimulants were identified as a drug of concern (7% of all drug-identified calls), compared with 2,310 (9%) in 2008 and 2,846 in 2007 (10%). This percentage is the lowest recorded for 10 years (Figure 19).

Figure 19: DirectLine calls where the drug of concern was identified as amphetamines or other stimulants, 1999-2009



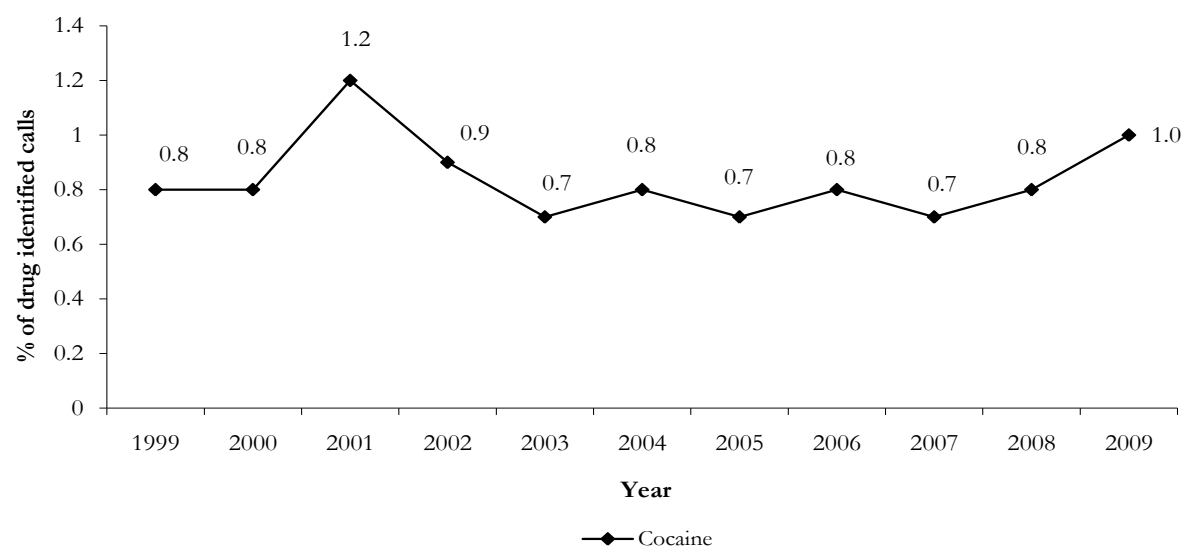
Source: DirectLine; Turning Point Alcohol and Drug Centre

6.2.3. Cocaine

6.2.3.1. DirectLine calls

During 2009 DirectLine responded to 224 calls where cocaine was identified as a drug of concern. This represented 1% of all drug-identified calls made to DirectLine, a similar figure to previous years (Figure 20).

Figure 20: DirectLine calls where the drug of concern was identified as cocaine, 1999-2009



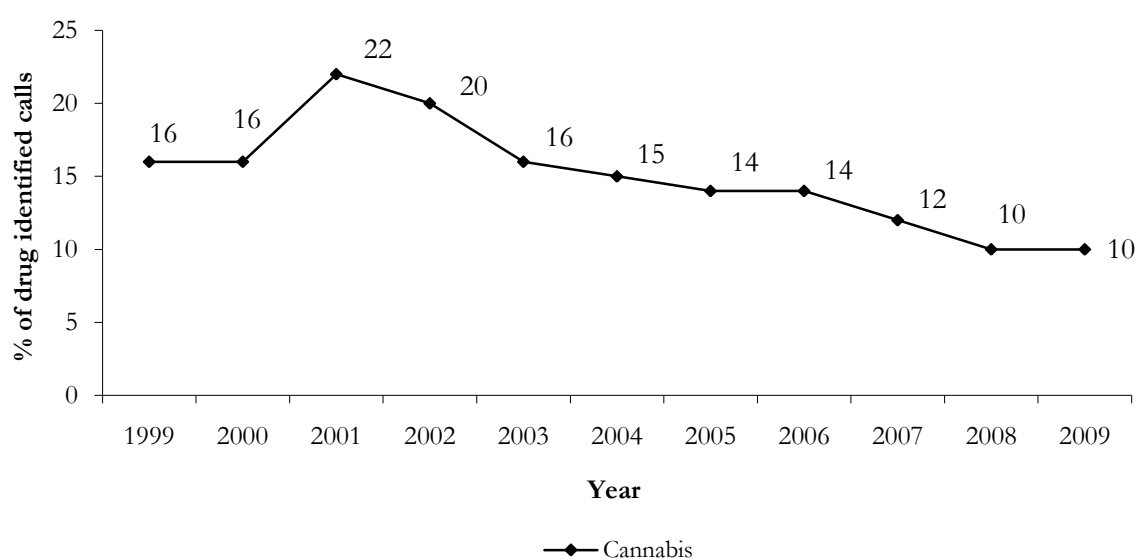
Source: DirectLine; Turning Point Alcohol and Drug Centre

6.2.4. Cannabis

6.2.4.1. DirectLine calls

During 2009, DirectLine responded to 2,266 calls where cannabis was identified as a drug of concern, representing 10% of all drug-identified calls to DirectLine in 2009. This is a similar figure to the DirectLine calls made for cannabis in 2008. However, overall, the percentage of drug-related calls where cannabis was identified has consistently decreased since 2001, when cannabis-related calls peaked at 22% of all calls (Figure 21).

Figure 21: DirectLine calls where the drug of concern was identified as cannabis, 1999-2009



Source: DirectLine; Turning Point Alcohol and Drug Centre

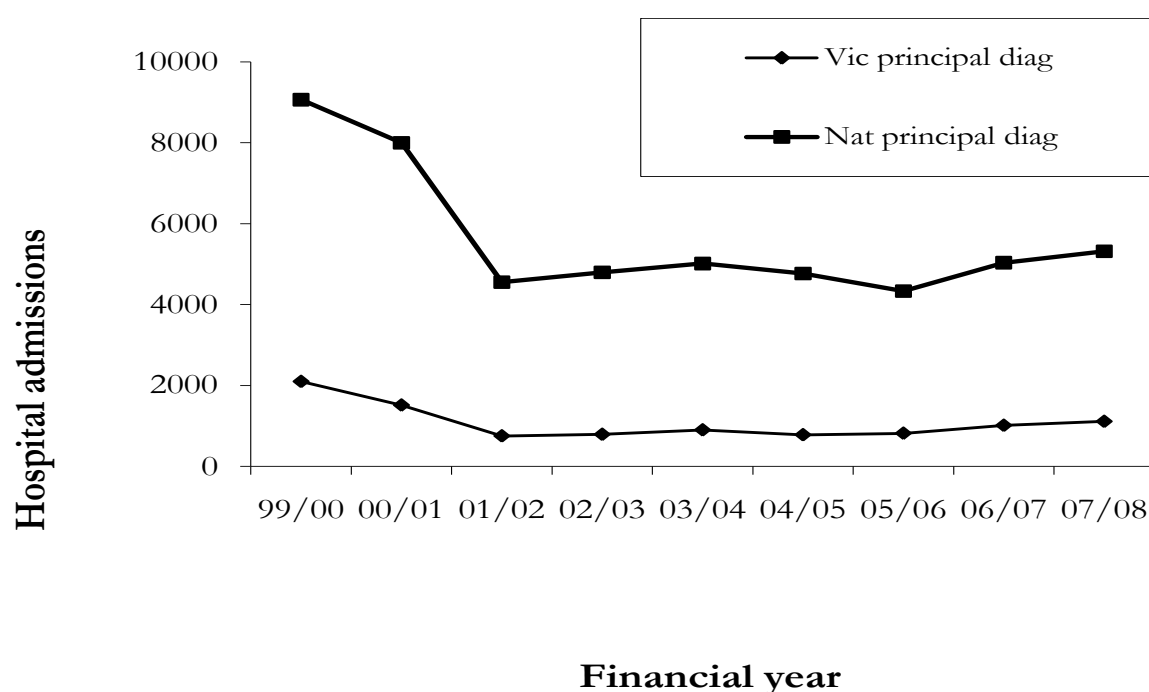
6.3. Hospital admissions

The NHMD is compiled by the AIHW. It is a collection of electronic records for admitted patients in public and private hospitals. Drug-related (opioid, amphetamine, cocaine and cannabis) hospital admissions are reported below for Victoria and Australia, 1999/2000-2007/2008, taken from the 2009 IDRS report as more recent data from 2008/2009 were not available at the time the current report was compiled. Principal diagnosis refers to the diagnosis established (after study) to be chiefly responsible for occasioning the patient's episode of care in hospital.

6.3.1. Heroin

Opioid-related hospital admissions for Victoria and Australia (among persons aged 15-54 years) are presented in Figure 22. The data indicates that the number of opioid-related hospital admissions, both in Victoria and nationally, decreased between 1999 and 2002. This is consistent with both PWID and KE reports of a reduction in Melbourne's heroin supply during that period (Jenkinson, Fry & Miller, 2004). Since that time the number of opioid-related hospital admissions has remained relatively stable, both in Victoria and Australia. Opioid-related hospital admissions account for the highest percentage of drug-related admissions (compared to amphetamine, cocaine and cannabis).

Figure 22: Opioid-related hospital admissions, 1999-2008

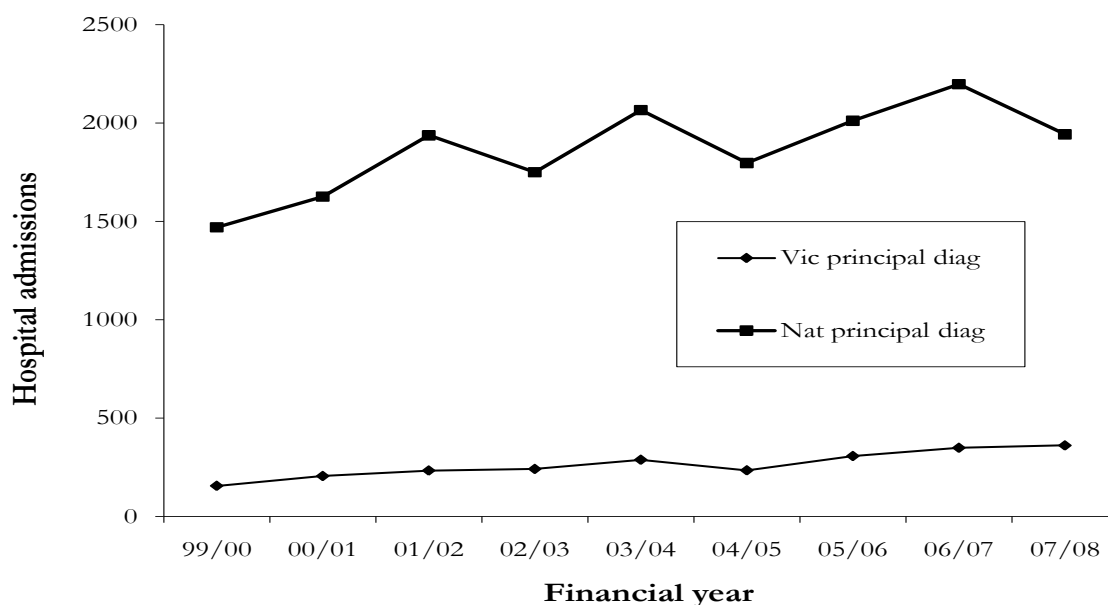


Source: AIHW, NDARC 1999-2008

6.3.2. Methamphetamine

Amphetamine-related hospital admissions for Victoria and Australia (among persons aged 15-54 years) are presented in Figure 23. It is evident from these data that the number of amphetamine-related hospital admissions has generally been stable-increasing over the period of analysis, with the highest number of amphetamine-related hospital admissions (both in Victoria and nationally) recorded during 2007/2008.

Figure 23: Amphetamine-related hospital admissions, 1999-2008

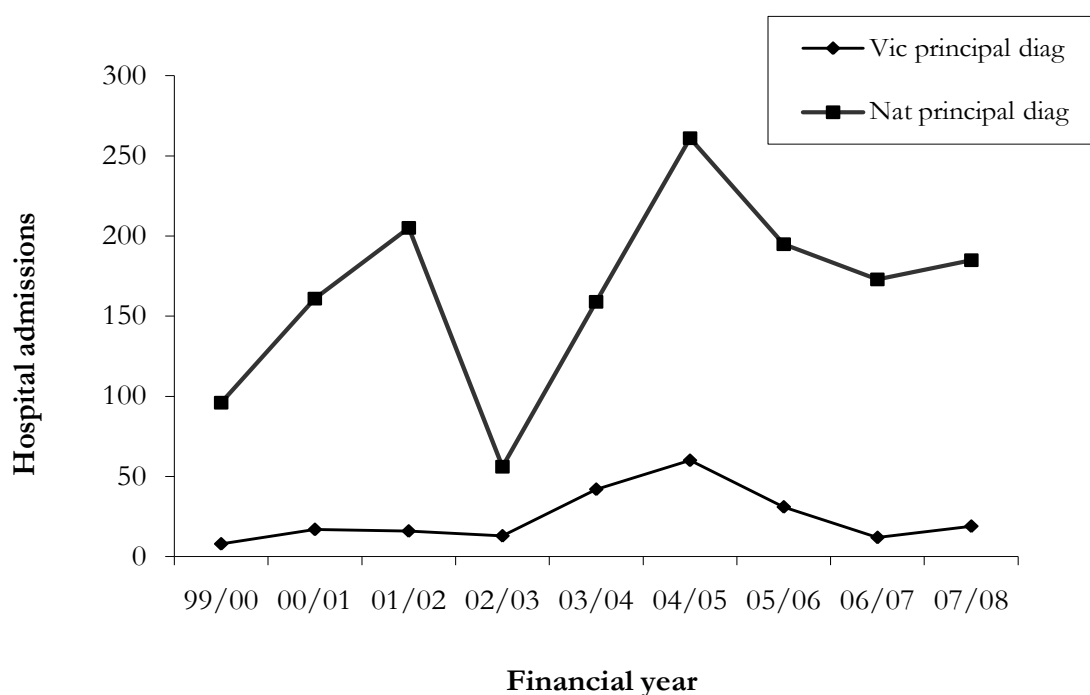


Source: AIHW, NDARC 1999-2008

6.3.3. Cocaine

Cocaine-related hospital admissions for Victoria and Australia (among persons aged 15-54 years) are presented in Figure 24. The data indicate that the number of cocaine-related hospital admissions in Victoria has been relatively stable apart from a small increase in numbers from 2003 to 2005. Nationally, the number of cocaine-related hospital admissions increased between 1999 and 2002, and then significantly decreased in 2003, before increasing again from 2004 to 2005, and stabilising from there. The number of cocaine-related hospital admissions continues to be much lower than for opioids or amphetamines.

Figure 24: Cocaine-related hospital admissions, 1999-2008

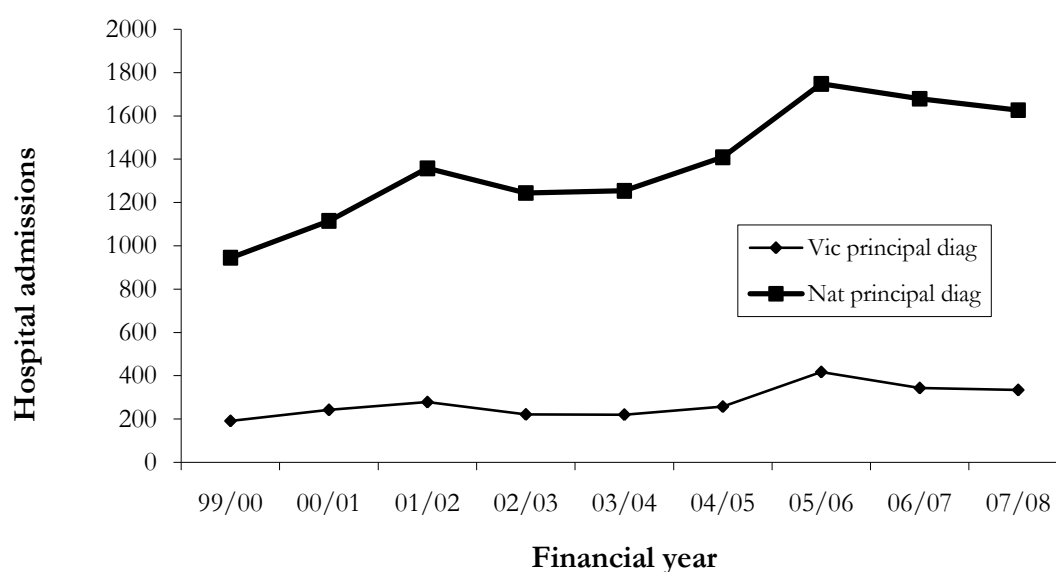


Source: AIHW, NDARC 1999-2008

6.3.4. Cannabis

Cannabis-related hospital admissions for Victoria and Australia (among persons aged 15-54 years) are presented in Figure 25. It is evident from these data that the number of cannabis-related hospital admissions nationally has gradually increased over the period of analysis, peaking in 2005/2006 with 1,748 admissions, while in Victoria the rates have been more stable during this time.

Figure 25: Cannabis-related hospital admissions, 1999-2008



Source: AIHW, NDARC 1999-2008

6.4. Injecting risk behaviours

6.4.1. Sharing of injecting equipment

The sharing of needles/syringes (N/S) and other equipment associated with the preparation and injection of drugs carries significant risk of exposure to BBVI such as HIV, HBV and HCV (Crofts, Aitken et al. 1999).

Twenty-one percent of 2010 IDRS survey participants (n=32) reported loaning a used needle to someone else in the month prior to interview. Among these survey participants, most reported loaning needles only once (34%, n=11) or twice (28%, n=9) in the past month, but almost one-third of survey participants reported lending needles between three and 10 times during the past month (31%, n=10). Two survey participants reported lending needles more than 10 times during the past month.

Fifteen percent of respondents (n=23) reported borrowing someone else's used needle during the last month. Three of these respondents reported using someone else's needle more than 10 times in the last month. Needles were generally reported as only being reused after only one other person had used it (91%, n=21), with that person most commonly reported to be a regular sex partner (65%, n=15) or close friend (35%, n=8).

Seventy-two survey participants (48%) reported using other injecting equipment after somebody else in the past month, with the most commonly reused equipment being spoons/mixing containers (45%, n=68), water (20%, n=30), and filters (20%, n=30). Smaller numbers of survey participants reported using tourniquets (9%, n=14) and swabs (6%, n=4) after other users.

Sixty-three percent of all survey participants (n=95) reported reusing their own used needles at least once in the past month, with significant percentages of these survey participants reporting reusing their own needles multiple times (33% reused their own needles twice, 28% reused their own needles three to five times, and 18% reused their own needles six or more times).

In 2010, reports of both borrowing and loaning used needles were roughly stable compared with the previous year (Table 12). However, reports of sharing any other injecting equipment increased significantly from 27% of survey participants in 2009 to 48% in 2010 ($p<0.01$).

Table 12: PWID self-reported injecting risk practices (past month), 2003-2010

Risk practice (past month)	2003	2004	2005	2006	2007	2008	2009	2010
Borrowed a used N/S (%)	10	11	15	12	7	9	12	15
Lent a used N/S (%)	24	21	23	17	10	16	21	21
Used spoon/mixing container after someone else (%)	41	41	46	31	41	31	26	45
Used filter after someone else (%)	24	13	27	9	19	19	7	20
Used tourniquet after someone else (%)	7	13	11	6	7	11	3	9
Used water after someone else (%)	24	32	33	19	29	17	13	20
Used any injecting equipment after someone else (%)	43	46	50	35	45	59	27	48

Source: IDRS PWID interviews

One hundred and fifty survey participants reported the location of their most recent injection, with most reporting having injected in a private home (63%, n=95). Public injecting (in cars, public toilets and other public locations) was reported by the remaining 45 survey participants (27%). The reported locations of last injection were similar to those reported in previous IDRS studies (Breen, Degenhardt et al. 2003; Jenkinson and O'Keeffe 2005; Jenkinson and O'Keeffe 2006; Jenkinson and Quinn 2007; Quinn 2008; Hornyak, Dietze et al. 2009; Quinn 2009).

Participants were also asked to report on the injection site of their most recent injection, with the vast majority reporting most recently injecting in their arm (75%, n=112) or hand (10%, n=15). Five percent of survey participants (n=8) reported most recently injecting in their leg and a further 4% (n=6) in the neck. Reports of groin and foot injecting were uncommon.

Participants most commonly reported obtaining injecting equipment from a NSP during the six months preceding interview (96%, n=143) or from a chemist (6%, n=9). Injecting equipment was also reported as being obtained infrequently from friends (1%, n=2) or outreach services (3%, n=5).

6.4.2. Injection-related health problems

Reports by the survey participants in the PWID survey of injection-related health problems in the previous month are summarised in Table 13. Fifty-eight survey participants reported experiencing any injection-related health problems in the previous month (38%), with the median number of injection-related problems experienced being one (range=1-5).

Table 13: Self-reported injection-related health problems (past month), 2006-2010

Type of problem (%)	2006 (N=150)	2007 (N=150)	2008 (N=150)	2009 (N=150)	2010 (N=151)
Prominent scarring/bruising	49	63	47	43	19
Difficulty injecting	43	35	39	41	25
Dirty hit (made me feel sick)	23	17	15	18	12
Thrombosis	8	9	10	7	5
Abscesses/infections from injecting	3	10	7	6	6
Overdose	3	3	3	5	2

Source: IDRS PWID interviews

The most commonly experienced injection-related health problems were prominent scarring or bruising, experienced by 19% of all IDRS survey participants and difficulty injecting experienced by 25% of all IDRS survey participants.

Three of 151 respondents (2%) reported experiencing an overdose in the month preceding interview. All three survey participants reported the main drug used on the last occasion of overdose to be heroin.

Eighteen survey participants (12%) reported experiencing a dirty hit in the month preceding interview, of whom 17 reported on the main drug used. The main drug implicated in dirty hits was heroin (53%, n=9). In addition, methamphetamine, benzodiazepines and morphine were implicated by two respondents each.

KE generally reported the rate of injection-related injuries to have decreased, in accordance with survey participants' responses. Specifically, the cessation of temazepam gel caps was noted to have led to a decrease in injection-related problems, although one KE suggested that combining heroin and Unisom® in injecting was leading to vein damage and the need for groin and neck injecting in some PWID. Groin and neck injecting were highlighted by several KE as causing ongoing problems, the former due to hygiene issues in general and the latter because people sometimes injected in the wrong direction. In addition, although the use of wheel filters had improved the rate of injecting-related abscesses from pills, problems with these were still noted in most geographic areas.

6.4.2.1. Blood Borne Viral Infections (BBVI)

BBVI (HIV, HBV, HCV) represent a major health risk for individuals who inject drugs. An integrated surveillance system has been established in Australia for the purposes of monitoring the spread of these infections.

Table 14 shows new Victorian HIV diagnoses where injecting drug use was identified as the exposure category. In 2009, there were two new HIV diagnoses among people reporting injecting drug use, accounting for 1% of all new HIV diagnoses that year. This

was the lowest recorded percentage of new HIV diagnoses, where injecting drug use was recorded as an exposure category, in 10 years (Feigin 2011).

Table 14: New HIV diagnoses in Victoria where injecting drug use has been identified as the likely exposure factor, 1999-2009

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number (n)	4	12	9	4	11	8	10	8	5	7	2
% of new HIV diagnoses	3.1	6.4	4.5	1.9	5.4	3.9	4.2	3.1	1.9	273	262

Source: Feigin, 2011

The prevalence of HIV infection among PWID is estimated through the National NSP Survey, which found an HIV prevalence of 0.6% among 1,234 PWID who provided blood samples over a period of five years (Table 15) (National Centre in HIV Epidemiology and Clinical Research 2010).

In contrast to HIV, the situation with regard to the HCV among PWID in Victoria is of major concern, as there is evidence of a continuing high level of this infection among PWID.

The Communicable Diseases Section of the VDoH collects data on notifications of HCV infection, which are then classified as either newly acquired or unspecified. In 2009, the Communicable Diseases Section reported 153 newly acquired notifications of HCV and 2,469 unspecified notifications (Department of Health and Aging 2011). A generally high but variable percentage of these are related to illicit drug use.

Over a period of five years, 67% of the PWID who provided samples for blood testing as part of the National NSP Survey found were HCV antibody positive (Table 15) (National Centre in HIV Epidemiology and Clinical Research 2010).

Table 15: Prevalence of IDU related new diagnoses of HIV and HCV, Victoria, 2010

	2005	2006	2007	2008	2009	Total
HCV (%)	67	71	73	72	55	67
HIV (%)	0.6	0.5	0.0	0.7	0.9	0.6

Source: NCHECR, 2010

KE suggested that whilst HCV infection among PWID remains very high, a relatively small percentage are ever treated for this condition. More engagement with primary health care was suggested to be needed in order to address this issue, as well as the need for HBV vaccination and other education regarding living with HCV. A couple of KE suggested the need for more proactive outreach models in order to effectively deal with the HCV issue amongst PWID.

6.5. Mental health problems and psychological distress

Ninety-four survey participants (63% of the 2010 PWID sample) reported that they had experienced any mental health problems in the six months preceding interview (including any issues that had not been discussed with a health professional). This was the same percentage as that found in the 2009 study.

As in previous years, respondents most commonly reported experiencing of depression (66%, n=62) and generalised anxiety (43%, n=38). These are also the general community's high prevalence mental health disorders. However, normally lower prevalence mental health disorders such as schizophrenia (20%, n=19) and panic disorder (9%, n=8) were also reported by significant numbers of survey participants. In addition the following mental health disorders were reported by smaller numbers of survey participants: manic depression/bipolar disorder (4%, n=4); drug-induced psychosis (3%, n=3) and phobia and post-traumatic stress disorder (2%, n=2 respectively).

Among the 94 survey participants who reported a recent mental health problem, 92 survey participants reported on their use of health services, with 83 survey participants (90%) reporting having recently seen a health professional regarding their mental health problems.

Of the 83 survey participants who had recently seen a health professional, 68 (82%) reported being prescribed any medication for their mental health problems. The percentage of IDRS survey participants receiving medication for mental health problems was slightly lower than 2009 (87%, n=60). The most commonly prescribed medications were: antidepressants (n=30), most commonly Avanza® (mirtazepine), Efexor® (venlafaxine) or Cipramil®/Lexapro® (or generics); benzodiazepines (n=29), most commonly Valium® (diazepam), Xanax® (alprazolam) or Serepax® (oxazepam); and antipsychotic medications (n=25), most commonly Zyprexa® (olanzapine) or Seroquel® (quetiapine).

The presence of both high and low prevalence mental health disorders amongst PWID was also noted by KE. Several KE reported that PWID could access psychologists through mental health care plans with their GP but that comprehensive mental health care was rare.

6.5.1. Kessler Psychological Distress Scale (K10)

In 2009 and 2010, the 10-item Kessler Psychological Distress Scale (K10) (Kessler, Andrews et al. 2002) was also administered to PWID survey participants. This questionnaire is designed to measure the level of distress and severity associated with psychological symptoms in the four weeks prior to completion. Scores in the K10 range from 10-50, with scores from 10-15 considered indicative of low psychological distress, 16-21 considerate moderate, 22-29 considered high and scores over 30 considered very high.

One hundred and forty-three survey participants fully completed the K10, 95% of all 2010 IDRS survey participants. While the distributions of K10 scores were almost

identical in 2009 and 2010, these represent significantly higher levels of psychological distress than those found in the general Australian population sampled as part of the 2007-2008 NDSHS ($p<0.05$) (Table 16).

Table 16: Levels of psychological distress among PWID compared with the general population 2009-2010

Score	Level of psychological distress	PWID 2009 (N=149) (%)	PWID 2010 (N=143) (%)	General population (N=15,751) (%)
10-15	Low	9	11	67
16-21	Moderate	28	22	21
22-29	High	32	33	9
30-50	Very high	31	34	4

Source: IDRS PWID interviews; Australian Bureau of Statistics, 2009

6.6. Driving risk behaviour

For the past five years, PWID survey respondents have been asked about driving risk behaviour. In 2010, 55 survey participants (37%) reported having recently driven a vehicle at least once, similar to the figure of 41% in 2009.

Of those 55 survey participants who had recently driven, 22% ($n=12$) reported having driven while under the influence of alcohol. Among those who reported having driven under the influence of alcohol, 42% ($n=5$) reported having driven while they believed themselves to be over the legal blood alcohol limit during that time. Driving over the limit was reported a median of two times (range=1-4).

Among the 55 survey participants who had recently driven a vehicle, 80% ($n=44$) reported having driven after taking illicit drugs (Table 17). Driving under the influence of illicit drugs was reported a median of four times (range=1-250). Participants most commonly reported driving soon after using heroin (82%), cannabis (48%), amphetamines (23%) and benzodiazepines (18%).

Table 17: Use of illicit drugs prior to driving (past six months), 2005-2010

Illicit drug type (%)	2005 (n=71)	2006 (n=62)	2007 (n=51)	2008 (n=60)	2009 (n=53)	2010 (n=44)
Heroin	80	58	77	68	66	82
Cannabis	49	44	53	65	59	48
Speed	29	42	29	28	28	16
Crystal methamphetamine	4	15	4	7	2	7
Buprenorphine	13	16	8	7	4	2
Benzodiazepines	10	11	16	12	25	18
Ecstasy	6	3	2	2	6	2

Source: IDRS PWID interviews

Participants were asked about their most recent experience of driving after taking any illicit drugs, with the most commonly reported illicit drugs being heroin (80%, n=35), cannabis (32%, n=14), benzodiazepines (11%, n=5), and speed (9%, n=4). Participants reported driving a median of five minutes after taking illicit drugs (range=1-240 minutes).

The 44 respondents commented on the self-perceived effect of illicit drugs on their driving ability the last time they drove after using illicit drugs, with more than half believing that their drug use had no impact or slightly improved their driving ability (50%, n=22 and 9%, n=4 respectively). Twelve survey participants reported that their driving ability was slightly impaired (27%) and six survey participants (14%) felt that their driving ability was quite impaired.

Ten survey participants reported having ever been roadside drug tested by the police. Participants reported being roadside drug tested a median of five months prior to interview (range=1-50 months). Two of nine survey participants recorded positive test results with one report each of opiates, cannabis and amphetamines.

One medical officer KE believed that illicit drugs were implicated in an increasing number of motor vehicle accidents (MVAs); however, the true extent of drug driving could not be measured as it was not routine practice to test for illicit drugs in hospital emergency departments, and very few drivers admitted to taking illicit substances prior to a MVA.

7. Law-enforcement related trends associated with drug use

7.1. Reports of criminal activity

Fifty-five percent of survey participants (n=82) reported having been arrested during the 12 months preceding interview, slightly higher than the 42% (n=63) in 2009. As in 2008, the largest portion of arrests were in relation to property crime (27%, n=41) and drug use/possession (12%, n=18). However, reports of arrest for violent crime were increased amongst the 2010 sample (13%, n=19) in comparison with 2009 (5%, n=7) ($p<0.02$).

There were also small numbers of survey participants who reported being arrested for possession of weapons (3%, n=5), begging (3%, n=5), driving offences (3%, n=4), drug dealing/trafficking (3%, n=4), outstanding warrants (2%, n=3), public drunkenness (1%, n=2), and alcohol and driving (1%, n=2).

Participants were asked about types of crimes engaged in during the month preceding interview, and frequency of crimes committed. Forty-one percent of survey participants (n=61) reported engaging in any crime in the past month, with drug dealing (23%, n=35) and property crimes (19%, n=28) the most commonly reported (Table 18). There were no significant changes in the percentage of PWID reporting recent criminal activity compared with the previous year.

Frequency of criminal activity varied by type of crime with the majority of those reporting property crime reporting engaging in this type of crime once a week or less (57%, n=16). In contrast, the majority of those survey participants who reported dealing drugs in the month preceding interview reported doing so once a week or more (69%, n=24). Fraud and violent crimes were generally committed less often than once a week.

Table 18: Criminal activity reported by PWID during the last month, 2003-2010

Type of crime	2003 (N=150)	2004 (N=147)	2005 (N=147)	2006 (N=147)	2007 (N=149)	2008 (N=150)	2009 (N=150)	2010 (N=150)
Property crime (%)	35	28	26	20	22	21	17	19
Dealing (%)	40	30	25	35	24	35	27	23
Fraud (%)	7	8	4	5	5	5	1	1
Violent crime (%)	10	8	7	2	7	3	7	8
Any crime (%)	59	53	48	48	38	47	39	40

Source: IDRS PWID interviews

7.1.1. Dealing and trafficking

KE comments on dealing and trafficking of heroin suggest that, as in previous years, syndicates for this drug were mostly run by people of south-east Asian heritage but that it was now more common for women to be heading such syndicates. Traffickers were reported to be living in housing commission properties but to have a lot of assets and also be heavily involved in gambling. The use of internal couriers was noted with the suggestion that some children were being used as couriers (as opposed to dealers), potentially because of the reduced implications if caught.

The aim of current law enforcement activities with respect to heroin was reported to be aimed at arresting higher-level syndicate members, thereby disrupting flow to the street. Investigations were reported to have been slowly increasing over the previous 12 to 24 months.

KE reports regarding amphetamine production, dealing and trafficking suggested, as previously mentioned, that high purity crystal methamphetamine appears to be coming from Asia whilst low-purity powder is more likely to be produced locally. The number of lab seizures was increasing but labs themselves were reported to be more user-driven, with basic set-ups for use by individuals and friends rather than for syndicates. Whilst amphetamine trafficking was reported to be used to support organised crime, the suggestion that bkie gangs were involved was reported as being less significant than media reports had made it out to be. The characteristics of amphetamine traffickers were reported to be more variable than those for heroin, with a variety of ethnic backgrounds reported, and most of these people being younger males.

As previously mentioned, the involvement of organised crime in the production and distribution of cannabis was suggested by KE to be an emerging trend in the profile of this drug in Victoria.

7.1.2. History of incarceration

One hundred and fifty survey participants reported on their history of incarceration, with more than half (57%, n=86) reporting having ever been in prison (convicted of an offence and sentenced to jail).

7.2. Arrests

The following section details consumer (use/possession) and provider (manufacture/trafficking) arrests related to opioids, methamphetamine, cocaine and cannabis. Data are derived from the ACC's Illicit Drug Data Report 2008-2009 (Australian Crime Commission 2010). Percentages should be interpreted with caution due to the lack of uniformity across states and territories in the recording and storing of data on illicit drug arrests. Totals included those offenders for whom consumer/provider status was not stated.

7.2.1. Heroin

Table 19 shows consumer and provider arrests for heroin and other opioids during the 2008-2009 financial year. During that financial year, just over half (50.2%, n=1,353) of the arrests made in Australia for heroin and other opioid offences occurred in Victoria. The number and percentage of provider arrests remained relatively stable compared with 2007-2008.

Table 19: Consumer and provider arrests, Heroin and other opioids, 2008-2009

	Victoria (n)	Australia (n)	% of national arrests
Consumer	889	1,783	49.8
Provider	464	903	51.4
TOTAL	1,353	2,686	50.4 ¹¹

Source: ACC

7.2.2. Methamphetamine

Table 20 details consumer and provider arrests for amphetamine-type stimulants (ATS), during 2008-2009. During that financial year around one-fifth (22%) of the arrests made in Australia for ATS offences occurred in Victoria. The number and percentage of consumer and provider arrests remained stable compared with 2007-2008.

Table 20: Consumer and provider arrests, amphetamine-type stimulants, 2008-2009

	Victoria (n)	Australia (n)	% of national arrests
Consumer	2,465	11,778	20.9
Provider	1,125	4,629	24.3
TOTAL	3,590	16,407 ¹²	21.9

Source: ACC

¹¹ The total numbers for Australia recorded in the ACC Illicit drug report are generally higher as there are some arrests where jurisdiction is not known. For comparison with Victorian data known jurisdictional arrests only are included here.

¹² See footnote 7.

7.2.3. Cocaine

Table 21 details consumer and provider arrests for cocaine during 2008-2009. During that financial year 18% of the arrests made in Australia for cocaine offences occurred in Victoria. The number of consumer arrests remains small but increased by around 30% from 65 to 92 compared with 2007-2008. However, the percentage of provider arrests for cocaine fell from 23% to 19% between these financial years.

Table 21: Consumer and provider arrests, cocaine, 2008-2009

	Victoria (n)	Australia (n)	% of national arrests
Consumer	92	553	16.6
Provider	56	289	19.4
TOTAL	148	842	17.6

Source: ACC

7.2.4. Cannabis

Table 22 details consumer and provider arrests for cannabis during 2008-2009. As in the previous financial year, approximately one-tenth (12%) of the arrests made in Australia for cannabis offences occurred in Victoria. In Victoria, the total number of consumer and provider arrests for cannabis remained stable compared with 2007-2008.

Table 22: Consumer and provider arrests, cannabis, 2008-2009

	Victoria (n)	Australia (n)	% of national arrests
Consumer	5,157	47,804	10.8
Provider	1,727	7,722	22.4
TOTAL ^x	6,884	55,526 ¹³	12.4

Source: ACC

7.3. Expenditure on illicit drugs

The median amount reported as being spent on illicit drugs on the day prior to the interview by the 95% of survey participants who responded to the question was \$28 (range=\$0-\$1,000). This was a non-significant increase on the \$17.50 median expenditure for the 2009 cohort.

¹³ See footnote 7.

8. Special topics of interest

8.1. Height, weight and Body Mass Index

Eating disorders and drug use disorders are significant public health problems. However, the relationship between drug use and eating disorders is ambiguous. Evidence on a relationship between obesity and alcohol use is found in some studies (Wannamethee, Shaper et al. 2005). As to the relationships between overweight/obesity and nicotine dependence, some studies have found overweight and obese men, but not women, were more likely to be former daily smokers than non-smokers (Zimlichman, Kochba et al. 2005; John, Meyer et al. 2006). In a nationally representative sample, overweight, obesity and extreme obesity were associated with lower risk for past-year nicotine dependence in men but not in women (Pickering, Grant et al. 2007).

Relationships between body mass index (BMI) and illicit drug use are unclear, and likely to vary according to different types of illicit drugs. For instance, marijuana can stimulate appetite whereas cocaine is an appetite suppressant. However, one study found similar prevalence of overweight individuals with illicit drug use disorders as that found in the general population (Rajs, Petersson et al. 2004). Another study found both positive and negative associations of BMI with various substance use disorders, and significant gender differences in those relationships (Barry and Petry 2009).

For the first time in 2010 survey participants were asked their height and weight. With this information BMI was calculated among the national sample to determine the relationship between BMI, drug use and the risk of disease. BMI is calculated from height and weight information, using the formula weight (kilograms) divided by the square of height (metres). BMI is divided into four groups: (1) 'underweight' – less than 18.5; (2) 'normal weight' – 18.5 to less than 25; (3) 'overweight' – 25 to less than 30; and (4) 'obese' – 30 and greater, in adults to measure prevalence. BMI values are grouped according to the groups reported by the World Health Organization (WORLD HEALTH ORGANISATION 2011)

In the Victorian 2010 IDRS sample, the mean reported height was 1.73 metres and the mean body weight was 71.4 kilograms. Of those who reported both weight and height (n=137), over 10% (n=15) gave figures producing an 'underweight' BMI. This compares to 2.6% of the general population aged 18-64 years (Australian Bureau of Statistics 2009). The percentage of 'underweight' females was particularly striking in the sample (23.1%) versus the general population (3.7%). In addition, both genders reported a smaller percentage of 'overweight' survey participants in comparison to the general population. These figures are summarised in Table 23.

Table 23: Self-reported height, weight and BMI amongst PWID Victoria

Domain	PWID 2010	National Health Survey 2007-2008
Mean height (metres)	N=142 1.73	
Mean weight (kilograms)	N=144 71.4	
Mean BMI	n=137 23.8	
BMI males (%)	n=98	
Underweight	6.1	1.4
Normal weight	56.1	35.8
Overweight	31.6	40.2
Obese	6.1	22.6
BMI females (%)	n=39	
Underweight	23.1	3.7
Normal weight	41.0	49.1
Overweight	23.1	27.2
Obese	12.8	20.0
BMI – all (%)	n=137	
Underweight	10.9	2.6
Normal weight	51.8	42.2
Overweight	29.2	33.9
Obese	8.0	21.3

Source: IDRS PWID interviews 2010; Australian Bureau of Statistics 2009

8.2. Alcohol Use Disorders Identification Test

There has been a considerable amount of media attention recently that has focused on young people and alcohol. However, there has been less focus on alcohol use amongst PWID, who are particularly at risk for alcohol-related harms due to a high prevalence of HCV. Half of the survey participants interviewed in the Australian NSP Survey 2009 (n=2,697) were found to have HCV antibodies (National Centre in HIV Epidemiology and Clinical Research 2010). Given that the consumption of alcohol has been found to exacerbate HCV infection and to increase the risk of both non-fatal and fatal opioid overdose and depressant overdose (Darke, Ross et al. 1996; Schiff and Ozden 2004; Coffin, Tracy et al. 2007; Darke, Duflou et al. 2007), it is important to monitor risky drinking among PWID.

The information on alcohol consumption currently available in the IDRS includes the prevalence of lifetime, recent use and number of days of use over the preceding six months. In 2010, survey participants in the IDRS were asked the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) as a valid measure of identifying heavy drinking (Bush, Kivlahan et al. 1998). The AUDIT-C is a three-item measure, derived from the first three consumption questions in the AUDIT. Dawson et al (2005) reported on the validity of the AUDIT-C finding that it was a good indicator of alcohol dependence, alcohol use disorder and risk drinking.

Among the Victorian IDRS survey participants, the mean score on the AUDIT-C was 4.2 (median=4, range=0-12). Males scored significantly higher than females on the AUDIT-C (4.64 vs. 3.24, p=0.03). According to Dawson et al (2005) and the AGDH&A's Guidelines for the Treatment of Alcohol Problems (Haber, Lintzeris et al. 2009) a cut-off score of five or more indicates that further assessment is required.

Forty-two percent of the sample scored five or over on the AUDIT-C (n=63) in the range indicating the need for further assessment (Table 24). Males (45%) were more likely than females (33%) to score in this range.

Table 24: AUDIT-C among PWID, Victoria, 2010

	VIC (N=151)
Mean AUDIT-C score	4.2
SD	3.6
(range)	(0-12)
Score of 5 or more (%)	42
Males (% , n=106)	45
Females (% , n=45)	33

Source: IDRS PWID interviews 2010

8.3. Stimulant and opioid dependence

Understanding whether survey participants are dependent is an important predictor of harm. In 2010, the survey participants in the IDRS were asked questions from the Severity of Dependence Scale (SDS) for the use of stimulants and opioids.

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 groups of people who use heroin, cocaine and amphetamine as well as methadone maintenance patients across five samples in Sydney and London (Dawe, Loxton et al. 2002).

Previous research has suggested that a cut-off of 4 is indicative of dependence for methamphetamine users (Topp and Mattick 1997) and a cut-off value of 3 for cocaine (Kaye and Darke 2002). No validated cut-off for opioid dependence exists; however, researchers typically use a cut-off value of 5 for the presence of dependence.

Of those who had recently used a stimulant and completed the questionnaire (n=89), the median SDS score was 1.0 (range=0-12), with 35% (n=31) scoring 4 or above. There were no significant differences regarding gender and mean stimulant SDS score, or regarding gender and those who scored 4 or above. Of those who scored 4 or above, 95% reported specifically attributing responses to methamphetamines and 12% to cocaine¹⁴.

Of those who had recently used an opioid and completed the questionnaire (n=144), the median SDS score was 8 (mean=8.4, range=0-15), with 84% (n=121) scoring 5 or above. There were no significant differences regarding gender and mean stimulant SDS scores, or regarding gender and those who scored 5 or above. Of those who scored 5 or above, 78% reported specifically attributing responses to heroin, 22% to methadone, 17% buprenorphine, 13% to morphine and 5% to oxycodone¹⁵.

8.4. Personal Wellbeing Index

In 2009, the previously used Short-Form 8 Health Survey (SF-8) (Lefante, Harmon et al. 2005) was replaced with the Personal Wellbeing Index (PWI). The PWI is designed to measure quality of life, through questions of satisfaction toward people's feelings about themselves (Cummins, Woerner et al. 2009). Participants were asked questions across seven aspects of their personal lives: health, personal relationships, safety, standard of living, achieving, community connectedness and future security, and asked to report their level of satisfaction on a scale of 0 (completely unsatisfied) to 10 (completely satisfied). A score between 70 and 80 points is considered normal, with the average total score among population samples in Western nations being 75.

¹⁴ Participants were able to select more than one drug to attribute their responses.

¹⁵ See footnote 10.

One hundred and forty-eight (98%) of the 2010 sample completed the PWI, with the mean overall PWI score being 50.2 (SD=19.4). This is significantly lower than the mean overall PWI score recorded by respondents in a recent general population survey conducted in Queensland, Victoria and South Australia (mean=75.9, SD=12.3) (Cummins, Woerner et al. 2009). IDRS survey participants also scored lower across all eight individual domains compared with this general population sample (Table 25). The scores across each of the domains except health were also significantly lower than those recorded in the 2009 IDRS.

Table 25: Personal wellbeing of PWID compared with the general population

Domain	PWID 2009 (N=145) Mean (SD)	PWID 2010 (N=148) Mean (SD)	General population (N=1,500) Mean (SD)
Standard of living	50.6 (26.9)	49.1 (25.3)	78.7 (16.4)
Health	51.0 (25.4)	53.8 (21.6)	75.1 (19.7)
Achieving in life	46.6 (28.4)	41.8 (25.8)	73.6 (19.1)
Personal relationships	60.5 (29.3)	48.4 (28.3)	80.2 (21.3)
How safe you feel	74.5 (26.8)	62.4 (28.2)	81.3 (16.7)
Community connectedness	55.0 (30.1)	48.6 (29.1)	73.0 (18.4)
Future security	57.5 (29.9)	47.1 (31.1)	70.5 (19.2)
Life as a whole	55.2 (27.3)	49.5 (26.0)	78.6 (17.0)
Total	56.5 (20.6)	50.1 (19.4)	75.9 (12.3)

Source: IDRS PWID interviews; Cummins, Woerner & Chester, 2009

Whilst the PWI domain of health had improved in the 2010 cohort with respect to that of 2009, it was still more than 20% lower than that of the general population. KE reported several health issues peculiar to PWID such as poor dental hygiene from reduced saliva production associated with chronic opiate use, and respiratory disorders from the invariably associated tobacco and cannabis use. According to some KE, however, the introduction of ORT and increase in people accessing this has meant that users were now reaching ages where other chronic diseases of older people were starting to affect them, whereas previously they would have been more likely to die from an opiate-related incident prior to this occurring.

8.5. Sexual health

Population studies have shown that younger age groups have engaged in sexual relationships with more partners in their lifetime than older age groups (Johnson, Mercer et al. 2001). Amongst a REU sample, survey participants of a younger age were found to be more likely to engage in risky behaviours (Cogger and Kinner 2008). Furthermore, studies have shown that younger individuals who frequent nightclubs are likely to report multiple sexual partners and incidence of sexually transmitted infections (STIs) (Wells, Kelly et al. 2010).

In Australia, approximately 10% of young women and 3% of young men (aged under 30 years) report having been tested for chlamydia (Kong, Hocking et al. in press). The issues surrounding sexual health prompted questions to be developed for the IDRS survey to investigate reasons why or why not survey participants choose to have STI screening. The responses to these questions were formulated by considering results of previous research (Dixon-Woods, Stokes et al. 2001; Tilson, Sanchez et al. 2004; Balfe and Brugha 2009).

Participants in the IDRS were first asked if they had been tested for a STI in the last two years. Among the Victorian sample who commented, over half (53%) reported that they had been tested in the last two years for a STI by means of a blood test, urine sample or swab, while 34% reported that they did not think about been tested (Table 26).

Among those who were tested, the main reasons given for testing were: health provider suggested it, due to unprotected sex and as part of a 'general check-up'. The majority of survey participants (51%) were tested by a GP.

Two KE suggested that they knew of many PWID, particularly those who used amphetamines, who 'selected' sexual partners based on their seropositivity to HIV.

Over half (59%) of the female sample reported a pap smear test in the last two years. The main reasons given for 'no' pap smear test were 'didn't think of it', 'don't like them' and 'wasn't sexually active', 'pregnant' and 'hysterectomy'. The main reasons for having a pap smear test were 'due for a test', 'general check-up' and 'health provider suggested it'. The majority of survey participants (60%) were tested by a GP (Table 26).

Table 26: Sexual health Victoria PWID, 2010

	PWID 2010		PWID 2010
Tested for a STI last two years? (%)	N=150	Reasons for no pap smear test [#] (%)	n=19
No, don't think about it		Wasn't sexually active	6
No, I didn't want to be tested	34	No symptoms	0
No, another reason	1	Don't like them	11
Yes, I was tested by means of a blood test, urine sample or swab	12	Didn't think of it	68
	53	Embarrassed/uncomfortable	0
		Financial cost	0
		Other [†]	11
Reason for test [*] (%)	n=80	Reasons for having a pap smear test ^{##} (%)	n=25
Clear of infection after relationship	6	Symptoms	8
Clear of infection before starting relationship	6	Reminder letters	4
Unprotected sex	15	Health provider suggested	28
Symptoms of infection	3	Friend suggested	8
Health provider suggested	21	Due for a test	44
Friend suggested	1	Family history of cervical cancer	4
Partner suggested	0	Other [@]	12
Partner had symptoms	1		
Ex-partner told me to get tested	0		
Clinic access was easy	5		
Other [@]	49		
Place last tested for STI [*] (%)	n=80	Place last tested for pap smear ^{##} (%)	n=25
Sexual health clinic	13	Sexual health clinic	12
GP	60	GP	68
Hospital	8	Hospital	20
Other (prison)	20 (8)	Other	0
Had a pap smear test last two years ^{**} (%)	n=44		
	57		

Source: IDRS PWID interviews

^{*} among those who were tested for a sexually transmitted infections in the last 2 years

^{**} among females only

[#] among those who had not had a pap smear test in the last 2 years

^{##} among those who had a pap smear test in the last 2 years

[@] 'other' – most reported for a 'general check-up'.

[†] 'other' – 'forgot' and 'getting one soon'

8.6. General medical practitioner service use

Literature has shown that the regular PWID population is a group that experience a variety of physical and mental health problems. However, due to the marginalised status and concealed nature of PWID, it can be difficult to ensure that such people obtain the public health care access they require, and that targeted health care strategies reach them. PWID also experience barriers to treatment due to a lack of knowledge regarding available services, long waiting times and limited operating hours (Neale, Sheard et al. 2007). In addition, due to the nature of the addiction, the time spent obtaining and consuming drugs may cause delays in seeking treatment (McCoy, Metsch et al. 2001) (Drumm, McBride et al. 2005) which often leads to over-dependence on acute crisis and emergency interventions (Kerr, Wood et al. 2004).

The IDRS sought to investigate this issue of access further and identify the services which PWID have utilised most often, thereby offering a resource for treatment providers and policy initiatives. This section focuses on their general medical practitioner (GP or doctor) and not their opiate replacement prescriber (assuming these to be different).

In Victoria, 85% of respondents to this question reported visiting a GP in the last 12 months for a physical or mental health problem (n=124), on a median of 12 occasions. Among those who reported visiting a GP in the last 12 months, nearly one-third (30%) of survey participants reported visiting a GP in a hospital outpatient or emergency department, while 6% reported a visit from the GP at home (Table 27).

Sixty-three percent of those who reported a GP visit in the past year reported visiting for problems with their mental health on a median of two occasions (mean= 6). This compares to 25% of the general population who visited a GP for a lifetime mental disorder with 12-month symptoms (Australian Bureau of Statistics 2007). Of those who commented, the majority (79%) reported visiting the 'same' GP for a problem with their mental health. Of those who saw a 'different' GP (n=16), over half (56%) reported seeing a 'different' GP at a 'different' practice, with a median of two 'different' practices (range=1-6) visited in the past 12 months. Of those who visited a GP for a problem with their mental health, 27% were referred to a GP from another GP. The mean age first visited a GP for a problem with their mental health was 23 years (range=6-47 years) (Table 27).

Table 27: General Medical Practitioner visits among PWID, Victoria, 2010

	VIC
Visited a GP last 12 months (%)	85
Median no. of GP's visits last 12 months *	n=124 12
Visited GP at home * (%)	6
GP visits in hospital OP or ED * (%)	30
GP visit for mental health problem * (%)	63
Visited the same GP for mental health ** (%)	n=62 79
Referred to GP from another GP for mental health problem ** (%)	27
Mean age first visited GP for mental health problem **	n=77 23

Source: IDRS PWID interviews

* among those who had visited a GP in the last 12 months

** among those who visited a GP for mental health

Whilst a high percentage of survey participants reported visiting a GP in the previous 12 months, KE in general had ongoing concerns about access to GPs. In particular, there were calls for more ORT prescribers who were also willing to practise general medicine, and/or primary health care centres that had GPs specifically up-skilled in health issues faced by PWID. Hospital-based KE again suggested that PWID continued to call ambulances and/or present to emergency departments with problems that could be dealt with by a GP because they did not know where to go or were unable to get into a service.

8.7. Social networks

Interaction with other people is vital to human development. Social relationships and networks can act as protective factors against the onset or reoccurrence of mental illness and enhance recovery of mental disorders (WORLD HEALTH ORGANISATION 2003; WORLD HEALTH ORGANISATION 2005). For example, marital status has been shown to be related to a person's physical and mental health, with results indicating married people experience less negative effects associated with these areas. Regular drug users, particularly regular injectors, are a group that tend to be marginalised by society and experience many hardships including homelessness, social and financial disadvantage and physical health problems all of which may contribute to a mental health condition, therefore implying social networks would be a vital area of support for this group.

Results from the 2007 National Survey of Mental Health and Well-being demonstrated that the prevalence of a 12-month mental health disorder was very similar for people who did and did not have contact with family members; however, results differed for those who had contact and who did not have contact with friends. Of the estimated 15.9 million people who had contact with their family and/or friends, one in five (20%) had a 12-month mental disorder. However, of those who had no contact with family or no family, 23% had a 12-month mental disorder compared to 38% of those who had no contact with friends or no friends (Australian Bureau of Statistics 2007).

In 2010, the IDRS asked survey participants questions in relation to social networks.

Of the Victorian sample, around one-quarter (27%) reported contact with a family member nearly every day, while 15% reported no contact or family. The majority (65%) were able to rely on one or two family members (Table 28).

Over half (54%) reported contact with friends nearly every day. The majority (68%) were able to rely on one or two friends. Over half of the sample were single (63%); however, of those with a spouse (n=55), 42 reported that they could rely on them 'a lot' (76%).

Table 28: Social networks among survey participants, Victoria, 2010

	VIC N=151
How often are you in contact with any family member?	
Nearly every day (%)	27
3-4 days a week (%)	7
1-2 days a week (%)	19
1-3 days a month (%)	13
< once a month (%)	16
Never (%)	15
No family (%)	3
How many family members can you rely on *?	n=79
1-2 family members (%)	65
3-4 family members (%)	24
5 or more family members (%)	11
How often are you in contact with any of your friends?	
Nearly every day (%)	54
3-4 days a week (%)	10
1-2 days a week (%)	15
1-3 days a month (%)	5
< once a month (%)	4
Never (%)	3
No friends (%)	9
How many friends can you rely on **?	n=99
1-2 friends (%)	67
3-4 friends (%)	21
5 or more friends (%)	10
Don't know (%)	2
How much can you rely on your spouse/partner for help (for a serious problem)?	
A lot (%)	28
Some (%)	2
A little (%)	5
Not at all (%)	1
Don't know (%)	0
Currently single (%)	63

Source: IDRS PWID interviews

* among those in contact with a family member

** among those in contact with friends

9. Study limitations

The aim of the IDRS study is to monitor emerging trends in illicit drug use and related issues within the community. The study is not designed to provide a definitive or detailed explication of these trends. Rather, the primary purpose of the IDRS findings is to (where appropriate) inform future policy and research responses to the public health and law enforcement challenges presented by illicit drug use in each state and territory within Australia.

The IDRS approach relies on the perceptions of expert individuals involved in and exposed to the illicit drug scene (both individuals who inject drugs and professionals working with these groups). Where possible, these reports are compared against secondary indicators. However, given the hidden nature of illicit drug use, the availability of reliable indicator data is often limited.

Further, the IDRS study principally gathers evidence on emerging trends among people in contact with drug treatment, health and other services (e.g. the PWID interviews are primarily conducted at Melbourne NSP). As this population is not necessarily representative of all illicit drug users (e.g. those who do not routinely access such services, and recreational/non-dependent illicit drug users), the generalisability of the present results is limited. Another key limitation of the IDRS methodology is that it only describes drug use issues within metropolitan Melbourne and fails to provide a comprehensive picture of drug use issues across the whole state of Victoria. To provide such a comprehensive picture, the IDRS methodology would need to be expanded to regional areas of Victoria.

10. Implications

The results from the 2010 Victorian IDRS suggest action in the following priority areas:

- 1. Expansion of Victoria's routine drug trend monitoring, through new methods and new sentinel groups, such as users within rural/regional drug markets, to improve the understanding of intersecting drug markets and related outcomes**

The experience both in Victoria and nationally has shown that the IDRS methodology can be extended to other sentinel groups of drug users for the purpose of monitoring trends in different market segments. For example, the IDRS drug trend monitoring methods have been successfully adapted for the purpose of exploring benzodiazepine use among PWID (Breen, Degenhardt et al. 2003), and to explore patterns of drug use among psychostimulant users (Johnston, Laslett et al. 2004; Stooze, Laslett et al. 2005).

Expansion of core methods from existing monitoring systems to other important groups of drug users (e.g. new initiates to intravenous drug use) or different drug markets (e.g. rural/regional markets) should also be investigated. In Victoria, the IDRS is city-centric and commentary from KE and survey participants visiting from more rural areas suggests a very different drug availability profile outside of Melbourne, which is poorly captured by current monitoring systems.

Additionally, the feasibility of incorporating new data collection methods (e.g. web-based surveys), such as those successfully implemented in the Victorian Psychostimulant Monitoring Project and the Cocaine Markets Study (Johnston, Laslett et al. 2004; Shearer, Johnston et al. 2005) might also be considered as a means of enhancing sampling and market coverage of existing surveillance systems.

- 2. Further research into drug-driving, particularly in regard to peoples' understanding of impairment and the circumstances in which they drive soon after taking illicit drugs**

In 2010, approximately 80% of those PWID who had driven a car during the past six months reported having driven soon after taking an illicit drug during that time; however, only two-fifths of these drivers acknowledged that the drug use may have impaired their ability to drive. This pattern of drug-driving has also been highlighted in previous IDRS reports (Hornyiak, Dietze et al. 2009). Hence, there is an ongoing need for effective education and policy regarding the effects of different drugs on driving ability among PWID.

3. Further research to explore the nature and extent of prescription and OTC drug use among the general population as well as PWID in Melbourne, and the health harms associated with prescription drug misuse

Diversion of prescription pharmaceuticals and injection of both prescription and non-prescription pharmaceuticals (which are not designed for intravenous use) continues to be reported by participants in the IDRS. The issue of a growing illicit market for sedating antipsychotics such as quetiapine was flagged for the first time in the 2010 IDRS and should be further investigated. Unisom capsules continue to be mentioned as a non-prescription pharmaceutical injected inappropriately by a small group of users, and the rising access to such drugs via the internet needs to be monitored.

Whilst responses to some questions in the 2010 IDRS suggest that opiates prescribed for pain (such as oxycodone and morphine) are not being used more frequently by the survey participants than in previous years, other indicators suggest that there has been an increase by the participants in the relative rates of injection of these pharmaceuticals relative to other licit and illicit drugs. KE also propose that the profiles of people, who are addicted to opiates such as morphine and oxycodone, particularly if taking these orally and not injecting them, are likely to be different from those participants regularly undertaking the IDRS. Determining how to target other groups of prescription drug-dependent people in terms of support and treatment services for their addictions should be a priority of both state and federal governments.

The issues of different demographics of people injecting such drugs as melanin and steroids have been flagged again by KE in the IDRS. The long-term effects of injecting such pharmaceuticals is unknown and it appears that such groups of people would be unlikely to be the recipients of current harm reduction messages around safe injecting practices. Therefore, the need for identification of such users and development of policy and messages around the issues of steroid and melanin injection should be further assessed.

4. Further research to monitor changing patterns of benzodiazepine use

Whilst there was an absolute reduction in the 2010 rates of benzodiazepine use compared with 2009, both licit and illicit use of these drugs continue to be widespread amongst the IDRS survey participants. The frequency of use of such drugs reported by 2010 IDRS survey participants, coupled with reports from KE, highlights the continuing potential for harm associated with short-acting benzodiazepines in this population. Further assessment as to the relative harms of use of different types of benzodiazepines, and ongoing education of both prescribers and populations at risk should be considered.

5. Additional support to patients with dual-diagnoses of psychotic disorders such as schizophrenia and illicit-drug use

Rates of psychotic disorders reported amongst the 2010 IDRS survey participants were again particularly high. This statistic underlines the need for additional supports for patients with conditions such as schizophrenia who may also use illicit drugs. According to KE, mental health and primary care clinicians and allied staff who are able to work with people with 'dual-diagnoses' face innumerable barriers when trying to access additional services and support for their patients. Appreciation of the need for additional support for the mentally ill in such contexts and development of further resources for both patients and clinicians working in this area should be a priority.

6. Further education to the PWID populace on the harms of sharing any forms of injecting equipment as opposed to problems with sharing needles

In 2010, IDRS survey participants continued to report sharing of injecting equipment, particularly with regular sex partners, and HCV carriage rates remain unacceptably high. Whilst reported needle and syringe sharing rates were relatively stable, almost 50% of participants reported the use of some form of injecting equipment after someone else in the last month. This high rate underlines the need for harm reduction strategies to encompass all forms of equipment involved in injecting drug use and reinforces the need for ongoing emphasis on education and other harm reduction strategies in this area.

7. Continued monitoring of illicit drug markets for trends in price, purity, availability, patterns of drug use, and related outcomes

In 2010, the IDRS again demonstrated its value as an informative and reliable drug trend monitoring study. It provides comparable data relating to illicit drug use over time and between jurisdictions, in a timely and cost-effective manner. Data from recent years have highlighted the dynamic nature of the illicit drug markets in Melbourne and the need to monitor fluctuations and the way these may impact on patterns of drug use. The continued monitoring of illicit drug markets is will add to our understanding of patterns of drug use and our ability to inform strategic policies and limit any associated harms.

References

- Australian Institute of Health and Welfare (2008). 2007 National Drug Strategy Household Survey: State and Territory supplement (2008). Drug Statistics Series. Canberra, Australian Institute of Health and Welfare. **No. 21**.
- Abu-Rajab, K., H. M. Palmer, et al. (2009). "To what extent does Neisseria gonorrhoeae multiantigen sequence typing of gonococcal isolates support information derived from patient interviews?" International Journal of STD and AIDS **20**(6): 414-417.
- Australian Bureau of Statistics (2007). National Survey of Mental Health and Wellbeing: Summary of Results. Canberra, ABI.
- Australian Bureau of Statistics (2009). 2007-2008 National Health Survey: Summary of Results. . Canberra, Australian Bureau of Statistics.
- Australian Crime Commission (2010). Illicit Drug Data Report 2008-2009.
- Australian Government Department of Health and Ageing (2006). New Listings on the Pharmaceutical Benefits Scheme. . T. A. Minister for Health and Ageing, Media Release. 31 March 2006. , Australian Government Department of Health and Ageing.
- Australian Institute of Health and Welfare (2008). 2007 National Drug Strategy Household Survey: detailed findings. Drug statistics series no. 22. Canberra, Australian Institute of Health and Welfare.
- Balfe, M. and R. Brugha (2009). "What prompts young adults in Ireland to attend health services for STI testing?" BMC Public Health **9**(1): 311.
- Barry, D. and N. M. Petry (2009). "Associations between body mass index and substance use disorders differ by gender: results from the National Epidemiologic Survey on Alcohol and Related Conditions." Addict Behav **34**(1): 51-60.
- Breen, C., L. Degenhardt, et al. (2003). The impact of changes in the availability of publicly subsidised 10mg temazepam gel caps in Australia. . Sydney, National Drug and Alcohol Research Centre.
- Breen, C. L., L. J. Degenhardt, et al. (2004). "The effects of restricting publicly subsidised temazepam capsules on benzodiazepine use among injecting drug users in Australia." Med J Aust **181**(6): 300-304.
- Bush, K., D. R. Kivlahan, et al. (1998). "The AUDIT Alcohol Consumption Questions (AUDIT-C)." ARCH INTERN MED **158**: 1789-1795.
- Coffin, P. O., M. Tracy, et al. (2007). "Identifying Injection Drug Users at Risk of Nonfatal Overdose." Academic Emergency Medicine **14**(7): 616-623.
- Cogger, S. and S. A. Kinner (2008). Age related differences in patterns of drug use and risk behaviour among regular ecstasy users. Sydney, National Drug and Alcohol Research Centre, University of New South Wales,; 6.
- Crofts, N., C. K. Aitken, et al. (1999). "The force of numbers: why hepatitis C is spreading among Australian injecting drug users while HIV is not." Med J Aust **170**(5): 220-221.
- Cummins, R., J. Woerner, et al. (2009). Australian Unity Wellbeing Index Survey 20.1: The wellbeing of Australians – The effect of fires in Victoria and floods in Queensland. A. C. o. Q. o. Life, Deakin University.
- Darke, S., J. Dufloy, et al. (2007). "Comparative toxicology of fatal heroin overdose cases and morphine positive homicide victims." Addiction **102**: 1793-1797.
- Darke, S., J. Ross, et al. (1996). "Overdose among heroin users in Sydney, Australia: I. Prevalence and correlates of non-fatal overdose." Addiction **91**(3): 405-411.

- Dawe, S., N. J. Loxton, et al. (2002). Review of diagnostic screening instruments for alcohol and other drug use and other psychiatric disorders. Canberra, Commonwealth Department of Health and Ageing. **2nd ed.**
- Dawson, D. A., B. F. Grant, et al. (2005). "Effectiveness of the Derived Alcohol Use Disorders Identification Test (AUDIT-C) in Screening for Alcohol Use Disorders and Risk Drinking in the US General Population." Alcoholism: Clinical and Experimental Research **29**(5): 844-854.
- Department of Health and Ageing, A. G. (2011). National Notifiable Diseases Surveillance System.
- Di Natale, R. and A. Ritter (2003). The costs and benefits associated with methadone take-away doses. Melbourne, Drugs Policy and Services Branch, Victorian Department of Human Services. Protected Document.
- Dietze, P. and J. Fitzgerald (2002). "Interpreting changes in heroin supply in Melbourne: droughts, gluts or cycles?" Drug Alcohol Rev **21**(3): 295-303.
- Dietze, P., M. Stooze, et al. (2010). "The self-reported personal wellbeing of a sample of Australian injecting drug users." Addiction **105**(12): 2141-2148.
- Dietze, P. M., S. Cvetkovski, et al. (2000). "Ambulance attendance at heroin overdose in Melbourne: The establishment of a database of ambulance service records." Drug and Alcohol Review **19**(1): 27-33.
- Dixon-Woods, M., T. Stokes, et al. (2001). "Choosing and using services for sexual health: a qualitative study of women's views." Sex Transm Infect **77**: 335-339.
- Dobbin, M. (2002). The Victorian Temazepam Injection Prevention Initiative. The Health of Victorians. The Chief Health Officer's Bulletin: 13-16.
- Drugs and Crime Prevention Committee, P. o. V. (2004). Inquiry into Amphetamine and 'Party Drug' Use in Victoria – Final Report. Melbourne, Drugs and Crime Prevention Committee, Parliament of Victoria.
- Drugs and Crime Prevention Committee, P. o. V. (2006). Inquiry into the Misuse/Abuse of Benzodiazepines and Other Forms of Pharmaceutical Drugs in Victoria – Interim Report. Melbourne, Drugs and Crime Prevention Committee, Parliament of Victoria.
- Drumm, R. D., D. C. McBride, et al. (2005). "I'm a health nut!": street users's accounts of self-care strategies." Journal of Drug Issues **35**: 607-629.
- Feigin, A. (2011). Burnet Institute on behalf of the Victorian Department of Health. Personal Communication.
- Fry, C. and P. Miller (2001). Victorian Drug Trends 2000: Findings from the Melbourne arm of the Illicit Drug Reporting System (IDRS) Study. NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **No. 108**.
- Gugger, J. J. and M. Cassagnol (2008). "Low-dose quetiapine is not a benign sedative-hypnotic agent." Am J Addict **17**(5): 454-455.
- Haber, P., N. Lintzeris, et al. (2009). Guidelines for the Treatment of Alcohol Problems. Canberra, Australian Government Department of Health and Ageing.
- Hando, J. and S. Darke (1998). NSW Drug Trends 1997. Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **56**.
- Hando, J., S. Darke, et al. (1998). Drug Trends 1997: A comparison of drug use and trends in three Australian states. NDARC Monograph. Sydney, National Drug and Alcohol Research Centre. **No. 36**.
- Hando, J., S. O'Brien, et al. (1997). The Illicit Drug Reporting System Trial: Final Report. NDARC Monograph. Sydney, National Drug and Alcohol Research Centre. **No. 31**.
- Horniyak, D., P. Dietze, et al. (2009). Victorian Drug Trends 2009: Findings from the Illicit Drug Reporting System. Australian Drug Trend Series. Melbourne, The McFarlane

- Burnet Institute for Medical Research and Public Health & Turning Point Alcohol and Drug Centre. **No. 40.**
- Horyniak, D., P. Dietze, et al. (2010). Victorian Drug Trends 2009: Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trends Series No. 40, The MacFarlane Burnet Institute for Medical Research and Public Health & Turning Point Alcohol and Drug Centre.
- Jenkinson, R., P. Miller, et al. (2004). Victorian Drug Trends 2003: Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **No. 175.**
- Jenkinson, R. and B. O'Keeffe (2005). Victorian Drug Trends 2004: Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **No. 212.**
- Jenkinson, R. and B. O'Keeffe (2006). Victorian Drug Trends 2005: Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **No. 256.**
- Jenkinson, R. and B. Quinn (2007). Victorian Drug Trends 2006: Findings from the Illicit Drug Reporting System (IDRS). NDARC Technical Report. Sydney, National Drug and Alcohol Research Centre. **No. 274.**
- Jenkinson, R. and B. Quinn (2008). Amphetamine Type Stimulant Use and Associated Outcomes. Amphetamine-Type Stimulant (ATS) Treatment Approaches Study Tour. Melbourne, Australia.
- John, U., C. Meyer, et al. (2006). "Predictors of increased body mass index following cessation of smoking." Am J Addict **15**(2): 192-197.
- Johnson, A. M., C. H. Mercer, et al. (2001). "Sexual behaviour in Britain: partnerships, practices, and HIV risk behaviours." The Lancet **358**(9296): 1835-1842.
- Johnston, J., A.-M. Laslett, et al. (2004). Victorian Psychostimulant Monitoring Project: Trialling Enhanced Drug Trend Monitoring of Melbourne Psychostimulant Markets. Fitzroy, Turning Point Alcohol & Drug Centre.
- Kaye, S. and S. Darke (2002). "Determining a diagnostic cutt-off on the Severity of Dependence Scale (SDS) for cocaine dependence." Addiction **97**: 727-731.
- Kellehear, A. (1993). The Unobstrusive Researcher: A Guide to Methods. St Leonards, Australia, Allen & Unwin.
- Kerr, T., E. Wood, et al. (2004). "High rates of primary care and emergency department use among injection drug users in Vancouver." Journal of Public Health **2004**(27): 62-66.
- Kessler, R. C., G. Andrews, et al. (2002). "Short screening scales to monitor population prevalences and trends in non-specific psychological distress." Psychol Med **32**(6): 959-976.
- Kong, F., J. S. Hocking, et al. (in press). "Sex and sport: sexual risk behaviour in young people in rural and regional Victoria." Sexual Health.
- Lefante, J. J., Jr., G. N. Harmon, et al. (2005). "Use of the SF-8 to assess health-related quality of life for a chronically ill, low-income population participating in the Central Louisiana Medication Access Program (CMAP)." Qual Life Res **14**(3): 665-673.
- Lintzeris, N. and e. al. (2006). National Clinical Guidelines and Procedures for the Use of Buprenorphine in the Treatment of Opioid Dependence.
- Mallick, J., J. Johnston, et al. (2007). Drugs and Driving in Australia: A survey of community attitudes, experience and understanding. Melbourne, Australian Drug Foundation.
- McCoy, C. B., L. Metsch, et al. (2001). "Drug use and barriers to use of health care services." Subst Use Misuse **36**(789-806).
- McKetin, R., S. Darke, et al. (1999). Drug Trends 1998: A comparison of drug use and trends in three Australian states: Findings from the Illicit Drug Reporting System (IDRS). NDARC Monograph. Sydney, National Drug and Alcohol Research Centre. **No. 41.**

- Moore, T., J. Caulkins, et al. (2005). Bulletin No. 8: Illicit drugs in Australia: What do we know about the role of price? DPMP Bulletin Series. Fitzroy, Turning Point Alcohol and Drug Centre.
- National Centre in HIV Epidemiology and Clinical Research (2010). National Centre in HIV Epidemiology and Clinical Research. Australian NSP Survey National Data Report 2005-2009. Sydney, NSW., National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales.
- Neale, J., L. Sheard, et al. (2007). "Factors that help injecting drug users access and benefit from services: a qualitative study. ." Substance Abuse Treatment, Prevention and Policy **31**(2).
- Pickering, R. P., B. F. Grant, et al. (2007). "Are overweight, obesity, and extreme obesity associated with psychopathology? Results from the national epidemiologic survey on alcohol and related conditions." J Clin Psychiatry **68**(7): 998-1009.
- Quinn, B. (2008). Victorian Drug Trends 2007: Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trends Series. Sydney, National Drug and Alcohol Research Centre. **No. 4**.
- Quinn, B. (2009). Victorian Drug Trends 2008: Findings from the Illicit Drug Reporting System (IDRS). Australian Drug Trends Series. Sydney, National Drug and Alcohol Research Centre. **No. 22**.
- Rajs, J., A. Petersson, et al. (2004). "Nutritional status of deceased illicit drug addicts in Stockholm, Sweden--a longitudinal medicolegal study." J Forensic Sci **49**(2): 320-329.
- Schiff, E. R. and N. Ozden (2004). Hepatitis C and Alcohol. Publications. Bethesda, National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health.
- Shearer, J., J. Johnston, et al. (2005). Characteristics and dynamics of cocaine supply and demand in Sydney and Melbourne. National Drug Law Enforcement Research Fund, Monograph Series No. 14.
- Stoove, M. A., A.-M. Laslett, et al. (2005). Victorian trends in ecstasy and related drug markets 2004: Findings from the Party Drugs Initiative (PDI). Fitzroy: Victoria, Turning Point Alcohol and Drug Centre.
- Tilson, E. C., V. Sanchez, et al. (2004). "Barriers to asymptomatic screening and other STD services for adolescents and young adults: focus group discussion." BMC Public Health **4**(21).
- Topp, L. and R. Mattick (1997). "Choosing a cut-off on the Severity of Dependence Scale (SDS) for amphetamine users." Addiction **92**(7): 839-845.
- Victorian Department of Health (2006). Improving health, reducing harm: Victorian Drug Strategy 2006-09. . V. D. o. Health. Melbourne.
- Victorian Department of Health (2007). Victorian amphetamine-type stimulants (ATS) and related drugs strategy 2007-2010: Discussion paper. V. D. o. H. Services. Melbourne, Mental Health & Drugs Division, Victorian Department of Health.
- Victorian Department of Health (2011). National Coroner's Information System: Heroin related deaths. Melbourne, Victorian Department of Health.
- Victorian Department of Human Services (2008). The Victorian Drug Statistics Handbook: Patterns of drug use and related harm in Victoria for the period July 2006 to June 2007. V. D. o. H. Services. Melbourne, Victorian Government Publishing Service.
- Wannamethee, S. G., A. G. Shaper, et al. (2005). "Alcohol and adiposity: effects of quantity and type of drink and time relation with meals." Int J Obes (Lond) **29**(12): 1436-1444.
- Wells, B. E., B. C. Kelly, et al. (2010). "Patterns of Alcohol Consumption and Sexual Behavior among Young Adults in Nightclubs." The American Journal of Drug and Alcohol Abuse **36**(1): 39-45.

- WORLD HEALTH ORGANISATION (2003). Investing in Mental Health. , WHO, Geneva. Department of Mental Health and Substance Dependence, Noncommunicable Diseases and Mental Health.
- WORLD HEALTH ORGANISATION (2005). Promoting mental health; Concepts, emerging evidence, practice, WHO, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne. Herman, Saxena, and Moodie (eds).
- WORLD HEALTH ORGANISATION. (2011). "Global Database on Body Mass Index." Retrieved 28 January 2011, from http://apps.who.int/bmi/index.jsp?introPage=intro_3.html.
- Zimlichman, E., I. Kochba, et al. (2005). "Smoking habits and obesity in young adults." Addiction **100**(7): 1021-1025.