B. de Graaff & R. Bruno

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

Australian Drug Trends Series No. 59

TASMANIAN DRUG TRENDS 2010

Findings from the Illicit Drug Reporting System (IDRS)

Barbara de Graaff & Raimondo Bruno

School of Psychology, University of Tasmania

Australian Drug Trends Series No. 59

ISBN 978-0-7334-3023-7

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

This research was funded by the Australian Government Department of Health and Ageing (AGDH&A) and co-ordinated by the National Drug and Alcohol Research Centre (NDARC), University of New South Wales. The authors would like to thank Mr Chris Milton, Dr Robyn Davies and Mr Joe Upston and colleagues of the AGDH&A for their assistance throughout the year. The authors also wish to thank the following people: Natasha Sindicich, Jennifer Stafford, Dr Lucy Burns, Professor Louisa Degenhardt and Amanda Roxburgh from NDARC for their assistance throughout the project.

Thanks also must go to the following organisations and their staff, the members of the 2010 IDRS Steering Committee: Tania Joughin, Carolyn Hay and Mandy Wilton (Tasmanian Council on AIDS, Hepatitis and Related Diseases), Mary Sharpe and Jim Galloway (Pharmaceutical Services, Department of Health and Human Services), Rachael Taylor, Deb Zwolsman, Tammy Sutcliff and June Temper (AGDH&A), Tracey Currie and Jann Smith (Alcohol, Tobacco and Other Drugs Council of Tasmania), Sylvia Engels and Dr Adrian Reynolds (Alcohol and Drugs Service, Department of Health and Human Services), David Perez (The Link Youth Health Service), Detective-Inspector Ian Lindsay, Debra Salter and Jonathon Rogers (Tasmania Police), Robyn Yaxley (Department of Justice, Tasmania), and David Owen and Bert Dorgelo (Advocacy Tasmania). In particular, thanks go to Emeritus Professor Stuart McLean (Tasmanian School of Pharmacy, University of Tasmania) for his stewardship and guidance of the IDRS project in Tasmania over the years of the project.

Emma Rouse, Sarah Haberle and Megan Waugh conducted the interviews with individuals who inject drugs and provided assistance throughout the project. Dr Allison Matthews also conducted some of the interviews with key experts.

The staff of services who very generously provided the researchers with space and support for interviewing participants: the Tasmanian Council on AIDS, Hepatitis and Related Diseases (Hobart and Glenorchy sites); and the Link Youth Health Service, as well as the community pharmacies and needle and syringe programs who distributed information about the research to their clients.

The many key experts who willingly provided their time, effort and experience to contribute to the IDRS process.

Appreciation is also extended to the following local organisations and persons who generously provided indicator data: Tasmania Police, Tasmanian Department of Health and Human Services divisions of Pharmaceutical Services (Mary Sharpe and Jim Galloway), Population Health (Francine Smith), Alcohol and Drug Services (Sylvia Engels and Ray Kemp); and Justice Department of Tasmania divisions of Magistrates Court (Paul Huxtable), Supreme Court of Tasmania (Tim Ellis), Poppy Board (Terry Stuart), and Prisons (Amanda Bannister).

Finally, and most importantly, the authors wish to thank the people who participated in the IDU survey.

ABBREVIATIONS

2CI	2,5-dimethoxy-4-iodophenethylamine
ABCI	Australian Bureau of Criminal Intelligence
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
AIDS	Auto-immune Deficiency Syndrome
AIHW	Australian Institute of Health and Welfare
AOD	Alcohol and other Drug
ATSI	Aboriginal and/or Torres Strait Islander
AUDIT	Alcohol Use Disorders Identification Test
BBVI	Blood-borne viral infection(s)
BMI	Body Mass Index
CNS	Central nervous system
CPR	Cardio-pulmonary resuscitation
DHHS	Department of Health and Human Services
DSM-III-R	Diagnostic and Statistical Manual of Mental Disorders, Revised
EDRS	Ecstasy & related Drug Reporting System
HBC	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human immunodeficiency virus
ICD	International Classification of Diseases
IDDI	Illicit Drug Diversion Initiative
IDRS	Illicit Drug Reporting System
IDU	Injecting drug user(s)
K10	Kessler 10 Psychological Distress Scale
KE	Key expert(s) (previously referred to as key informant)
LSD	lysergic acid diethylamide
MCS	Mental Component Score
MDA	3,4-methylenedioxyamphetamine
MDEA	3,4-methylenedioxyethamphetamine
MDMA	3,4-methylenedioxymethamphetamine
MMT	Methadone Maintenance Therapy
MSM	Methylsulfonylmethane
N	Number of participants
NCIS	National Coronial Information System
NDARC	National Drug and Alcohol Research Centre
NDLERF	National Drug Law Enforcement Research Fund

NDSHS	National Drug Strategy Household Survey
NHS	National Health Survey
NMDS	National Minimum Data Set (for Alcohol and Drug Treatment Services)
NSP	Needle and Syringe Program(s)
OST	Oral Substitution Therapy
OTC	Over-the-counter
OTI	Opiate Treatment Index
Pap	Papanicolaou
PBS	Pharmaceutical Benefits Scheme
PCS	Physical Component Score
PWI	Personal Wellbeing Index
REU	Regular ecstasy user
S8	Schedule 8
SD	Standard deviation
SDS	Severity of Dependence Scale
SF-8	Short Form-8 Health Survey
SIS	State Intelligence Services, Tasmania Police
SPSS	Statistical Package for the Social Sciences
SSRI	Specific Serotonin Reuptake Inhibitor
STI	Sexually Transmitted Infection
TAS	Tasmania
TasCAHRD	Tasmanian Council on AIDS, Hepatitis and Related Diseases
TASPOL	Tasmania Police
TCA	Tricyclic anti-depressant

EXECUTIVE SUMMARY

In 1998, the National Drug and Alcohol Research Centre (NDARC) was commissioned by the Commonwealth Department of Health and Family Services (now the Australian Government Department of Health and Ageing (AGDH&A)) to begin a national trial of the Illicit Drug Reporting System (IDRS), following previous employment of the methodology in New South Wales, South Australia and Victoria. The intention of the IDRS was to provide a coordinated approach to the monitoring of data associated with the use of heroin, cocaine, methamphetamine and cannabis, in order that this information could act as an early warning indicator of the availability and use of drugs in these categories.

In 1999, the Tasmanian component of the national IDRS gathered information on drug trends using two methods: key expert (KE) interviews with professionals working in drug-related fields; and an examination of existing indicators. For the 2000-2005 IDRS, funding was provided by the National Drug Law Enforcement Research Fund (NDLERF) to expand this methodology and include a survey of people who regularly inject illicit drugs, in addition to the methods employed previously. Funding for this methodology since this time has been provided by the Australian Government Department of Health and Ageing.

Injecting drug user survey

One hundred people that regularly injected illicit drugs (IDU) were interviewed using a standardised interview schedule which contained sections on demographics, drug use, price, purity and availability of drugs, crime, risk-taking, health and general drug trends.

Key expert survey

Twenty-eight professionals working with substance-using populations provided information about a range of illicit drug use patterns in clients they had direct contact with. These 'key experts' (KE) included drug treatment workers, Needle and Syringe Program staff, general health workers, youth and outreach workers, a community development worker and staff from police and justice-related fields. Of these individuals, 11 reported on groups that predominantly used opioids, 10 on cannabis and 7 on groups primarily using methamphetamine.

Other indicators

In order to complement and validate the KE interview data, a range of drug use indicator data was sought from both health and law enforcement sectors. Guidelines for the acceptability of these sources aimed to ensure national comparability, and required that the sources were available annually, included 50 or more cases, were collected in the main study site, and included details on the main illicit drug types under study.

Included in this analysis were telephone advisory data, drug offence data, hepatitis B and C incidence data, data from the National Drug Strategy Household Survey, and data from clients of the state's Needle and Syringe and Pharmacotherapy programs, as well as drug and alcohol treatment services.

Demographic characteristics of injecting drug user (IDU) participants

Demographic characteristics of the regular injecting drug user participants interviewed were generally consistent with those interviewed in previous Hobart IDRS studies. Participants were predominantly male (61%), and had an average age of 35 years. Participants had completed 10 years of education on average, four-fifths (82%) were currently unemployed, and two-fifths of the sample reported a previous prison history (43%).

Half of the participants (50%) were injecting a few times per week (but not every day), with 43% injecting at least once daily. Opioids were the predominant drug of choice among the cohort (66%). Opioids were reported by 76% of the current cohort as the drug most injected in the preceding month. Two-fifths were involved in some sort of drug treatment at the time of interview (40%).

Patterns of drug use among the IDU sample

The major trends identified in the 2010 Tasmanian IDRS report relate to indications of emerging changes in patterns of methamphetamine and pharmaceutical opioid use amongst local IDU, along with ongoing use of coincident opioid and benzodiazepine (particularly alprazolam) use. Summaries of major trends for each drug class are reported below by drug type, and are also summarised in Table A.

Table A: Price, availability, purity and prevalence of use of heroin, methamphetamine, cannabis, morphine and methadone at the time of the interview and over the preceding six months

	Heroin	Methamphetamine			Cannabis		Morphine
		Powder	Paste	Crystal	Bush	Hydro	
Prevalence of use	Very low	Stable level of use; used in last 6 months by more than half the sample; main form used	Use has returned to similar levels seen prior to 2008, when a notable decline was reported	Continued decrease in use	Gradual decline in the proportion of daily users; remains the most frequently used illicit drug; hydro the predominant form used		High proportion of sample using, this has remained relatively stable since 2008; MS Contin main form
Price							
1 mg	-	-	-	-	-	-	-
0.1 gram	-	$50, stable	$50, stable	$50, stable	-	-	$100, stable/ incr'd
0.5gram	-	-	-	-	-	-	-
gram	-	$300, stable	$300, stable	$400,stable/incr'd	$20, decreased	$25, stable	-
ounce	-	-	-	-	$200, decreased	$300, stable	-
Purity*	Mixed reports from very small number of participants; none able to comment on changes in purity over last 6 months	Low/medium purity; over last 6 months generally stable, some fluctuations	Medium purity; mixed reports on purity trends over recent months	High/medium; generally stable over last 6 months	Medium and stable in last 6 months	High and stable in last 6 months	*Pharmaceutical*
Availability	Very difficult/difficult to access among a small number of people able to access; unchanged over last 6 months	Very easy/easy; stable over preceding six months	Easy/very easy; stable over preceding six months	Mixed reports regarding current availability; generally stable in last 6 months	Very easy/ easy; stable over preceding six months	Very easy/easy; stable over preceding six months	Easy/very easy; stable over preceding six months

Source: IDRS IDU and KE interviews and drug use indicator data

* Note: based on IDU and key expert estimates of purity/potency

Heroin

Consistent with patterns seen in previous studies, only a small proportion of the Tasmanian cohort (8%) reported using heroin in the preceding six months, with this use being very infrequent (three of the previous 180 days), despite a high preference for heroin as a drug of choice (29%). The rate of recent heroin use among Tasmanian IDU cohorts has decreased dramatically from 38% in 2000 to 8% in the current study, in contrast to the stable reported preference for opioid drugs over time (approximately two-thirds of each annual sample).

Very few of the IDU participants interviewed in 2010 could report on local trends in price, purity or availability of heroin. All participants who commented reported availability of heroin to be 'very difficult' or 'difficult'; and that this had remained unchanged in the preceding six months.

The clear majority of indicators – such as the continuing low prevalence of heroin use among clients of the state's Needle and Syringe Program (NSP), the low median rate of use of heroin (three days in the last six months among those who had used the drug) and that, of the 29% of the IDU sample that reported heroin as their drug of choice, only 14% had recently used heroin – indicated that the low availability of heroin in the state, identified in earlier IDRS studies, continued in 2010.

Methamphetamine

Almost all IDU participants in 2010 (96%) reported lifetime use of some form of methamphetamine (powder, base/paste, crystal/ice or liquid). Seventy percent of the sample reported use of any form in the six months preceding the interview, at a median frequency of 24 days, equating to use on average once per week. This level of use is lower than reported in previous Tasmanian IDRS studies: recent use had been reported by between 74% and 94% of participants between 2003 and 2009.

Previous years have seen major upheavals in methamphetamine markets in Hobart, often tied to changes in the availability of higher-potency forms of the drug. Between 2001 and 2005, there was a steady increase in use of methamphetamine, both among the IDRS IDU cohort (85% in 2001; 95% in 2005) and among clients of the state's NSP (30% in 2004; 59% in 2005). In 2006 and 2007, the proportions of IDU participants reporting recent use of methamphetamine stabilised (83% in 2006; 88% in 2007). In 2008, this rate decreased (74%), and in 2010 this rate decreased to 70% – the lowest rate reported in local IDRS studies. Somewhat similarly, the proportion of client transactions from the state's NSP reported for methamphetamine has also decreased from 59% in 2004/05 to 33% in 2009/10.

The most commonly used form of the drug was powder methamphetamine, used by 56% of participants. Use of base/paste methamphetamine decreased dramatically in 2008 from 79% of the sample in 2005 to 25% in 2008; however, this trend was reversed in 2009 and 2010, with 40% of the sample reporting recent use in the current study. Use of crystal methamphetamine declined from 69% of the 2003 cohort to 20% in 2010.

In 2010, frequency of use of any form of methamphetamine in the preceding six months was 24 days (out of a maximum of 180 days), slightly higher than reported in 2009 (15 days). In the current sample, the median frequency of use for powder methamphetamine was 17 days, for base/paste 12 days, and for crystal methamphetamine, six days.

Market prices locally for powder and base/paste presentations of methamphetamine appear to have remained relatively stable since 2005, particularly in relation to 'point' amounts (approximately 0.1g) of the drug, at $50 for either form. Modal purchase prices for larger amounts of powder and 'base/paste' have also remained stable since 2004 at $300 per gram.

Whilst 'point' purchases of crystal methamphetamine have also remained stable at $50 since 2004, one gram purchases increased in median price to $400 in 2010, compared with prices between $300-340 since 2005. Participants predominantly regarded the prices of each presentation of the drug as remaining 'stable' in recent months.

IDU participants reporting on subjective purity of powder methamphetamine considered this to be 'low' to 'medium', and that this had either remained stable or fluctuated over the preceding six months. Several participants provided anecdotal reports in 2008-2010 that the more skilful local 'cook/s' have recently been incarcerated, which was thought to have contributed to decreasing purity of powder methamphetamine. 'Base/paste' was considered by participants to be 'medium' in subjective purity; and that this had either remained stable or fluctuated over the preceding six months. Participants considered ice/crystal methamphetamine used locally as 'high' to 'medium' in subjective purity, with potency remaining stable in recent months.

Participants interviewed in 2010 regarded powder form of methamphetamine as 'very easy' to 'easy' to access, with availability stable in recent months. Similarly, the majority of participants who had recently used base/paste methamphetamine reported that it was 'easy' or 'very easy' to access, and that this situation had remained stable in the preceding six months. Amongst the few participants able to comment on availability trends for crystal methamphetamine, reports were mixed: approximately half reported 'easy'/'very easy' access, and half reported 'difficult'/'very difficult' access. The majority of this group felt that this situation had remained unchanged in recent months.

Trends in 2010 represent subtle changes both for the methamphetamine market overall (for the IDU demographic) and within it; in contrast to trends in previous years, indicators suggest that overall use of methamphetamine has decreased slightly since 2007 (both in IDRS and NSP data), and that amongst those recently using this drug the majority of participants reported powder as the predominant forms of methamphetamine used. Use of crystal methamphetamine appeared to have continued decreasing in 2010. A companion study in Hobart carried out during a similar period examining drug use among regular ecstasy users (REU) also noted reductions in levels of use of crystal methamphetamine: the rate of recent use decreased from 27% in 2006 to 4% in 2010 (Matthews & Bruno, 2011). These findings suggest a declining crystal methamphetamine market in Tasmania in 2010.

Cocaine

It appears that the availability and use of cocaine in Hobart continues to be very low, at least within the populations surveyed in the current study or accessing government services, with use of the drug among clients of the state's NSP virtually non-existent (0.1% of non-pharmacy equipment transactions). Only a very small proportion of the Tasmanian IDRS IDU participants reported recent use of the drug (5%), and the median frequency of this use was very low (three days of the last 180).

Reflecting the very low level of cocaine use amongst IDRS participants, very few participants were able to comment on trends related to price, purity and availability. Participants noted a one gram purchase cost a median price of $400; availability was generally considered to be difficult; and purity considered 'high'. In keeping with this trend of low level use, Tasmania Police have made very limited numbers of cocaine seizures in the last decade.

These patterns of low levels of availability and use in these cohorts appear to have remained reasonably stable over the past few years. In contrast to this, there has been a gradual increase in the level of recent use of the drug in different local consumer populations such as frequent ecstasy consumers (Matthews & Bruno, 2011) which may provide indications of emerging changes in local markets for the drug.

Cannabis

Almost all participants in the 2010 Tasmanian sample reported lifetime use of cannabis, with most reporting use in the preceding six months (79%). The median frequency of this use was daily, which has been consistent in the Tasmanian IDU cohorts since 2000; however, the proportion of IDU participants reporting daily use has decreased from 75% in 2001 to 46% in 2010. Those IDU participants who used cannabis generally reported smoking both hydroponically and outdoor-cultivated cannabis in the preceding six months, although the former was most commonly used. While cannabis remains the most commonly used illicit drug, both in the IDU sample and in the state, there are indications of decreasing levels of use more generally, with the National Drug Strategy Household Survey (NDSHS) suggesting that past-year use of cannabis in Tasmania declined from 15.8% in 1998 to 10.8% of those aged 14 years and over in 2007.

Participants reported that a $25 'deal' of outdoor-cultivated cannabis weighed a modal amount of 2.0 grams, and of hydroponically-cultivated cannabis weighed 1.2 grams. When accessing outdoor cannabis, participants typically purchased quantities of one ounce (mode $200), $25 deal and quarter-ounce (median $60). The majority perceived no change in price of outdoor cannabis in the preceding six months.

Similar to previous years, participants described the subjective potency of outdoor-cultivated cannabis as 'medium', with this level generally considered 'stable' in the preceding six months. Hydroponically-cultivated cannabis was regarded as 'high' in subjective potency by participants who commented, with this level regarded as 'stable' in recent months.

Participants commenting on cannabis overwhelmingly reported that both hydroponic and outdoor forms were 'very easy' or 'easy' to obtain, with this remaining stable for both forms over the preceding six months.

Other opioids

Morphine

Three-quarters (73%) of the Tasmanian sample had used morphine that was not prescribed to them in recent months, with all injecting the drug in this time. MS Contin remained the predominant preparation used by this group, used by 69% of the sample as a whole, with Kapanol the next most commonly used (by 58% of the sample).

Tasmanian IDRS studies had shown a decreasing proportion of participants reporting recent use of morphine between 2003 and 2005, as well as a declining frequency of use amongst consumers. This occurred despite a relatively stable proportion of the IDU samples receiving maintenance pharmacotherapies (approximately 50%) and reporting an opioid as their drug of choice (approximately 60%). Since 2005, there has been a trend to increasing morphine use, with particularly notable increases between the 2007 and 2008 samples in terms of proportions reporting recent morphine use (68% and 81% respectively) and in the frequency of this use (24 v. 48 days respectively). In 2010, 73% of the sample reported recent use; at a frequency of 43 days in the preceding six months.

The modal price reported by IDU for all commonly-used morphine formulations was $1 per mg. Prices have remained relatively stable between 2009 and 2010, following an increase from previous reports. Morphine was considered 'easy' to 'very easy' to obtain by those who commented, and this situation was reported as remaining stable in recent months. The overall stable, high level of use and price of morphine indicated a strong local market.

Methadone syrup

Illicit methadone syrup was used by just two-fifths of the sample (42%) in the past six months, at a median frequency of 10 days, equating to use approximately once per fortnight. Almost one-third of IDRS respondents reporting recent use of illicit syrup (31%) were themselves enrolled in methadone maintenance treatment during this period. The median frequency of use of illicit methadone syrup was greater for participants who had been enrolled in a methadone program in the six months preceding the interview (24 days) than those who had not accessed this form of treatment (3 days).

It is important to recall that the individuals participating in the IDRS are selected on the basis of their regular injection of drugs and, as such, are not representative of all those enrolled in maintenance pharmacotherapy programs. Participants were asked to comment on the reasons for use of illicit methadone syrup: most commonly cited were reasons pertaining to self-treatment for opioid dependence and intoxication. There may be a spectrum of reasons for the use of illicit syrup by those themselves enrolled in the program, but it is important also to consider the role of incomplete stabilisation and of problems in the systems around dose dispensing in these situations. For a recent, detailed investigation of these types of issues, see Fraser et al. (2007).

Illicit methadone syrup was reported to cost a median of approximately $1 per mg in 2010, consistent with the majority of reports since 2001. Participants reported prices to be stable in recent months. Methadone syrup was most frequently purchased from friends; and this was generally carried out in an agreed-upon public location or a friend's home. Participants were divided in their reports on the availability of illicit methadone syrup: it was considered to be 'easy' to access (if pre-arranged and purchased from friends or acquaintances); and 'difficult' and decreasing in availability otherwise.

There have been continuing reports of participants injecting combinations of alprazolam and methadone syrup in the past six local IDRS studies, a practice that carries an increased risk of overdose, injection-related harms, and adverse social or legal consequences because of the particular disinhibitive effects of this combination, which both IDU participants and KE noted as concerns in regard to this trend.

Physeptone

Relatively consistent with previous IDRS reports, two-fifths of the sample (41%) reported recent use of illicit Physeptone (methadone tablets). The modal price of illicit Physeptone tablets was $10 per 10mg. Participants reported that prices had either remained stable or increased in recent months. Physeptone was regarded as 'difficult' to access, with this level of availability remaining stable or declining somewhat in the preceding six months.

Oxycodone

Illicit oxycodone use among local IDU samples appears to have increased in recent years, from 30% reporting use in 2005 to 60% of the current sample. OxyContin tablets were the predominant formulation used in the preceding six months.

Despite their higher relative potency than morphine tablets, preparations of oxycodone tablets had been sold locally at lower comparative prices since 2005. However, between the 2007 and 2008 surveys, consumer reports suggested the cost of these drugs increased (the modal price estimate for 80mg OxyContin tablets doubled from $40 to $80 between 2007 and 2008); subsequently stabilising since this time, and are now price-equivalent with morphine.

Illicit oxycodone was generally considered to be either 'easy' or 'very easy' to access. This situation was regarded as 'stable' over the preceding six months by most participants. The combination of the rapidly increasing rate of prescription of oxycodone (both nationally and locally), the apparent increasing demand in the morphine market, and its perceived similarity among users to morphine, render it likely that oxycodone use may continue to expand within the

local IDU market. Given the high relative potency of oxycodone, and its possible synergistic effects with other drugs, this is an issue that merits continued careful monitoring.

It is important to note also that the opioids used by this group are not coming from direct doctor-shopping, as the vast majority report obtaining them 'illicitly', i.e. not on a prescription in their name.

Benzodiazepines

The majority of participants reported lifetime use of benzodiazepines (87%), and three-quarters of the sample reported recent use (74%). Recent use of non-prescribed benzodiazepines was reported by half the sample (55%), at a median frequency of 25 days, which equates to use approximately once per week.

Illicit benzodiazepines were generally considered to be either 'easy' or 'very easy' to access. This situation was regarded as 'stable' over the preceding six months by most participants, with a notable minority reporting decreasing availability over this period. Illicit benzodiazepines were most commonly sourced from friends either as a gift or purchase, rather than through theft, forgery or feigning symptoms to doctors (doctor-shopping).

There are clear indications that, following a reduction of the injection of benzodiazepines among IDU between 2002 and 2003 (arising from the restriction and eventual removal of the preferred temazepam gel capsules from the market), injection of benzodiazepines remained an ongoing part of the local drug culture, with Tasmanian IDU consumers continuing to inject at rates higher in comparison to those identified in other Australian jurisdictions. As noted in previous IDRS studies, it was also clear that alprazolam (Xanax in particular) appeared to have largely replaced the local illicit market for temazepam gel capsules among those IDU particularly interested in benzodiazepine injection, with this drug being used in similar ways to temazepam capsules by consumers, such as in simultaneous combination with methadone syrup or other opioids.

Regulatory changes were implemented in September 2007 by the Tasmanian Pharmaceutical Services Branch regarding prescribing of alprazolam, with an aim to decrease misuse of this drug. Despite this, between the 2007 and 2008 studies, small increases in injecting use of alprazolam continued to be reported; however, since this time, a decrease in this practice has been reported (30% in 2008; 14% in 2010). KE and IDU participants from the 2009 and 2010 studies noted that the harms related to injecting alprazolam were becoming widely known, with some suggesting that this contributed to the decrease in injecting use.

This marks a change from the trend toward increasing injecting use of alprazolam amongst the IDU samples. However, the ongoing injecting use of alprazolam remains a concern given the serious psychological and physical harms associated with benzodiazepine injection. Additionally, the overall level of use and availability of benzodiazepines generally remains high within local IDU, particularly among primary users of opioids, which is again of concern given the increased risk of overdose when the two substances are combined, and the highly variable half-lives across different benzodiazepine types. As such, patterns of benzodiazepine use and injection in the state continue to warrant very close attention.

Health-related trends

Non-fatal overdose

Opioids

Four percent of participants reported experiencing a non-fatal overdose from use of morphine, methadone or oxycodone, or a combination of these, in the preceding 12 months.

Fatal overdose

Opioids

The number of accidental deaths in Tasmania attributable to opioid use in 2007 was 11, which equates to a rate of 23 per million of population. In 2008, a smaller number of deaths due to opioid use was reported, however, the precise number was not provided to protect confidentially. Nationally in 2008, 337 deaths were attributed to such causes, which equates to a rate of 16 per million population. This rate was slightly higher than reported in 2007 (n=266, 13 per million population)

Injecting risk behaviours

Self-reported rates of sharing of needles or syringes among clients of non-pharmacy NSP outlets had steadily declined over time (from 2.6% of all transactions in 1995/96 to 0.3% in 2005/06); however, in 2006/07, this trend was briefly reversed (with 1.1% of client transactions reporting sharing needles or syringes) - this rate has continued to decrease since this time, to 0.09% in 2009/10.

The current Tasmanian IDRS study identified a similar pattern with rates of sharing amongst IDU participants increasing sharply in 2007, and decreasing over the subsequent periods. Three percent of the current cohort reported use of another person's used needle/syringe in the month prior to interview, a rate lower than was reported in 2007 (16%) - a year in which a significantly greater proportion of participants reported sharing injecting equipment - but similar to rates in other years. Similarly, the number of participants reporting providing their used equipment to another person decreased from 29% in 2007 to 13% in 2010, returning to a similar level to that reported in other Tasmanian IDRS reports.

Two-fifths of the consumers interviewed (44%) reported re-using their own injection equipment in the month prior to interview, with the majority of these participants re-using on multiple occasions in this time. The main forms of equipment that consumers reported re-using were winged-infusion sets ('butterflies'), 1ml syringes, 3/5ml barrels, and 20ml barrels. Requiring equipment after-hours (nights or weekends) was the main reasons participants provided for re-using equipment.

These are harmful injection practices, as repeated use of needles leaves them blunt, which could cause damage to the venous system, and use of non-sterile equipment can lead to the introduction of bacteria into the bloodstream, which can lead to infections, septicaemia or endocarditis. Sharing of injecting equipment greatly increases the chance of transmission of blood-borne viruses such as HCV or HIV.

Self-reported mental health

Fifty-two percent of participants reported experiencing a mental health problem in the preceding six months. Depression and anxiety-related disorders were the most commonly cited. Psychological distress, as measured by the Kessler 10, and mental health components of health, as measured by the Short Form-8 Health Survey (SF-8), demonstrate substantially higher rates of psychological distress in the IDRS sample in comparison to the Australian national average.

Self-reported general health

Self-reported general health amongst IDU participants was generally poorer than was reported for general population samples. IDRS participants scored lower on the Physical Component of the SF-8 than was reported in the National Health Survey (NHS) (ABS, 1995), and lower in all measures of the Personal Wellbeing Index than reported for the normative Australian population scores.

Driving risk behaviour

Three-fifths of the consumers interviewed who had driven a car in the past six months had done so within an hour of using illicit or non-prescribed drugs on at least one occasion. Cannabis, illicit methadone and illicit morphine were most commonly involved. While the extent of self-reported driving under the influence of drugs has remained stable in the past four local IDRS studies, the level of drug-driving involving methamphetamine has decreased from 74% of those who had driven in 2005 to 12% in 2010, possibly reflecting the trend toward decreasing use of methamphetamine amongst IDRS cohorts.

Law enforcement trends among IDU

Self-reported criminal activity

Half of the IDU respondents self-reported involvement in some type of criminal activity in the preceding month (51%). The crimes most commonly reported were dealing drugs and property crime. Half of the IDU respondents had been arrested in the previous 12 months (47%), a rate slightly higher – but not significantly – than that reported in the 2010 National IDRS sample (32%: Stafford & Burns, 2011). In Tasmania, most arrests related to property and violent crimes.

Arrests

In keeping with low levels of use and availability of heroin in Tasmania among IDU participants, very few heroin-related arrests have been reported by Tasmania Police over recent years. No arrests were reported for the 2000/01-2003/04 and 2006/07-2009/10[1] financial years, with just single arrests made in 2004/05 and 2005/06.

Conversely, reports of arrests for methamphetamine-related offences had increased from 20 in 1996/97 to 177 in 2007/08. This trend was reversed in 2008/09 and 2009/10, with 117 and 85 such arrests respectively being reported by Tasmania Police[2].

The number of arrests related to cannabis decreased from 1,830 in 2002/03 to 929 in 2005/06, however, in 2007/08, the number of such arrests increased to 1,954, and has remained largely unchanged since this time. The majority of drug-related arrests reported in Tasmania are for cannabis offences (76-96% from 1997/98 to 2009/10).

Drug-Related Charges in Tasmanian Courts

The number of individuals before the Supreme Court of Tasmania facing charges under the *Misuse of Drugs Act 2001* has increased from 20 individuals in 2003/04 to 75 in 2007/08. It is likely that the recent apparent increase in charges may largely relate to legislative changes rather than being necessarily reflective of substantial changes in the rate of such offences. The number of individuals before the Magistrates Court for drug-related matters has remained relatively stable between 2003/04 and 2009/10, with the exception of an increase in 2008/09. Possession and/or use of drugs charges were the most commonly reported charges made under the Drugs of Misuse Act in 2009/10.

[1] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.
[2] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

1.0 INTRODUCTION

In 1998, the National Drug and Alcohol Research Centre (NDARC) was commissioned by the Commonwealth Department of Health and Family Services (now the Australian Government Department of Health and Ageing) (AGDH&A) to begin a national trial of the Illicit Drug Reporting System (IDRS), following a successful pilot study of the project's methods in New South Wales in 1996 (Hando et al., 1997) and in the following year a multi-state trial in New South Wales (Hando & Darke, 1998), South Australia (Cormack et al., 1998) and Victoria (Rumbold & Fry, 1998).

The intention of the IDRS is to provide a coordinated approach to the monitoring of trends associated with the use of methamphetamine, opioids, cannabis and cocaine, in order that this information can act as an early indicator of emerging trends in illicit drug use. Additionally, the IDRS aims to be timely and sensitive enough to signal the existence of emerging problems of national importance rather than to describe phenomena in detail; instead, providing direction for issues that may require more detailed data collection, or are important from a policy perspective.

The full IDRS methodology involves a triangulated approach to data collection on drug trends, involving standardised surveys of people who regularly inject illicit drugs, a qualitative survey of key experts (KE) – individuals who have regular first-hand contact with groups of people who use illicit drugs, and an examination of existing available data sources or indicators relevant to drug use in each state. Following a replication of the IDRS process in 1998 in New South Wales, Victoria and South Australia, the IDRS was expanded nationally for 1999, with these states continuing to follow the full methodology, while Western Australia, Northern Territory, the Australian Capital Territory, Queensland and Tasmania examined drug use trends using an abbreviated design, utilising KE interviews and examination of secondary data sources only. The National Drug Law Enforcement Research Fund (NDLERF) subsequently provided these states with additional funding to expand data collection to the full IDRS methodology for 2000 through to 2005. The full methodology of the IDRS nationally has been funded by the Australian Government Department of Health and Ageing since 2006.

The 2010 Tasmanian Drug Trends Report summarizes the information gathered in the Tasmanian component of the national IDRS using the three methods outlined above: a survey of people who regularly inject illicit drugs; 'key expert' interviews with professionals working with individuals who use illicit drugs; and an examination of existing indicators relating to drugs and drug use in the state. The methods are intended to complement and supplement each other, with each having its various strengths and limitations. Results are summarized by drug type to provide the reader with an abbreviated picture of illicit drug usage in Hobart and recent trends. Reports detailing Tasmanian drug trends from 1999 through to 2009 (Bruno & McLean 2000, 2001, 2002, 2003, 2004; Bruno, 2005, 2006; de Graaff & Bruno, 2007a, 2008, 2009, 2010) and state comparisons (McKetin et al., 2000; Topp et al., 2001, 2002; Breen et al., 2003, 2004; Stafford et al., 2005; O'Brien et al. 2006; Black et al., 2007 and 2008 and Stafford & Burns, 2009, 2010) are available as technical reports from the National Drug and Alcohol Research Centre, University of New South Wales[3].

1.1 Study aims

The specific aim of the Tasmanian component of the IDRS was to provide information on trends in illicit drug use in Tasmania that require further investigation.

[3] IDRS reports from all jurisdictions, as well as national reports, are available for free download in pdf format on the National Drug and Alcohol Research Centre website: http://ndarc.med.unsw.edu.au

2.0 METHOD

The IDRS is essentially a convergent validity study, where information from three main sources, each with its own inherent advantages and limitations, is compiled and compared to determine drug trends. The three components of the IDRS are a survey of people who regularly inject illicit drugs (IDU, or alternatively referred to as 'consumers'), a qualitative study of professionals ('key experts') working in drug (or related) fields that have regular direct contact with individuals who use illicit drugs, and an examination of existing indicator data on drug-related issues. Details of each dataset are provided below. Previous work with the IDRS methodology has found that people who regularly inject drugs are an informative sentinel group for detecting illicit drug trends due to their high exposure to many types of illicit drugs. This group also has first-hand knowledge of the price, purity and availability of illicit drugs. KE interviews provide contextual information about drug use patterns and health-related issues, such as treatment presentations. The collection and analysis of existing drug use indicator data provides quantitative contextual support for the drug trends detected by the IDU and KE surveys (McKetin et al., 2000).

Data sources complemented each other in the nature of the information they provided, with information from the three sources used to determine whether there was convergent validity for detected trends, and the most reliable or 'best' indicator of a particular trend used when summarising such trends. Findings from the 2010 Tasmanian IDRS are also compared with findings from the previous Tasmanian studies (Bruno & McLean, 2000, 2001, 2002, 2003, 2004a; Bruno, 2005; de Graaff & Bruno 2006, 2007a, 2008, 2009) to determine any changes in drug trends over time.

2.1 Survey of injecting drug users (IDU)

The IDU survey was conducted during June 2010, and consisted of face-to-face interviews with 100 people who regularly injected illicit drugs. Inclusion criteria for participation in the study were that the individual must have injected at least once monthly in the six months prior to interview, and have resided in Hobart for the past twelve months or more. Participants were recruited using a variety of methods, including advertisements distributed through Needle and Syringe Program (NSP) outlets, pharmacies (through flyers included with injection equipment) or health services, and snowball methods (recruitment of friends and associates through word of mouth). Participants were interviewed at places convenient to them, such as health services and NSP outlets. Two agencies – the Link Youth Health Service and the Tasmanian Council on AIDS, Hepatitis and Related Diseases (TasCAHRD, in their Hobart and Glenorchy sites) assisted the researchers by providing support as recruitment and interview sites for IDRS participants. The major location for recruitment and subsequent interview was Hobart city, although approximately one-third of the sample was recruited and interviewed in Glenorchy city (in the northern suburbs of Hobart).

A standardised interview schedule used in previous IDRS research (Hando & Darke, 1998; McKetin, Darke & Godycka-Cwirko, 1999; Topp et al., 2001) was administered to participants. The interview schedule contained sections on demographics, drug use, price, purity and availability of drugs, crime, risk-taking, health and general changes in drug use. Participants were screened for appropriateness both by referring staff members of the recruitment sites and the interviewers, the latter through a series of questions designed to elicit participants' knowledge of injecting drug use practice. Both the University of New South Wales and the Tasmanian Social Sciences Human Research Ethics Committee granted ethical approval for the survey (approval H0007853 for the Tasmanian Committee). Participants were provided with an information sheet describing the interview content prior to commencement (subsequent to screening), allowing them to make an informed decision about their involvement. Information provided was entirely confidential, and participants were informed they were free to withdraw from participation without prejudice or to decline to answer any questions if they so wished. Interviews generally

lasted between 40 and 60 minutes (averaging 50 minutes, ranging from 30 to 100 minutes), and participants were reimbursed $40 for their time and out-of-pocket expenses.

Data analysis was conducted using PASW for windows, release 17.0.2 (SPSS Inc., 2009).

2.2 Survey of key experts (KE)

Twenty-eight KE, who were working with illicit drug users in the greater Hobart area, participated in face-to-face interviews between July and early September 2010. Seventeen KE (61%) were recruited from the pool of KE that had taken part in the 2009 IDRS and fifteen participants (54%) were recruited from the pool of KE that had taken part in the 2008 IDRS. Smaller numbers of KE had participated in earlier studies: six in 2007; two in 2006; and one in the 2000-2005 IDRS studies. All other participants in the current study were identified and recruited either as replacements for the 2009 IDRS participants drawn from the same agencies, or on the basis of referrals from the Tasmanian IDRS steering committee, or professionals in the field.

KE included youth workers (n=2), members of the Department of Justice (law enforcement professionals n=3, policy n=1, medical officer n=1), a lawyer (n=1), emergency workers (ambulance officer n=1, emergency medicine consultant n=1), and single KE from the mental health field and a local community development group. The remainder worked specifically in the drug and alcohol field, comprising counsellors and outreach workers (n=2), needle and syringe outlet workers (n=5), medical practitioners prescribing methadone or specialising in alcohol and other drug treatment (n=2), a pharmacist (n=1) and other health professionals working in a variety of more general roles in the drug and alcohol field, including assessment, pharmacotherapy and detoxification, harm reduction, and advocacy (n=6).

Several KE were interviewed for their expert opinions on specific issues (e.g. drug-related violence) or on other particular areas (such as advocacy or dealing and production of illicit drugs). The remaining KE were interviewed in regard to their direct work with drug consumers, with entry criteria for inclusion in this aspect of the study being at least weekly contact with illicit drug users in the past six months and/or contact with ten or more illicit drug users in the last six months. These 20 individuals had a median of 4 days per week contact with consumers in the preceding six months (mode 5 days per week, range 2-5), with all reporting contact with more than ten consumers in this period, and almost all (95%) seeing more than 20 such people in the preceding six months. Although several KE came from generic services, many worked specifically with special populations, including youth and injecting drug users.

KE were asked to specify the main illicit drug used by the drug users they had most contact with in the past six months. Ten KE reported on groups that predominantly used cannabis; eight KE commented on groups predominantly using methamphetamine/psychostimulants; six reported on groups that predominantly used pharmaceutical opioids (methadone, morphine, and oxycodone) and four commenting on clients predominantly using a combination of opioids and benzodiazepines.

The qualitative interview schedule was a structured instrument that included sections on drug use patterns, drug availability, criminal behaviour and health issues. Interviews took between 20 and 60 minutes to administer. Notes were taken during the interview and were subsequently transcribed. Open-ended responses were analysed using word processor and spreadsheet software, sorting for recurring themes across respondents. Single reports from KE have been presented where they were deemed reliable by the interviewer, and where the information provided contributed to the explanation of particular trends. Closed-ended questions were analysed using PASW for windows, release 17.0.2 (SPSS Inc., 2009).

2.3 Other indicators

To complement and validate data collected from the KE study and IDU survey, a range of secondary data sources was examined, including survey, health, and law enforcement data. The pilot study for the IDRS (Hando et al., 1997) recommended that such data should be available at least annually, include 50 or more cases, provide brief details of illicit drug use, be collected in the main study site (Hobart or Tasmania for the current study), and include details on the four main illicit drugs under investigation (heroin, cannabis, cocaine and methamphetamine). However, due to the relatively small size of the illicit drug-using population in Tasmania (in comparison to other jurisdictions involved in the IDRS), and a paucity of available data, the above recommendations have been used as a guide only. Indicators not meeting the above criteria should be interpreted with due caution, and attention is drawn to relevant data limitations in the text.

Data sources that fulfil the majority of these criteria and have been included in this report are outlined below.

2.3.1 Needle and Syringe Program data

The Needle and Syringe Program (NSP) has been operating in Tasmania since the introduction of the *HIV/AIDS Preventive Measures Act in 1993*. Staff record the number of needle/syringes ordered from all outlets participating in the program (around 90 outlets) and, for participating non-pharmacy outlets, data are collected regarding age, sex, equipment shared since last visit, last drug used, and disposal methods for each client transaction. The data provided represent responses from 33,905 occasions of service in the 2009/10 financial year. It should be noted that data are not necessarily collected systematically for all data fields – e.g. while there are 33,905 recordings for the age of the client, there are only 30,327recorded for the gender of client (89% of the recorded cases[4]). There has also been some inconsistency between outlets in the wording of questions asked of clients, most notably in the question regarding substance used (the majority of services ask 'what is the drug you most often inject?' while some find that asking 'what is the drug you are about to inject?' more useful for health intervention purposes), which may impede clear comparisons of trends across years for this dataset.

2.3.2 Prevalence of last drug injected by IDU in Tasmania, provided by the Australian Needle and Syringe Program (NSP), on behalf of the collaboration of Australian Needle and Syringe Programs

The Australian NSP survey has been carried out over one week each year since 1995. During a designated survey week, NSP staff ask all clients who attend to complete a brief, self-administered questionnaire and provide a finger-prick blood sample for testing the presence of blood-borne viral infections (BBVI) such as hepatitis B (HBV) and C (HCV). The data provided here represent the reported last drug injected by survey respondents in Tasmania each year from 1995 to 2009. Since 1995, the number of participants in the study had steadily climbed from six to 168 in 2007[5]. In the 2008 survey, the number of participants was substantially lower (n=57); however, in 2009 the number increased again to 122 (National Centre in HIV Epidemiology and Clinical Research, 2009).

[4] However, there has been an improvement in the data recording rate in recent years – in 2000/01, only 44% of the 32,507 occasions of service included information regarding principal drug used, while in 2001/02, the relevant rate was 78%, rising to 87.5% in 2002/03; 90.7% in 2003/04; 84% in 2005/06; 97% in 2006/07; 99% in 2007/08 and 2008/09.

[5] The numbers of participants in each survey: 1995 n=6; 1996 n=18; 1997 n=23; 1998 n=51; 1999 n=25; 2000 n=27; 2001 n=28; 2002 n=151; 2003 n=118; 2004 n=107; 2005 n=137; 2006 n=150; 2007 n=168; 2008 n=57: MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2009, 2010).

2.3.3 The 1998, 2001, 2004 and 2007 National Drug Strategy Household Surveys

The National Drug Strategy Household Survey (NDSHS), run by the Australian Institute of Health and Welfare (AIHW), represents a prevalence study of drug use amongst the general community, surveying 1,031 individuals in Tasmania in the 1998 study, 1,349 individuals in 2001, 1,208 in 2004, and 1,143 in 2007 who were over 14 years of age, could speak English, and who lived in private dwellings (Australian Institute of Health and Welfare, 1999, 2002b, 2005b, 2008b). The survey investigated use of the following illicit drugs relevant to this report: cannabis; methamphetamine; hallucinogens; cocaine; ecstasy/designer drugs; and heroin. Respondents were asked whether they had ever used these drugs and whether they had used them within the past twelve months.

2.3.4 Police and Justice Department data

Tasmania Police State Intelligence Services, the Australian Crime Commission (ACC, previously the Australian Bureau of Criminal Intelligence or ABCI), and the state Justice Department have provided information on drug seizures, charges and prices. Data on the purity of drugs seized are also provided through the ACC; however, not all drug seizures are analysed for purity. Data from the ACC for the 2009/10 financial year was not available at the time of publication. Where available, data from Tasmania Police have been used to examine changes in key law enforcement-related variables. It should be noted that these data are preliminary and subject to revision (totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules), and this issue is noted in the text as is relevant.

2.3.5 Urine screens of prisoners

The Tasmanian Justice Department has conducted random urine screens of prisoners since 1993, aiming to test approximately 10% of the state's prison population monthly. Since 1995, these screens have been increasingly based on suspicion of drug use, rather than on a purely random basis, and sample sizes have increased since this time (1995/96 n=111; 1996/97 n=283; 1997/98 n=253; 1998/99 n=267; 1999/00 n=359; 2000/01 n=541; 2001/02 n=561; 2002/03 n=467; 2003/04 n=261; 2004/05 n=416; 2005/06 n=376; 2006/07 n=337; 2007/08 n=788; n=734; 2008/09 n=734). In the 2009/10 financial year, the Justice Department utilised both standard urine screen tests and the insta-testing system for the presence of drugs. A total of 754 screens for drugs were carried out during the 2009/10 financial year.

2.3.6 Blood-borne viral infections surveillance data

Blood-borne viral infections (BBVI), in particular HIV/AIDS and HBV and HCV, are 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 diseases. The Department of Health and Human Services, Public Health Division, records notifications of diagnoses of HIV, HBV and HCV in Tasmania, and, where possible, records the relevant risk factors for infection that the person may have been exposed to. There are limitations to the interpretation of this dataset in terms of monitoring trends in the spread of these viruses. For example, many injecting drug users who have been exposed to HCV may not undergo testing. Further, it is difficult to confidently determine whether notifications represent new cases or those that have been established for some time.

2.3.7 Tasmanian Pharmacotherapy Program data

Pharmaceutical Services in the Department of Health and Human Services maintains a database that records all maintenance pharmacotherapy program registrations (methadone, buprenorphine, and buprenorphine-naloxone) in Tasmania, along with applications to prescribe a combination of an opioid and alprazolam. The number of annual new admissions to the pharmacotherapy program, the number of active daily clients and applications to prescribe both an opioid and alprazolam, are presented.

2.3.8 Coronial findings on illicit drug-related fatalities

In previous IDRS reports, overdose-related fatalities data from 1998 to the present (provided by the Australian Bureau of Statistics, ABS) have been presented. The ABS has changed the way deaths data is collected, making comparisons to earlier overdose bulletins published by the National Drug and Alcohol Research Centre difficult. Since 2003, the ABS has progressively ceased visiting jurisdictional coronial offices to manually update causes of death that had not been loaded onto the computerised National Coronial Information System (NCIS). It was in 2006 that the ABS began to rely solely on data contained on NCIS at the time of closing the deaths data file. In addition, a number of jurisdictions, notably New South Wales and Queensland, reported backlogs in cases that had been finalised by the coroner (i.e. cases where the coroner has determined the cause of death), but not yet loaded onto NCIS. These factors are likely to have an impact on the number of opioid-related deaths recorded at a national level in 2006 and 2007, given that New South Wales and Queensland recorded the highest number of opioid-related deaths in Australia during the period 2000 to 2005. Accordingly, only drug-related deaths for 2006-2008 are reported here. These data should be interpreted in conjunction with the ABS Technical Note 2: Coroner Certified Deaths, 3303.0 2008 (Roxburgh & Burns, in press).

2.3.9 Hospital morbidity data

Hospital morbidity data in relation to use of drugs have been provided by the Australian Institute of Health and Welfare (AIHW) for the 1999/00 to 2007/08 financial year periods (data for 2008/09 were not available at the time of publication). These data relate to public hospital admissions for individuals aged between 15 and 54 years, where drug use was recorded as the 'principal diagnosis'; namely, where the effect of a drug was established, after study, to be chiefly responsible for occasioning the patient's episode of care in hospital (with the exception of admissions for psychosis and withdrawal). These figures were based on diagnoses coded according to the International Classification of Diseases (ICD) 10, second edition. It is also important to note that data from the state's single public specialist detoxification centre are only included in this dataset from June 2002.

2.3.10 Tasmanian alkaloid poppy crop data

Tasmania has had a commercial opiate alkaloid industry for many years, where farmers are licensed to grow the poppy (*Papaver somniferum*) for production of codeine and related products by pharmaceutical companies. The Tasmanian Government has international obligations under the United Nations Convention on Narcotic Drugs to ensure licensing of crops, and that there is limited diversion, as some of the poppy strains grown can be converted into opium. Data on diversion rates of Tasmanian poppy crops have been provided by the Poppy Board of the Tasmanian Justice Department, as they are a useful indicator of potential illicit use of opium or poppy tar.

2.3.11 Telephone advisory services data

Tasmania has two 24-hour alcohol and drug-related telephone information services. In mid-May 2000, Turning Point Alcohol and Drug Centre in Victoria took over responsibility for administration of the Tasmanian Alcohol and Drug Information Service (ADIS), a confidential drug and alcohol counselling, information and referral service. Turning Point systematically records data for each call received, which comprised 2,208 calls to ADIS during the 2000/01 financial year; 2,129 calls in 2001/02; 1,984 in 2002/03; 1554 during 2003/04; 1,332 calls during 2004/05; 1,469 calls in 2005/06; 1,474 calls in 2006/07; 1,525 in 2007/08; and 1,556 in the 2008/09 financial year.

3.0 DEMOGRAPHICS

3.1 Overview of the IDU sample

A total of 100 consumers were interviewed. The demographic characteristics of the IDU sample are presented in Table 1 below. The mean age of participants in the 2010 study was 34.8 years (SD = 9.6, range 19-60 years). The average age of the cohort over the preceding eleven years has increased (from 26.3 years in 2000). Sixty-one percent of the 2010 cohort was male. Between 2002 and 2009, a steady trend toward decreasing proportions of males was reported, declining from 71% to 58% in 2009. In 2010, this trend has stabilised (61%).

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

Characteristic	2009 N=100	2010 N=100
Age (mean years, range)	34.1 (range 19-51)	34.8 (range 19-60)
Sex (% male)	58	61
Employment (%):		
Not employed/on a pension	68	82
Full-time	4	3
Part-time/casual	12	12
Home duties	12	3
Student	2	0
Work and study	1	0
Received income from sex work last month	1	0
Aboriginal and/or Torres Strait Islander (%)	17	11
Heterosexual (%)	84	83
Bisexual (%)	8	6
Gay or lesbian (%)	6	11
Other (%)	2	0
Relationship status (%)		
Married/de facto	30	17
Partner	25	39
Single	41	44
Separated	1	0
Divorced	3	0
Homeless at any stage during last 12 months	n/a	37
School education (mean no. years, range)	10.0 (range 5-12)	10.0 (range 4-12)
Tertiary education (%):		
None	52	54
Trade/technical	44	40
University/college	4	6
Currently in drug treatment^ (%)	59	40
Prison history (%)	47	43

Source: IDRS IDU interviews

^ Refers to any form of drug treatment, including pharmacotherapies, counselling, detoxification, etc.

The majority of participants described themselves as heterosexual (83%), with smaller proportions identifying as homosexual (11%) or bisexual (6%). Around two-fifths of the sample reported they were either single (44%) or had a partner (39%), and almost one-fifth reported they were married/de facto (17%) at the time of the interview. English was the dominant language spoken among all participants. Among those interviewed in 2010, there was a mean of 10.0 years of school education (SD = 1.6, range 4-12), similar to that of cohorts in previous years. The majority of participants interviewed in the IDRS had not completed any tertiary studies (54%), similar to the rate reported in 2009 (52%), however, this proportion has significantly declined since 2008 (76% v. 54%: χ^2 ($1_{n=200}$)=9.69, p=0.002). This change largely reflects a significantly greater proportion of participants in 2009 and 2010 that had attained a trade or technical qualification (22% in 2008 v. 40% in 2010: χ^2 ($1_{n=200}$)=6.76, p=0.009).

Four-fifths of the 2010 sample (82%) was not employed at the time of the interview. Since 2005, the rate of unemployment amongst cohorts increased from 65% to 85%, with the exception of 2009, when this rate declined to 64%. At the time of the interview, 12% of the sample was involved in either part-time or casual work, and 3% were respectively involved in either full-time work or home duties.

The sample was drawn from suburbs within the northern, eastern, southern, and inner city areas of Hobart, with three-quarters of the participants either living in close proximity to Hobart city (47%) or Glenorchy city (32%). A more detailed breakdown, on the basis of local council areas is as follows: Hobart City (47%); Glenorchy City (32%); Clarence (7%); Kingborough and Brighton (3% respectively); New Norfolk (2%); and Sorell (1%). The majority of participants lived in their own (rented or owned) house or flat (69%), with 9% living in their family home, while 22% were living in unstable accommodation at the time of interview (such as a boarding house, hostel, hotel, caravan park or no fixed address). Of the 22 participants reporting living in unstable accommodation at the time of interviewing, 46% (n=10) were living with relatives, friends and acquaintances (because they had nowhere else to go), 27% (n=6) were living in a boarding or rooming house/hostel, and 23% (n=5) reported sleeping rough (no shelter). More than one-third of the entire sample reported having been homeless in the preceding year (37%). Around half of the sample reported having lived in one home/place in the preceding 12 months (54%), 14% had lived in two homes/places, 5% had lived in 3 homes/places, 7% in four places/homes, and 20% had lived in more than 5 homes/places in the last 12 months.

Just over two-fifths of the sample (43%) of participants had been imprisoned at some stage in their lives, similar to the rates reported in 2008 and 2009 (46% and 47% respectively), but slightly higher than reported in previous IDRS cohorts (ranging between 30% and 34% from 2005 to 2007). The proportion of males reporting a prison history was 56% (n=34), and the proportion of females was 24% (n=9), a difference that was statistically significant (χ^2 ($1_{n=100}$)=10.57, p=0.005). A similar pattern was found in 2008 and 2009.

Notably, two-fifths of the sample (40%) was in some form of drug treatment at the time of interview. This is significantly lower than reported in 2009 (56%: χ^2 ($1_{n=200}$)=4.51, p=0.03), and lower than between 2006 and 2008 (56-58%).

The demographic characteristics of the Tasmanian 2010 IDU sample are largely similar to the previous Tasmanian IDU samples (Bruno & McLean 2001, 2002, 2003, 2004a; Bruno 2005, 2006; de Graaff & Bruno 2007a, 2008, 2009, 2010). There have been substantial overlaps in those participating in the IDRS studies over time: of the 100 participants in the 2010 study, more than half (58%) had previously participated in another IDRS study. Of this group, 30 participated in the 2009 study, 22 in 2008, 14 in 2007, six in 2006, five in 2005, three in 2004 and one in 2003. This is consistent with patterns in previous IDRS studies.

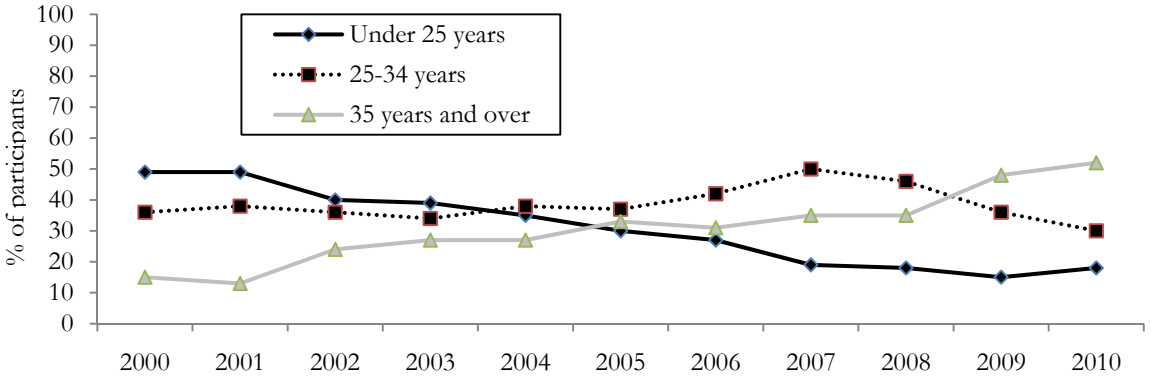
Given that the sampling procedure for the IDRS studies is largely convenience-based in nature, there is the possibility for notable shifts in demographics to occur, which may impact on the

interpretation of differences in the patterns of drug use identified in the annual consumer cohorts. Between the 2009 and 2010 local IDU cohorts, small but notable differences were observed: the proportion that was not employed at the time of interview increased significantly (68% v. 82% unemployed respectively: χ^2 ($1_{n=100}$)=4.51, p=0.03), however, the rate reported in 2010 reflects the trend toward an increasing level of unemployment that was reported between 2005 (65%) and 2008 (85%), and the rate of engagement in a form of drug treatment decreased significantly from 59% in 2009 to 40% in 2010 (χ^2 ($1_{n=100}$)=6.48, p=0.01). These variations may have an impact on the patterns of substance use reported amongst the IDU participants, and reference to these, along with other notable discrepancies between the 2010 IDU and previous IDU samples, will be discussed in subsequent sections of this report.

3.1.1 Age and sex of the IDU sample over time

As could be expected, with a noteworthy overlap in participants across these annual samples, the mean participant age in the Tasmanian IDU cohorts steadily increased between 2002 and 2010, from 28 years in 2002 to 35 years in 2010. According to the Tasmanian NSP data, there has been a marked increase in the proportion of clients older than 35 accessing NSP outlets in recent years, with steady declines in those under 25[6] (Figures 1, 2 and 3). In 2009/10, more than half (55%) of non-pharmacy NSP transactions involved clients aged 35 or over, whereas this group comprised only 14% of clients in 2000/01. Interestingly, an increasing age of IDU has also been seen in other jurisdictions conducting the IDRS where there is minimal participant overlap between samples (Degenhardt et al., 2008), and has also been noted in independent studies of NSP attendees nationally (National Centre in HIV Epidemiology and Clinical Research, 2007).

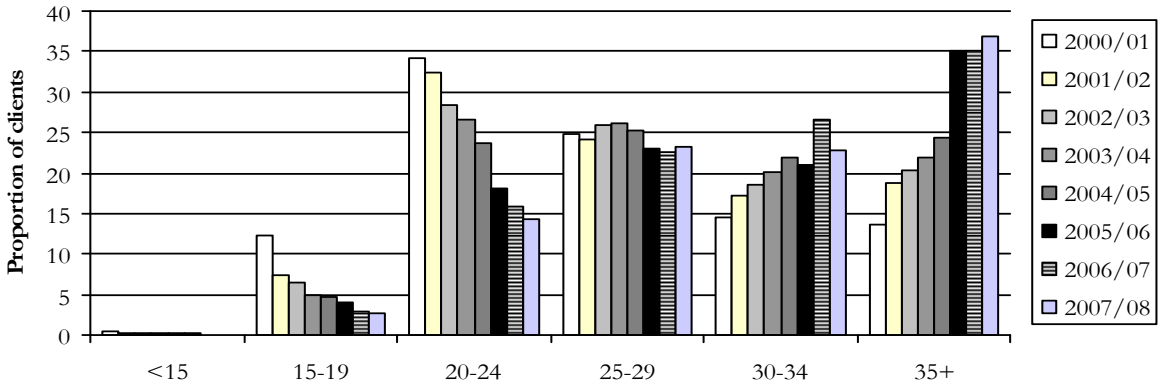
Figure 1: Age distribution of IDU in the Tasmania (Hobart) IDRS samples, 2000-2010



Source: IDRS IDU interviews

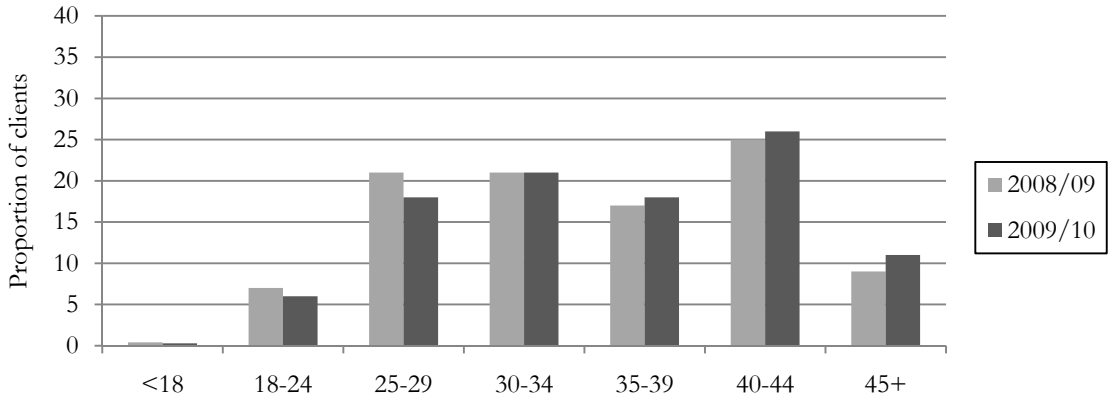
[6] In 2008/09, changes were made to the way in which this data was collected (i.e. age categories), rendering more specific comparisons with previous years not possible.

Figure 2: Age of clients of non-pharmacy Needle and Syringe Program outlets in Tasmania, 2000/01-2007/08



Source: Tasmanian Needle and Syringe Program

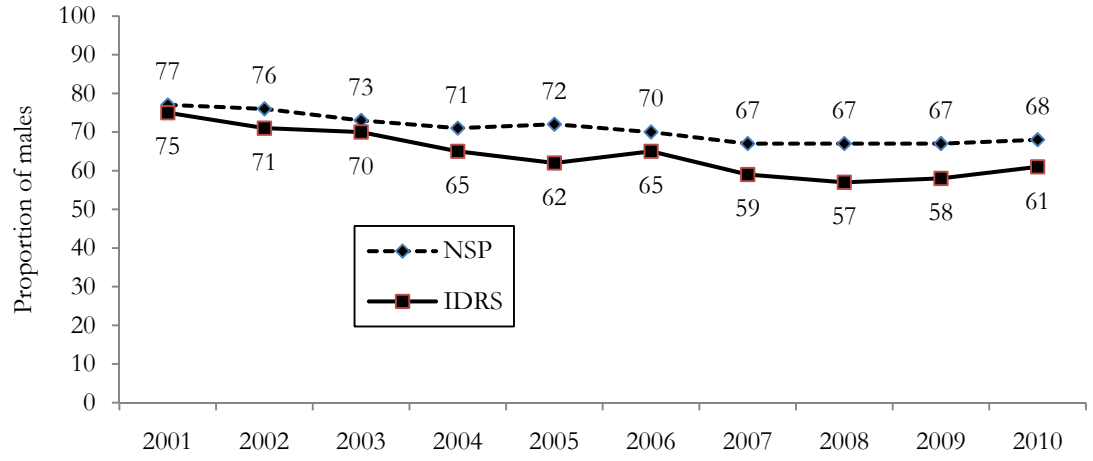
Figure 3: Age of clients of non-pharmacy Needle and Syringe Program outlets in Tasmania, 2008/09-2009/10



Source: Tasmanian Needle and Syringe Program
Note: In 2008/09, changes were made to the way in which this data was collected (i.e. age categories), rendering comparisons with previous years not possible

Within the IDRS IDU cohorts, the proportion of male participants has gradually declined: in the 2001 study 75% of participants were male, whereas in 2010, this had decreased to 61% in 2010 (χ^2 ($1_{n=100}$)=3.88, p=0.05) (Figure 4). Similar patterns are seen amongst clients of the non-pharmacy NSP in Tasmania, where the proportion of male clients has fallen from 77% in 2000/01 to 68% in 2009/10 (NSP: Figure 4).

Figure 4: Proportion of males amongst Tasmanian IDRS IDU cohorts and Tasmanian non-pharmacy Needle and Syringe Program clients, 2001-2010



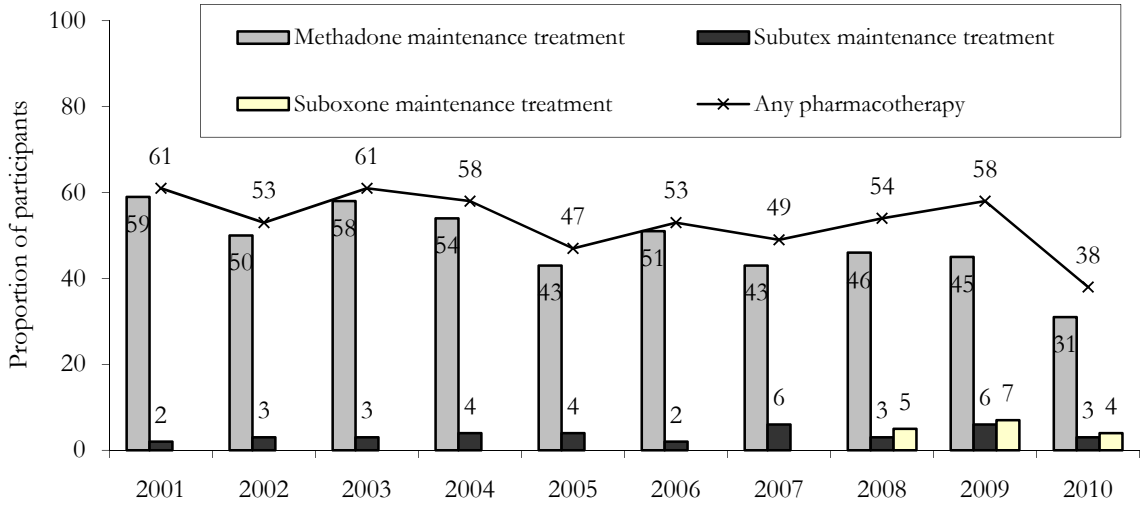
Source: IDRS IDU interviews and Tasmanian Needle and Syringe Program

3.2 Current and previous drug treatment

Two-fifths of the participants (40%) reported being engaged in some form of drug treatment at the time of interview. This is significantly lower than reported in 2009 (56%: χ^2 ($1_{n=200}$) =4.51, p=0.03), and lower than rates reported between 2006 and 2008 (56-58%). Involvement in methadone maintenance treatment ranged between 43% and 51% from 2005 to 2009; however, in 2010 this rate decreased to 31% (Figure 5). The proportion of participants reporting current engagement in Subutex (buprenorphine) treatment has remained low and stable, with just 3% of the 2010 sample reporting this; and 4% of participants in the current study reported engagement in Suboxone treatment (buprenorphine-naloxone). In 2008 and 2009, 5% and 7% of participants respectively reported engagement in Suboxone treatment, and prior to this no clients had reported this. Just three percent of the current cohort reported accessing counselling services for drug use issues in the preceding six months (Table 2). This marks a continuation of the decreasing trend toward access of this form of treatment since 2004 (25%: χ^2 ($1_{n=100}$)=18.31, p<0.001).

For the 2010 cohort, mean duration of time in methadone maintenance treatment was 80 months (SD=56.1, range 1-204). Amongst the seven individuals reporting engagement in either Subutex or Suboxone maintenance treatments, the mean duration of treatment was 20 months (SD=20.1, range 0.06-48 months). A single participant reported access to drug counselling at the time of the interview, and three participants reported accessing drug counselling services in the six months preceding the interview (Table 2). Of the group reporting current access to methadone maintenance treatment (n=31), just one had received drug counselling in the preceding six months, and of the seven participants engaged in either Subutex or Suboxone treatments, no participants had received counselling services in the preceding six months. Single participants reported accessing detoxification, a therapeutic community and narcotics anonymous, and no participants reported having accessed naltrexone treatment in the six months preceding the interview.

Figure 5: Proportion of the IDU sample accessing methadone or buprenorphine maintenance treatments at the time of interview, 2001-2010



Source: IDRS IDU interviews

Table 2: Proportion of participants reporting treatments other than opioid replacement pharmacotherapy in past six months, 2001-2010

Treatment type	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	2010 %
AOD Counselling	11	19	18	25	17	20	17	11	10	3
Detoxification	7	7	5	3	0	0	4	5	0	1
Therapeutic community or rehabilitation	0	0	2	1	0	0	1	2	0	1
Naltrexone	0	0	0	1	0	5	0	0	0	0
Narcotics Anonymous	0	0	0	0	0	0	0	0	0	1
Other	3	2	4	2	2	2	2	1	1	0

Source: IDRS IDU interviews
Note: Multiple responses could be selected

3.3 Drug use history and current drug use

The mean reported age at first injection was 20.0 years (SD=7.0, range 12-44) (Table 3). This was similar to the age reported in 2009 (18.9 years, SD=4.6, range 12-33), and previous samples. There were no significant sex differences in the age of first injection (20.8 years for females v. 19.5 years for males; p=0.7). Participants reporting an injecting career (total time since first injection of a drug) of five years or less reported the mean age at first injection as 30 years (SD=12.9, n=7) - notably older than the mean age reported by participants who had been injecting for 6 years or more (19 years, SD=5.8).

The mean injecting drug using career for the 2010 cohort was 14.7 years (SD=7.43, range 1-37 years). Males reported a mean injecting career of 15.8 years (SD=7.8, range 1-37), and females reported a mean duration of 13.4 years (SD=6.4, range 3-28), a difference that was not statistically significant (p=0.1). Sixty-two percent of the cohort reported methamphetamine as the first drug injected, 17% reported morphine, 11% heroin, 4% methadone, 3% oxycodone and single participants reported other opioids, dexamphetamine or a hallucinogen (Table 3).

Table 3: Injection history, drug preferences and polydrug use of IDU participants, 2009-2010

Variable	2009 N=100	2010 N=100
Age first injection (years)	18.9 (range 12-33)	20.0 (range 12-44)
First drug injected (%)		
Heroin	15	11
Methamphetamine	57	62
Methadone	4	4
Morphine	19	17
Oxycodone	0	3
Cocaine	0	0
Other	2	3
Drug of choice (%)		
Heroin	33	29
Cocaine	4	1
Methamphetamine (any form)	19	18
Speed	*14*	*12*
Base	*2*	*5*
Crystal (ice)	*3*	*1*
Methadone	9	7
Morphine	12	25
Oxycodone	5	5
Benzodiazepines	4	4
Cannabis	7	5
Methadone and benzodiazepines	0	0
Drug injected most often in last month (%)		
Heroin	1	0
Cocaine	0	0
Methamphetamine (any form)	18	20
Speed	*12*	*16*
Base	*5*	*4*
Crystal (ice)	*1*	*0*
Methadone	37	26
Morphine	33	38
Benzodiazepines	1	0
Buprenorphine	2	0
Oxycodone	3	12
Most recent drug injected (%)		
Heroin	1	0
Cocaine	0	1
Methamphetamine (any form)	17	23
Speed	*9*	*18*
Base	*8*	*5*
Crystal (ice)	*0*	*0*
Methadone	25	20
Buprenorphine	1	0
Morphine	37	42
Oxycodone	3	9
Benzodiazepines	5	1
Frequency of injecting in last month (%)		
Weekly or less	9	6
More than weekly, but less than daily	61	50
Once per day	17	23
2-3 times a day	13	15
>3 times a day	0	5
Polydrug use		
Mean number of drug classes ever used* (range)	6.4 (3-7)	6.6 (3-7)
Mean number of drug classes used* in last 6 months (range)	5.6 (2-7)	5.2 (2-7)
Mean number of drug classes ever injected^ (range)	3.1 (1-5)	2.6 (1-4)
Mean number of drug classes injected^ in last 6 months (range)	2.2 (1-4)	1.9 (1-3)

Source: IDRS IDU interviews. 'Used' refers to any of the following routes of administration: smoke/inhale, snort, swallow/ingest and inject. The seven categories refer to: stimulants, opioids, hallucinogens, benzodiazepines, cannabis, alcohol and tobacco. ^ Refers to 5 categories only (omitted tobacco and cannabis)

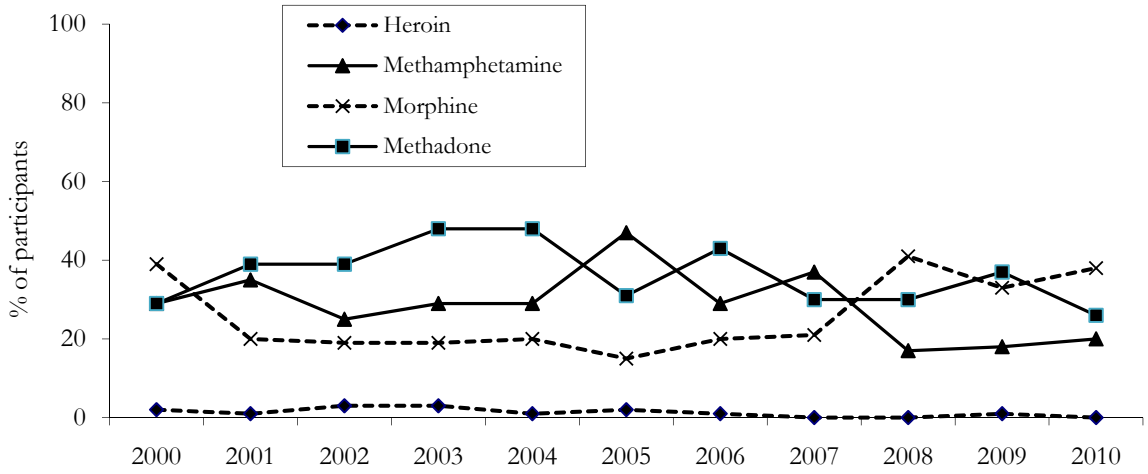
Twenty-nine percent of the 2010 IDRS IDU cohort reported that heroin was their drug of choice, 25% preferred morphine, and 18% preferred methamphetamine. Overall preference for any form of opioid (including heroin, methadone, morphine and oxycodone) was 66% in 2010: similar to rates reported in previous reports, with the exception of 2005 and 2007 (54% and 55% respectively).

Consistent with the high preference for opioids among the participants in the current study, 76% reported an opioid as the drug they had most often injected in the preceding month. Despite heroin being the drug of choice of 29% of the cohort, morphine (38%) and methadone (26%) were the most commonly injected opioid drugs. No participants reported heroin as the drug most injected in the last month. Participant reports of methadone as the drug most injected in the last month increased between 2000 and 2004, from 29% to 48%; between 2005 and 2010 this rate has fluctuated around this range, and was 26% in 2010 (Figure 6). The proportion of participants reporting morphine as the drug most injected in the preceding month was higher between 2008 and 2010 (ranging between 33-41%) than in samples prior to 2008 (e.g. 2007: 21% v. 2010: 38%: χ^2 ($1_{n=100}$)=6.15, p=0.01).

In contrast to this, reports of methamphetamine as the drug most injected were higher between 2000 and 2007 (ranging between 25-47%), peaking in 2005 with 47% of the sample reporting this. This rate is significantly higher than was reported between 2008 and 2010, ranging between 17% and 20% (2007: 37%; 2010: 20%: χ^2 ($1_{n=200}$)=6.28, p=0.01).

As can be seen in Figure 6, the higher levels of use of methamphetamine in the 2005 and 2007 cohorts has decreased markedly since 2007, whilst the rate of morphine as the drug most injected has increased. These changes may represent availability of drugs or drug preferences.

Figure 6: Drug injected most last month, 2000-2010



Source: IDRS IDU interviews
Note: In 2000, morphine was included in a grouping with opioids other than methadone or heroin

Participants were asked about the frequency of injection in the month preceding the interview (Table 3). Half of the sample reported injecting more than weekly but not daily (50%); 43% injected at least once per day, and 6% had injected weekly or less. The proportion of IDRS IDU respondents reporting daily injection remained at approximately one-third of the participants between 2005 and 2009, this was slightly higher in 2010 (43%), but this difference was not statistically significant (p=0.08).

Respondents reported on their drug use on the day prior to their interview (Table 4). All but one participant reported using a drug on the previous day (notably, in contrast to just 70% reporting

having spent money on drugs on that day). Cannabis was the most commonly used drug on the day prior to interview, with 60% of respondents reporting this. Use of methadone (32%, although used by only five people not currently enrolled in methadone maintenance treatment), benzodiazepines (32%), morphine (28%), alcohol (27%) and methamphetamine (13%) were also commonly reported on the day prior to the interview. Between 2005 and 2009, the rate of use of methadone (both prescribed and non-prescribed) remained stable (41-46%), however, this rate decreased slightly in 2010 to 32%. This difference was not statistically significant (p=0.24), and is largely due to the lower rate of participants reporting engagement in methadone maintenance treatment at the time of the interview.

Table 4: Drugs taken on the day prior to interview among the IDU sample, 2005-2010

Drug*	2005 %	2006 %	2007 %	2008 %	2009 %	2010 %
Cannabis	57	60	62	71	57	60
Methadone^	41	46	45	41	41	32
Benzodiazepines	38	39	45	33	39	32
Morphine	13	22	11	31	28	28
Methamphetamine: powder	9	5	18	4	9	10
Methamphetamine: base/paste	10	5	3	0	2	3
Methamphetamine: crystal	3	4	0	1	2	0
Pharmaceutical stimulants	2	0	1	2	2	3
Heroin	1	0	0	0	0	0
Cocaine	0	0	0	0	0	1
Alcohol	20	16	22	13	22	27
Antidepressant	9	11	6	1	4	5
Buprenorphine	3	1	7	3	5	2
Buprenorphine-naloxone	0	0	0	3	4	1
Oxycodone	1	0	4	2	2	9
Other opiates	3	3	2	1	4	2
Ecstasy	1	1	1	0	2	1
Did not use any drugs	*7*	*7*	*3*	*3*	*5*	*1*

Source: IDRS IDU interviews

* Could list more than one drug

^ Includes prescribed methadone

Participants were also asked about the last location when they injected. These responses are summarised in Table 5, indicating that only a small minority of the cohort injected in public spaces (13%). The proportion of the cohort reporting injecting in public places has significantly decreased since 2007 (32% in 2007 v. 13% in 2010: χ^2 ($1_{n=200}$)=9.3, p=0.002).

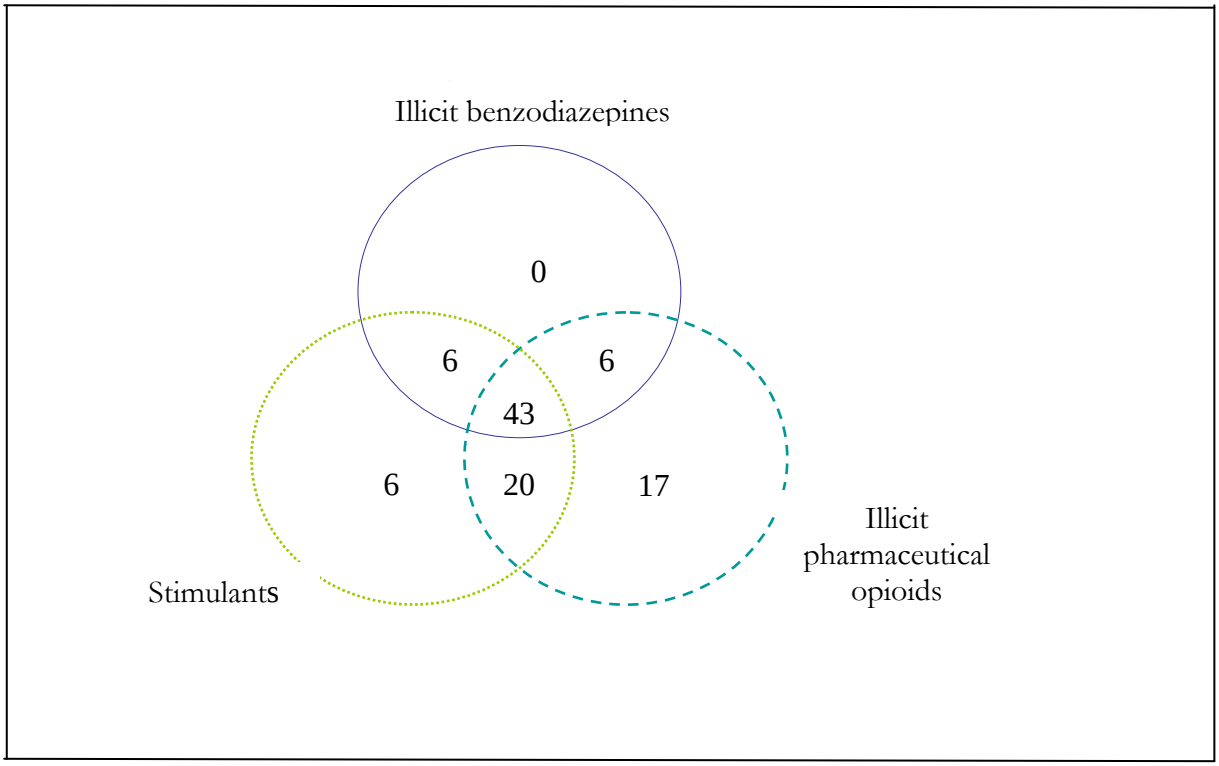
Table 5: Location in which respondents last injected, 2007-2010

	2007 N=98 %	2008 N=100 %	2009 N=100 %	2010 N=100 %
Private home	67	87	86	86
Public toilet	15	6	6	7
Car	15	7	6	4
Street/park or beach	2	0	2	2

Source: IDRS IDU interviews

Drug use histories of the 2010 IDRS IDU respondents are summarised in Table 6. There was a substantial level of polydrug use among this group, as almost all individuals had used methamphetamine, morphine, methadone, benzodiazepines, alcohol, cannabis and tobacco at some stage in their lives. Of the 7 possible drug classes examined (opioids, stimulants, hallucinogens, cannabis, benzodiazepines, tobacco and alcohol), participants had used a median of 7 (mean = 6.6, SD = 0.77, range 3-7) drug classes in their lives, and 5 (mean = 5.2, SD = 1.4, range 2-7) in the preceding six months. A median of 3 drug classes had been injected over their lifetimes (mean = 2.6, SD = 0.8, range 1-4), and 2 (mean = 1.9, SD = 0.7, range 1-3) in the preceding six months. These figures are consistent with those in the 2009 cohort (Table 3). Figure 7 below illustrates polydrug use over the preceding six months, specifically for illicit benzodiazepines, stimulants and illicit pharmaceutical opioids. Two-fifths (43%) of the participants had used stimulants, illicit pharmaceutical opioids and illicit benzodiazepines in the preceding six months, with a further 20% using both stimulants and illicit pharmaceutical opioids in this time. Given that only 17% of the current cohort reported solely using illicit pharmaceutical opioids and 6% used only stimulant drugs in the six months prior to interview, it is clear that the current cohort could predominantly be considered as polydrug consumers. This is an important consideration, as descriptions of 'primary methamphetamine consumers' or 'primary opioid consumers' in subsequent sections of the report will likely also be consumers of drugs of the opposing class.

Figure 7: Polydrug use in the preceding six months amongst the IDU cohort, 2010



Source: IDRS IDU interviews

Table 6: Polydrug use history of the IDU sample, 2010

Drug Class	Ever used %	Ever Injected %	Injected last 6 mths %	Days injected in last 6 mths*	Ever Smoked %	Smoked last 6 mths %	Ever snorted %	Snorted last 6 mths %	Ever Swallowed %	Swallowed last 6 mths+ %	Used^ last 6 mths %	Days in treatment* last 6 mths	Days used^ in last 6 mths*
Heroin	60	60	8	3	13	0	8	0	6	0	8		3
Homebake heroin	7	7	0	0	1	0	0	0	1	0	0		0
Any heroin (inc. homebake)	*60*	*60*	*8*	*3*	*13*	*0*	*8*	*0*	*7*	*0*	*8*		*3*
Methadone (prescribed)	61	48	30	54					58	33	33	180	180
Methadone (not prescribed)	76	73	41	7					10	2	42		10
Physeptone (prescribed)	15	9	2	104	0	0	0	0	10	1	3	120	120
Physeptone (not prescribed)	72	68	38	6	0	0	0	0	16	7	41		6
Any methadone (inc Physeptone)	*86*	*82*	*65*	*36*					*69*	*37*	*69*		*72*
Buprenorphine (prescribed)	20	6	1	4	1	1	1	0	19	4	4	110	110
Buprenorphine (not prescribed)	14	13	5	2	0	0	0	0	3	1	5		6
Any Buprenorphine (exc buprenorphine-naloxone)	*30*	*18*	*6*	*3*	*1*	*1*	*1*	*0*	*22*	*5*	*9*		*12*
Buprenorphine-naloxone (prescribed)	13	3	2	25	1	1	1	1	13	6	6	14	11
Buprenorphine-naloxone (not prescribed)	11	6	4	4	0	0	0	0	5	1	5		2
Any Buprenorphine-naloxone	*20*	*7*	*5*	*2*	*1*	*1*	*1*	*1*	*18*	*7*	*9*		*6*
Morphine (prescribed)	30	24	1	180	0	0	0	0	16	1	2		94
Morphine (not prescribed)	94	93	73	42	0	0	0	0	20	6	73		43
Any Morphine	*95*	*94*	*74*	*45*	*0*	*0*	*0*	*0*	*30*	*6*	*74*		*46*
Oxycodone (prescribed)	15	11	7	160	0	0	0	0	9	5	8		175
Oxycodone (not prescribed)	88	84	56	19	0	0	0	0	12	5	60		17
Any Oxycodone	*88*	*85*	*57*	*20*	*0*	*0*	*0*	*0*	*19*	*10*	*61*		*20*
Over the counter codeine	44	1	0	0	0	0	1	0	44	35	35		24
Other opioids (not elsewhere classified)	25	13	1	3	7	4	0	0	22	17	18		13

Source: IDRS IDU interviews

^ Refers to any route of administration, i.e. includes use via injection, smoking, swallowing, and snorting; **+** Refers to/includes sublingual administration of buprenorphine

***** Among those who had used/injected.

Table 6: Polydrug use history of the IDU sample, 2010 (continued)

Drug Class	Ever used %	Ever Injected %	Injected last 6 mths %	Days injected in last 6 mths*	Ever Smoked %	Smoked last 6 mths %	Ever snorted %	Snorted last 6 mths %	Ever Swallowed %	Swallowed last 6 mths+ %	Used^ last 6 mths %	Days in treatment* last 6 mths	Days used^ in last 6 mths*
Speed powder	96	95	56	17	9	0	42	2	42	7	56		17
Base/point/wax	72	72	40	12	2	0	0	0	5	3	40		12
Ice/shabu/crystal	64	61	19	6	16	2	0	0	4	2	20		6
Amphetamine liquid	9	8	2	49					2	1	2		49
Any form methamphetamine	*96*	*95*	*70*	*24*	*24*	*2*	*42*	*2*	*43*	*11*	*70*		*24*
Pharmaceutical stimulants (prescribed)	5	0	0	0	0	0	0	0	5	0	0		0
Pharmaceutical stimulants (not prescribed)	65	56	28	7	2	1	4	0	26	11	35		6
Any form pharmaceutical stimulants	*68*	*56*	*28*	*7*	*2*	*1*	*4*	*0*	*30*	*11*	*35*		*6*
Cocaine	39	18	2	5	2	0	28	5	3	0	5		3
Hallucinogens	71	8	1	1	0	0	2	0	69	11	12		1
Ecstasy	69	29	9	2	1	0	11	3	64	22	27		3
Benzodiazepines (prescribed)	59	14	6	17	0	0	1	1	58	38	39		140
Benzodiazepines (not prescribed)	74	28	15	6	1	1	1	0	68	50	55		25
Any benzodiazepines	*87*	*34*	*16*	*6*	*1*	*1*	*2*	*1*	*86*	*71*	*74*		*66*
Alcohol	99	1	0	0					99	64	64		24
Cannabis	98										79		180
Inhalants	27										3		1
Tobacco	99										96		180

Source: IDRS IDU interviews

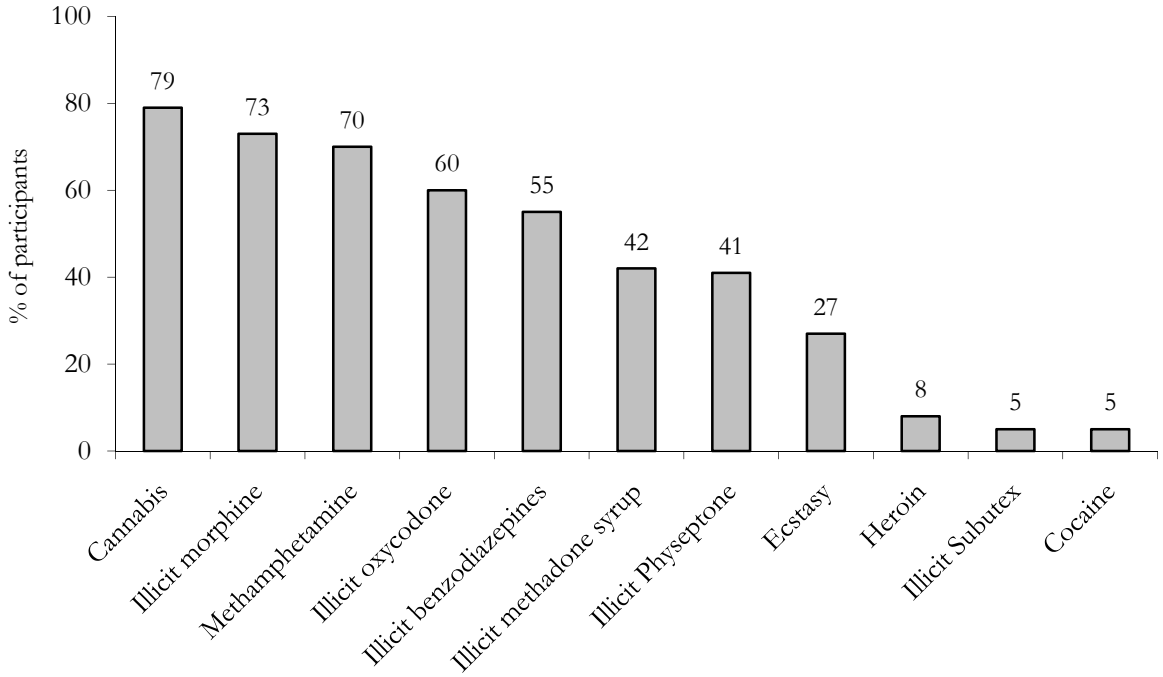
^ Refers to any route of administration, i.e. includes use via injection, smoking, swallowing, and snorting

+ Refers to/includes sublingual administration of buprenorphine

* Among those who had used/injected.

Overall, the most commonly used illicit drug in the six months preceding the interview was cannabis, with 79% of participants reporting use (Figure 8). Almost three-quarters of the sample reported recent use of illicit morphine (73%) and methamphetamine (70%). Illicit oxycodone was used by three-fifths of the sample (60%), and around half of the sample reported recent use of illicit benzodiazepines (55%). Illicit methadone syrup and Physeptone were used by approximately two-fifths of the sample (42% and 41% respectively), ecstasy had been used by one-quarter of the sample (27%), and very small proportions of participants reported recent use of heroin (8%), illicit Subutex (buprenorphine) or cocaine (5% respectively).

Figure 8: Patterns of drug use among the 2010 IDRS sample



Source: IDRS IDU interviews.

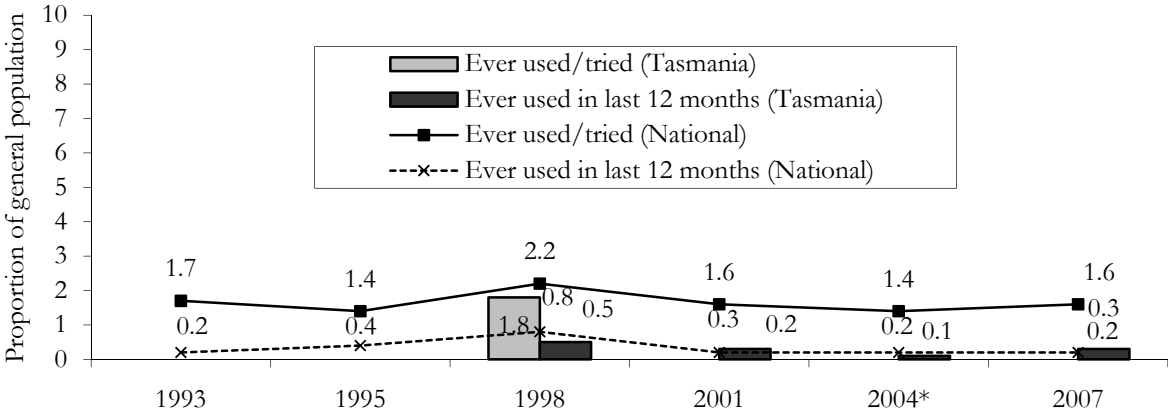
4.0 HEROIN

4.1 Use

4.1.1 Prevalence of heroin use

The 1998 National Drug Strategy Household Survey (AIHW, 1999) reported that 1.8% (n=15) of Tasmanians sampled had ever used heroin, while 0.5% (n=5) had used it in the year prior to interview (Figure 9). While the small numbers involved mean that meaningful inferences are difficult to draw, past year use in the 2001 and 2004 surveys are similar (0.3%, n~4 and less than 0.1% respectively: AIHW, 2002a; 2005b). Similarly, the 2007 National Drug Strategy Household Survey (n=1,143) reported that 0.3% of the Tasmanian sample had used heroin in the preceding consistent with rates in the national sample (0.3%) (AIHW, 2008b).

Figure 9: Prevalence of heroin use in Australia and Tasmania among those aged 14 years and over, 1993-2007



Source: National Drug Strategy Household Survey 1993-2007

* In 2004, less than 0.1% of the Tasmanian sample reported recent use of heroin

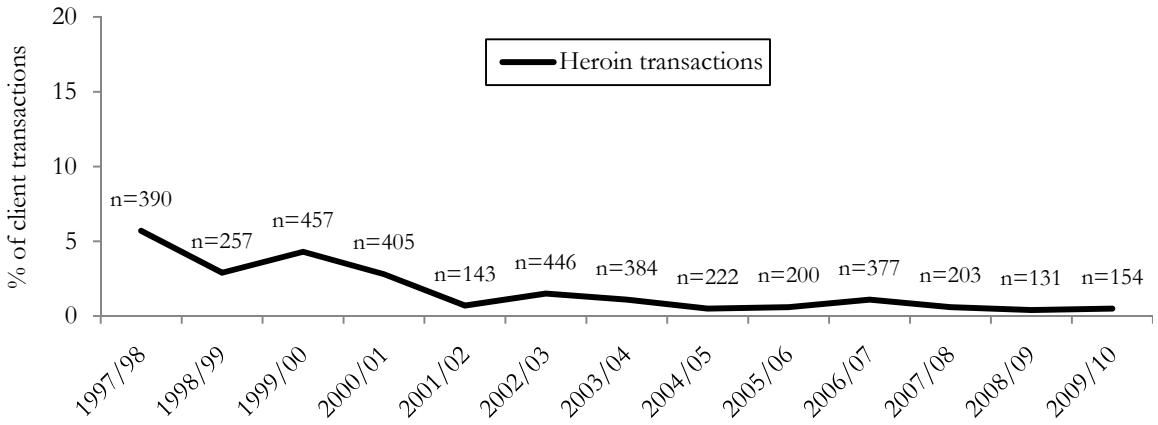
4.1.2 Heroin use among NSP clients

Reported use of heroin as the main drug injected by non-pharmacy NSP outlet clients has remained low (2% or less of all transactions since 2001/02) against a background of a steadily increasing number of client transactions on the program (Figure 10). While it should be noted that data from the NSP reported here includes some imputation of missing data (thus these figures should best be regarded as estimates) of note in these figures is a decline in client transactions between 2000/01 and 2001/02 (falling from 405 to 143 respectively) where heroin was reported as the drug most often injected. Following a return to similar levels in 2002/03 (446 transactions), these cases steadily declined in subsequent years, to 200 in 2005/06. In 2006/07, a small increase in the proportion of heroin-related client transactions was observed (1.1%, n~377); however, this was short-lived, as the rate decreased to 0.6% (n~203) in 2007/08[7] and has remained stable since then (0.4%, n=131 in 2008/09 and 0.5%, n=154 in 2009/10).

[7] It should be noted that prior to 2007/08, NSP data included data from both primary and secondary NSP outlets across Tasmania; in 2007/08-2009/10, data was collected exclusively from primary outlets. Whilst the number of transactions may vary in accordance with the change in reporting style, rates remain a useful way to monitor these trends over time for this dataset.

It is important to note that NSP data may underestimate the extent of heroin use, as different NSP outlets ask slightly differing questions in regard to drug use – with some asking 'what is the drug you most often inject?', while others prefer 'what is the drug you are about to inject?', with the different questions having different biases against identification of use of drugs accessed in low frequency. For example, in the current cohort, although 8% of the IDU sample had used heroin in the past six months, no participants reported it as the drug they most often injected, and there is a very high level of polydrug use amongst those who reported recent use of heroin (discussed below).

Figure 10: Proportion of heroin reported as 'drug most often injected' in transactions at Tasmanian non-pharmacy Needle and Syringe Program outlets, 1997/98-2009/10



Source: Population Health, Department of Health and Human Services

The Australian Needle and Syringe Program Survey (MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2010) has reported heroin as the last drug injected by 3% or less of their participants between 2002 and 2007 and in 2009 (Table 7). In 2008, 7% of the sample reported heroin as the last drug injected, however, the sample size was notably lower than previous years (57 in 2009 compared with 107-168 in 2002-2007), and so this finding should be interpreted with caution. Overall, these figures estimate the level of use of heroin as much higher than that seen in the NSP client data, although underscore the point that heroin use is not common amongst Tasmanian IDU.

Table 7: Australian Needle and Syringe Program (NSP) Survey: Prevalence of heroin within 'last drug injected', 2002-2009

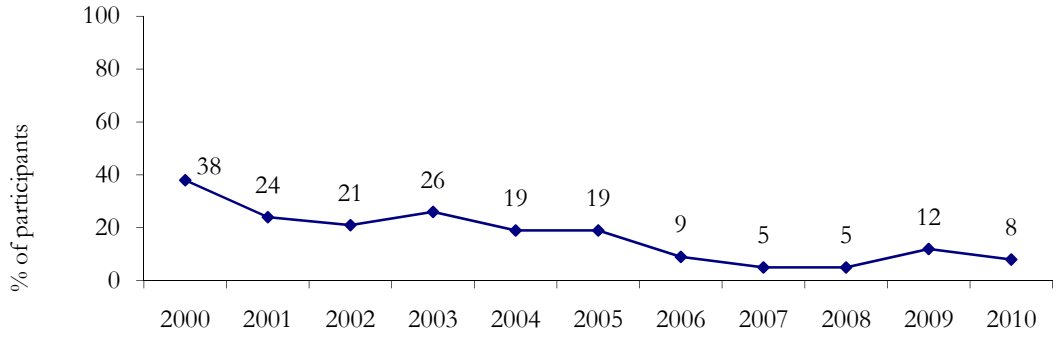
	2002 (N=151)		2003 (N=118)		2004 (N=107)		2005 (N=137)		2006 (N=150)		2007 (N=168)		2008 (N=57)		2009 (N=122)	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Heroin	5†	3	1	1	0	0	2	1	4†	2	3	2	4	7	4	3

Source: MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2010
† Of these individuals, one reported their last drug injected as a mixture of heroin and cocaine

4.1.3 Current patterns of heroin use

Among the 2010 IDU sample, 60% reported they had tried heroin at some stage of their lives. Of the eight participants who reported heroin use in the preceding six months, all had injected it, at a median frequency of three days (range 1-6 days). No other modes of administration were reported to have been used in the last six months. Recent use of heroin amongst IDRS cohorts had declined from 38% in 2000 to 5% in 2008, and has remained relatively unchanged in 2010 at 8% (Figure 11). Despite these low rates of heroin use, a substantial proportion of participants in each cohort have reported heroin to be their drug of choice: between 2000 and 2006, the proportion of participants reporting heroin as their drug of choice remained between 32% and 40%, and between 2007 and 2010, this rate was slightly lower, ranging between 25% and 33% of each sample (29% in 2010). This low level of use in a regularly injecting group, in which almost one-third report heroin as their drug of choice, indicated heroin supply in Tasmania was limited.

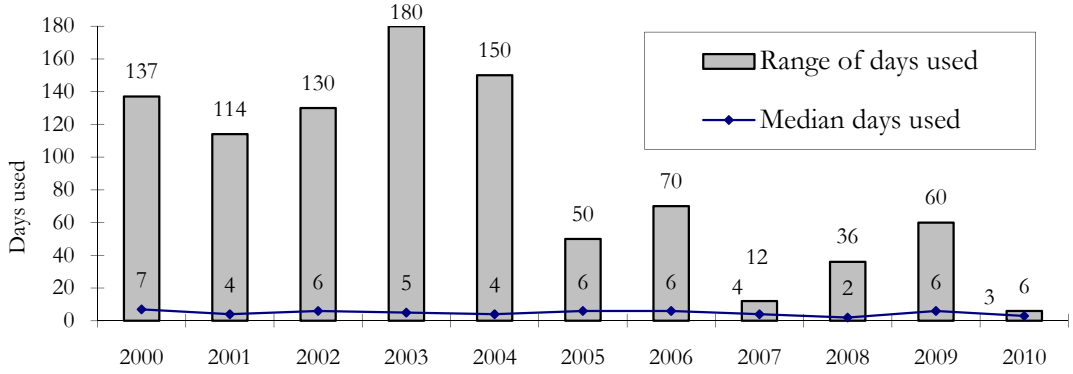
Figure 11: Proportion of IDU participants reporting recent use of heroin, 2000-2010



Source: IDRS IDU interviews

Frequency of use in the preceding six months amongst those using heroin has remained relatively stable and low across all IDRS studies. However, there has been a wide range of use amongst the cohorts, with some participants in earlier studies able to access heroin regularly (Figure 12). In keeping with the decline in the proportion of the IDRS IDU cohorts reporting recent use of heroin since 2003, there has been a reduction in the range of days that heroin had been used among recent cohorts. In support of these findings, four KE – employed in legal/law enforcement fields and drug treatment field – noted heroin use was rare amongst the client groups they were familiar with, with one noting that *'it is rare to see it, but it is being used'*.

Figure 12: Median days and range of heroin use in the past six months, 2000-2010



Source: IDRS IDU interviews

There was a high level of polydrug use amongst those who had used heroin in the past six months (Table 8), predominantly of cannabis, illicit morphine, illicit oxycodone, illicit benzodiazepines and alcohol. This finding is in keeping with reports from KE that, because of fluctuating availability, primary users of opioids have to be flexible in their patterns of use, turning to other opioids, methamphetamine or benzodiazepines if their opioid drug of choice is unavailable.

Table 8: Patterns of drug use reported by those IDU who had used heroin in the past six months, 2010

	% of those who had used heroin in last 6 months reporting use (n=8)	Median days use for those using the drug
Methadone syrup (illicit)	50 (n=4)	14 (range 1-24)
Physeptone (illicit)	63 (n=5)	6 (range 2-24)
Morphine (illicit)	88 (n=7)	72 (range 30-160)
Oxycodone (illicit)	75 (n=6)	16 (range 5-180)
Benzodiazepines (illicit)	75 (n=6)	15 (range 1-72)
Cannabis	100 (n=8)	88 (range 2-180)
Methamphetamine		
Powder	50 (n=4)	4(range 2-50)
Base/paste	50 (n=4)	22 (range 1-35)
Ice/crystal	50 (n=4)	2 (range 1-30)
Alcohol	75 (n=6)	12 (range 6-180)

Source: IDRS IDU interviews

Of those IDU who had reported heroin use in the preceding six months (n=8), half regarded heroin as their drug of choice (50%, n=4), 25% of participants reported morphine (n=2) and single participants reported oxycodone and methadone as their drug of choice (13% respectively). No participants reported that heroin was the drug they had injected most often in the preceding month, despite 29% reporting it as their drug of choice. Participants were asked to clarify the discrepancy between their drug of choice and the drug most used in the preceding month. Of the group reporting heroin as their drug of choice, 86% (n=25) reported lack of availability and 7% (n=2) reported low purity of heroin as the primary reasons that heroin was not the main drug they had used in the preceding month.

Participants were asked to describe the form/s of heroin they had predominantly used. Four participants reported use of rock form: three reported this to be white or off-white in colour and one reported it to be brown. Three participants reported the heroin they had used was in powder form: two reported the powder to be brown or beige in colour, and one participant reported it to be white or off-white in colour.

Participants were also asked to comment on preparation methods for injection of heroin forms. Of the 8 participants who commented, 4 reported use of heat, and no participants reported use of acid the last time they prepared heroin for injection.

4.2 Price

In previous years, IDU who could comment on the price of heroin generally referred to purchasing it in units of 'points' (referring to 0.1g), 'packets', 'caps' or 'tastes', the latter two appearing to be a generic descriptor for a varying amount of the drug, generally between 0.05-0.15g. In the current study, just one participant commented on the market price of one 'cap' of heroin, reporting this to cost $60, however, no participants were able to comment on the actual purchase price they had paid for heroin. In previous years, when IDRS IDU cohorts reported higher levels of heroin use, information regarding price was more common (see Table 9). Between 2000 and 2008, the modal price estimates for a 'point' ranged between $50 and $100. None of the KE could confidently comment on purchase prices of heroin.

Table 9: Modal price of heroin purchased by IDU, 2000-2010 IDRS

Descriptor	2000		2001		2002		2003		2004	
	$	*n*	$	*n*	$	*n*	$	*n*	$	*n*
Cap,taste, point (~0.05-0.15g)	$50	*1*	$50	*15*	$100	*12*	$50	*7*	$50	*6*
'Points'/'2 tastes'(~0.2g)	$100	*2*	$100	*8*	$93*	*2*	$100	*1*	$50	*1*
1/4 gram (0.25g)	$50	*1*	$100	*1*	$135*	*4*	$100	*1*	$100	*1*
Half-weight (0.5g)	-	*0*	$170	*1*	$250	*1*	-	*0*	$370*	*2*
Gram (1.0g)	$375*	*2*	$300	*2*	$350	*1*	$350	*2*	$350	*4*

Source: IDRS IDU interviews

* Where multiple modes existed, median price was substituted.

~ Refers to 2-3 points

Table 9: Modal price of heroin purchased by IDU, 2000-2010 IDRS (continued)

Descriptor	2005		2006		2007		2008		2009		2010	
	$	*n*	$	*n*	$	n	$	*n*	*$*	*n*	*$*	*n*
Cap,taste, point (~0.05-0.15g)	$100	*4*	-	*0*	$50	*1*	$50	*1*	-	*0*	-	*0*
'Points'/'2 tastes'(~0.2g)	-	*0*	$200~	*1*	-	*0*	-	*0*	-	*0*	-	*0*
1/4 gram (0.25g)	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*	-	*0*
Half-weight (0.5g)	-	*0*	-	*0*	-	*0*	$500	*1*	*$150*	*1*	-	*0*
Gram (1.0g)	$360*	*3*	-	*0*	-	*0*	-	*0*	*$450*	*1*	-	*0*

Source: IDRS IDU interviews

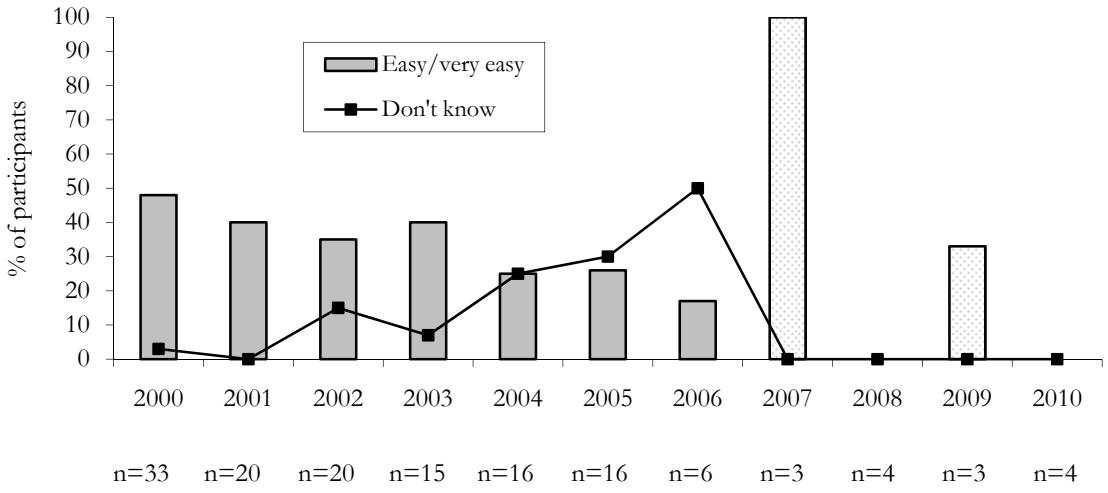
* Where multiple modes existed, median price was substituted.

~ Refers to 2-3 points

4.3 Availability

Of the four IDU participants that were able to comment on the availability of heroin, all reported it to be either 'difficult' or 'very difficult' to access (n=1 and n=3 respectively), and that this situation had not changed in the last six months (Table 10). This is similar to reports over the preceding two years, in which the majority of the very small number of participants able to comment reported it to be difficult to access. None of the KE interviewed in 2010 could confidently comment on the current availability of heroin. Participants were also asked to comment on changes in availability over the six months preceding the interview. All four participants who commented reported that they perceived heroin availability having remained stable in this time. Examining trends in reported heroin availability over time in the local IDRS study (Figure 13), between 2001 and 2010, with the exception of 2007, a greater proportion of respondents considered heroin as 'difficult' or 'very difficult' to access in comparison to those that considered it as 'easy' or 'very easy' to access. While in 2007 all consumers reporting (n=3) considered heroin 'easy' for them to access, this is unlikely to signify any notable change in the availability of heroin in Tasmania (particularly in light of the extremely low level of use of heroin in the IDU cohort); instead this is more probable that a very small group of people had reasonable access to heroin over a short period of time (Figure 13).

Figure 13: Participant reports of current heroin availability, of those who commented 2000-2010



Source: IDRS IDU interviews
Note: These estimates are based on an extremely small number of reports and should be interpreted with caution

Tasmania Police reported no heroin seizures between 2006/07 and 2009/10[8]; and in 2004/05 and 2005/06 single seizures (0.2g and 2.8g respectively) of a drug believed to be heroin were reported. No seizures of heroin were made between 2000/01 and 2003/04[9].

When reviewing this information, it appears that the historical pattern of limited availability of heroin locally has continued. While some better-connected IDU may have reasonably stable

[8] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.
[9] In 2002/03, a joint operation involving the Australian federal Police, Victoria Police and Tasmania Police resulted in the seizure of 125kg of heroin. No seizures related to this were recorded by Tasmania Police, however, eight seizures were analysed for purity by Tasmania Police in 2002/03 (see Section 4.4).

access to the drug, the availability of heroin in the state remained low, as indicated by the low level of recent use of the drug by the IDU sample.

4.4 Purity

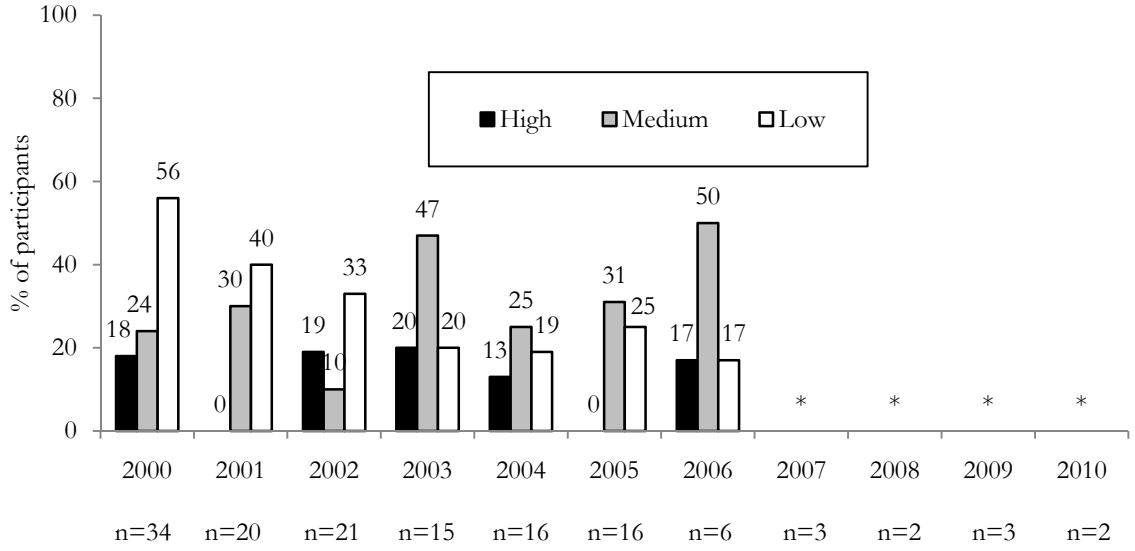
Participants were asked to comment on the subjective purity of heroin they had recently used. The two participants who commented were divided in their responses: one participant perceived purity to be high; and a second participant reported it to be low. No KE in 2010 could comment on the purity of heroin used by the groups that they were familiar with. In previous surveys, IDU have commented that the relatively poor quality of heroin (at a relatively high cost) had led them to be generally wary of buying heroin for fear of being 'ripped off', and because of this, they preferred to purchase pharmaceutical opioids, as the exact quantity of drug purchased is clear.

The limited extent of use of heroin amongst the current participants meant that little information was available in regard to recent changes in heroin purity. In 2010, no participants felt able to comment on changes in purity over the preceding six months. Similarly, in the preceding two IDRS surveys, no more than two participants were able to comment on these trends.

Examining subjective reports of heroin purity in the Tasmanian IDU cohorts over time, it is clear that, while these reports have fluctuated somewhat over the samples, since 2003 the majority of those able to comment on purity have considered the heroin available to them as 'medium' in purity (Figure 14).

Overall, the number of heroin seizures and analyses of these in Tasmania are infrequent, resulting in limited objective purity data available for comparison to these subjective reports. The Australian Crime Commission (ACC) reported a single seizure of less than two grams of heroin in the first quarter of 2000, made by the Australian Federal Police (AFP), which returned a measurement of 74.6% purity. In 2002, the ACC reported on the purity of eight seizures made by Tasmania Police and analysed during the third quarter of 2002, returning a median of 70.4% purity (range 69.6-71.0%). Single seizures of heroin were made by Tasmania Police in 2004/05 and 2005/06; however, analyses of these seizures were not conducted.

Figure 14: Proportion of IDU participants reporting current heroin purity as high, medium or low, of those who could respond, 2000-2010



Source: IDRS IDU interviews

* The estimates in 2007-2010 were not included as they were based on an extremely small number of reports (i.e. <4 per annum)

4.5 Trends in heroin use

The majority of indicators – and findings such as the low median rate of use of heroin (3 days in last six months amongst those who had used the drug) and, that of the 29% of the IDU sample that reported heroin as their drug of choice, only 14% had recently used heroin (n=4) – indicate that the low availability of heroin in the state identified in earlier IDRS studies had continued in 2010. The national IDRS study identified stable numbers of heroin users nationally, but noted a small overall increase in frequency of heroin use (Stafford & Burns, 2011).

The Australian Crime Commission (ACC) 2008/09 *Illicit Drug Data Report* (2010) noted that there had been an increase in the number of embarkation countries for heroin importation into Australia: increasing from 11 in 1999/00 to 29 in 2008/09. In 2008/09, the primary embarkation points for heroin detection were South Africa, Pakistan and several countries in South-East Asia. This marks a change from 2007/08, when the primary embarkation points were in South-West Asia. In addition to this, heroin from South-West Asia (particularly Afghanistan) was increasingly being identified in heroin seizures in Australia between 2007 and 2008 (ACC, 2010), however, in 2009, the majority of heroin seized in Australia originated from South-East Asia. Afghanistan remains the predominant producer of opium and heroin, despite a 10% reduction in production between 2008 and 2009. In the Golden Triangle region of South-East Asia (Burma, Thailand and Laos), potential opium production also decreased over this period by approximately 10%. Burma remains the predominant producer of heroin and opium in this region. With the high use of opioids and stable strong preference for heroin amongst the IDU sampled by the IDRS, both locally and nationally (Stafford & Burns, 2011), future trends in use of the drug continue to merit close attention, particularly as heroin markets nationally regain momentum.

4.6 Summary of heroin trends

Table 10: Summary of heroin trends

Use	• Used by 8% of the IDU sample in past six months at a low frequency (a median of three out of the past 180 days) despite a high preference for heroin as drug of choice (29%) • Those that use heroin also have high levels of polydrug use, including illicit morphine, oxycodone, methadone, benzodiazepines, cannabis and alcohol • Indicator reports suggest ongoing low levels of heroin use locally • Findings of the 2007 NDSHS indicate that 0.3% of Tasmanians had used heroin in the previous year
Availability	• Heroin reported to be 'very difficult' or 'difficult' to access by the very small numbers of participants that had recently accessed the drug, and all agreed that this situation had remained unchanged over the preceding six months • Low levels of use in the sample are suggestive of continued low availability of heroin locally
Purity and form	• Both 'rock' and powder heroin used. 'Rock' heroin was described as white/off-white or brown in colour; and powder form was described as being white/off-white or brown-beige in colour • No objective purity data are available for locally-purchased heroin; and just two participants commented on perceived purity, reporting either high or low purity

5.0 METHAMPHETAMINE

In the initial years of the IDRS studies, reports have used the overarching term 'amphetamine' to refer to both amphetamine and methylamphetamine (methamphetamine[10]). Throughout the 1980s, the form of illicit amphetamine most available in Australia was amphetamine sulphate (Chesher, 1993). Following the legislative controls introduced in the early 1990s on the distribution of the main precursor chemicals for the production of amphetamine sulphate (Wardlaw, 1993), illicit manufacturers were forced to rely on different procedures for the preparation of amphetamine. During the 1990s, the proportion of amphetamine-type substance seizures that were methamphetamine (rather than amphetamine) steadily increased until methamphetamine clearly dominated the market (ABCI, 1999, 2000, 2001). Across Australia today, the powder traditionally known as 'speed' is almost exclusively methamphetamine rather than amphetamine. For example, in the 2006/07 financial year, of the 4,396 seizures of amphetamine-type (non-phenethylamine) seizures analysed for purity in Australia, 97.9% (by number) were methamphetamine rather than amphetamine (ACC, 2008).

As methamphetamine markets across the country have expanded in recent years, it has become apparent that there is a diversity of forms, or presentations, of methamphetamine sold in the Australian illicit drug market. These more potent forms may be known by terms such as ice, shabu, base, paste and crystal meth, but they are all methamphetamine in basis. While there is some disagreement among both consumers and researchers as to the nature of these forms and the distinguishing divisions between forms, it is clear that these are marketed differently to consumers and often sold on differing price scales. As such, trends in regard to each of these forms will be discussed separately where appropriate, and the term methamphetamine will be used in the IDRS to refer to the drugs available in this class.

With the exception of methamphetamine-based tablets marketed as 'ecstasy', and pharmaceutical stimulants such as dexamphetamine and methylphenidate, it appears that there are three dominant 'preparations' of methamphetamine used within the Tasmanian (and Australian) IDU market – each falling at three points along a continuum of form, but, again, all of which are the same substance.

Powder form methamphetamine[11] is the presentation of the drug which has traditionally been available in Australia. This is commonly a powder that can range from fine to more crystalline or coarse, and may take different colours (commonly white, brown or pink), depending on the chemical process used in its production and the quality of that process. It is produced within Australia, most commonly in small, portable 'laboratories', and is usually based on pharmaceutical pseudoephedrine (extracted from, for example, Sudafed tablets). Because of its powder form, it is fairly easy to 'cut' (dilute) and is commonly sold at fairly low purity/potency, although this can vary substantially. Consumers interviewed for the 2010 IDRS survey reported that methamphetamine powder sometimes contained small crystals in the powder, with the powder generally appearing white in colour, or alternatively yellow, pink, beige or brown. The presence of crystals in powder methamphetamine may represent higher purity methamphetamine, or alternatively it may be explained by the use of an adulterant (methylsulfonylmethane, MSM) in the late stages of production. The introduction of MSM forms crystals, giving the powder methamphetamine a crystalline appearance (Fetherston & Lenton, 2006).

The two other 'forms' of methamphetamine are traditionally higher in potency (due to being more difficult to 'cut') and have increased in availability across all Australian jurisdictions in the past decade (Topp et al., 2002). The first, referred to in some jurisdictions as 'base' or 'paste', is

[10] Methamphetamine is an abbreviation of the name methylamphetamine, and, as such, both terms are interchangeable.
[11] Powder form methamphetamine is also referred to in national and other jurisdiction IDRS reports as 'speed'.

commonly a gluggy, waxy, oily, 'wet' powder. It is usually sold in units of 'points' (0.1 grams). This form of the drug appears oily because the conversion process from pseudoephedrine to methamphetamine produces the alkaline (base) form of methamphetamine, which is 'oily'. To convert this to a more easily injectable form (methamphetamine hydrochloride crystals, which may take the appearance of powder, or, when no impurities are present, and carefully crystallised, may take the form of the 'ice' crystals discussed below) requires a high level of skill, and when not completed correctly, the result of this process is an oily powder that often has a yellow or brownish tinge due to the presence of iodine and other impurities (Topp & Churchill, 2002). In the 2010 study, participants that had recently purchased this form locally commonly described it as 'gluggy', and reported the colour as ranging from white, beige, brown to yellow or pink.

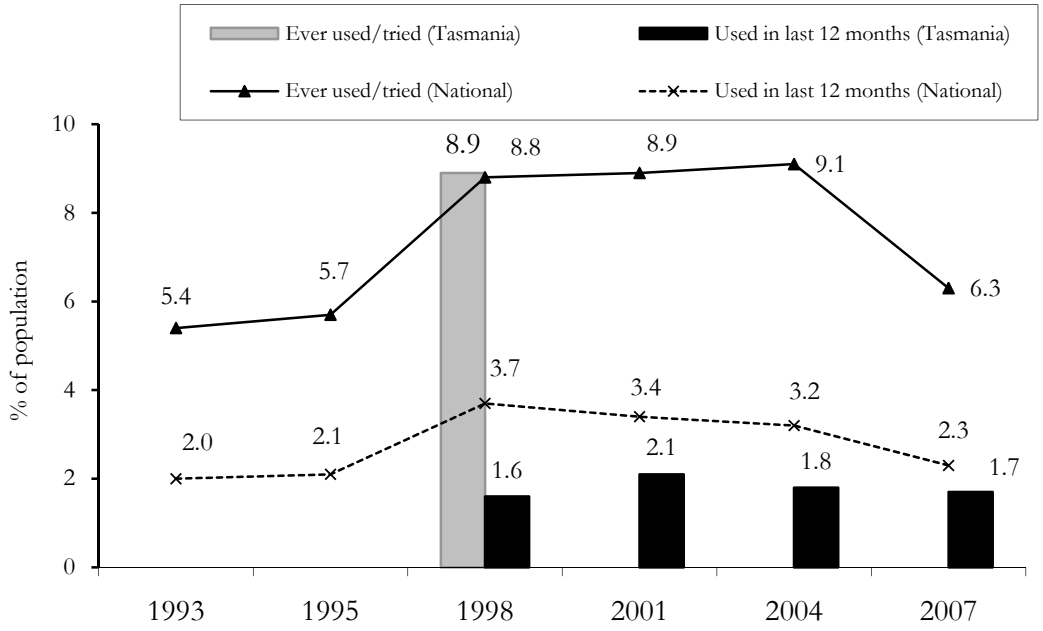
The final form of methamphetamine examined in the current study is often referred to as 'ice' or 'crystal meth(amphetamine)'. This is the product of a careful production process, and is believed to be chiefly imported into Australia from Asian countries (Topp & Churchill, 2002), although there are also indications of local production in recent years (ACC, 2009). It commonly appears as clear, ice-like crystals, and, as such, is difficult to 'cut' (dilute), resulting in a relatively high-purity/potency product. However, as previously noted, MSM is an adulterant that can be used to give lower purity powder methamphetamine the appearance of higher purity crystal methamphetamine (although it should be noted that there is currently no forensic validation that this has been present in drugs used in Tasmania). Consumers in the current and previous IDRS studies have generally described this form as white/clear crystals or rocks, looking like crushed glass or rock salt (with crystals commonly larger than sugar crystals).

5.1 Use

5.1.1 Prevalence of methamphetamine use

The most recent survey of methamphetamine use within the general community of Tasmania was undertaken within the 2007 National Drug Strategy Household Survey (AIHW, 2008b), which sampled 1,143 Tasmanian residents aged 14 years and over. These results indicated that 1.7% had used the drug in the 12 months prior to interview (Figure 15). This rate is consistent with the national rate in the 2007 survey (2.3%, with this observed difference within the range of sampling error). It would appear that there has been little substantial change in the level of methamphetamine use in the Tasmanian community in recent years, as the proportions reporting past-year use was 1.6% in the 1998 survey (AIHW, 1999; sample size = 1,031), and has varied little since this time (2.1% of those aged 14 years and above in 2001, 1.8% in 2004 and 1.7% in 2007). Where slight differences in 'prevalence' rates have occurred between surveys, these have uniformly remained within the range of variability due to sampling for these studies and are, therefore, unlikely to reflect meaningful changes in the extent of the use of these drugs in the population.

Figure 15: Prevalence of meth/amphetamine use in Australia and Tasmania among those aged 14 years and over, 1993-2007



Source: National Drug Strategy Household Survey 1993-2007

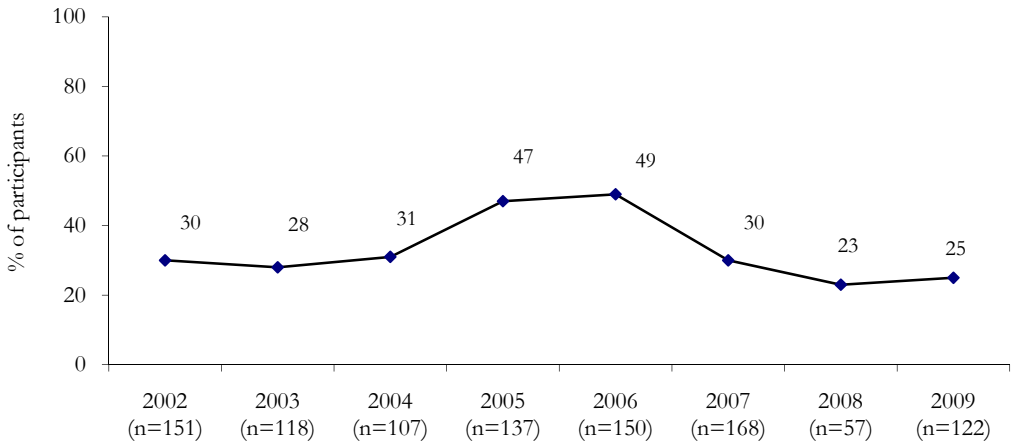
5.1.2 Methamphetamine use in particular populations

Data from urine screens of Tasmanian prisoners revealed a very low rate of sympathomimetic amines among positive tests, accounting for 3% or less of all positive tests between 1995/96 and 2009/10. In 2009/10, just five positive urine drug screens for sympathomimetic amines/amphetamines (2.3% of all positive urine screens) were reported. However, these figures may underestimate the level of use amongst this group due to the relatively rapid elimination of this drug from the body.

5.1.3 Methamphetamine use among IDU

The Australian Needle and Syringe Program Survey (MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2010) take an annual survey of individuals presenting to NSP outlets. Those that participate in the survey are asked, among other things, the last drug they injected. Between 2002 and 2004, methamphetamine was the last drug injected of around 30% of the Tasmanian participants (Figure 16). In 2005, consistent with trends seen in the IDRS IDU cohort and among clients of the state's NSP, the proportion of survey participants reporting methamphetamine as the last drug injected increased to 47%, and this remained stable in 2006 (49%). Since 2007, this trend has been reversed, with the proportion of participants reporting methamphetamine decreasing to 30% in 2007; 23% in 2008; and 25% in 2009. These findings are consistent with the trends of decreasing use identified in the NSP data between 2006/07 and 2009/10.

Figure 16: Australian Needle and Syringe Program Survey: Prevalence of methamphetamine as 'last drug injected' amongst Tasmanian IDU, 2002-2009



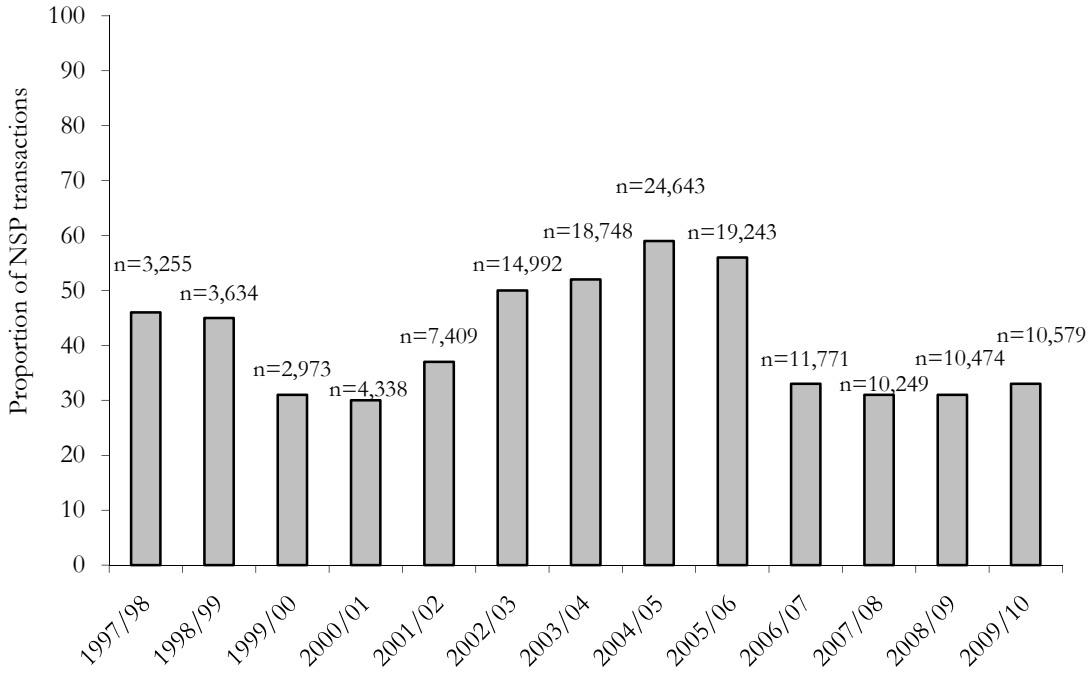
Source: MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2009, 2010

Since 1997, clients of non-pharmacy NSP outlets have been asked which drug they mostly inject. While methamphetamine has been the most commonly reported single drug used across the years of data collection, the proportion of NSP clients reporting methamphetamine as the drug they most commonly used was in steady decline from 56% in 1996/97 to 30% in 2000/01 (Figure 17). However, this trend was reversed between 2001/02 and 2004/05, with proportions increasing from 37% to 59% respectively. In 2006/07, a dramatic decrease occurred, with around one-third of client transactions being reported for methamphetamine. Over the following three financial years, this rate has remained relatively unchanged (Figure 17).

While this appears to represent a substantial change in the market over time and is consistent with use patterns among the IDRS samples, these data should be interpreted with caution: firstly, it has been estimated that approximately 15% of all injection equipment distributed on a monthly basis is distributed through pharmacy-based outlets (Bruno, 2004a), where no client data are collected. This proportion may have increased since 2005/06, as the only 24-hour NSP program in Hobart closed in February 2006, which recorded on average more than 1,200 transactions per month, primarily for methamphetamine. No increases in transactions recorded by other non-pharmacy NSP have been observed since this closure; therefore, it is possible that many of these transactions are now occurring in pharmacy-based outlets. Given that the clear bulk of injection equipment distributed through pharmacy outlets (1ml barrels) is appropriate for methamphetamine injection (and not for pharmaceutical opioids, the other type of drugs most commonly injected in Tasmania); it is likely that the majority of this equipment is used for injection of methamphetamine. As such, the non-pharmacy outlet data presented in Figure 17 is likely to be an underestimation of the true proportion of methamphetamine injection amongst Tasmanian IDU. Secondly, this decline in reports of methamphetamine use amongst NSP client transactions may also partially reflect changes in regard to the provision of certain injecting equipment. Late in 2006, a policy was introduced by the Department of Health and Human Services (Population Health) to limit the availability of winged-infusion sets (butterflies) to those clients injecting large quantities of liquid (e.g. methadone syrup). Over recent years, there has been a local culture of using winged-infusion sets for a broad range of drugs, including methamphetamine, benzodiazepines and pharmaceutical opioids. As a result of this change in availability (according to one KE in 2010, 2009 and 2008, and two KE in 2007, all of whom were working in NSP outlets) many clients were reporting injecting use of methadone to access this equipment, when in fact they were most probably using another substance. In support of this, a

dramatic increase in client reports of methadone injection was apparent in the NSP client data (Figure 37). Given these contextual issues, it is unclear exactly how much of the apparent decline in methamphetamine use amongst non-pharmacy clients of the NSP program reflects a real change in the market of this drug.

Figure 17: Proportion of Tasmanian non-pharmacy Needle and Syringe Program clients reporting methamphetamine as 'drug most often injected', 1997/98-2009/10



Source: Population Health, Department of Health and Human Services
Note: These figures include some estimated data for a number of services, based on average monthly client transactions, where data were missing

5.1.4 Current patterns of methamphetamine use

Seventy percent of the 2010 IDU cohort reported use of any form of methamphetamine in the six months preceding the interview, at a median frequency of 24 days, equating to use on average once per week. This level of use is lower than reported in previous Tasmanian IDRS studies: recent use had been reported by between 74% and 94% of participants between 2003 and 2009.

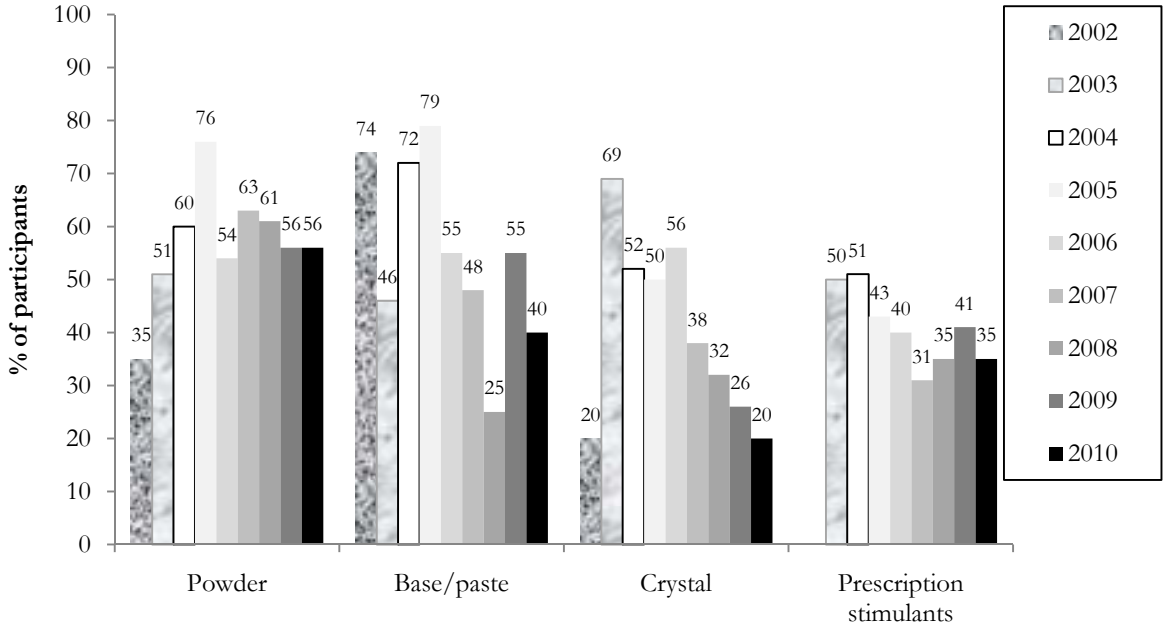
Demographic characteristics of those who had recently used methamphetamine were similar to the rest of the cohort (see Section 3.1) in terms of sex, employment status, accommodation, ATSI background, sexual preferences, educational background, prison history, injection frequency, age of first injection, current engagement in treatment and duration of injecting career. Participants who reported recent use of methamphetamine were younger when they first injected (18.9yrs v.22.5yrs: F (1,98)=5.754, p=0.018), and were more likely to report methamphetamine as their drug of choice (26% v. 0%: $\chi^2(1_{n=100})=9.408$, p=0.001) and the drug most injected in the preceding month (29% v. 0%: $\chi^2(1_{n=100})=10.714$, p<0.001) than participants who reported no recent use.

For the 2010 IDRS, IDU were asked to differentiate between methamphetamine powder, base/paste and crystalline methamphetamine. This distinction had a good level of face validity to

those IDU surveyed, despite there often being a substantial amount of overlap in the physical appearance of these 'forms'. IDU reported making these distinctions on the basis of physical form, purchase cost, and potency of subjective simulant effect.

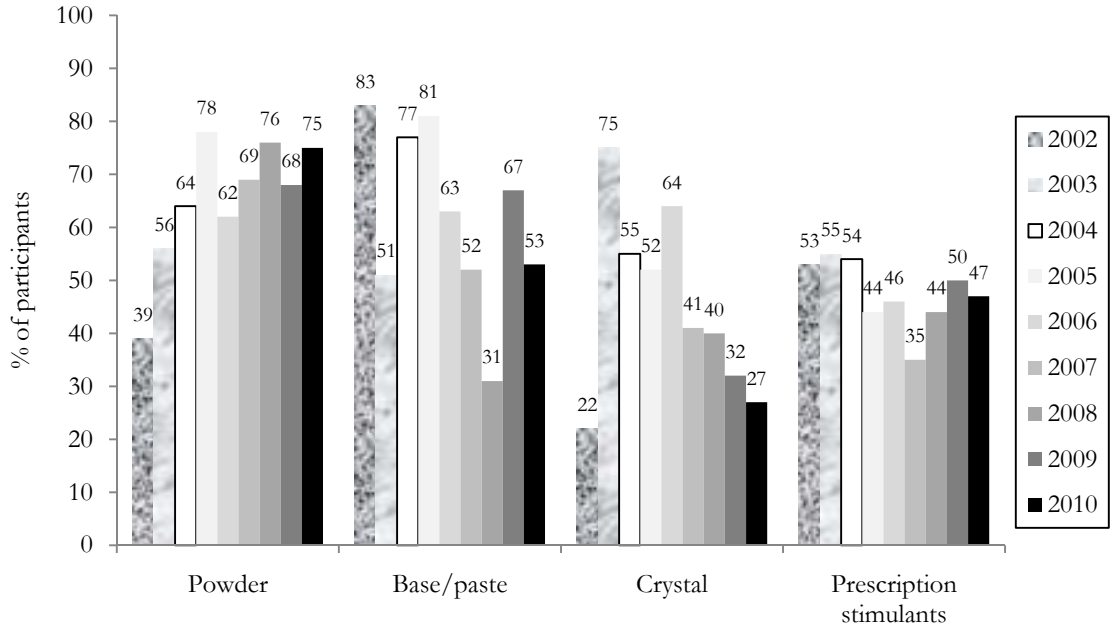
IDU reports of the forms of methamphetamine they had used in the previous six months clearly showed that a wide range of forms and potencies of the drug were available to local consumers (Figure 18). Seventy-five percent (n=56) of those recently using any form of methamphetamine or pharmaceutical stimulant (n=75) reported using powder methamphetamine; 53% (n=40) had recently used base/paste methamphetamine; 27% (n=20) reported recent use of crystalline methamphetamine (Figure 19), and two participants reported use of liquid form methamphetamine (often known as 'ox blood'). None of the participants in the current study reported recent licit use of pharmaceutical stimulants (i.e. use by prescription to the individual), but use of illicitly accessed tablets was reported by almost half of those using any form of methamphetamine or pharmaceutical stimulant in the past six months (47%, n=35), with use of dexamphetamine (n=21) more common than methylphenidate (n=11).

Figure 18: Proportion of IDU reporting methamphetamine and pharmaceutical stimulant use in the past six months, 2002-2010



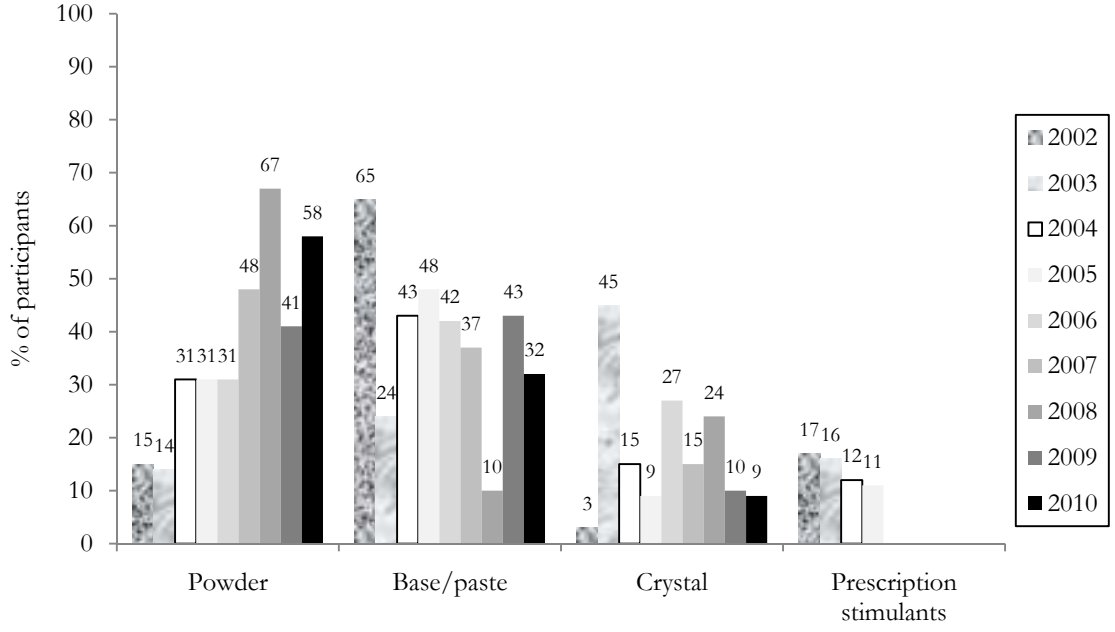
Source: IDRS IDU interviews
Note: Pharmaceutical stimulants include use of licit and illicit prescription amphetamines: this item asked from 2003 onwards

Figure 19: Use of various forms of methamphetamine and prescription stimulants among IDRS IDU participants who reported recent use of a form of amphetamine, 2002-2010



Source: IDRS IDU interviews
Note: Pharmaceutical stimulants include use of licit and illicit prescription amphetamines

Figure 20: Forms of methamphetamine and prescription stimulants most often used among IDRS IDU participants that had recently used a form of methamphetamine or prescription stimulant, 2002-2010



Source: IDRS IDU interviews.
Note: Prescription stimulants were not included in this question in 2006-2010

The patterns of use of the differing 'forms' of methamphetamine and pharmaceutical stimulants in the preceding six months by IDRS IDU participants across the 2002 to 2010 studies (Figures 18-20) display the changing face of the local methamphetamine market in this time. There are three major changes apparent in these data.

The first has revolved around the availability, and therefore use, of crystalline methamphetamine. In the 2002 study, use of crystal was quite rare, consumed by just 22% of amphetamine-using IDU in the preceding six months, with only 3% nominating it as the methamphetamine form they had most often used in this time. However, in the 2003 study, not only had recent use of this form more than trebled to 75% of those recently using amphetamine but it was also the form most commonly used by the largest proportion of those using the drug (45%). In the 2004 and 2005 samples, both the proportion of the cohort reporting recent use of crystal methamphetamine (55% of all amphetamine consumers in 2004 and 52% in 2005) and the proportion reporting this as the form they had predominantly used in the preceding six months (15% in 2004 and 9% in 2005) were substantially lower, representing a decline from the level of availability and use of crystalline methamphetamine since the 2003 survey. Following a slight increase in 2006, since 2007, overall use of crystal methamphetamine has been declining. Between 2008 and 2010, whilst the proportion of amphetamine users reporting recent use of crystal declined only slightly (but not significantly: 40% in 2008 v. 27% in 2010: $p=0.1$), the proportion reporting crystal as the form most used in the preceding six months decreased significantly (24% in 2008 v. 9% in 2010: ($\chi^2(1_{n=141})=4.7$, $p=0.03$). In line with these findings, eight KE in the current study noted either very few or no recent reports of use of crystal methamphetamine amongst users they were familiar with.

Trends in the use of the base/paste form of methamphetamine have generally been the opposite of that for the use of crystal: in 2002, base was the form recently used by the majority of the IDU cohort (83% of those recently using amphetamine), and was similarly the form of the drug most often used by the majority of consumers (65% of those recently using amphetamine). Both overall use (51% of all recent methamphetamine consumers) and predominant use (24%) declined sharply in 2003 when the availability of crystal methamphetamine increased; however, these rebounded to a stable level in the 2004 and 2005 studies, consistent with that in 2002, with the majority of amphetamine consumers reporting recent use of this form (77% in 2004 and 81% in 2005), and 'base/paste' returning as the form typically reported as being predominantly used by consumers (43% in 2004 and 48% in 2005). Between 2006 and 2008, the proportion of participants reporting recent use of base/paste decreased significantly from 63% to 31% ($\chi^2(1_{n=167})=15.8$, $p<0.001$), as did the proportion of participants reporting this as the form of methamphetamine most used (from 42% in 2006 to 10% in 2008: $\chi^2(1_{n=155})=18.9$, $p<0.001$). However, in 2009, the proportion of amphetamine-using participants reporting recent use of base increased significantly, from 31% to 67% ($\chi^2(1_{n=162})=19.4$, $p<0.001$), as did the proportion reporting base as the main form used (2008: 10%; 2009: 43%: ($\chi^2(1_{n=151})=19.5$, $p<0.001$). In 2010, use again decreased slightly – but not significantly – to 53% of recent amphetamine users reporting recent use of base, and 32% reporting this as the form they had most used over this period.

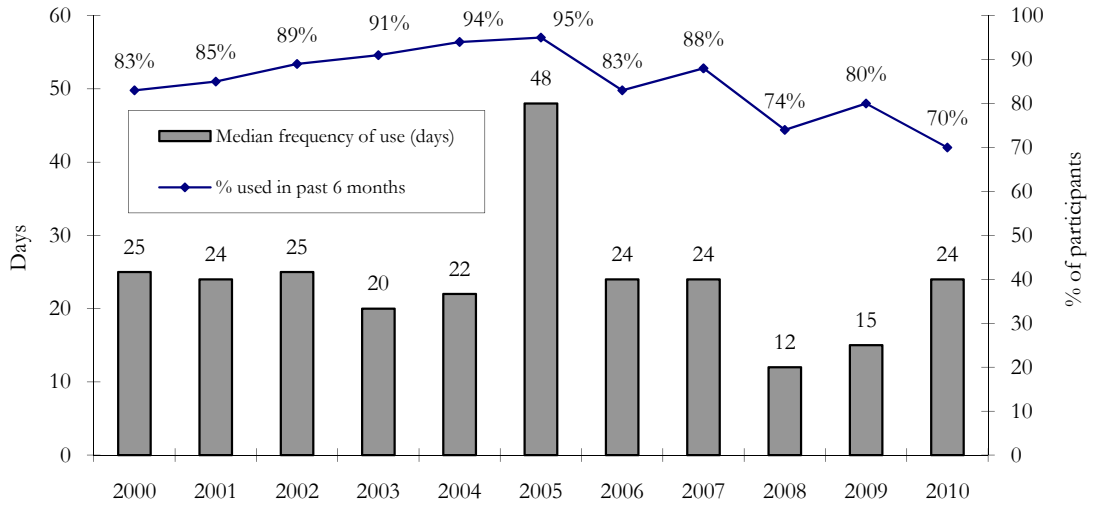
As use of both crystal and base/paste forms of methamphetamine decreased in 2007, use of powder form increased. Between 2002 and 2005, recent use of powder amongst current users of any form of amphetamine gradually increased from 39% to 78%. Over this period, the proportion of amphetamine-using participants reporting powder as the predominant form they had used doubled from 14% to 31%. In 2006, use of powder methamphetamine by this group decreased to 62% ($\chi^2(1_{n=184})=5.1$, $p=0.02$); however, the proportion reporting powder as the predominant form used remained unchanged. In 2007, the proportion reporting any use of powder was similar (69%), whereas, the proportion reporting predominant use of this form

increased markedly, to 48%, making powder methamphetamine the form most used by the current cohort for the first time since 2002. This trend of increasing use of powder form continued into 2008, with 76% of amphetamine-using participants using this form, and 67% reporting powder as the predominant form they had used in the preceding six months. This trend was briefly reversed in 2009, with a significant decrease in the proportion of amphetamine users reporting powder as the form most used, decreasing from 67% in 2008 to 41% in 2009 ($\chi^2(1_{n=151})=9.3$, p=0.002). In 2010, the rate reporting powder as the form most used increased (58% in 2010; 41% in 2009: ($\chi^2(1_{n=148})=3.8$, p=0.05).

While prescription stimulants such as methylphenidate and dexamphetamine are not themselves methamphetamine, given that almost without exception those that had used diverted prescription stimulants had also used methamphetamine (only five of those participants that had recently used pharmaceutical stimulants had not used some form of methamphetamine in 2010), these pharmaceuticals form an important part of the overall picture of stimulant use amongst these IDU cohorts. The use of these prescription stimulants has remained relatively stable across the 2002 to 2010 IDRS studies.

Seventy percent of the 2010 IDU sample reported using some form of methamphetamine in the six months prior to interview (a further five participants reported using diverted pharmaceutical stimulants but not methamphetamine), with all of these individuals reporting recently injecting these drugs. The median frequency of use of any form of methamphetamine was 24 days in the preceding six months (which relates to use approximately once per week), ranging between one and 178 days in this time (Figure 21). Between 2008 and 2010, 70-80% of each sample reported recent use of methamphetamine, and the median frequency of this use ranged from 12 to 24 days. These results indicate lower levels of use of methamphetamine between 2008 and 2010 than were reported in previous local IDRS studies. Prior to 2008, between 83% and 95% of each cohort reported recent use of methamphetamine, at a median frequency of between 20 and 48 days. The consistently high proportions of the IDU cohorts reporting recent use of methamphetamine have occurred despite similar proportions of the IDU cohorts in each study reporting an opioid as their drug of choice (two-thirds or more in each sample, except in 2005, 2007 and 2009: ranging between 53% and 59%).

Figure 21: Prevalence and frequency of use of methamphetamine in the preceding six months, 2000-2010



Source: IDRS IDU interviews

Almost all participants interviewed (96%) had used some form of methamphetamine at some stage in their lives, and 70% had used some methamphetamine in the preceding six months. Despite this, less than one-fifth of the sample (21%) indicated that a form of amphetamine was their drug of choice (18% methamphetamine, 3% pharmaceutical stimulants). Of these consumers, the majority (62%, n=13) reported a form of methamphetamine as the drug they had injected most often in the month prior to interview. Of the 8 IDU that had not used their drug of choice most often in the previous months, all had predominantly used pharmaceutical opioids (morphine, methadone and oxycodone) instead. The reasons for the discrepancy between drug of choice and the drug most often injected was generally reported as being due to differences between methamphetamine and opioid markets (low relative methamphetamine and pharmaceutical stimulant availability, n=6; and higher cost of methamphetamine, n=1). For those participants that had reported methamphetamine as the drug they had most often injected in the preceding month (n=20), the drug class was used for a median of 57 days in the preceding six months (SD=39.73, range 13-150), equating to a median use of two to three times per week.

Examining the frequency of use of methamphetamine in more detail, 70% of the current cohort had used methamphetamine, at a median frequency of 24 days, which is approximately once per week. As shown in Table 11, in the preceding month, half of these consumers (49%, n=34) reported using some form of the drug more than weekly but not daily, two-fifths reported daily use (43%), and 7% used the drug less than weekly.

Table 11: Patterns of methamphetamine use in the preceding month, by type, 2010

	Among the entire sample	**Among those who had used**		
Form used	% who had used	% used weekly or less	% used more than weekly, but less than daily	% used daily
Powder	56	9 *(n=5)*	45 *(n=25)*	45 *(n=25)*
Base	40	8 *(n=3)*	50 *(n=20)*	43 *(n=17)*
Ice	20	20 *(n=4)*	35 *(n=7)*	45 *(n=9)*
Any form methamphetamine*	70	7 *(n=5)*	49 *(n=34)*	43 *(n=30)*

Source: IDRS IDU interviews
* Also includes liquid methamphetamine

Eleven KE reported on groups of consumers that primarily used methamphetamine. KE included drug treatment workers (n=3), NSP workers (n=3) law enforcement professionals/lawyer (n=4), and a general health worker (n=1). KE were familiar with methamphetamine consumers from virtually the whole range of Hobart suburbs, ranging from those typically considered lower socio-economic regions to the more 'prestigious' suburbs as well as some homeless groups, reflecting both the widespread nature of methamphetamine use and the particular target populations of the services for which the KE worked (e.g. some services specialised in work with homeless clients or in particular regional areas, while some KE worked in public or private services). The majority of KE described consumers that were uniformly from English-speaking backgrounds. Aboriginal people made up the minority of consumer groups that KE reported on (in relation to methamphetamine). The consumers described by KE were predominately male and were predominantly unemployed.

The IDRS IDU data make it clear that a moderate level of methamphetamine use is common amongst IDU consumers who predominantly inject other drugs. This was supported by comments from KE reporting on groups of primary consumers of either cannabis or opioids. When discussing the groups of consumers they had recent contact with that had predominantly used pharmaceutical opioids, one KE noted a decrease in use of methamphetamine amongst this client group, possibly as a result of perceived low purity methamphetamine. While some KE were unfamiliar with the range of drugs used by the primary methamphetamine-consuming groups they were working with, some general usage patterns were noted. Firstly, primary methamphetamine consumers described by KE were generally noted to also use cannabis, and/or benzodiazepines, often to assist with 'comedown' effects such as anxiety and insomnia. Two KE who commented on primary methamphetamine users also noted some use of pharmaceutical opioids, predominantly illicit morphine and methadone. This group was not considered to be daily users of opioids.

5.1.5 Self-reported symptoms of stimulant dependence

IDRS participants that had used stimulants (methamphetamine, pharmaceutical stimulants, n=75), during the preceding six months were asked about how they felt about their use of this drug in the last year using the Severity of Dependence Scale (SDS). This consists of 5 multiple choice questions each rated on a scale of 0-3, resulting in a range of possible scores from 0-15, where higher scores suggest greater psychological dependence. Participants were asked if they thought that their use of the specific drug was out of control, if the prospect of missing a dose had made them feel anxious, if they had worried about their use of the drug, if they had wished they could have stopped, and if they would find it difficult to stop or go without the drug.

The median SDS score for those who had used meth/amphetamine (i.e. powder, base/paste, crystal/ice, pharmaceutical stimulants) in the preceding six months was 3 (range 0-15, n=74). Forty-one percent of this group (n=30) received a score of zero, indicating no symptoms of dependence. A score of four on the SDS in relation to methamphetamine use has been validated as a cut-off for predicting DSM-III-R diagnosis of amphetamine dependence (Topp & Mattick, 1997). Two-fifths of those participants who completed the methamphetamine SDS (43%, n=32) had a score of 4 or greater, and it is reasonable to assume that some proportion of these people had experienced significant psychological symptoms of dependence.

5.2 Price

As discussed above, it is clear that there are three main 'forms' of non-pharmaceutical methamphetamine available in Hobart, each with separate pricing schedules (which traditionally become more apparent at larger purchase amounts), which will be discussed separately. However, across all forms of the drug, the majority (88%) of IDU that were able to comment on price considered that it had remained stable in the preceding six months.

Table 12: Participants' reports of price trends of methamphetamines in the past six months, 2010

	2010 IDRS N=100		
	Powder	**Base/Paste**	**Crystal**
Price Trend			
Able to respond (%)	61	32	12
Of those who responded:			
Increasing (%)	10	9	8
Stable (%)	87	91	83
Decreasing (%)	2	0	0
Fluctuating (%)	2	0	8

Source: IDRS IDU interviews

5.2.1 Methamphetamine Powder

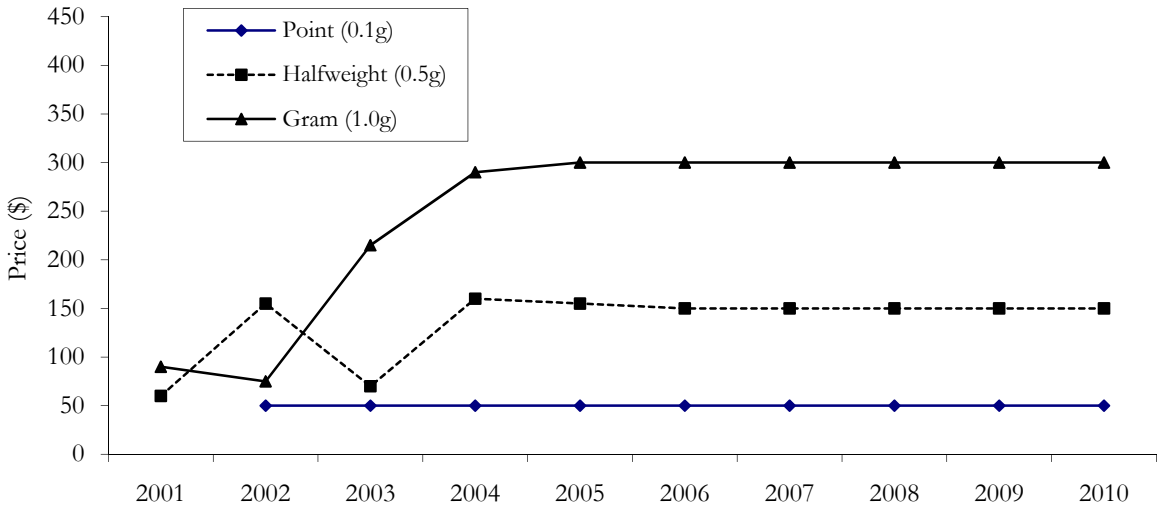
IDU reported the median market price of powder methamphetamine as $50 per 0.1gram (an amount typically referred to as a 'point': modal price estimate $50, range $40-70, n=45); and $300 per gram (modal price estimate $300, range $100-400, n=24). These were consistent with the prices that IDU reported actually paying for their last purchase in the preceding six months.

IDU reported the median last purchase price of powder methamphetamine as $50 per 0.1 of a gram: modal price $50, range $30-70, n=31); $150 for 0.5g purchases (modal price $150, range $100-200, n=35); and $300 per gram (modal price $300, range $180-350, n=18). These prices were consistent with the prices reported in surveys between 2005 and 2009 (Table 13, Figure 22). Four KE commented on the cost of methamphetamine: of these, three reported the price of one 'point' to be $50, and a fourth KE noted this amount to cost $20. The clear majority (87%, n=53) of those consumers that were able to comment[12] (n=61) reported stable prices for methamphetamine powder in the preceding six months, with only small minorities of IDU participants reporting either perceived recent increases (10%, n=4), decreases or fluctuating prices (2%, n=1 respectively) (Table 12).

Between 2009 and 2010, the price range for the most common purchase quantity, 'points', widened slightly (from $40-50 in 2009 to $30-70 in 2010). A decrease in the upper-range of price paid for half-gram purchases was observed, decreasing from $100-300 in 2009 to $100-200 in 2010 (Table 13). The price range increased for gram purchases from $250-320 in 2009 to $180-350 in 2010.

[12] Note that these figures do not include those that reported 'don't know' in response to this question, for consistency with national IDRS data.

Figure 22: Median prices of powder methamphetamine estimated from IDU purchases, 2001-2010



Source: IDRS IDU interviews

5.2.2 Base/paste methamphetamine

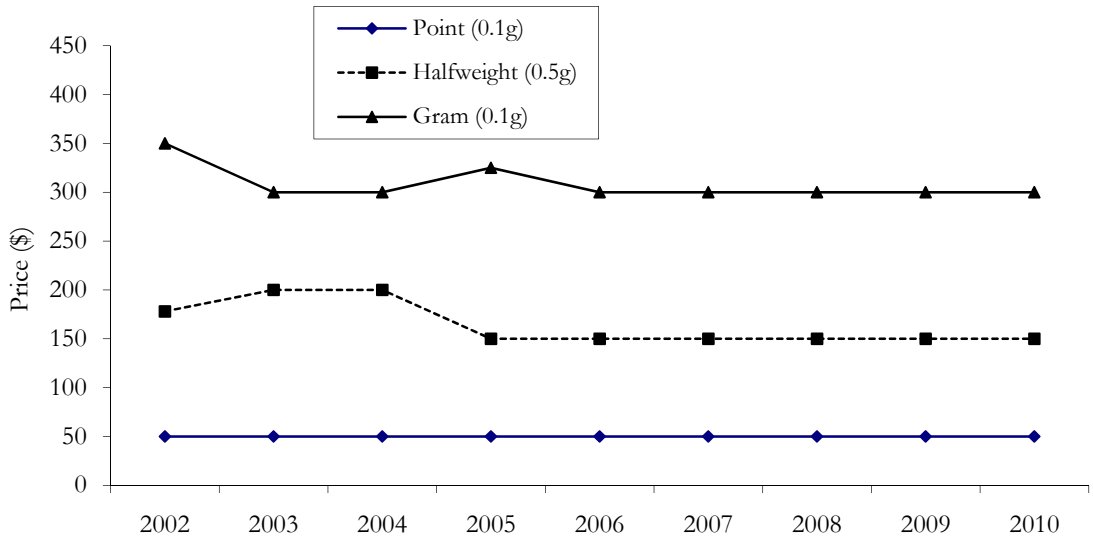
IDU reported the median market price of base/paste methamphetamine as $50 per 0.1gram (modal price estimate $50, range $40-50, n=25); and $300 per gram (modal price estimate $300, range $100-300, n=13). These were consistent with the prices that IDU reported paying for their last purchase in the preceding six months

IDU reported the median purchase price of 'base/paste' methamphetamine as $50 per 'point' (0.1g: modal price $50, range $40-50, n=21), $150 per 0.5g (modal price $150, range $100-250, n=15), and $300 per gram (modal price $300, range $250-400, n=6) (Table 13). These prices have remained stable since the 2006 IDRS survey (Figure 23).

Similar to trends for powder methamphetamine, 91% of consumers (n=29) able to comment felt that prices for 'base/paste' methamphetamine had remained stable in the preceding six months, with only a small minority reporting increasing (9%, n=3) prices for this form (Table 12).

Examining trends in reported purchase prices for 'base/paste' methamphetamine, prices reported overall in 2010 appear stable; however, there was considerable variation in the range of prices IDU reported paying. The price range for 0.5g purchases varied between $100 and $250, and gram amounts of base/paste varied between $250 and $400 (Table 13).

Figure 23: Median prices of base/paste methamphetamine estimated from IDU purchases, 2002-2010



Source: IDRS IDU interviews

5.2.3 Crystal Methamphetamine

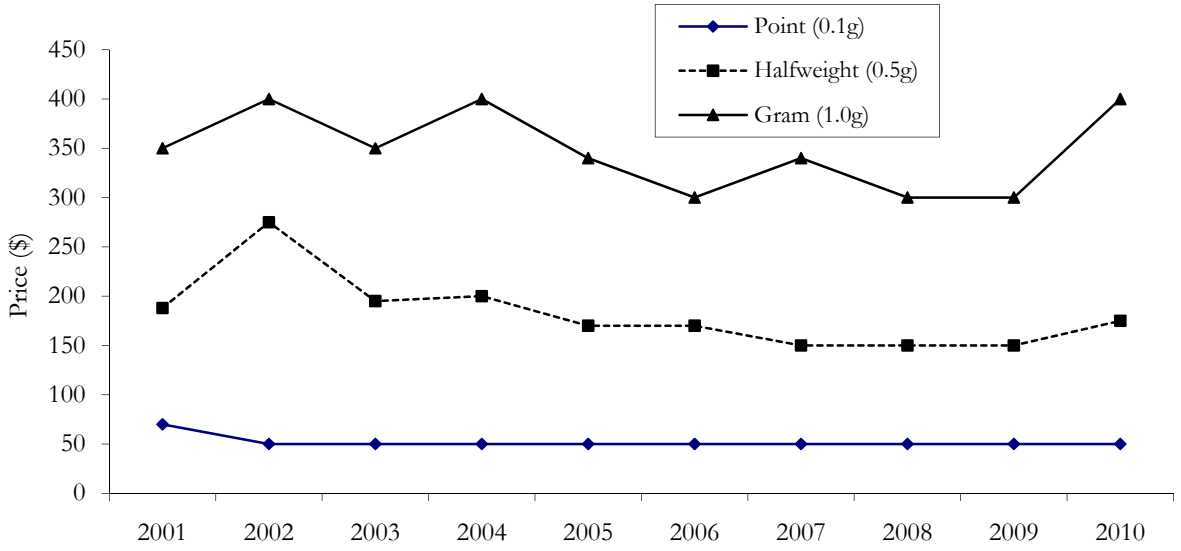
IDU reported the median market price of crystal methamphetamine as $50 per 0.1gram (modal price estimate $50, range $50-80, n=8); and $350 per gram (no single mode, range $250-500, n=6). These were relatively consistent with the prices that IDU reported paying for their last purchase in the preceding six months.

The median purchase price consumers reported last paying for the higher-purity crystal methamphetamine was $50 per 0.1g (modal price $50, range $50-80, n=5), $175 for 0.5g (no single mode, range $100-250, n=7) and $400 per gram (no single mode, range $250-500, n=3) (Table 13). In terms of price changes in the preceding six months, the majority of participants able to comment reported prices had remained stable (83%, n=10) (Table 12).

Examining overall trends in reported purchase prices for crystal methamphetamine, modal and median prices reported in 2010 appeared to have increased since 2009 (Table 13, Figure 24). Median and modal purchase price estimates for gram purchases were reported to cost between $300 and $340 between 2005 and 2009; however in 2010, this had increased to $400. Similarly, the median and modal price estimates for half-gram purchases were reported to be $150 between 2005 and 2009, in 2010 this had increased to $175.

The price range for half-gram purchases increased between 2009 and 2010 (from $150-200 in 2009 to $100-250 in 2010), however, no change in range was reported for gram purchases ($250-500 in 2009 and 2010) (Table 13).

Figure 24: Median prices of crystal methamphetamine/ice estimated from IDU purchases, 2001-2010



Source: IDRS IDU interviews
Note: 'Eightballs' were not included as the number of participants reporting purchasing this amount was insufficient (n<3 each year)

5.2.4 Pharmaceutical Stimulants

IDU reported the median market price of dexamphetamine tablets as $1 per mg (modal price estimate $1, range $0.80-1.40, n=16); and $0.92 per mg for methylphenidate (no single mode, range $0.83-1.00, n=2). These were consistent with the prices that IDU reported paying for their last purchase in the preceding six months.

Twenty-one participants could confidently comment on the last purchase price for 5mg dexamphetamine tablets, reporting a median price of $5 (modal price $5, range $4-7). Eight participants commented on last purchase price for methylphenidate preparations, reporting a median price of $10 for a 10mg tablet (modal price $10, range $3-10) (Table 13). In 2009, the median and modal price for 10mg methylphenidate increased to $10, after consistently being reported to cost a median/modal price of $5. This increase was sustained in the current study.

Approximately half of those consumers able to report on price changes for pharmaceutical stimulants perceived no changes in the preceding six months (54%, n=13). However, almost two-fifths of participants (38%, n=9) perceived an increase in the price over this period.

5.2.5 General Trends

Tasmania Police district Drug Investigation Services gather regular information regarding current prices of illicit drugs. Since July 1999, this has been provided to the authors through the Tasmanian Police State Intelligence Services and, prior to this, such information has been attained through the Australian Bureau of Criminal Intelligence (ABCI, now the ACC). In 2008/09, the price of a 'point' (0.1g) was reported to range between $30-50; the cost of a 'street gram' (0.7g) between $100-150, a one gram purchase between $200-300, and one ounce purchases cost between $5,000 and $8,000 (Table 14).

Although the 2009/10 data were not available at the time of publication, when reviewing price trends over a longer time period, there was evidence to support IDU suggestions that the price of

methamphetamine had remained stable, with the exception of ounce purchases, which had varied between $1,200 and $10,000 over the past decade It should be noted, however, that the prices reported in Table 14 for the 2003/04 financial year were substantially greater than those reported for the 2001/02 financial year. It is likely that this change is due to a shift in focus in that the earlier reported prices were primarily reflective of the prices of methamphetamine powder, which was the form that Tasmania Police were primarily identifying at this time.

Table 13: Most common amounts and prices of methamphetamine purchased by IDU, 2004-2010

Descriptor*	2004 Survey Modal Price *(range in parentheses)*	*n*	2005 Survey Modal Price *(range in parentheses)*	*n*	2006 Survey Modal Price *(range in parentheses)*	*n*	2007 Survey Modal Price *(range in parentheses)*	*n*
Crystal methamphetamine								
'point' or packet (0.1 g)	$50 *($30-80)*	*34*	$50 *($50-80)*	*24*	$50 *($40-80)*	*13*	$50*($20-80)*	*17*
half-gram (0.5 g)	$200 *($180-250)*	*6*	$150 *($120-275)*	*13*	$150 *($120-300)*	*25*	$150† *($120-225)*	*12*
gram (1.0 g)	$400† *($280-500)*	*7*	$340† *($250-400)*	*6*	$300 *($300-480)*	*7*	$340†*($300-380)*	*2*
Methamphetamine base/paste								
'point' or packet (0.1 g)	$50 *($35-80)*	*45*	$50 *($30-80)*	*56*	$50 *($20-70)*	*23*	$50*($30-50)*	*30*
half-gram (0.5 g)	$200 *($100-250)*	*21*	$150 *($150-400)*	*38*	$150 *($140-200)*	*25*	$150*($120-200)*	*23*
gram (1.0 g)	$300 *($200-350)*	*7*	$300 *($150-400)*	*18*	$300 *($250-300)*	*11*	$300*($250-300)*	*3*
Methamphetamine powder								
'point' or packet (0.1 g)	$50 *($40-50)*	*34*	$50 *($30-50)*	*54*	$50 *($30-50)*	*20*	$50 *($40-50)*	*34*
half-gram (0.5 g)	$160† *($30-250)*	*16*	$150 *($100-200)*	*36*	$150 *($80-200)*	*26*	$150*($150-200)*	*29*
gram (0.8 g)	$300 *($50-350)*	*10*	$300† *($250-350)*	*15*	$300 *($250-300)*	*8*	$300*($270-300)*	*3*
Pharmaceutical stimulants								
dexamphetamine tablet (5 mg)	$5 *($0-15)*	*52*	$4† *($0.6-9)*	*28*	$5 *($2-10)*	*17*	$5 *($0.5-45)*	*20*
methylphenidate tablet (10 mg)	$5 *($0-10)*	*12*	$5 *($2-15)*	*16*	$5 *($2-30)*	*12*	$5 *($2.5-13)*	*10*

Source: IDRS IDU interviews

* Common quantities and weight range for each purchase unit in parentheses

† Median price was substituted where no single mode was reported

Table 13: Most common amounts and prices of methamphetamine purchased by IDU, 2004-2010 *(continued)*

Descriptor*	2008 Survey Modal Price *(range in parentheses)*	*n*	2009 Survey Modal Price *(range in parentheses)*	*n*	2010 Survey Modal Price *(range in parentheses)*	*n*
Crystal methamphetamine						
'point' or packet (0.1 g)	$50 *($40-50)*	*14*	$50 *($35-100)*	*20*	$50 *($50-80)*	*5*
half-gram (0.5 g)	$150 *($150-250)*	*10*	$150 *($150-200)*	*7*	$175† *($100-250)*	*7*
gram (1.0 g)	$300 *($190-450)*	*5*	$300 *($250-500)*	*4*	$400† *($250-500)*	*3*
Methamphetamine base/paste						
'point' or packet (0.1 g)	$50 *($20-100)*	*16*	$50 *($40-80)*	*42*	$50 *($40-50)*	*21*
half-gram (0.5 g)	$150 *($150)*	*4*	$150 *($100-180)*	*26*	$150 *($100-250)*	*15*
gram (1.0 g)	$300 *($300)*	*3*	$300 *($250-350)*	*5*	$300 *($250-400)*	*6*
Methamphetamine powder						
'point' or packet (0.1 g)	$50 *($50)*	*34*	$50 *($40-50)*	*38*	$50 *($30-70)*	*31*
half-gram (0.5 g)	$150 *($75-200)*	*28*	$150 *($100-300)*	*37*	$150 *($100-200)*	*35*
gram (0.8 g)	$300 *($250-300)*	*9*	$300 *($250-320)*	*7*	$300 *($180-350)*	*18*
Pharmaceutical stimulants						
dexamphetamine tablet (5 mg)	$5 *($1.50-10)*	*21*	$5 *($4-10)*	*25*	$5 *($4-7)*	*21*
methylphenidate tablet (10 mg)	$5 *($5-15)*	*13*	$10 *($5-10)*	*31*	$10 *($3-10)*	*8*

Source: IDRS IDU interviews

***** Common quantities and weight range for each purchase unit in parentheses

† Median price was substituted where no single mode was reported

Table 14: Methamphetamine prices in Tasmania reported by the Tasmania Police Drug Investigation Services and the ACC, 1997/98-2008/09

	Point (~0.1g)	Street gram (0.6-0.8g)	Full gram (1.0g)	Ounce (28 gms)
1997/98	*price not reported*	$50	$70-120	$1,200-1,600
1998/99	*price not reported*	$50	$70-80	$1,200-1,400
1999/00	$40-50	$40-50	$70-80	$1,200-1,400
2000/01	$40-50	$40-50	$70-80	$1,200-1,400
2001/02	$40-70	$40-50	$70-80	$1,200-1,400
2002/03	$50-60	$100-300	$200-400	$3,500-6,000
2003/04	$50-70	$100-300	$200-600	$3,000-10,000
2004/05	$50	*price not reported*	*price not reported*	$5,000
2005/06	*price not reported*	*price not reported*	*price not reported*	$5,000
2006/07	$50	*price not reported*	$270-380	$4,000-5,000
2007/08	$30-50	$100-150	$200-300	$5,000-8,000
2008/09	$30-50	$100-150	$200-300	$5,000-8,000

Source: Australian Crime Commission; Tasmania Police State Intelligence Services
Note: Data for 2009/10 financial year not available at time of publication

5.3 Availability

Across all methamphetamine 'forms', most IDU reporting on availability considered that the drug was 'easy' (48%) or 'very easy' (41%) to obtain, and that availability had remained stable (83%) in the previous six months. Trends for each form of the drug are discussed separately below.

5.3.1 Methamphetamine Powder

Most IDU sampled who could comment on the availability of powder form methamphetamine thought that it was 'easy' or 'very easy' to obtain (95%, n=61: 'very easy' 50%; 'easy' 45%) (Figure 25, Table 15). Five KE commented that according to clients they were familiar with, powder was readily available. The clear majority of IDU participants also perceived the availability of powder methamphetamine to have remained stable in the preceding six months (83%, n=53), with small numbers considering that it had either decreased (8%, n=5) or increased (6%, n=4) in availability in this time.

5.3.2 Base/Paste Methamphetamine

In regards to 'base/paste' methamphetamine, nearly all participants (97%) who commented reported it was either 'easy' (58%, n=19) or 'very easy' (39%, n=13) for them to obtain in the preceding six months. Again, most perceived this level of availability to have remained stable in the six months prior to interview (85%, n=29).

5.3.3 Crystalline Methamphetamine

Fewer participants were able to comment on availability trends for crystalline methamphetamine (17%, n=17) than for the other forms, and these participants were divided with regard to current availability: approximately half (53%, n=9) reported it was either 'easy' (41%, n=7) or 'very easy' (12%, n=2) to access; and half (47%, n=8) reported it was either 'difficult' (24%, n=4) or 'very difficult' (24%, n=4) for them to obtain in the preceding six months. Three-quarters of the participants able to comment (77%, n=13) perceived availability to have remained stable in the six months prior to interview. Two law enforcement KE in the 2009 study commented that samples of crystal methamphetamine were found to be a lower-purity wet, powdery gel-like form that was more likely to be powder methamphetamine. Three law enforcement KE in the current

study noted that they had seen very little – if any – crystal methamphetamine in the preceding 12 months.

When observing trends in availability of this form of methamphetamine over the preceding two years, it is important to consider this in the context of a decreasing rate of participants reporting recent use of this drug (from 56% in 2006 to 20% in 2010). With this in mind, it is not surprising to note the reducing rate of availability of this drug locally.

One KE noted there had been very little crystal methamphetamine being used in the preceding 12 months, stating that *'people might try crystal once or twice but they prefer speed'*, and also noting that *'there's quite a stigma around crystal'*. Similarly, three KE in 2009 commented that very few of their clients had reported use of crystal methamphetamine, suggesting that this is *'probably due to* [poor] *availability and some say it's too intense'*. KE also commented that amongst primary users of methamphetamine, use of crystal form was relatively uncommon.

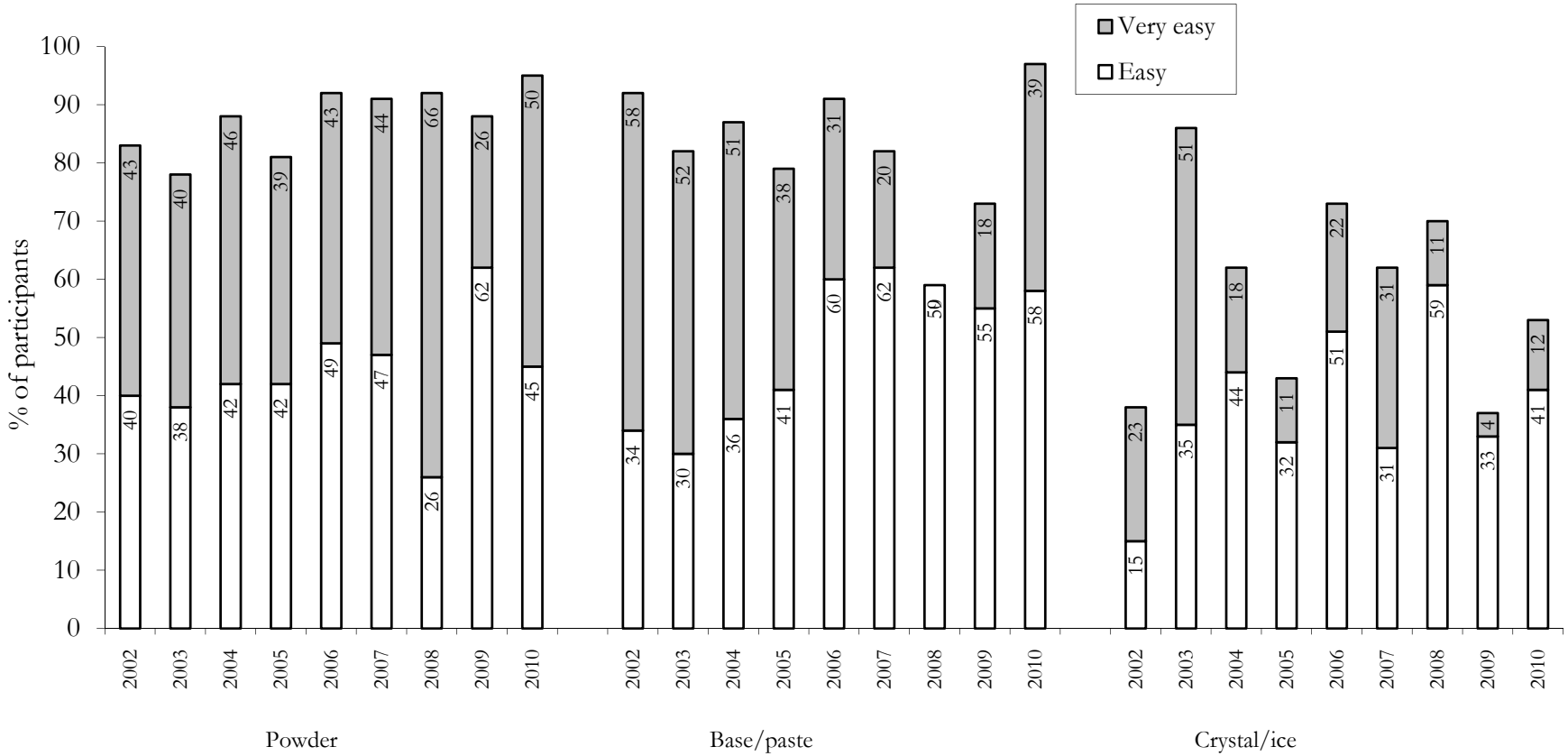
5.3.4 Pharmaceutical Stimulants

Participants were divided with regard to current availability of pharmaceutical stimulants (dexamphetamine, methylphenidate), with 52% considering these as 'difficult' (48%, n=13) or 'very difficult' (4%, n=1) to access, and 48% considering these preparations as either 'easy' (41%, n=11) or 'very easy' (7%, n=2) to access in the preceding six months. Participants were in agreement over changes in availability over the preceding six months: 74% (n=20) noted no change in availability over the preceding six months; 15% (n=4) noted it had become increasingly difficult to access these drugs; and a small proportion noted increasing availability (7%, n=2).

5.3.5 General Trends

As can be seen in Figure 25, IDU consumer reports of availability of powder methamphetamine have, overall, remained relatively stable between 2002 and 2010. In 2008, the proportion of participants reporting availability of powder to be 'very easy' increased from around two-fifths of each cohort in previous years to two-thirds. This change was not sustained in 2009, with 26% of those commenting reporting availability to be 'very easy', however, in 2010 this increased again (50%). Availability of base/paste methamphetamine also appears to have fluctuated across the past six surveys. Overall, base/paste had been reported to be easily accessed by consumers between 2002 and 2007; however, access decreased in 2008. Access to this form increased in 2009 and again in 2010. Availability reports for crystalline methamphetamine have been variable between 2002 and 2010, with lower levels of availability reported in 2009 and 2010 than were reported between 2006 and 2008.

Figure 25: IDU reports of ease of availability of different methamphetamine forms, amongst those who commented, 2002-2010



Source: IDRS IDU interviews

Table 15: Participants' reports of methamphetamine availability in the past six months, 2009-2010

	Powder		Base		Ice	
	2009 (N=100)	2010 (N=100)	2009 (N=100)	2010 (N=100)	2009 (N=100)	2010 (N=100)
Current availability						
Able to respond (%)	58	64	49	33	24	17
Of those who responded:						
Very easy (%)	26	50	18	39	4	12
Easy (%)	62	45	55	58	33	41
Difficult (%)	12	5	25	3	46	24
Very difficult (%)	0	0	2	0	17	24
Availability change over the last six months						
Able to respond (%)	58	64	49	34	25	17
Of those who responded:						
More difficult (%)	16	8	25	3	33	12
Stable (%)	76	83	63	85	46	77
Easier (%)	7	6	8	6	13	12
Fluctuates (%)	2	3	4	6	8	0

Source: IDRS IDU interviews

5.3.6 Sources of methamphetamine purchases

Participants reported that they last purchased powder in the preceding six months through known dealers (56%) and friends (36%) (Table 16). The venues most commonly reported to be used for the last purchase of methamphetamine powder were an agreed public location (28%), dealer's home (27%), home delivery (22%) or at a friend's home (20%).

Similar pathways to access were reported for 'base/paste' methamphetamine, with 52% of those that had purchased the drug reporting last purchasing from a known dealer, with purchases from friends somewhat less common (39%). Participants reported the last purchase venue to be an agreed public location (34%), a dealer's home (28%) or home delivery (25%) (Table 16).

Crystal methamphetamine was most commonly purchased through friends (56%) or known dealers (31%) (Table 16). The most commonly cited venue used for crystal methamphetamine purchases was home delivery (44%), followed by a dealer's home (25%).

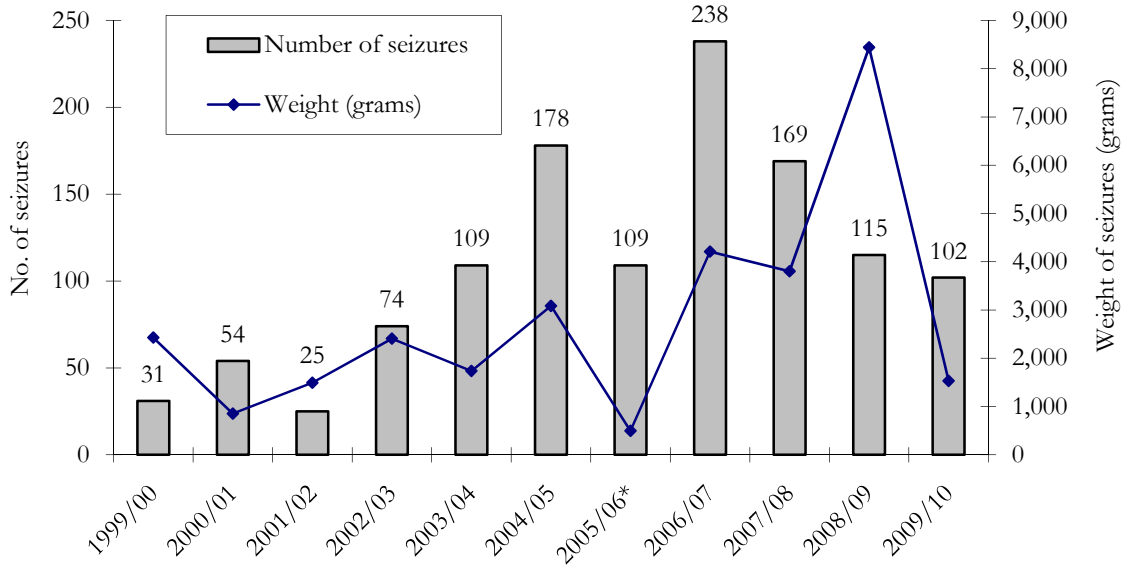
Table 16: Source of last purchase of methamphetamine in the preceding six months, 2010

	Powder n=61 %	Base/Paste n=33 %	Crystal n=16 %
Source person			
Known dealers	56	52	31
Friends	36	39	56
Acquaintances	5	3	6
Street dealer	2	3	0
Source venue			
Agreed public location	28	34	13
Dealer's home	27	28	25
Home delivery	22	25	44
Friend's home	20	9	19
Street market	2	0	0

Source: IDRS IDU interviews

Tasmania Police seizures (Figure 26) of drugs suspected to be methamphetamine have varied somewhat in recent years. There have been notable increases in both weight and number of seizures between 2001/02 and 2006/07 (seizures for 2005/06 were only reported to ACC for part of the financial year). In recent years, however, there have been decreases in the number of methamphetamine seizures (2006/07: 238 seizures and 2009/10: 102 seizures), and in 2009/10, there was a substantial decrease in the total weight of seizures (1,531 grams) relative to 2008/09 (8,443 grams). In addition to the seizures shown in Figure 26 for 2009/10, there were 12 seizures totalling 320.5 tablets, one seizure totalling six grams of tablets and seven seizures totalling 2,843 capsules (with one of these seizures totalling 2,800 capsules).

Figure 26: Seizures of methamphetamine by Tasmania Police, 1999/00-2009/10



Source: Australian Crime Commission, State Intelligence Service, Tasmania Police
* Only part-year data were reported in 2005/06
Note: 2009/10 data were provided by Tasmania Police State Intelligence Service, and are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules. These data include only seizures weighed in grams

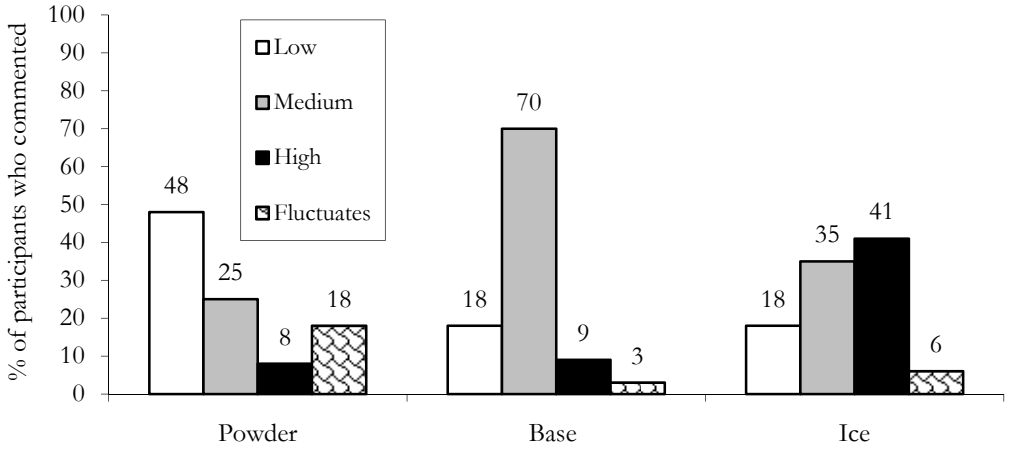
5.4 Purity

IDU participants that had recently used the various methamphetamine 'forms' were asked to rate their subjective purity. When asked to describe the purity of powder methamphetamine, the majority of consumers that were able to comment considered this as 'low' in subjective purity in the preceding six months (48%, n=29) (Figure 27). One-quarter of participants reported the subjective purity of this form to be 'medium' (25%, n=15), and small minorities reported powder form to have fluctuated in purity (18%, n=11) or to be 'high' in subjective purity (8%, n=5). Two-fifths of the participants who commented reported that subjective purity of powder methamphetamine had not changed over the preceding six months (40%, n=22), whilst one-third (36%, n=20) reported fluctuating purity and one-fifth (20%, n=11) reported decreasing purity over this period. In 2008, 2009 and 2010, several IDU participants reported a dramatic decrease in the purity of speed, and that this had occurred as a result of the incarceration of '*the main cook*'. One KE in the current study noted that people who had previously injected methamphetamine had changed to pharmaceutical opioids, as a result of this poorer quality methamphetamine. A second KE noted consumers had reported a *'bad batch of speed going around'*. In both the current study and in 2009, a KE noted that in response to this decreased purity, users were injecting larger quantities of the drug they had used previously to achieve the same effect.

The majority of consumers who commented on perceived purity of 'base/paste' methamphetamine reported it to be 'medium' (70%, n=23). Small minorities reported purity to be 'low' (18%, n=6) or 'high' (9%, n=3). Participant reports on the stability of subjective purity levels over the preceding six months were mixed: 47% (n=15) of participants reported this to have remained stable; 38% (n=12) reported it had remained fluctuated; and small minorities reported purity to have increased (9%, n=3); or decreased (6%, n=2) over this period. No KE were able to comment on purity of 'base/paste' methamphetamine.

Participant reports on purity trends for crystalline methamphetamine were also mixed, with two-fifths of participants reporting subjective purity to be 'high' (41%, n=7), and 35% (n=6) reporting it to be 'medium' A small minority reported subjective purity to be 'low' (18%, n=3). The majority of participants who commented reported that purity had remained stable over the preceding six months (69%, n=9), with small minorities reporting purity to have increased or fluctuated over this period (15%, n=2 respectively).

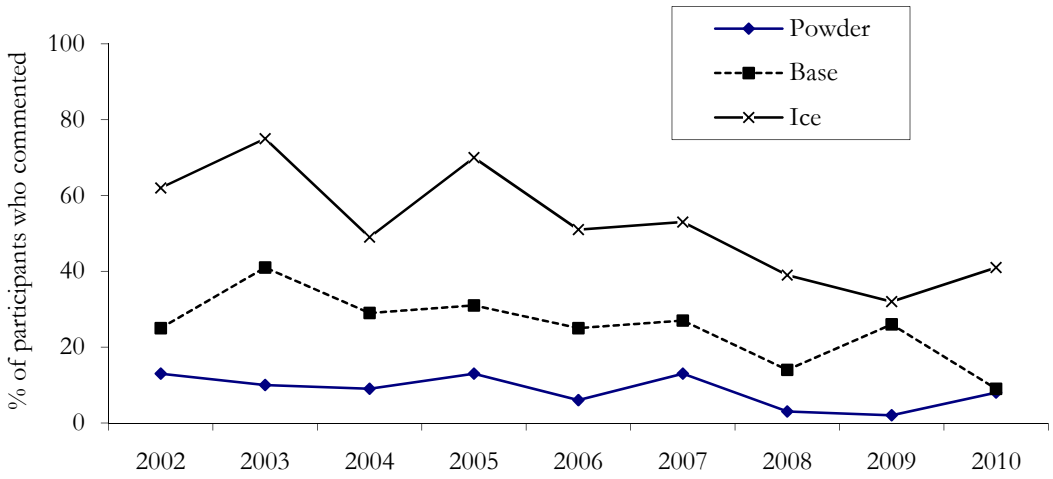
Figure 27: Participant perceptions of methamphetamine purity, among those who commented, 2010



Source: IDRS IDU interviews

Figure 28 displays the proportion of those reporting on purity levels of the different 'forms' of methamphetamine in the past nine years of the Tasmanian IDRS studies. This figure suggests that there has been little change in overall reports of subjective purity of powder form methamphetamine in this time, with subjective reports of 'high' purity ranging between 2% and 13%. The reported purity of base/paste methamphetamine has been more variable. In 2002, one-quarter of IDU participants reported perceived high levels of purity; this increased to 41% in 2003, and trended downwards since then to 9% in 2010 (with the exception of 2009). Consumer reports on subjective purity of crystal methamphetamine have varied in recent surveys: the vast majority of participants considered this form as 'high' in purity in 2003 (75%) – the year when local availability of the drug was at its highest; in 2004 the proportion of consumers considering this form of the drug as high in subjective purity dropped to 49%, a year when availability had markedly reduced as well (see Section 5.3). In 2005, indicators pointed to decreased availability again; however, the proportion of participants reporting purity of crystal methamphetamine as 'high' had returned to similar levels reported in 2003. Between 2006 and 2009, both availability (Figure 25) and the proportions of the samples considering crystal methamphetamine as high in purity declined (Figure 28). In 2010 reports of 'high' purity of this form were relatively consistent with those in 2009.

Figure 28: Proportion of participants reporting speed powder, base and ice purity as 'high', among those who commented 2002-2010



Source: IDRS IDU interviews
Note: Data on all three forms commenced in 2002

Data for purity of methamphetamine received at police analytical laboratories have been provided for the 1997/98 to 2008/09 financial years (Tables 17 and 18; data for 2009/10 were not available at the time of publication). All amphetamine-type stimulants seized in Tasmania and tested for purity during 2003/04 and 2008/09 were methamphetamine rather than amphetamine. Drugs seized by Tasmania Police are not routinely tested for composition and purity, hence, purity data for drug seizures in the state are minimal. This very restricted sample size renders it difficult to make clear inferences about trends in purity of methamphetamine. Notably, during 2004/05, purity was reported to be 32%, and this coincided with increased use of methamphetamine in the IDRS IDU cohort, and was in line with IDU reports of 'medium' purity levels overall for the two most commonly used forms of the drug in the 2005 IDRS study. This is tempered, however, by the analysis of a very small number of seizures in 2004/05 (n=10), and the fact that they were all of small seizures of the drug (two grams or less), which have, in previous years, been higher in purity than seizures of larger amounts (purity range of 2-81% for seizures of two grams or less, and 4-22% for larger seizures analysed in 2003/04). In 2007/08 and 2008/09, purity data suggest a small decrease in overall purity (8.5% and 9.2% respectively).

Table 17 also indicates substantial variability in the purity range of analysed seizures, with some particularly high purity seizures reported over the 2001/02-2003/04 period (up to 80.5%). These are unusual by national standards (ACC, 2005), and may reflect the selection of particularly unusual seizures of the drug for analysis by police[13].

A law enforcement KE in the 2008 study noted Tasmania Police targeted amphetamines and amphetamine-related offences in early 2007, resulting in a peak in seizures and arrests for serious offences. Overall, however, the number of seizures over recent years has remained relatively stable. In the current study and in previous years, Tasmania Police have reported that the majority of methamphetamine in the Tasmanian illicit drug market is imported into the state, most commonly by members of particular criminal groups, via post, or domestic sea or air terminals. In keeping with these reports, KE from the legal/law enforcement fields interviewed for the current and 2007 study suggested that most methamphetamine was imported into the state. However, in both 2005 and 2006, law enforcement professional KE reported that there

[13]Anecdotal reports from Tasmania Police in previous IDRS surveys have suggested that these particularly high-purity samples may have been seizures of small amounts of crystal methamphetamine.

had been indications that local production of methamphetamine may have been increasing. These earlier reports were supported by data regarding interceptions of illegal methamphetamine production laboratories (also called 'clan' (clandestine) or 'box' labs). In 1998/99 and 1999/00, no such laboratories were identified in Tasmania, one was identified in the 2000/01 financial year, three in 2002/03, two in 2002/03, one in 2003/04, three in 2004/05, five in 2005/06, nine in 2006/07 and 2 in 2007/08 and none in 2008/09 (data for the 2009/10 financial year were not available at the time of publication). From a national perspective, detection of clandestine labs increased between 1998/99 and 2008/09: from 131 to 449 (ACC, 2010).

In both the 2003 and 2004 studies, law-enforcement KE reported that there was no evidence for local production of crystal methamphetamine (with local producers generally producing base/paste or powder), but that this form of the drug was commonly imported from other Australian jurisdictions.

These multiple pathways of access and production sources may underlie the fluctuating nature of the forms and potency of methamphetamine in the local illicit drug market. In previous IDRS studies, consumers have reported that the presentation (colour and consistency as well as potency) of the form of methamphetamine available from their regular provider would fluctuate regularly, with some providers having two or more different presentations of the drug available for sale at one time.

Table 17: Purity of seizures of methamphetamine made by Tasmania Police received for laboratory testing, 1997/98-2008/09

	1997/ 98	1998/ 99	1999/ 00	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09
≤2g												
n	*4*	*31*	*9*	*10*	*20*	*30*	*9*	*10*	*6*	*15*	*7*	*11*
Avg % purity	5 %	5 %	7.4 %	10.4%	26.6%	12.7%	25.6%	32.3%	15%	24.6%	7.6%	12.6%
>2g												
n	*2*	*8*	*11*	*14*	*28*	*13*	*14*	-	*3*	*23*	*32*	*9*
Avg % purity	7 %	21 %	6.6 %	3.6 %	19.2%	11.2%	9.8%	-	6.9%	6.5%	8.5%	7.8%
Total												
n	*6*	*39*	*20*	*24*	*48*	*43*	*23*	*10*	*9*	*38*	*39*	*20*
Avg % purity	**6 %**	**8 %**	**7 %**	**6.4 %**	**22.2%**	**12.2%**	**16.9%**	**32.3%**	**13.1%**	**12.4%**	**8.5%**	**9.2%**
Range in % purity	*(3-8%)*	*(2-59%)*	*(2-26%)*	*(0.5-50%)*	*(0.1-71%)*	*(1.9-79%)*	*(2-81%)*	*(19-36%)*	*(2-59%)*	*(2-28%)*	*(2-40%)*	*(3-14%)*

Source: Australian Bureau of Criminal Intelligence; Australian Crime Commission; Tasmania Police State Intelligence Services

Note: No seizures made by the Australian Federal Police in the state were analysed between 1997/98 and 2008/09. All analysed seizures of amphetamines in this period revealed methamphetamine rather than amphetamine

Table 18: Purity of Tasmanian seizures of methamphetamine made by Tasmania Police received for laboratory testing, by quarter, January 2002-June 2005

	Jan-Mar 2002	Apr-Jun 2002	Jul-Sep 2002	Oct-Dec 2002	Jan-Mar 2003	Apr-Jun 2003	Jul-Sep 2003	Oct-Dec 2003	Jan-Mar 2004	Apr-Jun 2004	Jul-Sep 2004	Oct-Dec 2004	Jan-Mar 2005	Apr-Jun 2005
≤2g														
n	*12*	*1*	*3*	*4*	*4*	*19*	*2*	*2*	*4*	*1*	*10*	-	-	-
Median % purity	26.0	6.7	6.4	5.9	13.1	13.1	40.0	28.4	50.6	16.9	32.3	-	-	-
>2g														
n	*13*	*2*	*1*	*4*	*7*	*1*	*8*	*1*	*5*	-	-	-	-	-
Median % purity	20.0	18.5	6.3	10.4	12.8	7.6	17.4	15.4	4.1	-	-	-	-	-
Total														
n	*25*	*3*	*4*	*8*	*11*	*20*	*10*	*3*	*9*	*1*	*10*	-	-	-
Avg % purity	24.9	6.7	6.4	10.4	12.8	13.0	17.4	25.6	4.1	16.9	32.3	-	-	-

Source: Australian Bureau of Criminal Intelligence; Australian Crime Commission; Tasmania Police State Intelligence Services

- No seizures in this period

Note: No seizures made by the Australian Federal Police in Tasmania were submitted Oct/Dec 2004-April/June 2005 for purity testing. All analysed seizures of amphetamines in this period revealed methamphetamine rather than amphetamine. Figures represent the purity of seizures received at the laboratory within the relevant quarter, and the interval between the date of seizure by police and the date of receipt at the laboratory may vary between one day and several months

Table 18: Purity of Tasmanian seizures of methamphetamine made by Tasmania Police received for laboratory testing, by quarter, July 2005-June 2009 (continued)

	Jul-Sep 2005	Oct-Dec 2005	Jan-Mar 2006	Apr-Jun 2006	Jul-Sep 2006	Oct-Dec 2006	Jan-Mar 2007	Apr-Jun 2007	Jul-Sep 2007	Oct-Dec 2007	Jan-Mar 2008	Apr-Jun 2008	Jul-Sep 2008	Oct-Dec 2008	Jan-Mar 2009	Apr-Jun 2009
≤2g																
n	*1*	*-*	*5*	*-*	*-*	*14*	*-*	*1*	*2*	*1*	*1*	*3*	*-*	*1*	*3*	*7*
Median % purity	25.6	-	13.1	-	-	24.6	-	7.3	12.0	9.7	7.6	6.6	-	12.1	6.1	12.9
>2g																
n	*1*	*-*	*-*	*2*	*3*	*8*	*1*	*12*	*6*	*6*	*13*	*7*	*5*	*1*	*3*	*-*
Median % purity	38.7	-	-	5.5	9.9	2.4	8.4	7.0	9.6	8.0	9.1	7.1	8.3	11.8	6.1	-
Total																
n	*2*	*-*	*5*	*2*	*3*	*21*	*1*	*13*	*8*	*7*	*14*	*10*	*5*	*2*	*6*	*7*
Avg % purity	32.2	-	13.1	5.5	9.9	24.6	8.4	7.3	10.1	8.5	9.1	6.9	8.3	12.0	6.3	12.9

Source: Australian Bureau of Criminal Intelligence; Australian Crime Commission; Tasmania Police State Intelligence Services

- No seizures in this period.

Note: No seizures made by the Australian Federal Police in Tasmania were submitted Oct/Dec 2004-April/June 2005 for purity testing. All analysed seizures of amphetamines in this period revealed methamphetamine rather than amphetamine. Figures represent the purity of seizures received at the laboratory within the relevant quarter, and the interval between the date of seizure by police and the date of receipt at the laboratory may vary between one day and several months

5.5 Trends in methamphetamine use

Use of any form of methamphetamine amongst local IDRS samples gradually increased from 83% in 2000 (median of 25 days used) to 95% in 2005 (median of 48 days used), as did the proportion of non-pharmacy NSP transactions, which increased from 30% in 2000/01 to 59% in 2004/05. This trend was reversed in the 2006 IDRS sample, with 83% of participants reporting recent use (median of 24 days used). This trend toward decreasing use continued into 2010 (70% of the sample reporting recent use at a median frequency of 24 days). Similarly, the rate of methamphetamine-related NSP transactions remained relatively stable in 2004/05 and 2005/06 (59% and 56% respectively); however, since 2006/07, the rate of these transactions has decreased sharply to 33%. As previously discussed, this marked reduction in NSP transactions may be related to policy changes within the NSP, and to the closure of the only 24-hour NSP outlet in Hobart in February 2006, which recorded more than 1,200 transactions per month on average, predominantly related to methamphetamine. It is possible that these transactions are now occurring in pharmacy outlets, and, as such, are not captured in this dataset. Despite this caveat, the consistency of this trend with IDRS data is noteworthy.

When observing use of different forms of methamphetamine, two main trends emerge. First, use of crystal methamphetamine has varied greatly amongst local IDRS samples. In 2003, a markedly increased availability of crystal/ice provided a major shift in the local methamphetamine market, at least amongst the demographic sampled in the Tasmanian IDRS, with most participants who reported recent use of methamphetamine reporting this to be the predominant form they had used. In the following 2004 IDRS survey, availability and recent use of crystal decreased markedly, possibly in relation to two key arrests made by Tasmania Police in late 2003. Following this, the level of use of crystal remained relatively stable until 2007, when the rate again decreased substantially. This trend toward decreasing use of crystal methamphetamine has continued, with 20% reporting recent use in 2010

A second trend identified relates to use of powder and base/paste forms of methamphetamine. Between 2002 and 2006, base/paste had been the predominant form used by all IDRS cohorts (with the exception of 2003, when crystal methamphetamine use and availability peaked). From the 2007 to the 2010 IDRS surveys, powder was the form most commonly used by participants – with the exception of 2009, when both powder and base/paste forms were used at very similar rates by IDU. Traditionally, the higher purity forms of methamphetamine (e.g. base/paste) have been more popular locally. The predominance of use of powder methamphetamine is particularly surprising when taken in the context of low levels of subjective purity of powder and similar price for all methamphetamine forms ($50 for 0.1g for all forms and $300 for 1g of powder and base/paste).

Several consumers commented on subjective purity of speed (powder form), reporting this to be low. In both the current study and the 2009 study, KE and IDU participants noted that consumers were increasing the quantity of speed used in order to experience the desired effects. When asked to describe the presentation of the last powder methamphetamine they used, 15 consumers noted the presence of crystals. The presence of crystals in powder may represent higher purity methamphetamine, or alternatively it may be explained by the use of an adulterant (methylsulfonylmethane, MSM) in the late stages of production. This introduction of MSM forms crystals, giving the powder a crystalline appearance (Fetherston & Lenton, 2006). One consumer noted an increased demand for

pharmaceutical stimulants, and considered that this may be related to low purity speed and known quality from pharmaceuticals. One KE employed in an NSP noted that many clients had reported a decrease in quality of speed, but that it did not impact on the numbers of people using this drug.

In terms of recent shifts in the demographics of those using methamphetamine, 20 IDU participants noted 'younger' people, commonly described as ranging between 14-16 years of age, using methamphetamine, along with a broad range of other drugs, at an increased rate. In contrast, this trend was reported by just one participant in the 2009 study.

Reports amongst the regular consumers of ecstasy interviewed for the 2010 Tasmanian Ecstasy and related Drug Reporting System (EDRS) (Matthews & Bruno, 2011) have demonstrated a notable decrease in the proportion reporting recent use of methamphetamine – gradually decreasing from 82% of the 100 consumers interviewed in 2003, to 48% in 2010. Taken together, decreasing rates of methamphetamine use amongst both the independent IDRS and EDRS samples, as well as declining rates of methamphetamine-related NSP transactions, suggest a constricting of the methamphetamine market in Hobart.

5.6 Summary of methamphetamine trends

Table 19: Summary of trends in methamphetamine use

	Methamphetamine 'powder'	'Base/paste' methamphetamine	Crystalline methamphetamine
Price (mode) *'point' (~0.1g)* *gram*	• $50, stable • $300, stable	• $50, stable • $300, stable	• $50, stable • $400 (median), stable
Availability	• Very easy/easy to obtain • Availability stable	• Easy/very easy to obtain • Availability stable	• IDU reports mixed: approximately half of those who commented reported easy/very easy to obtain: not as easy as other forms • Availability stable
Purity	• IDU reported low-medium purity • Purity reports mixed: stable/fluctuating in preceding 6 months	• IDU reported medium purity • Purity reports mixed: stable/fluctuating in preceding 6 months	• IDU reports mixed: high/medium purity • Stable in last 6 months
Use	• Powder continues to be the predominant form used over past 4 years. • 75% recently used this form and 58% (of those using methamphetamine) used this form predominantly	• Use dramatically decreased over the past 4 surveys, from 79% in 2005 to 25% in 2008, however, this has increased to 53% in 2010 • 32% (of those using methamphetamine) used this form predominantly	• Trend toward decreasing levels of use since 2006 • 27% recently used this form and 9% (of those using methamphetamine) used this form predominantly
Other trends: • Lower rates of recent use amongst the 2008-2010 cohorts; median frequency of use in 2010 (24 days) is slightly greater than reported in 2008 and 2009(12 and 15 days respectively), which may be indicative of a smaller number of participants using methamphetamine on a more regular basis • Non-pharmacy NSP data show a marked drop in methamphetamine transactions over the past four financial years. This may partially be due to the closure of a large NSP, and clients using pharmacy NSP instead • A dramatic, short-lived decrease in the use of base/paste methamphetamine was found in the 2008 study: use of this form had increased to levels reported prior to 2008 among the current cohort • Ongoing reports that local drug consumers were often polydrug users, using opioids, benzodiazepines, cannabis and alcohol • Reports that purity of the most commonly used form – powder – was low, and some consumers were changing to pharmaceutical stimulants and pharmaceutical opioids as a result of this			

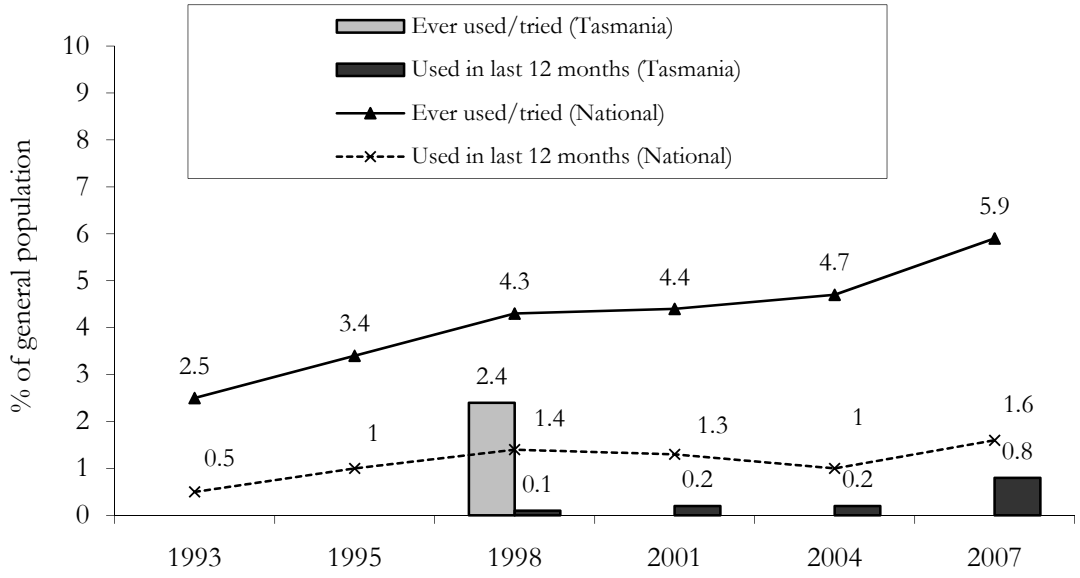
6.0 COCAINE

6.1 Use

6.1.1 Prevalence of use

According to the findings of the 1998 National Drug Strategy Household Survey (AIHW, 1999), 2.3% of surveyed Tasmanian residents reported ever trying cocaine, while only 0.1% had used it in the 12 months prior to interview. Findings of the 2001 and 2004 surveys (AIHW, 2002, 2005b) were very similar, with 0.2% of those sampled reporting using the drug in the preceding year. According to the findings of the 2007 NDSHS (Figure 29; AIHW, 2008) 0.8% (95%CI 0.6%-0.9%) of surveyed Tasmanian residents reported using cocaine in the preceding year, which is significantly greater than the proportion of the 2004 Tasmanian sample (0.2%, 95%CI 0.1%-0.3%), but significantly lower relative to the national sample in 2007 (1.6%, 95%CI 1.55%-1.64%). A significantly greater proportion of the 2007 national sample also reported lifetime (5.9%) and past year use (1.6%) of cocaine relative to the 2004 sample (4.7% and 1% respectively), suggesting national increases in the prevalence of use of cocaine between 2004 and 2007.

Figure 29: Prevalence of cocaine use in Australia and Tasmania among those aged 14 years and over, 1993-2007



Source: National Drug Strategy Household Survey 1993-2007

6.1.2 Cocaine use among IDU

There were only 36 transactions in which clients of non-pharmacy NSP outlets in 2009/10 indicated that cocaine was the drug they most often injected. This figure has been consistently low over the past 12 financial years (Table 20), relating to around 10-40 transactions each year. However, it is important to note that, despite there being some discrepancy between NSP outlets in the question asked (some asking *'what is the drug you most often inject?'*, while others prefer *'what is the drug you are about to inject?'*), it is likely that the question *'what is the drug you most often inject?'* will tend to underestimate the extent of use of cocaine, as none of the IDU sampled in the IDRS survey reported it as the drug they most often used in the preceding month, despite five recently using the drug.

Table 20: Percentage of Tasmanian non-pharmacy Needle and Syringe Program clients reporting cocaine as the 'drug most often injected', 1997/98-2009/10

Year	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Number of transactions reporting cocaine	12	28	19	13	20	36	29	16	15	40	17	16	36
% of total transactions reporting cocaine	0.2	0.3	0.2	0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1

Source: Population Health, Department of Health and Human Services

None of the Tasmanian participants in any of the 1995-1999 Australian Needle and Syringe Program Surveys (MacDonald & Zhou, 2002; National Centre in HIV Epidemiology and Clinical Research, 2007) reported cocaine as the last drug they injected, although, in 2000, one participant reported last using a combination of heroin and cocaine, with the same report occurring again in 2001 and 2002. Between 2003 and 2005, no participants reported last injecting cocaine, and in 2006 (from a sample of 150) and 2007 (from a sample of 168), just one participant in each study reported last injecting this drug (Thein et al., 2005; Iverson, Deacon & Maher, 2008; National Centre in HIV Epidemiology and Clinical Research, 2009). No participants from the 2008 (n=57) or 2009 studies (n=122) reported cocaine as the last drug injected.

6.1.3 Current patterns of cocaine use

Just 5% of participants (n=5) in the current IDRS study reported use of cocaine in the six months preceding interview, at a median frequency of use of three days, which equates to use approximately once per two months (range 2-8 days) (Table 21). Two participants reported using cocaine both intravenously and intranasally, and three participants reported exclusive intranasal use over this period.

Despite this very low level of recent use of cocaine, 39% of the sample indicated that they had tried cocaine at some stage in their lives. Intranasal administration was reported by 28% of the sample (n=28), and intravenous use was reported by 18% (n=18), whilst small minorities reported lifetime use of cocaine via oral administration (3%, n=3) and smoking (2%, n=2). No KE reported recent cocaine use among the consumers with whom they were familiar.

Amongst Tasmanian IDRS participants, low levels of recent use of cocaine have been reported since 2000, ranging between 2% and 12% of each sample. Similarly, the median frequency of use has also remained very low: between two and five days, which equates to use less than once per month. Despite these low levels of use, between 39% and 52% of each sample since 2000 has reported lifetime use of cocaine, with the exception of 2006, when 61% of the sample reported this (Table 21). Just one participant reported that cocaine was their drug of choice and no participants reported cocaine as the drug most injected in the month preceding the interview. Due to the extremely small number of respondents who were able to provide information on cocaine, the data provided in this section should be interpreted with caution.

Table 21: Patterns of cocaine use among Tasmanian IDRS IDU participants, 2000-2010

Year (N=100)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Proportion using cocaine in last 6 months (%)	6	8	12	9	4	8	12	5	4	2	5
Median days used (range)	4 (1-40)	5 (1-20)	2 (1-12)	4 (1-74)	2 (1-3)	5 (1-24)	3 (1-11)	2 (1-3)	5 (1-48)	3 (2-3)	3 (2-8)
Proportion ever using cocaine (%)	39	39	47	52	48	46	61	46	47	51	39

Source: IDRS IDU interviews

6.2 Price

The median market price reported by participants for a 1 gram purchase of cocaine was $450 (no single mode, range $350-700, n=3). Two participants commented on the last purchase price for 1g, reporting a median price of $400 (no single mode, range $350-450). No participants were able to comment on the market price or last purchase price for a cap of cocaine (approximately 0.1grams). In 2009, no participants could provide information on the price of cocaine. Cocaine was reportedly provided by peers to be shared. Two KE in the current study commented on the current price of cocaine, reporting a one gram purchase costing between $300-320.

Just three participants in the current study could comment on trends in cocaine prices over the preceding six months, all reporting that no change had occurred. In 2009, no participants were able to comment on changes in price over time.

Tasmania Police had been unable to report prices of cocaine between 1995/96 and 1999/00; however, in 2001 Southern Drug Investigation Services estimated the price of cocaine as $250 per gram. Price information for cocaine was not provided to the ACC between 2002/03 and 2004/05. In 2005/06, the ACC reported that one gram of cocaine in Tasmania cost between $300 and $400. In 2006/07, no price data was reported by the ACC. In 2007/08, the ACC reported that 1g cocaine cost $350, and in 2008/09, this was reported to cost $300. Data from 2009/10 was not available at the time of publication. These very limited reports of cocaine prices reflect the lack of a local market of the drug.

6.3 Availability

Reflecting the very low level of use of cocaine amongst the current sample, just three participants were able to comment on the local availability of cocaine in the preceding six months. Two participants reported that cocaine had been difficult to access, and one participant reported it had been easy to access. Two of these participants perceived no change in the level of availability over the six month period, and one participant noted it had become more difficult to access. In 2009, no participants were able to comment on availability trends for cocaine. One KE in the current study noted availability to be 'patchy', whilst a second KE noted that to purchase cocaine, *'you need to be the right person in the right place at the right time – it can't be ordered'*.

Tasmania Police reported no seizures of cocaine between 1995/96 and 2004/05, with the exception of a single 1g seizure in 2000/01. In 2005/06, the ACC reported one seizure of a drug believed to be cocaine (1g), and in 2006/07, two seizures were reported, amounting to

7g. In 2007/08, no seizures of cocaine were reported, and in 2008/09 two seizures were made, amounting to 7g. In 2009/10,[14] three seizures were made, amounting to 46.8g.

The combination of few IDU reporting recent cocaine use (n=5, at a median frequency of use of three days, range 2-8 days), along with few participants being able to comment on trends relating to price, purity or availability (n=3 respectively), and no KE reporting contact with clients using cocaine, together suggest that there is a very low availability of cocaine in Tasmania, at least among the demographic sampled in this survey.

6.4 Purity

Just three participants were able to comment on subjective purity of cocaine: two participants noted high purity and one noted fluctuating purity. These three participants also commented on perceived changes in purity over the preceding six months: two reported it to be fluctuating and one noted no change. In 2009, no participants felt confident to comment on the purity of cocaine. The last analysed sample of cocaine seized within the state by Tasmania Police was from the first quarter of 2001. This was an amount of less than two grams, and was analysed during the first quarter of 2002 at 44% purity. Data for the 2009/10 period was not available at the time of publication.

6.5 Trends in cocaine use

Examining the extent of use of cocaine among the Tasmanian IDRS IDU participants over the past eleven years (Table 21), it would appear that the level of use of cocaine in this demographic has remained largely similar during this time. Generally, it was used by only a minority of participants in the preceding six months (2-12%), and, in the main, used very infrequently (median frequency of less than monthly use in the preceding six months).

Reports amongst the regular consumers of ecstasy interviewed for the 2010 Tasmanian Ecstasy and related Drug Reporting System (EDRS) (Matthews & Bruno, 2011) showed a notable increase in the proportion reporting recent use of cocaine – increasing from 7% of the 100 consumers interviewed in 2003 to 49% in 2010. However, similar to the IDRS injecting drug consumer cohort, use of cocaine amongst the EDRS participants was infrequent, with a median frequency of just three days in the preceding six months.

6.6 Summary of cocaine trends

In summary, it appears that the availability and use of cocaine in Hobart is very low, at least within the populations surveyed in the current study or accessing government services. These patterns seem to have remained reasonably stable over the past few years. However, it is noteworthy that between 39% and 61% of the cohorts between 2002 and 2010 have reported lifetime use of cocaine, an increase from patterns seen in the 2000 and 2001 surveys. There are also indications of increasing use among different populations of Tasmanian drug consumers (Matthews & Bruno, 2011), and an increasing prevalence level of use in the general population. As such, trends in cocaine markets in the state merit continued examination.

[14] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

7.0 CANNABIS

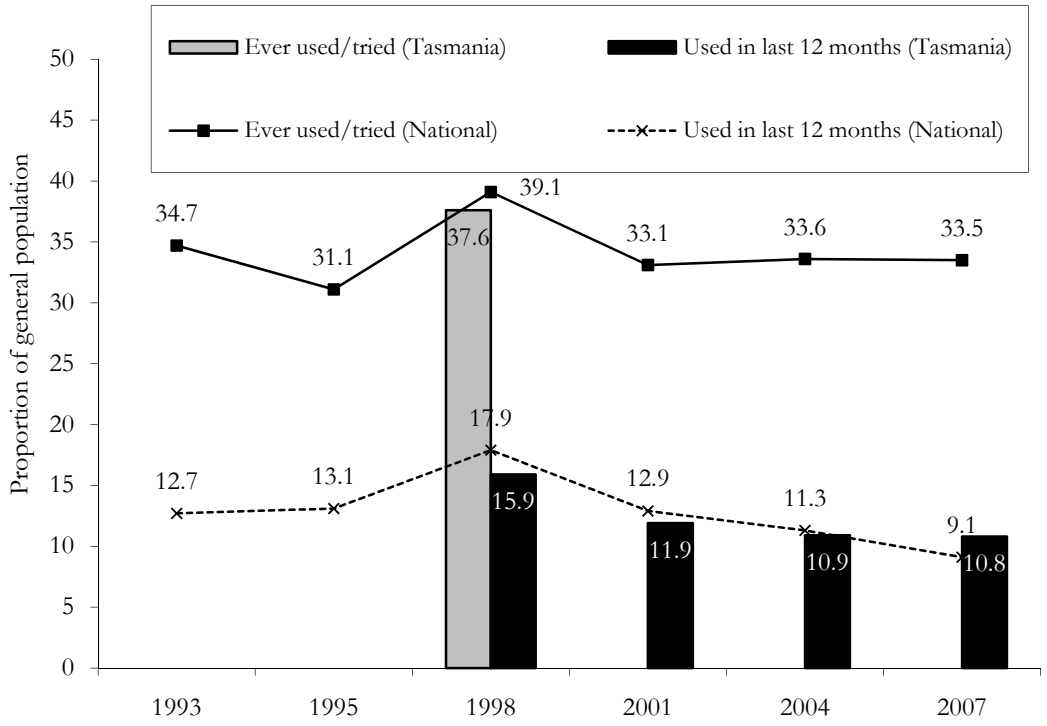
7.1 Use

7.1.1 Prevalence of cannabis use

The 1998 National Drug Strategy Household Survey (AIHW, 1999), which sampled 1,031 Tasmanian residents, indicated that 37.6% had ever used cannabis, while 15.9% had used the drug in the 12 months prior to interview (Figure 30). In the 2001 NDSHS (AIHW, 2002b), a decline in the proportion of participants reporting past year use of cannabis was apparent, reported by 11.9% of the 1,349 participants sampled. In 2004, this remained relatively stable, at 10.9% of Tasmanians aged 14 years and over, based on a sample of 1,208 participants.

In the 2007 NDSHS (AIHW, 2008b), the estimated prevalence of cannabis use in the year prior to interview was 10.8% of Tasmanians aged 14 years and over (based on a sample of 1,143 participants), comparable to the national prevalence rate of 9.1% (based on a sample of 22,912 participants). For Tasmanian samples, this marks a statistically significant decline in the prevalence of recent use of the drug, in comparison to 15.9% of the sample in 1998 (1998: 15.9%; 95%CI 13.6-18.0%; 2007: 10.8%; 95%CI 9.0-12.7%).

Figure 30: Prevalence of cannabis use in Australia and Tasmania among those aged 14 years and over, 1993-2007



Source: National Drug Strategy Household Survey 1993-2007

7.1.2 Cannabis use in particular populations

Cannabis has made up the vast majority of positive urine-screen tests amongst Tasmanian prison inmates since the inception of such screens in 1993. The proportion of all positive urine screens indicating cannabis use has remained at around 70-80% between 1997/98 and 2003/04, despite the number of positive tests varying substantially (from 97 in 1997/98 to 215 in 2000/01, although dropping to 136 in 2001/02 and 109 in 2003/04) during this period. In the 2004/05 financial year, the proportion of positive tests for cannabis fell to around half of all urine drug screens; however, in 2005/06, the proportion increased, returning to levels seen previous to 2004/05, with 76% of all tests returning positive for cannabis. Since 2006/07, the proportion of positive tests for cannabis have remained stable, ranging between 58% and 66% (2009/10: 58%, n=125 of 214 positive tests).

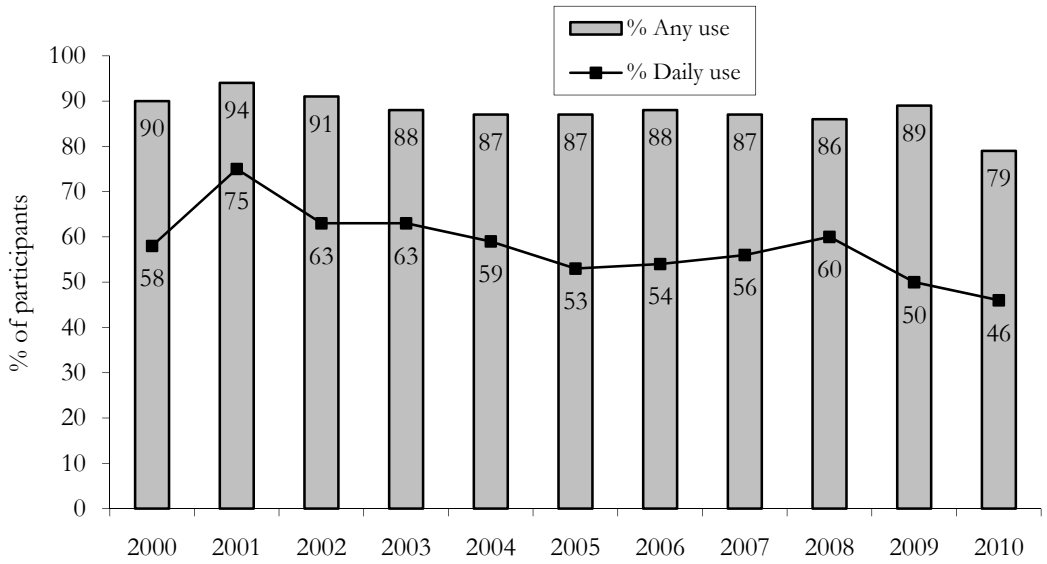
7.1.3 Cannabis use among IDU participants

Among the IDRS IDU respondents in 2010, cannabis was the most commonly used illicit drug, with 98% of participants using it at some time in their lives, and 79% using in the six months prior to interview. Among those that had recently used cannabis, the median frequency of use was 180 days (range 2-180), which equates to daily use of the drug.

Most KE reported, or suspected (some did not directly discuss cannabis use due to the nature of their professional roles) some level of cannabis use within the populations they had contact with. Seven KE reported on groups that were primary users of cannabis. These KE included eight drug treatment workers, one community development worker and one law enforcement worker. KE were familiar with cannabis users from all suburbs of Hobart and surrounding areas. The cannabis users that KE were familiar with ranged in age from teenagers to people in their mid fifties, with the majority being in their late teens to mid thirties. The groups of cannabis users described by KE were predominantly male. In keeping with the general demographic profile of Hobart, the cannabis consumers discussed by KE were predominantly of an English-speaking background, with very small proportions of indigenous consumers. There were quite mixed patterns of employment among those described, ranging from almost all unemployed to most either working or engaged in formal education. Most KE referring to primary consumers of opioids or methamphetamine reported, or suspected, some level of cannabis use within the populations they had contact with.

While five participants in the current study reported cannabis as their drug of choice, 79% of the entire sample reported some use of cannabis in the preceding six months. Examining recent cannabis use in the eleven Tasmanian IDRS IDU cohorts (2000-2010) (Figure 31), there has been little change in the proportions reporting use of the drug across these samples, however, there has been a gradual decline in the proportion of daily cannabis users (from 63% in 2002 to 46% in 2010: $\chi^2(1_{n=100})=5.16$, $p=0.02$) (Figure 31).

Figure 31: Proportion of Tasmanian IDRS IDU cohorts reporting use of cannabis in the six months prior to interview, 2000-2010



Source: IDRS IDU interviews

Participants who reported recent use of cannabis were asked to comment on the last occasion they consumed cannabis, providing information on the method and quantity of this use. Of the 73 consumers who commented, 85% (n=64) reported to have smoked a 'cone' on the last occasion. A cone is used with either a standard pipe or a water-pipe ('bong') into which cannabis is placed. The exact amount of cannabis per 'cone' will vary between individuals depending on preference for strength and whether other components, such as tobacco, are added. Among this group of participants, the median number of cones smoked on the last occasion was 6 (range 1-120 cones, SD=18.1). Twelve percent of cannabis consumers (n=9) reported smoking a cannabis-cigarette (joint) on the last occasion; the median number of 'joints' was two (range 0.5-6 'joints', SD=2.3). Two participants reported smoking a combination of 'cones' and 'joints'.

7.1.4 Forms used

IDRS IDU participants were asked to comment on the forms of cannabis they had used in the last six months. Of this group, 96% (n=75) reported use of indoor-cultivated/hydroponic cannabis, 86% (n=67) reported use of outdoor-cultivated/bush cannabis, 13% (n=10) reported use of hashish and 4% (n=3) reported use of hashish oil.

The cannabis used in the past six months by those participating in the IDU survey was cannabis head (the flowering top sections of the female plant), with most cannabis-using IDU (n=79) reporting some use of both hydroponically/indoor-cultivated and outdoor crops (81% of those using cannabis, n=64). Small minorities reported exclusive use of indoor-cultivated cannabis (14%, n=11) or outdoor-cultivated cannabis (4%, n=3). Participants were also asked to comment on the main form they had used in preceding six months: 69% (n=54) reported indoor-cultivated cannabis and 31% (n=24) reported outdoor-cultivated cannabis. This is consistent with previous IDU cohorts, in which greater proportions of participants reported predominant use of indoor rather than

outdoor-cultivated cannabis (81% in 2003; 69% in 2004; 68% in 2005; 64% in 2006; 58% in 2007; 68% in 2008; and 55% in 2009).

Five KE reported on the predominant 'form' of cannabis consumed by the groups of clients that they were familiar with: four reported hydroponic cannabis, and one KE commented that clients in rural areas tended to smoke more outdoor-cultivated cannabis and metropolitan-based clients tended to smoke indoor-cultivated cannabis. Two law enforcement KE noted a single, small seizure of a synthetic cannabis-like drug, referred to by the brand name *'Spice'*. Laboratory analysis has shown that products such as Spice contain synthetic cannabinoid agonists (Uchiyama et al., 2010).

In 2001, Tasmania Police reported an increasing trend toward hydroponic, or indoor[15], cultivation of cannabis, and supporting evidence for this trend was available in terms of an increased proportion of plant seizures being of indoor crops between 1999/00 and 2001/02 (from 16% in 1999/00 to 41% in 2001/02[16]). While there has been some fluctuation in these reports over time, law enforcement officers interviewed in 2010 did not comment on this distinction between cultivation preferences.

7.2 Price

Participants were asked to comment on the current market price[17] for cannabis. The modal market price for outdoor cultivated cannabis was $20 per gram (median $20, range $10-25, n=7), $50 for quarter-ounce purchases (median $60, range $25-80, n=20) and the median market price for an ounce was $200 (no single mode, range $100-250, n=9). These market price estimates are consistent with the prices participants reported actually paying.

For their last purchase of bush/outdoor-cultivated cannabis, participants reported a $50 deal contained a modal amount of 7.0g (median 7.0g, range 3.0-7.0g, n=9). The median last purchase price for a quarter-ounce of outdoor cannabis was $60 (no single mode, range $25-90, n=23), and the modal last purchase price for an ounce was $200 (median $200, range $100-300, n=24). The most common amounts of outdoor cannabis purchased by the IDU interviewed were ounces (n=24) and quarter-ounces (n=23) (Table 22).

In general, market price estimates and actual purchase costs for indoor/hydroponically-cultivated cannabis were higher than the reported costs for bush/outdoor cannabis. The modal market price for indoor hydroponically-cultivated cannabis was $25 per gram (median $25, range $20-25, n=20), $100 for quarter-ounce purchases (median $100, range $75-100, n=25) and the median market price for an ounce purchase was $300 (no single mode, range $250-320, n=3). These market price estimates are consistent with the prices participants reported actually paying.

'Deals' costing $25 contained a modal amount of 1.2g (median 1.2g, range 2.0-7.0g, n=15) of indoor-cultivated cannabis, with $50 'deals' containing a modal amount of 3.0g (median 3.3g, range 2.0-7.0g, n=18). The commonly purchased quarter-ounce amounts of hydroponically-cultivated cannabis were reported to cost a modal price of $100 (median=$90, range $50-100, n=33), $30 more than the comparable median figure for outdoor cannabis. The modal last purchase price for an ounce of hydroponically-cultivated

[15] For the purpose of reporting, Tasmania Police record all cannabis plants seized that had been grown indoors as hydroponically-cultivated, rather than just those plants that are grown without the use of soil.
[16] Cannabis seizures after 2001/02 were not divided according to cultivation type due to inconsistencies in recording on exhibit sheets.
[17] Market price refers to the price the drug is usually sold at, not necessarily the price paid.

cannabis was $300 (median $300, range $200-400, n=23). Again, these estimates were greater than reported for outdoor-cultivated cannabis: both the modal and median price estimates for indoor-cultivated cannabis were $100 higher. Quarter-ounce and ounce amounts were the most commonly purchased quantities (n=33 and 23 respectively in the preceding six months) (Table 23). Price estimates over time are summarised in Table 23.

KE reported that a $25 purchase bought 2.0g of indoor or outdoor cannabis (n=1), $80-90 for quarter-ounce purchases (n=2), $250 for one ounce purchases of outdoor cannabis (n=1) and $300-360 for one ounce of hydroponic cannabis (n=3). One KE also noted a smaller purchase amount of a *'tenner'* ($10), with the quantity fluctuating. This KE noted that this was aimed at the *'school kid market'*. In the current study, just one participant reported a purchase for $10.

The majority of IDU (79% overall, 84%, n=52 in relation to outdoor cannabis and 82%, n=58 in relation to hydroponic cannabis) reported that the price of cannabis had not changed in the last six months. A noteworthy minority reported increasing prices for indoor-cultivated cannabis (14%, n=10), and decreasing prices for outdoor-cultivated cannabis (10%, n=6) in this time.

Despite the majority of IDU respondents reporting a stable price trend for outdoor cannabis, the modal price for one ounce of outdoor cannabis had fluctuated between $150 and $250 between 2003 and 2009. Conversely, the modal price estimates for quarter-ounce purchases of outdoor-cannabis increased from $50 in 2006 to $70 in 2008, but in 2009 this decreased to $50, and in 2010 increased again to $60 (Table 22, Figure 32). Reported purchase price for one ounce of indoor/hydroponic-cultivated cannabis increased from $250 in 2006 and 2007 to $300 in 2008-2010. The purchase of quarter ounce amounts remained stable between 2005 and 2009, costing a modal price of $90, however in 2010, this increased to $100 (Table 23, Figure 32).

Table 22: Modal prices and quantities of 'bush'/outdoor-cultivated cannabis purchased by IDU in Hobart, 2003-2010

Unit	2003 IDRS			2004 IDRS			2005 IDRS			2006 IDRS		
	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n
$10 deal	1.0g *(1.0-3.0g)*	$10	4	1.0g *(0.5-1.0g)*	$10	3	1.0 g† *(1.0 g)*	$10	2	1.0g	$10	2
$25 deal	2.0g *(1.0-7.0g)*	$25	27	1.0g *(1.0-3.0g)*	$25	24	1.0 g *(1.0-28.0 g)*	$25	11	1.7g* *(1.5-2.0g)*	$25	8
$50 deal	7.0g† *(3.5-14.0g)*	$50	15	7.0g† *(5.5-7.0g)*	$50	9	7.0 g† *(2.0-7.0 g)*	$50	9	7.0g	$50	8
Quarter ounce	7.0g	$60* *($25-90)*	29	7.0g	$60† *($35-85)*	30	7.0 g	$50 *($50-90)*	24	7.0g	$50 *($25-100)*	28
Half ounce	14g	$80† *($50-130)*	7	14g	$100 *($70-120)*	6	14 g	$120 *($100-200)*	5	14.0g	$130* *($120-140)*	3
Ounce	28g	$150 *($100-200)*	20	28g	$200 *($100-260)*	21	28 g	$200 *($25-350)*	24	28.0g	$170* *($90-250)*	19

Source: IDRS IDU interviews
† Median substituted, as no single mode exists
Note: Range in parentheses

Table 22: Modal prices and quantities of 'bush'/outdoor-cultivated cannabis purchased by IDU in Hobart, 2003-2010 (continued)

Unit	2007 IDRS			2008 IDRS			2009 IDRS			2010 IDRS		
	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n
$10 deal	1.0g	$10	3	-	-	-	1.0g* *(0.7-1.3)*	$10	2	1.0g	$10	1
$25 deal	1.0g *(1.0-2.0g)*	$25	14	2.0g *(1.0-3.0g)*	$25	18	1.0g *(1.0-3.0g)*	$25	18	2.0g *(1.0-7.0g)*	$25	24
$50 deal	7.0g *(1.0-7.0g)*	$50	9	7.0g	$50	4	7.0g *(3.0-14.0g)*	$50	13	7.0g *(3.0-7.0g)*	$50	9
Quarter ounce	7.0g	$60 *($50-90)*	29	7.0g	$70 *($50-90)*	17	7.0g	$50 *($50-90)*	22	7.0g	$60* *($25-90)*	23
Half ounce	14.0g	$113* *($100-125)*	2	14.0g	$100 *($75-100)*	4	14.0g	$150 *($50-160)*	14	14.0g	$100 *($75-150)*	5
Ounce	28.0g	$150 *($150-300)*	9	28.0g	$200 *($75-300)*	20	28.0g	$250 *($100-300)*	20	28.0g	$200 *($100-300)*	24

Source: IDRS IDU interviews

* Median substituted, as no single mode exists

Note: Range in parentheses

Table 23: Modal prices and quantities of hydroponic/indoor-cultivated cannabis purchased by IDU in Hobart, 2003-2010

Unit	2003 IDRS			2004 IDRS			2005 IDRS			2006 IDRS		
	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n
$10 deal	0.6g* *(0.5-1.0 g)*	$10	3	0.5g *(0.3-0.5g)*	$10	4	0.9g* *(0.7-1.0 g)*	$10	2	1.0g *(1.0-2.0g)*	$10	4
$25 deal	1.0g *(1.0-2.0 g)*	$25	46	1.0g *(1.0-2.0g)*	$25	37	1.0g *(1.0-2.0 g)*	$25	22	1.0g *(1.0-2.0g)*	$25	12
$50 deal	3.5g *(2.0-7.0 g)*	$50	16	3.0g *(2.5-3.5g)*	$50	6	3.0g *(2.0-3.5g)*	$50	4	3.0g	$50	2
Quarter ounce	7.0g	$80 *($50-250)*	47	7.0g	$80 *($60-100)*	48	7.0g	$90 *($70-100)*	37	7.0g	$90 *($60-120)*	43
Half ounce	14.0g	$150 *($140-250)*	16	14.0g	$150 *($100-180)*	10	14.0g	$150 *($100-200)*	9	14.0g	$160 *($120-200)*	6
Ounce	28.0g	$300 *($200-350)*	27	28.0g	$250 *($150-350)*	27	28.0g	$300 *($220-350)*	26	28.0g	$250 *($200-450)*	21

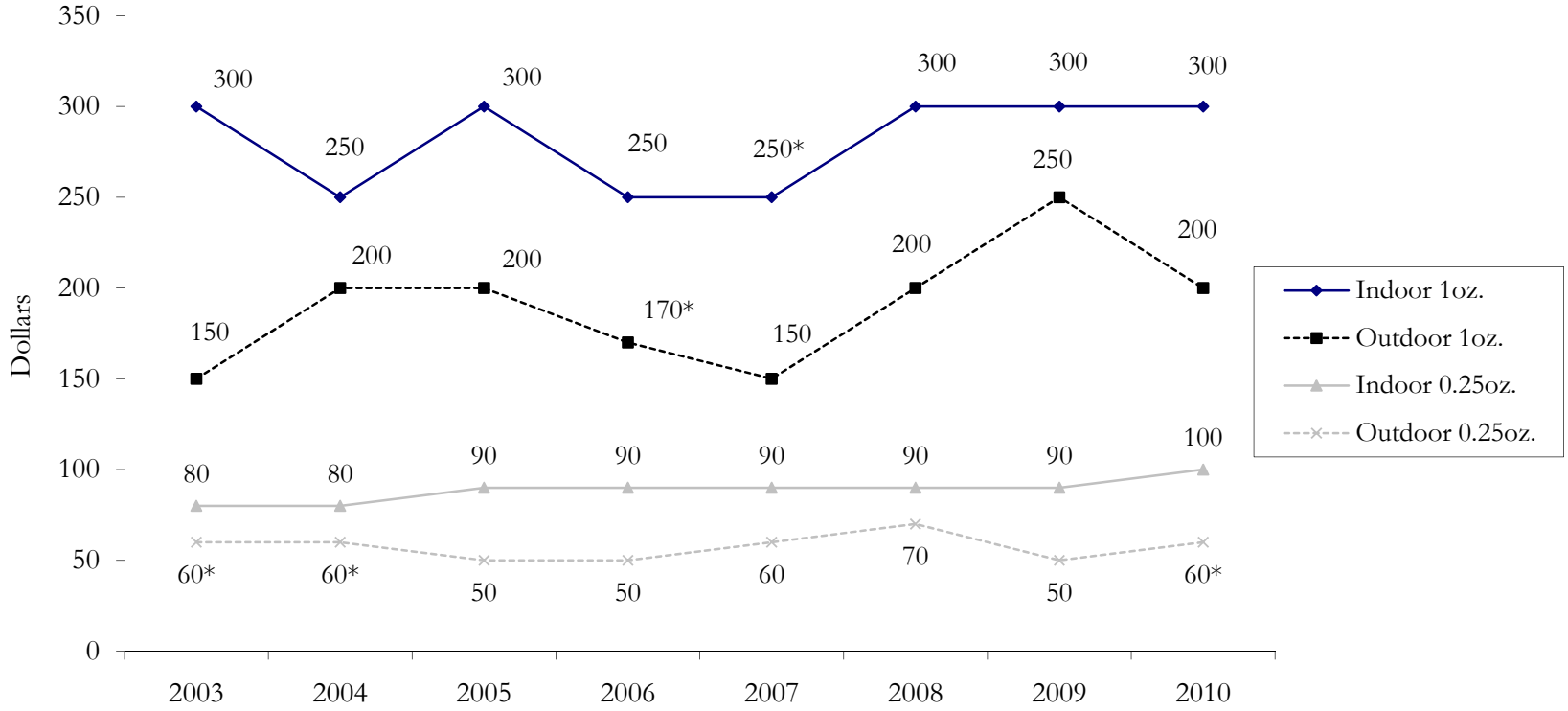
Source: IDRS IDU interviews
* Median substituted, as no single mode exists
Note: Range in parentheses

Table 23: Modal prices and quantities of hydroponic/indoor-cultivated cannabis purchased by IDU in Hobart, 2003-2010 IDRS (continued)

Unit	2007 IDRS			2008 IDRS			2009 IDRS			2010 IDRS		
	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n	Modal amount (grams)	Modal price	n
$10 deal	0.8g *(0.5-0.8g)*	$10	4	-	-	-	0.5g *(0.5-0.7g)*	$10	3	0.5g	$10	1
$25 deal	1.0g *(1.0-2.0g)*	$25	24	1.0 g *(1.0-2.0 g)*	$25	16	1.0g *(0.8-3.0g)*	$25	38	1.2g *(2.0-7.0g)*	$25	15
$50 deal	3.0g *(1.0-7.0g)*	$50	8	3.0 g* *(2.0-7.0 g)*	$50	3	3.0g *(2.0-7.0g)*	$50	9	3.0g *(2.0-7.0g)*	$50	18
Quarter ounce	7.0g	$90 *($20-120)*	29	7.0g	$90 *($50-100)*	31	7.0g	$90 *($50-100)*	29	7.0g	$100 *($50-100)*	33
Half ounce	14.0g	$160* *($125-200)*	4	14.0g	$150 *($100-160)*	7	14.0g	$150 *($120-180)*	15	14.0g	$160* *($100-250)*	11
Ounce	28.0g	$250* *($140-350)*	14	28.0g	$300 *($200-340)*	25	28.0g	$300 *($200-350)*	22	28.0g	$300 *($200-400)*	23

Source: IDRS IDU interviews
* Median substituted, as no single mode exists
Note: Range in parentheses

Figure 32: Modal prices of quarter and one ounce purchases of indoor and outdoor cultivated cannabis, 2003-2010



Source: IDRS IDU interviews
* Median substituted as no single mode

Table 24: Cannabis prices in Tasmania reported to the Australian Crime Commission, 2000/01 – 2008/09

	Deal (1 gm approx)		1/4 Bag (7 gms)		1/2 Bag (14 gms)		1 Ounce (28 gms)	
	Head	Hydro	Head	Hydro	Head	Hydro	Head	Hydro
2000/01	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
2001/02	$20-25	$25	$80-90	$90-110	$150-160	$160-220	$200-300	$300-350
2002/03	$20-25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
2003/04	$25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
2004/05	$20-25	$25	$70-100	$80-100	$100	$150-200	$150-300	$300-350
2005/06	$25	$25	$75	$75	$120	$120	$250-350	$250-350
2006/07	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r
2007/08	$25	$25	$80-100	n/r	$120-150	$150-200	$250-300	$300-350
2008/09	$10-25	$25	$70	n/r	$125	$150	$200-300	$300

Source: Australian Crime Commission (previously the Australian Bureau of Criminal Intelligence), Tasmania Police State Intelligence Services
n/r: Not reported
Note: Data for 2009/10 not available at time of publication

Tasmania Police and the ACC provide annual reports on the price of illicit drugs (Table 24). In 2008/09, the lower range of the price for 1g purchases of head was lower than reported in previous years ($10-25), however, the price for hydro remained stable in comparison to previous years ($25 respectively; data for 2009/10 was not available at the time of publication). Since 2000/01, the price of quarter-ounce purchases of cannabis head has fluctuated between $65 and $100 ($70 in 2008/09). The price for one ounce of head has also fluctuated over this period, with the price ranging between $150 and $350 ($200-300 in 2008/09). Conversely, the price for a half-ounce of head has decreased slightly, from $150-160 in 2000/01 to $125 in 2008/09, as has the price for a half-ounce of hydro: $170-220 in 2000/01 to $150 in 2008/09. The price for an ounce of hydro has remained relatively unchanged since 2000/01, costing between $300 and $350. Overall, these findings are similar to the 2009 IDRS, which reported on cannabis prices for the same period.

Tasmania Police reported the price of 1g of cannabis hash/resin as $30-$50 in the 2001/02 financial year, $20-25 during the 2002/03 and 2003/04 financial years, and $25 in 2004/05. No data was reported in 2005/06 or 2006/07, however, in 2007/08, this price estimate had increased to $50-$100. No price estimate was reported in 2008/09. In the current IDRS study, three participants reported on the purchase price of one gram of hashish, costing a median price of $30 (no single mode, range $20-70). This is similar to the price reported in 2009 (median $30, range $25-50, n=5), but lower than reported in previous IDRS studies: $50 in 2007 (n=1) and 2006 (n=3), with minimal reports in preceding years. No participants commented on the price of hashish oil in 2010. In 2009, three participants reported a 'cap' to cost a median price of $25 (no single mode, range $20-50).

7.3 Availability

For both indoor- and outdoor-cultivated cannabis, the majority of the IDU sample who reported recent use perceived that cannabis was 'very easy' (75%) or 'easy' (22%) to obtain, and that the availability of cannabis had remained stable (83% of reports across both cannabis forms: Table 25). Two KE noted that availability for cannabis was easy or very easy. Trends in availability and routes of access will be discussed separately for each type of cannabis.

Table 25: Participants' reports of cannabis availability in the past six months, 2009-2010

Current availability	Hydro		Bush	
	2009 (N=100)	2010 (N=100)	2009 (N=100)	2010 (N=100)
Able to respond (%)	75	73	71	65
Of those who responded:				
Very easy (%)	47	74	47	75
Easy (%)	45	26	38	17
Difficult (%)	8	0	16	8
Very difficult (%)	0	0	0	0
Availability change over the last six months				
Able to respond (%)	75	74	71	64
Of those who responded:				
More difficult (%)	8	1	7	8
Stable (%)	76	89	58	77
Easier (%)	7	7	30	16
Fluctuates (%)	9	3	6	0

Source: IDRS IDU interviews

In regard to outdoor or 'bush' cannabis, the majority of the IDU commenting believed this to be 'very easy' (75%, n=49) or 'easy' (17%, n=11) to access in the preceding six months, and that this situation had remained stable in this time (77%, n=49). Sixteen percent of participants reported that availability had increased (n=10) over this period (Table 25). Most IDU reported last purchasing this type of cannabis from friends (58%, n=36) or from a known dealer (35%, n=22). Venues in which these purchases were last made were primarily reported to be a friend's home (34%, n=21), a dealer's home (29%, n=18) or via home delivery (19%, n=12) (Table 26).

All participants who commented (100%, n=73) reported that hydroponic/indoor-cultivated cannabis had been either 'very easy' or 'easy' (74%, n=54 and 26%, n=19 respectively) for them to access in the preceding six months (Table 25). Almost all of these respondents (89%, n=66) believed that the availability of this type of cannabis had remained stable in the preceding six months. Similar to trends reported for outdoor-cultivated cannabis, hydroponically-cultivated cannabis was more commonly purchased from a known dealer (49% n=36) and friends (40%, n=29) (Table 26). Participants also commented on the last venue in which they purchased hydroponic cannabis, of which the majority purchased at either a dealer's home (32%, n=23), a friend's home (26%, n=19) or via home delivery (21%, n=15).

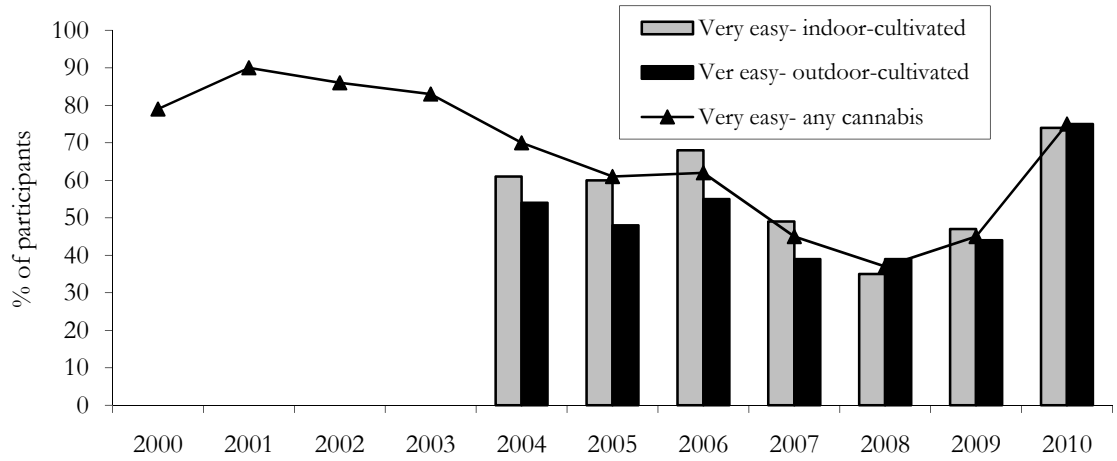
Table 26: People and venues from which cannabis was last purchased in the preceding six months, 2010

	Hydroponic cannabis n=73	Bush/outdoor cannabis n=62
Friends	40% (n=29)	58% (n=36)
Known dealers	49% (n=36)	35% (n=22)
Acquaintance	4% (n=3)	5% (n=3)
Street dealer	3% (n=2)	2% (n=1)
	Hydroponic cannabis n=73	**Bush/outdoor cannabis n=62**
Friend's home	26% (n=19)	34% (n=21)
Dealer's home	32% (n=23)	29% (n=18)
Home delivery	21% (n=15)	19% (n=12)
Agreed public location	15% (n=11)	15% (n=9)
Acquaintance's home	5% (n=4)	3% (n=2)
Street market	0	0

Source: IDRS IDU interviews
Note: multiple responses allowed

As depicted in Figure 33, between 2001 and 2008 there was a gradual decline in the proportion of IDU respondents who considered cannabis (any form) as 'very easy' to access (90% in 2001 v. 37% in 2008: $\chi^2(1_{n=100})=64.6$, $p<0.001$). In 2009 and 2010, this trend has been reversed, with the proportion reporting very easy access increasing to 75% in 2010 ($\chi^2(1_{n=100})=39.7$, $p<0.001$).

Figure 33: Participant reports of current cannabis availability, among those who recently used cannabis, 2000-2010

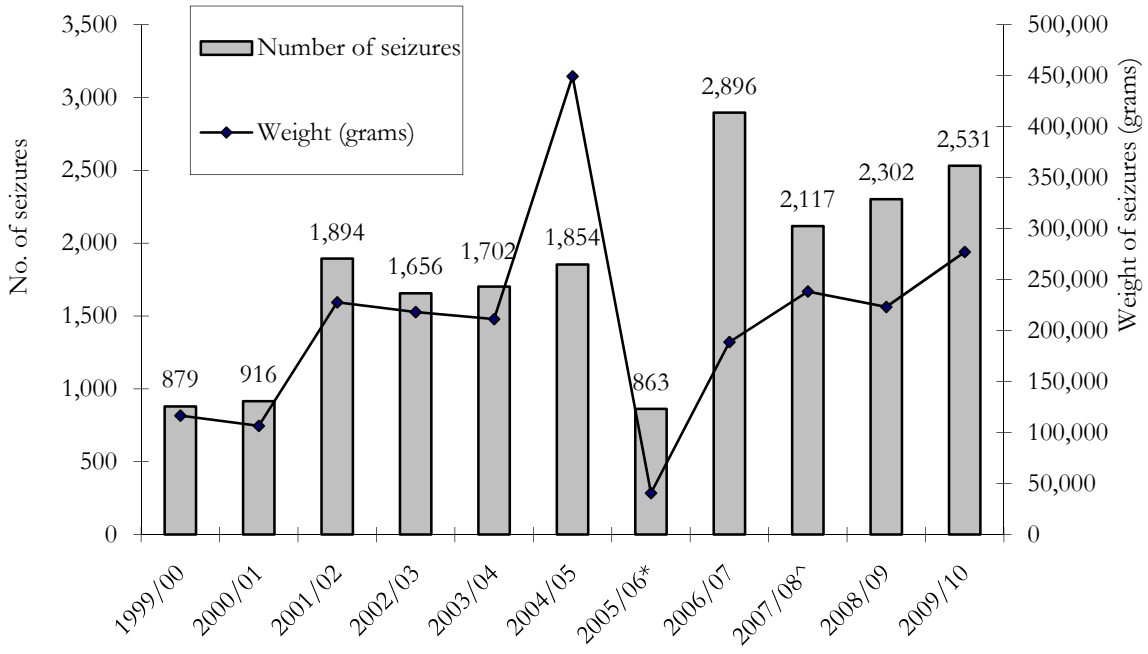


Source: IDRS IDU interviews
Note: A distinction between hydroponic and bush cannabis was introduced in 2004. Prior to this time, survey items referred to any form of cannabis

Figure 34 shows cannabis seizures made by Tasmania Police between 1999/00 and 2009/10. In general, the volume of cannabis seized and the number of seizures tended to increase over time. There was a notable increase in both the weight and number of seizures in 2001/02, with large increases noted in the volume of seizures in 2004/05 and the number of seizures in 2006/07. While there was a reduction in seizure volume and number in the 2005/06 reporting period, in

this case seizure data for Tasmania Police was only reported to the ACC for part of the financial year. Both the volume and number of seizures was relatively stable in 2009/10, with slight increases observed in the total number (2,531 vs. 2,302) and weight (277.1 v. 223.2 kg) of seizures relative to 2008/09. In addition to the seizures shown in Figure 34 for 2009/10, Tasmania Police reported 549 seizures of plants (totalling 6,456 plants), and 95 seizures of seeds (totalling 3,346 seeds).

Figure 34: Seizures of cannabis by Tasmania Police, 1999/00-2009/10



Source: Australian Crime Commission, State Intelligence Service, Tasmania Police
* Seizures for 2005/06 were only reported to the ACC for part of the financial year
^ In 2007/08, the AFP made 3 seizures of cannabis, amounting to 21g
Note: Data in 2009/10 was provided by Tasmania Police State Intelligence Service. This data is preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

7.4 Potency

The potency of cannabis across both modes of cultivation was generally rated as 'high' (48%) or 'medium' (37%) by the IDU sample, with most respondents indicating that this potency had remained stable (75%) in the preceding six month period. One KE commented that cannabis potency had been very high in the preceding six months. These reports from both consumers and the KE are similar to those provided in the recent IDRS studies.

Potency of outdoor or 'bush' cultivated cannabis was regarded by IDU as generally being 'medium' (49%, n=30), with smaller proportions reporting 'high' (25%, n=15) or 'low' (23%, n=14) potency in the preceding six months. This level of potency was regarded as having remained stable (82%, n=47) in the preceding six months. One KE noted the presence of some very high potency outdoor cannabis over the preceding six months.

Hydroponically-cultivated cannabis, however, was generally reported by IDU as being 'high' in potency (67%, n=49), and one-quarter of participants reported potency to be 'medium' (26%, n=19). Potency was predominantly regarded as remaining stable in the preceding six months

(69%, n=50), although a notable minority reported increasing potency (14%, n=10), as did one KE. Seizures of cannabis by Tasmania Police are not analysed for potency, and, as such, no empirical data are available to examine trends.

7.5 Trends in cannabis use

In general, KE commenting on primary cannabis using consumers reported that use of cannabis amongst the consumers they were familiar with had remained stable over the preceding six months. Use was generally reported to be common, and thought to be widespread throughout the community. Several KE noted many cannabis consumers experiencing respiratory health problems such as bronchitis, chronic coughing and emphysema, along with poor general health and nutrition. Mental health problems were also commonly cited, particularly depression, anxiety and paranoia. Two KEs also noted several clients experiencing difficulty with anger management and emotional regulation, and three KE reported clients experiencing relationship problems related to their cannabis use. Several KE noted widespread polydrug use amongst primary cannabis consumers, predominantly alcohol, tobacco, methamphetamine and pharmaceutical opioids.

7.6 Summary of cannabis trends

Table 27: Summary of cannabis trends

	Outdoor/bush	Indoor/hydroponic
Price		
Gram	• $20 (modal); decrease from $25 between 2003 and 2009	• $25 (modal), stable since 2003 survey
Quarter-ounce	• $60 (median), price has fluctuated between $50-70 since 2003	• $100 (modal), increased by $10: $90 between 2005 and 2009
Ounce	• $200, modal price decrease of $50 since 2009, has fluctuated between $150-250 since 2003 survey	• $300 (median and modal), stable price since 2008
Availability	Both indoor- and outdoor-cultivated cannabis: • Very easy – easy to obtain. Significant increase in proportion reporting 'very easy' access since 2008 • Availability stable in recent months	
Potency	• Medium (based on IDU estimates) • Potency level stable over the preceding six months	• High (based on IDU estimates) • Potency level stable over the preceding six moths
Use	• Most widely used illicit drug • Indications of decreasing prevalence of use of cannabis in recent years in the general Tasmanian community (NDSHS), gradual decline in proportion of daily users in IDRS IDU samples • High level of daily use among IDU sample and groups discussed by KE • Indoor-cultivated cannabis used more commonly than outdoor-cultivated form.	

8.0 OPIOIDS

The IDRS investigates patterns of use, harms and the 'black market' characteristics of a number of pharmaceutical products, including opioids, benzodiazepines and stimulants, amongst people that inject drugs. The aim of the IDRS system in relation to these drugs is to document these patterns of use and associated harms in order to provide an evidence base for drug services and policymakers.

When considering such issues in relation to pharmaceutical products, it is necessary to consider the fact that some individuals may be receiving these drugs as part of a medical treatment program; some may be accessing and using these drugs without medical oversight; and that some may access these drugs from a combination of these two sources. The combination of all of these sources is important when considering issues such as health outcomes (e.g. overdose).

In the IDRS reports, the distinction is made between 'licit' use: that is, use of a pharmaceutical drug that has been directly prescribed to the person using the drug; and 'illicit' use: use of a pharmaceutical drug that had not been prescribed to the person using the drug (see Black et al, 2008, for a more detailed discussion of this distinction and related issues).

It is important to note that in making such a distinction, the authors are not expressing any particular stance in relation to the use of these drugs. Indeed, previous research in the IDRS and other contexts (e.g. Bruno, 2007; Winstock, Lea & Sheridan, 2008; Treloar, Fraser & Valentine, 2007) have clearly identified that within each of these broad categories there exists a spectrum of methods and reasons for use. Among those using 'licit' pharmaceuticals, many of the IDRS participants may be using these in strict adherence with their prescriber's regime; others may be administering these drugs in a different manner (e.g. intravenously), on a different dosing schedule, or at a different dose than prescribed. Similarly, among those accessing 'illicit' pharmaceuticals, there may be a spectrum of reasons and motivations underlying such use, including intoxication, self-medication for physical or psychological complaints, to self-manage a detoxification process, to self-medicate when drug treatment is undesirable or unavailable (e.g. in the case of long waiting times or physically distant treatment services, or where shame or fear of discrimination at being identified as a 'drug user' prevent the seeking of formal treatment), or to replace doses of licitly prescribed medications (e.g. where doses have been missed due to theft, the experience of external threat or pressure to provide their medication to others, or due to practical issues such as transport, dosing times, employment or lack of childcare interfering with a person's ability to pick up maintenance pharmaceuticals dispensed on a daily basis).

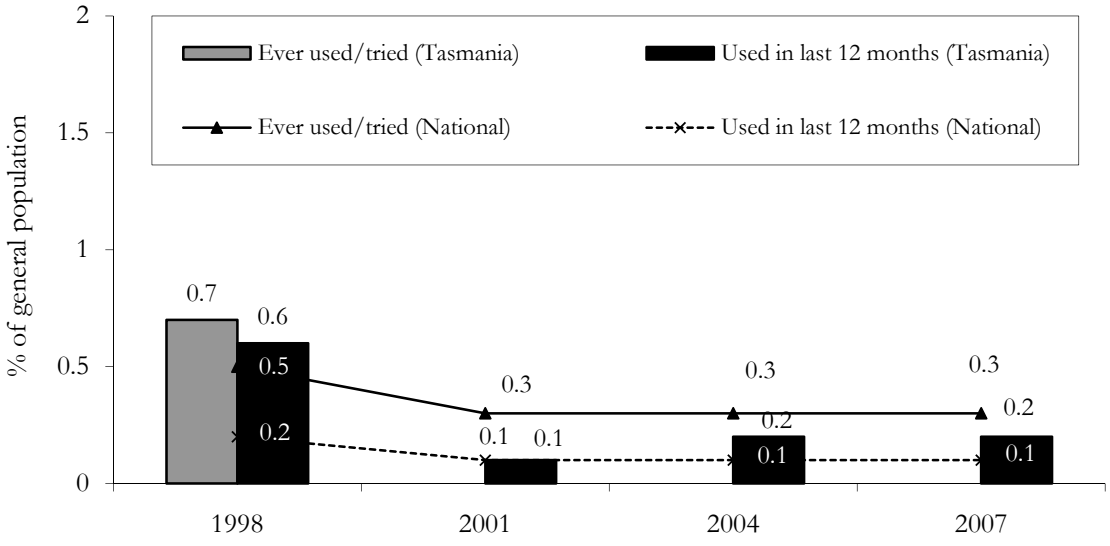
The use of pharmaceutical products such as opioids outside of medical supervision, or in ways other than prescribed, is currently an area of considerable debate, and the reader is encouraged to acquaint themselves with this literature before drawing conclusions or making policy decisions with regard to the prescription of these drugs. For example, specific research has examined the complexities of not-as-prescribed methadone use and methadone dispensing policy (Ritter & di Natale, 2005; Fraser et al, 2007; Treloar, Fraser & Valentine, 2007), barriers to accessing drug treatment (Treloar et al., 2004), and the importance of the availability of appropriate treatment for the management of pain (Brennan, Carr & Cousins, 2007).

8.1 Use

8.1.1 Prevalence of opioid use

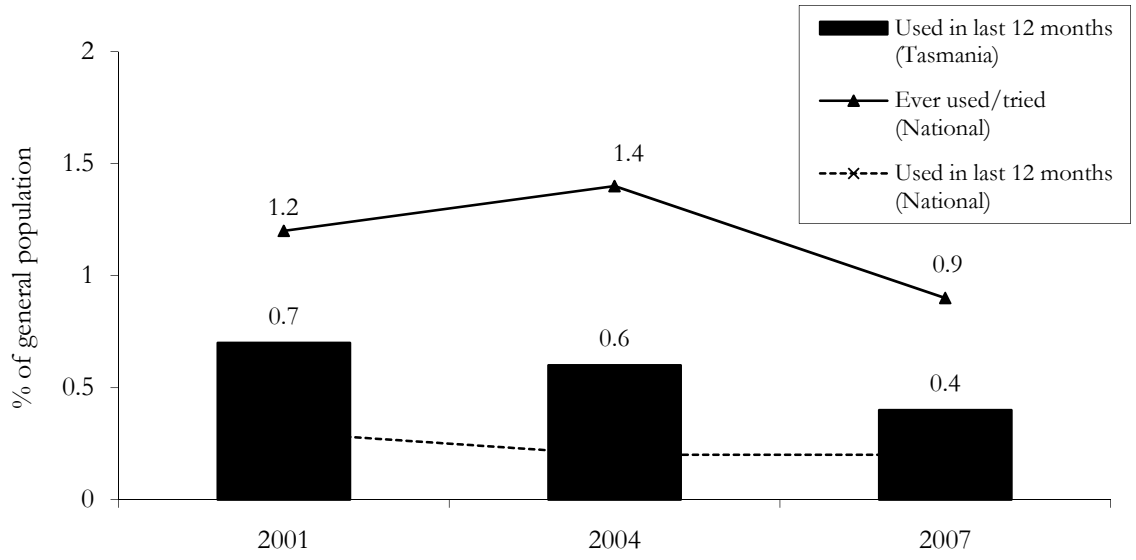
The 2007 National Drug Strategy Household Survey interviewed 1,143 Tasmanians aged 14 years or above about their drug use. This study identified that 0.2% of those sampled reported using methadone or buprenorphine for non-maintenance purposes in the year prior to interview, and 0.4% had used other types of opioids for non-medical purposes in this time (AIHW, 2008b) (Figures 35 and 36). Similarly, the 2004 NDSHS identified that 0.2% of those sampled reported using methadone for non-maintenance purposes in the year prior to interview (from a sample of 1,208 Tasmanians aged 14 years or above), and 0.6% had used other opioids for non-medical purposes in this time (AIHW, 2005b). In the 2001 NDSHS study, 0.1% of the 1,349 respondents reported using methadone for non-maintenance purposes and 0.7% reported use of other opiates in the year prior to interview (AIHW, 2002b). In the 1998 NDSHS (AIHW, 1999), 0.6% of the 1,349 respondents reported using methadone illicitly in the 12 months prior to interview. Given the degree of variance due to sampling issues around each of these proportions, it is not possible to suggest any change in the local population prevalence of each of these drugs.

Figure 35: Prevalence of methadone or buprenorphine* use in Australia and Tasmania among those aged 14 years and over, 1998-2007



Source: National Drug Strategy Household Survey 1998-2007
* Use of buprenorphine was only included in the 2007 survey

Figure 36: Prevalence of other opioid use (excluding heroin and methadone) in Australia and Tasmania among those aged 14 years and over, 2001-2007



Source: National Drug Strategy Household Survey 2001-2007

8.1.2 Pharmaceutical opioid use among IDU and other groups

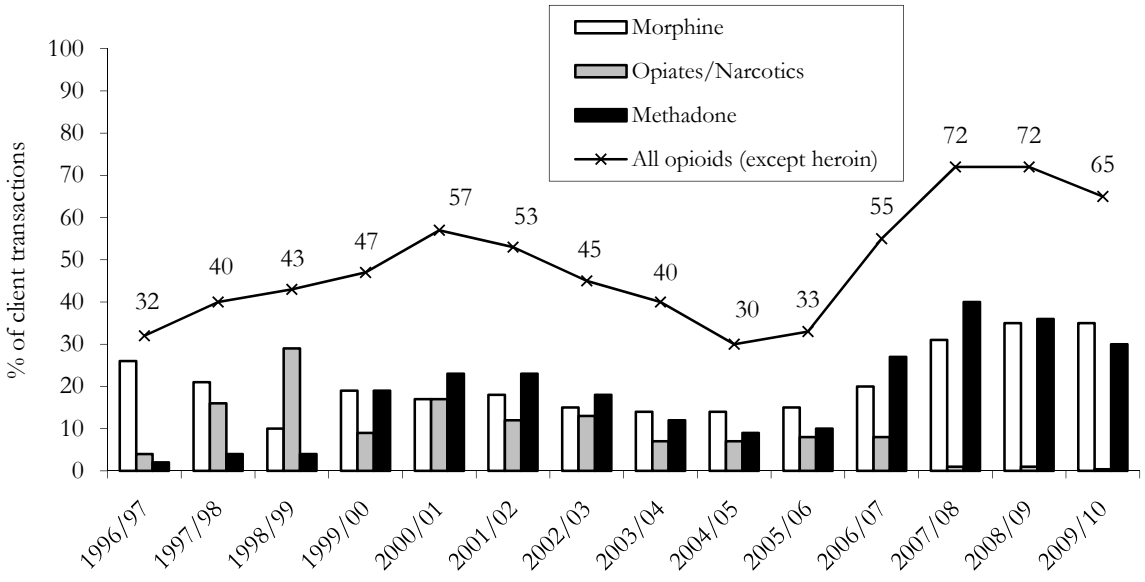
Data from clients of non-pharmacy NSP outlets reporting an opioid as the drug they most often inject have been highly variable over the past eight years (Figure 37), due primarily to clients nominating the catch-all 'opiates-narcotics' category rather than indicating a specific single drug[18]. When these data are collapsed, a trend becomes clearer, with the percentage of clients reporting opioids (excluding heroin) as the drug they most often injected steadily increasing from 32% in 1996/97 to 57% in 2000/01, then steadily decreasing to 30% in 2004/05. This was followed by more dramatic increases from 33% in 2005/06 to 72% in 2008/09, however, in 2009/10, this increasing trend appears to have stabilised, with 65% of client transactions reporting an opioid (excluding heroin). This trend of increasing use of opioids is the inverse of the trend noted for methamphetamine use among non-pharmacy NSP clients (see Section 5.1.3).

While this appears to represent a substantial change in the market over time, these data should be interpreted with caution. Firstly, prior to 2001/02, these drug use data were reported by only around 40% of total non-pharmacy NSP clients, predominantly those larger, inner-city outlets, which are biased toward regular, opiate consumers – in recent years, this figure has risen to more than 90% of non-pharmacy NSP clients. As such, data in recent years may be more representative of patterns of use among non-pharmacy NSP outlet clients, with one caveat: during 2006, Hobart's only 24-hour NSP outlet, which primarily distributed equipment used for methamphetamine injection and making over 1,200 transactions per month, closed. This client load did not filter to other non-pharmacy NSP outlets in following months, and as such, part of this increase in the proportion of non-pharmacy NSP clients apparent in Figure 37 may partially reflect an artefact of the closure of this service. Also noteworthy is the indication that, although injection of morphine had consistently been reported as more popular than injection of methadone to 1998/99, there has been some subsequent variation, with methadone more commonly reported as the 'drug most often injected' between 2000/01 and 2002/03, and again between 2006/07 and 2007/08 (Figure 37). This recent increase in the proportion of NSP transactions for methadone may reflect policy changes impacting on the availability of some

[18] In 2009/10, the 'opiates-narcotics' category was not included in the NSP dataset, instead specific opioids were reported. These have been collapsed into an opiates-narcotic group, to allow for comparisons with previous years.

equipment. Late in 2006, a policy was introduced by the Department of Health and Human Services (Population Health) to limit the availability of winged-infusion sets (butterflies) to those clients injecting large quantities of liquid (i.e. methadone syrup). Over recent years, there has been a local culture of using winged-infusion sets for a broad range of drugs, including methamphetamine, benzodiazepines and pharmaceutical opioids. As a result of this change in availability, according to KE working in NSP outlets who participated in the 2007-2010 studies, many clients were reporting injecting use of methadone to access this equipment, when in fact they were most probably using another substance. Given this, the exact nature and meaning of these changes are unclear.

Figure 37: Percentages of Tasmanian non-pharmacy Needle and Syringe Program clients reporting opioids as their 'drug most often injected', 1996/97-2009/10

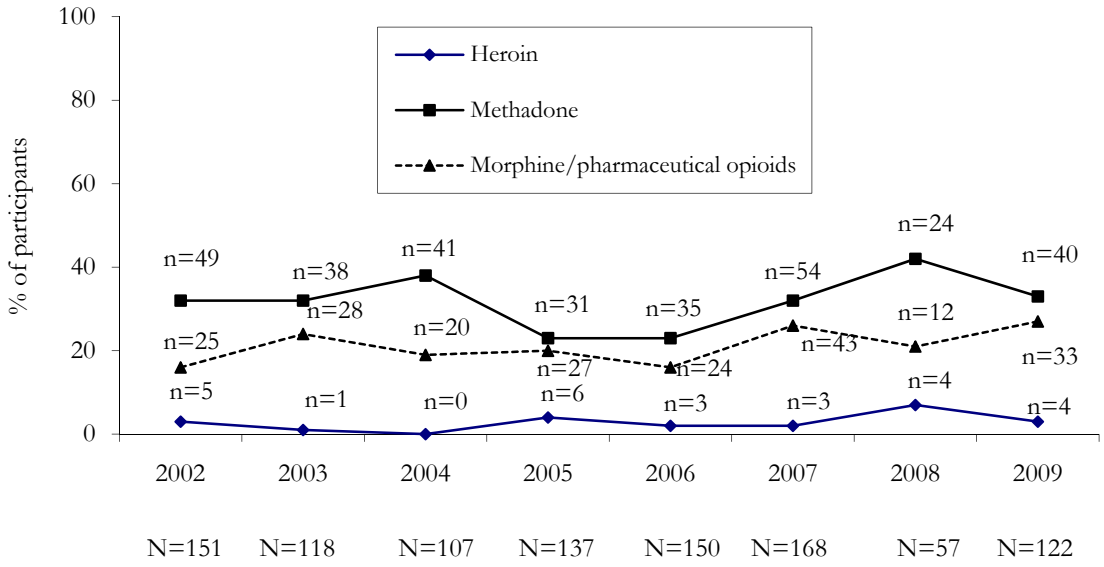


Source: Population Health, Department of Health and Human Services

The Australian Needle and Syringe Program Survey (MacDonald & Zhou, 2002; Iverson et al., 2008: National Centre in HIV Epidemiology and Clinical Research, 2009, 2010) identified opioids as the last drug injected by 50% or more of the Tasmanian participants for the 1996-2004 surveys, with small decreases in 2005 and 2006 (to 47% and 41% respectively) (Figure 38). Over the subsequent two survey periods, this trend was reversed, with 60% of the sample in 2007 and 70% in 2008 reporting an opioid as the last drug injected. In 2009, a non-significant decrease was noted (p=0.4), with 63% of the sample reporting an opioid as the last drug injected

The small overall decline in 2005 and 2006 in the reports of last use of opioids represents a decline in those using methadone, falling from 38% in 2004 to 23% in 2006, whereas morphine use remained relatively stable in this time (19% in 2004 and 16% in 2006). The increase in use of opioids in 2007 and 2008 was related to increases in reports of use of methadone (23% in 2006 to 42% in 2008) and morphine (16% in 2006 and 21% in 2008). In 2009, the small decrease was related to a decline in the number of reports of methadone, which was off-set by a small increase in the proportion of reports of morphine/other pharmaceutical opioids as the drug last injected. It should be noted that the very small sample size in 2008 (n=57) means caution should be used when interpreting these data, however, the consistency with the NSP data above (Figure 37) is noteworthy.

Figure 38: Australian Needle and Syringe Program (NSP) Survey: Prevalence of opioids within 'last drug injected', 2002-2009



Source: National Centre in HIV Epidemiology and Clinical Research, 2009, 2010

8.1.3 Current patterns of opioid use amongst the IDU sample

Morphine

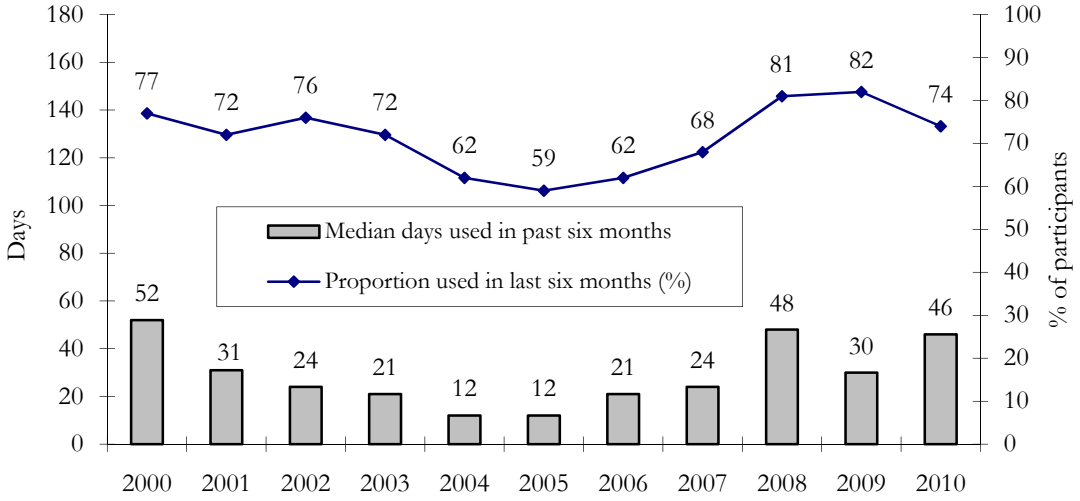
Morphine was reported as the drug of choice of 25% of the IDU sample, and three-quarters of the 2010 sample (74%) reported use of morphine in the six months preceding the interview. Reports of morphine as a drug of choice increased significantly between the 2009 and 2010 studies, from 12% to 25% ($\chi^2(1_{n=100})=4.8$, p=0.03). Of those who had used illicit morphine (n=73), the median frequency of use in the past six months was 43 days (range 1-180), which equates to twice weekly use of the drug on average, and the median dose participants reported normally taking was 70mg (range 20-300mg, n=71). Just 1% (n=1) of the sample reported recently injecting morphine that had been prescribed to them. Morphine was reported as the last drug injected prior to interview by 42% of the IDU sample, and as the drug most injected by 38% of the sample in the past month.

As shown in Figure 39, these figures show a trend toward decreasing levels of use of morphine between 2003 and 2005, as well as a declining frequency of use amongst consumers. This occurred despite a relatively stable proportion of the IDU samples receiving maintenance pharmacotherapies (approximately 50%) and reporting an opioid as their drug of choice (approximately 60%). Since 2005, there has been a trend toward increasing morphine use, with particularly notable increases between the 2007 and 2008 samples in terms of proportions reporting recent morphine use (68% and 81% respectively: $\chi^2(1_{n=100})=3.8$, p=0.05) and in the frequency of this use (24 v. 48 days respectively). In 2009, 82% of the sample reported recent use; however, the frequency of this use decreased to 30 days. This trend of increasing proportions reporting recent use appears to have stabilised in 2010, with 74% of the sample reporting recent use of morphine, however, the median frequency of use has increased since 2009 (30 days in 2009; 46 days in 2010), but is similar to the rate reported in 2008 (48 days).

KE commenting on morphine use generally noted that use of illicit morphine was common amongst the client groups they were familiar with. One KE employed in an NSP noted that morphine had become the most commonly reported drug used by clients attending that service

over the preceding six to twelve months, whereas previously methadone syrup and Physeptone were the most commonly cited. A second KE noted that morphine was the predominant pharmaceutical opioid used amongst the client group they were familiar with, and a third KE noted that whilst morphine was the preferred drug amongst many consumers, oxycodone was a cheaper alternative.

Figure 39: Proportion of Tasmanian IDRS IDU cohorts reporting use of morphine, and the median frequency of this use, in the six months prior to interview, 2000-2010



Source: IDRS IDU interviews

Of the IDU sample, 94% reported they had tried illicit morphine at some stage in their lives, with all but one having injected the drug (93%). Seventy-three percent of participants reported use of illicit morphine in the preceding six months, with all reporting injecting the drug over this period.

The demographics of the group that had used illicit morphine (n=73) in the past six months were similar to that of other IDU (see Section 3.1) in terms of age, sex, cultural background, treatment and employment status, education, accommodation, prison history, sexual preference, sources of income and duration of injection career. However, the group that reported recent use of morphine was significantly more likely to report daily injection in the preceding month (49% vs. 27%: $\chi^2(1_{n=100})=3.913$, p=0.039), report having been younger when first injected (18.9 years vs. 23.0 years: F(1,98) = 7.265, p=0.008), and not surprisingly were more likely to report morphine as their drug of choice (33% vs. 4%: $\chi^2(1_{n=100})=8.946$, p=0.001) and the drug most injected in the preceding month (51% vs. 4%: $\chi^2(1_{n=100})=18.465$, p<0.001).

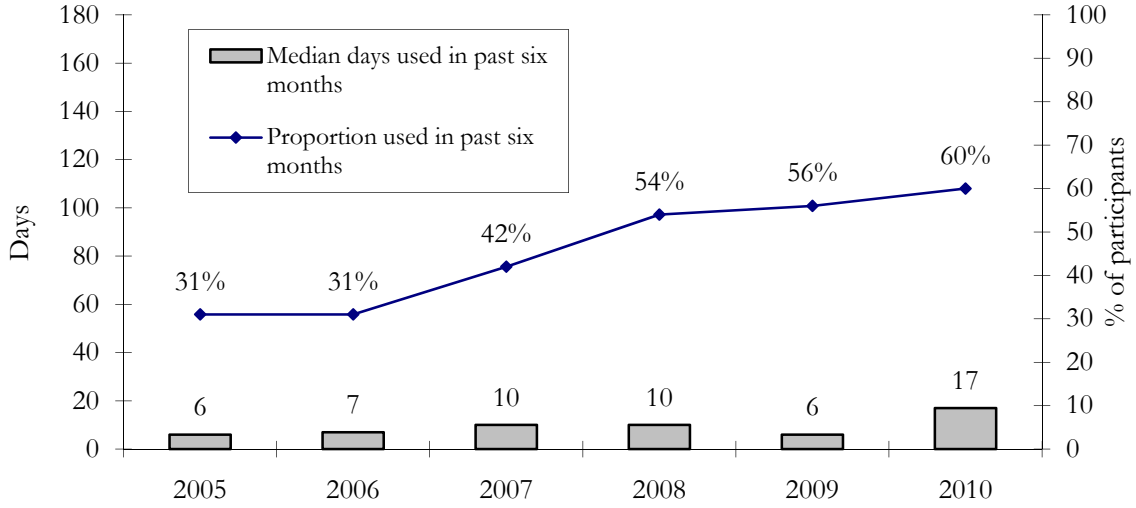
Oxycodone

While three-fifths of the participants interviewed in the current study had used illicit oxycodone in the six months prior to interview (60%), just 5% reported this as their drug of choice, and 12% reported oxycodone as the drug they had most injected in the month preceding the interview (a significant increase from 2009: 3%: $\chi^2(1_{n=100})=4.61$, p=0.03). The median frequency of use of illicit oxycodone was 17 days in the last six months (range 1-180), which equates to use once per ten days on average, and the median dose participants reported normally taking was 80mg (range 10-480mg, n=55). Use of oxycodone among the Tasmanian IDRS IDU cohorts

has increased in the past five years, rising to 60% of participants in 2010 from only anecdotal reports of use in 2002 (Figure 40).

KE in the current study were mixed in their comments regarding use of oxycodone: one KE noted that oxycodone was the predominant illicit pharmaceutical opioid used amongst the client group they were familiar with; a second KE noted that morphine was preferred over oxycodone, and oxycodone was considered a cheaper alternative. One KE in the current study, a general health worker, noted that within a hospital setting many patients are using oxycodone upon admission, and many are discharged on oxycodone also. In 2009, a KE in a tertiary health care setting noted '*Oxycodone is readily prescribed. We're seeing more use and prescribing of it than we did two years ago – we're running out of pain management options'*. Four KE in the current study noted no change in the level of use of oxycodone amongst the client groups they were familiar with.

Figure 40: Proportion of Tasmanian IDRS IDU cohorts reporting use of oxycodone, and the median frequency of this use, in the six months prior to interview, 2005-2010



Source: IDRS IDU interviews

More than four-fifths of IDU consumers sampled (88%) had ever used illicit oxycodone tablets, with all but four of this group having injected oxycodone at some stage. Three-fifths of the current cohort (60%) reported using illicit oxycodone in the preceding six months: of this group, 92% (n=55) had exclusively injected oxycodone; 7% (n=4) had only used it orally; and 2% (n=1) had used oxycodone both orally and intravenously. Use of prescribed oxycodone was reported by 8% (n=8) of the sample, at a median frequency of 175 days in the preceding six months (almost daily use), and injecting use of prescribed oxycodone was reported by 7% (n=7) of the sample (all but one had also used illicit oxycodone), at a median frequency of 160 days.

The demographics of the group that had used illicit oxycodone (n=60) in the past six months were similar to that of other IDU (see Section 3.1) in terms of age, sex, cultural and educational background, employment status, income source, accommodation, prison history, first drug injected and age of first injection. However, those that had recently used oxycodone were significantly more likely to be daily injectors (53% vs. 28%: $\chi^2(1_{n=100})=6.08$, p=0.011), to report a longer duration of injecting career (16.0 years vs. 12.9 years: F(1,98)=4.19, p=0.043), and were more likely to report morphine as their drug of choice (33% vs.13%: $\chi^2(1_{n=100})=5.56$, p=0.015) and the type of drug they most commonly injected in the preceding month (48% v. 23%: $\chi^2(1_{n=100})=6.80$, p=0.008) than those who reported no recent use of oxycodone.

Methadone

Methadone was reported as the drug of choice of 7% of the IDU sample, with 69% of the entire sample reporting some use of methadone (syrup and tablet forms) in the preceding six months. Consistent with previous reports, methadone was injected in the preceding six months by almost all of the consumers interviewed reporting recent use of the drug (94%, n=65 of 69).

In regard to use of methadone syrup, 33% of the sample had been prescribed this drug in the preceding six months, using it at a median frequency of 180 days in this time (range 30-180). Across IDRS IDU cohorts, the proportion of participants reporting recent use of licit methadone syrup has declined, falling from 64% in 2004 to 41% in 2010 ($\chi^2(1_{n=100})=9.7$, p=0.002) (Figure 41[19]). It is noteworthy that the majority of participants who reported use of prescribed methadone – both recent and lifetime use – had injected this drug (91% of those reporting recent use and 79% of those reporting lifetime use). This practice is not consistent with the policy or the mode of dispensing of the drug within the Tasmanian methadone maintenance program. It is important to note that participants in the IDRS are recruited on the basis of their regular injection, and as such, this pattern of use of licit methadone syrup is not representative of any general pattern amongst clients of the program.

The median frequency of use of illicit methadone syrup was greater for participants who had been enrolled in a methadone program in the six months preceding the interview (24 days, range 1-84 days, n=13) and those who had not accessed this form of treatment (3 days, range 1-96 days, n=29: t(49.3)=2.962, p=0.0046). The median dose of illicit methadone syrup that participants reported normally taking was 48mg (range 10-200mg, n=36). It is important to recall that the individuals participating in the IDRS are selected on the basis of their regular injection of drugs, and, as such, are not representative of all those enrolled in maintenance pharmacotherapy programs. There may be a spectrum of reasons for the use of illicit syrup by those themselves enrolled in the program (as discussed in Section 8.1.4), including a desire for intoxication, but it is important to also consider the role of incomplete stabilisation, unmet pain management requirements and of problems in the systems around flexibility of dose dispensing in these situations. For a recent, detailed investigation of these types of issues, see, for example, Fraser et al. (2007).

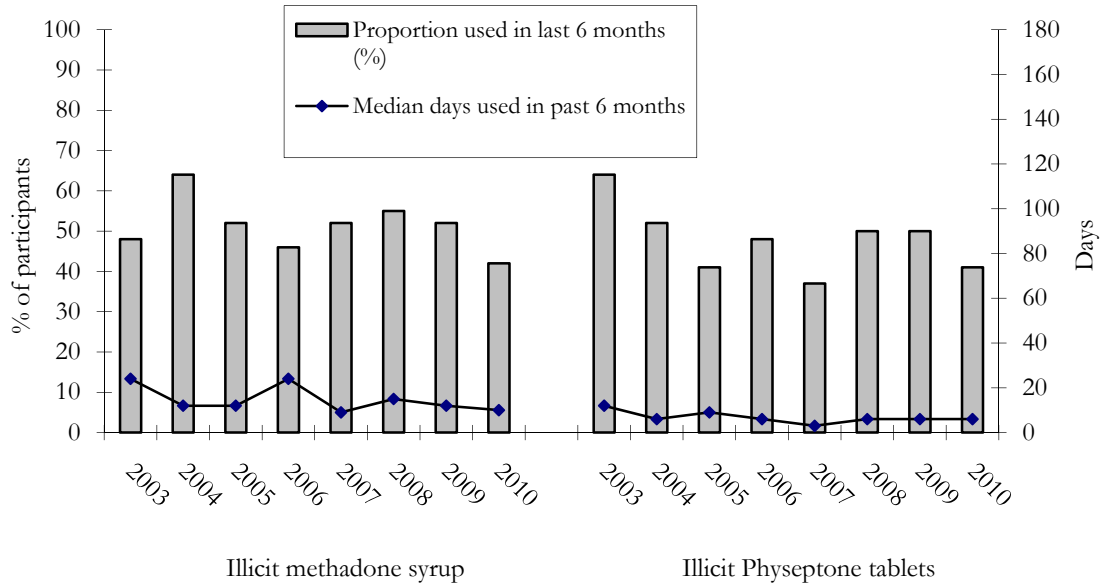
The proportion of the cohort reporting recent use of illicit methadone syrup has remained relatively stable in recent years (48% in 2003; 42% in 2010). Median frequency of use in the current study was 10 days over the preceding six months (which equates to approximate use once per fortnight); similar to reports in preceding years, in which use of illicit methadone syrup had remained relatively infrequent, with median frequency ranging between 9 and 24 days of the preceding six months. Amongst those participants reporting recent use of illicit syrup (n=42), all except one reported having recently injected this drug, and two participants (5%) also reported swallowing it in this time. It is noteworthy that almost one-third of those recently using illicit syrup (31%, n=13) were themselves receiving methadone maintenance treatment.

Lifetime use of illicit Physeptone (methadone tablets) was reported by three-quarters of IDRS participants (72%) and two-fifths of the sample (41%) reported use in the six months preceding the interview. Between 2004 and 2010, the proportion of participants reporting recent use of illicit Physeptone has ranged from 37% to 52%, with no clear trend discernible. Use of illicit Physeptone was generally infrequent, with participants reporting a median frequency of use of six days in the last six months (range 1-72 days), which equates to use approximately once per

[19] Levels and frequencies of use of methadone were not broken down clearly into separate categories of licit and illicit use of tablets and syrup in the Tasmanian IDRS until 2003, so trends over longer time periods are not able to be examined.

month, and the median dose participants reported normally taking was 50mg (range 10-150mg, n=29). Of the participants reporting recent use, all but three reported recent injection of Physeptone, at a median frequency of 6 days (range 1-72 days, n=38). In addition to this, three participants reported oral use of Physeptone. The frequency of use of illicit Physeptone has remained at relatively stable low levels over recent years: ranging between three and 12 days between 2003 and 2010 (Figure 41).

Figure 41: Proportion of Tasmanian IDRS IDU cohorts reporting use of methadone, and the median frequency of this use, in the six months prior to interview, 2003-2010



Source: IDRS IDU interviews

The demographics of those that had used illicit methadone syrup in the past six months (n=42) were similar to that of other IDU (see Section 3.1) in terms of sex, age, cultural background, education, accommodation, prison history, employment status, sources of income, frequency of injection, age of first injection and duration of injecting career. However, those that had recently used methadone reported longer injecting careers (17 years, SD=7.3 vs. 13 years, SD=7.3 respectively: $F(1,98)=5.31$, $p=0.023$), and were less likely to report identifying as heterosexual (71% vs. 91%: $\chi^2(1_{n=100})=6.78$, $p=0.01$) than participants who had not recently used illicit methadone syrup. In addition, participants reporting recent use of illicit methadone syrup were also more likely to report methadone as their drug of choice (14% v. 2%: $\chi^2(1_{n=100})=5.91$, $p=0.021$) and were more likely to report a form of pharmaceutical opioid as the drug most injected in the month prior to the interview (48% v. 29%: $\chi^2(1_{n=100})=3.50$, $p=0.048$) than participants who reported no recent use of illicit methadone.

The demographics of those that had used illicit Physeptone tablets in the past six months (n=41) were similar to that of other IDU (see Section 3.1) in terms of age, cultural background, accommodation, prison history, employment status, sexual preference, sources of income, frequency of injection, age of first injection and duration of injecting career. However, those that had recently used illicit Physeptone were less likely to be female (49% vs. 71%: $\chi^2(1_{n=100})=5.16$, $p=0.02$), more likely to report a pharmaceutical opioid as the drug most injected in the preceding month (89% vs. 71%: $\chi^2(1_{n=100})=3.74$, $p=0.044$), and more likely to report a longer duration of injecting career (18 years vs. 13 years: $F(1,98)=11.67$, $p=0.001$) than participants who reported no recent use of illicit Physeptone.

Buprenorphine

With the advent of Subutex (buprenorphine) as a maintenance treatment option for opioid dependence in the 2000/01 financial year, trends in buprenorphine use among regular IDU groups have been examined since the 2002 IDRS survey. In the current cohort, 30% reported ever using Subutex with 20% ever receiving the drug licitly, and 14% ever using illicit Subutex. Just 5% of the current IDU participants reported recent use of illicit buprenorphine in the six months prior to interview, at a median frequency of six days (range 1-15 days). Injecting use was reported by all of this group (n=5); at a median frequency of two days over the preceding six months (range 1-15 days). None of the five participants reporting recent use of illicit buprenorphine had accessed Subutex or Suboxone treatment in the preceding six months. One KE suggested that diversion of Subutex and Suboxone by pharmacotherapy clients may be occurring to assist friends, who were not in treatment, manage opioid withdrawal symptoms.

Participants were also asked if they had used Suboxone, which is a combination of buprenorphine and naloxone. Suboxone is also an oral substitution therapy (OST) for opioid dependence. When taken orally its effects are virtually the same as Subutex; however, if the tablet is injected, the naloxone is active and likely to precipitate opioid withdrawal symptoms. Twenty participants in the current study reported lifetime use of Suboxone; of this group, nine had ever been prescribed the drug; seven had used it illicitly; and four had used both licit and illicit Suboxone. Just five participants had used illicit Suboxone in the six months preceding the interview at a median frequency of 2 days (range 1-12 days). One participant reported exclusive oral use, and four participants reported exclusive injecting use over this period.

Pharmaceutical opioid use for pain

Twenty-nine percent (n=29) of the sample reported use of a pharmaceutical opioid – prescribed or diverted – for treatment of pain in the preceding six months. This group of participants were asked to categorise their pain conditions: 55% (n=16) reported recent experience of an acute/short-term pain condition; 35% (n=10) reported chronic non-malignant pain; and 10% (n=3) reported recent experience of chronic malignant pain. Almost one-third of this group of participants reported accessing pharmaceutical opioids from their regular medical doctor (31%, n=9), 14% (n=4) from an unknown medical doctor, and 7% (n=2) from a pain specialist. In addition, one-third of participants (35%, n=10) reported accessing pharmaceutical opioids from a dealer that was familiar to them, 10% (n=3) from a friend, and 3% (n=1) accessed these opioids from a street dealer. Participants were asked the brand and form of pharmaceutical opioid they used on the last occasion in the preceding six months: 55% (n=16) reported morphine (MS Contin: n=11; Kapanol: n=3; MS Mono: n=1; generic: n=1), 28% (n=8) reported oxycodone (OxyContin: n=6; Endone: n=2), 10% reported methadone syrup (n=3), and single participants reported Physeptone and tramadol (3% respectively). The reported median last dose taken was 60mg for morphine (range 20-120mg); 60mg for oxycodone (range 5-100mg) and 60mg methadone (range 40-80mg). Participants were also asked about their access of pharmaceutical opioids from a medical doctor. Of this group (n=21), half reported they experienced difficulty obtaining a prescription for a pharmaceutical opioid on the last occasion of request (52%, n=11), and eight of these participants reported they had told their medical doctor about their drug use on this occasion.

Participants who reported recent use of prescribed and/or diverted pharmaceutical opioids were asked about reasons they used pharmaceutical opioids other than for pain management. Of this group (n=74), almost three quarters (72%, n=53) reported use to seek an opioid-effect (i.e. intoxication) and half used pharmaceutical opioids to self-treat dependence (54%, n=40). Small proportions of participants reported use of these preparations to self-treat mental health (5%, n=4), or to supplement a prescribed opioid dose that was considered inadequate (4%, n=3).

Primary users of opioids described by KE were commonly polydrug consumers, who regularly used different types of pharmaceutical opioids, cannabis, benzodiazepines, alcohol and methamphetamine. Several KE commented that polydrug use amongst predominant opioid users was common, particularly when they were unable to access their opioid of choice. Oral use of benzodiazepines was regarded as common among these groups, and less commonly injecting use of both alprazolam and diazepam.

There was a substantial overlap between people reporting recent use of different types of opioids: of those who reported use of morphine in the six months prior to interview, 77% (n=56) also reported use of some form of methadone (either tablets or syrup, licit or illicitly accessed) (Table 28), and two-thirds using diverted oxycodone (69%, n=50). Additionally, of those who had used morphine in the six months prior to interview, 51% (n=37) reported morphine as the drug they most often injected in the past month, followed by methadone (23%, n=17) (Table 29). Because of this substantial level of overlap, trends for these drugs are discussed together here.

Table 28: Use of other drugs by those reporting use of illicit morphine in the past six months (n=73)

Drug	% of morphine users reporting use	Median days used by those who had used the drug (range in parentheses)
Heroin	10	2 (1-6)
Methadone (any)	77	48 (1-180)
Prescribed syrup	*32*	*180 (30-180)*
Illicit syrup	*49*	*6 (1-96)*
Illicit Physeptone	*52*	*6 (1-72)*
Oxycodone (illicit)	69	20 (1-180)
Codeine (over-the-counter)	32	24 (1-180)
Homebake	-	-
Benzodiazepines (illicit)	58	25 (1-180)
Cannabis	82	180 (2-180)
Methamphetamine (any)	68	16 (1-178)
Powder	*52*	*10 (1-150)*
Base/paste	*40*	*12 (1-178)*
Crystal	*18*	*5 (1-30)*
Ecstasy	23	3 (1-32)
Alcohol	63	24 (1-180)

Source: IDRS IDU interviews

Table 29: Drug of choice and drug most often injected among those reporting use of morphine in the past six months (n=73)

	Drug of choice %	Drug most often injected %
Heroin	29	0
Methadone	8	23
Morphine	33	51
Methamphetamine	12	12
Oxycodone	4	11
Pharmaceutical stimulants	3	1
Subutex	0	0
Benzodiazepine	4	0
Methadone and benzodiazepines	0	1

Source: IDRS IDU interviews

KE were familiar with users of opioids from all Hobart suburbs, but they were often from inner-city suburbs, or lower socio-economic areas, likely reflecting the nature of the services that the KE worked in (largely government-run health services). The majority of KE described opioid users as being from a predominantly English-speaking background, ranging in age between 20s and 60s; however, in general, the groups that key experts were referring to were in their 20s to 40s. KE reported that the majority of primary opioid using consumers they were familiar with were male and unemployed, again largely reflecting the nature of the KEs' professional roles.

8.1.4 Reasons for use of illicit pharmaceutical opioids

In order to gain contextual understanding of the use of illicit pharmaceutical opioids amongst this cohort, participants were asked reasons for use of these drugs[20] (Table 30).

Morphine
Almost two-thirds of the 73 participants who commented on reasons for recent use of illicit morphine reported 'self-treatment' as a reason (63%, n=46) (Table 30). Examining this more closely: 59% (n=43) of recent illicit morphine users reported they had used this drug to self-treat opioid dependence; 3% (n=2) reported pain management; and 1% (n=1) reported self-treatment of mental health problems (such as depression and anxiety). Half of recent users of illicit morphine reported 'intoxication' as a reason for use (53%, n=39), and a small minority of participants (10%, n=7) reported using illicit morphine as a substitute for another drug.

Oxycodone
Almost three-fifths of the participants commenting on reasons for recent use of illicit oxycodone reported 'self-treatment' as a reason (58%, n=33) (Table 30). Similar to the morphine group, 56% (n=32) of recent illicit oxycodone users reported they had used this drug to self-treat opioid dependence, and 2% (n=1) had used the drug to self-treat pain. Almost half of the recent users of illicit oxycodone reported 'intoxication' as a reason for use (47%, n=27), and 12% (n=7) had used oxycodone as a substitute for another drug

Methadone syrup
Almost three-fifths of participants commenting on recent use of illicit methadone syrup (n=30) reported 'self-treatment' as a reason (57%, n=17) (Table 30), all of whom noted this was related

[20] Multiple responses were allowed.

to self-treating opioid dependence. Half of the participants reported recent use of illicit methadone syrup for 'intoxication' purposes (50%, n=15), and 13% (n=4) reported they had used illicit methadone as a substitute for other drugs.

Table 30: Reasons for use of pharmaceutical opioids, 2010

	Illicit morphine % n=73	Illicit Oxycodone % n=57	Illicit methadone syrup % n=30
Self Treatment	63	58	57
Self-treat dependence	*59*	*56*	*57*
Alleviate pain	*3*	*2*	*0*
Self-treat depression/anxiety	*1*	*0*	*0*
Intoxication	53	47	50
Substitute for other drugs	10	12	13

Note: Multiple responses allowed

8.1.5 Self-reported symptoms of opioid dependence

IDRS participants that had recently used opioids (n=88) were asked how they felt about their use of this drug in the last 12 months using the Severity of Dependence Scale (SDS). This consists of 5 multiple choice questions rated on a scale of 0-3, resulting in a range of possible scores from 0-15, where higher scores suggest greater psychological dependence. Participants were asked if they thought that their use of opioids was out of control, if the prospect of missing a dose had made them feel anxious, if they had worried about their use of the drug, if they had wished they could have stopped, and if they would find it difficult to stop or go without opioids.

The median SDS score for those who had used opioids (e.g. heroin, morphine, oxycodone, methadone) in the preceding six months was 9 (range 0-15, n=88). Just five participants (6%) of those who completed the opioid SDS received a score of zero, indicating no symptoms of dependence.

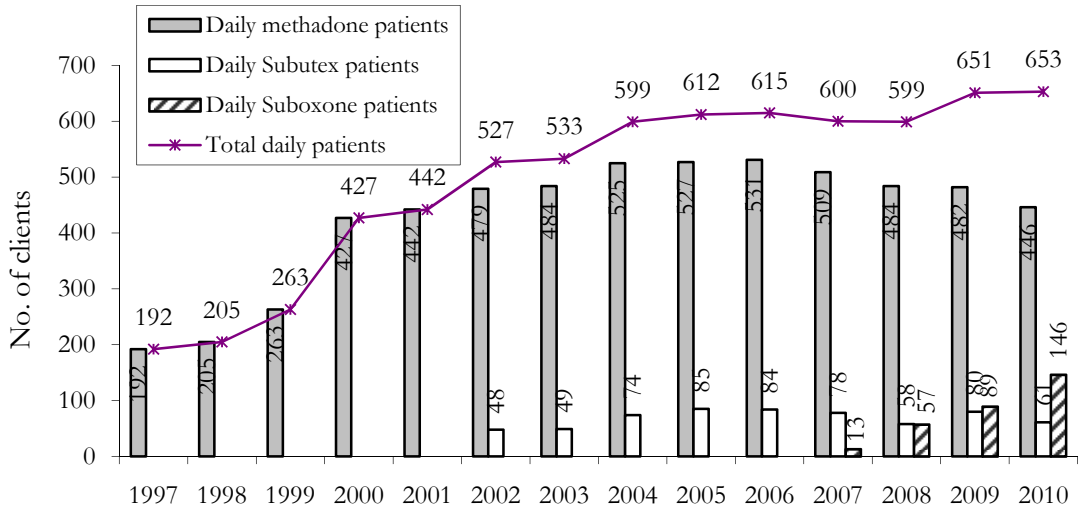
At this point, a definitive cut-off for pharmaceutical opioids has not been widely agreed upon; however there is some suggestion that scores of 4-5 and above are indicative of problematic or dependent use (Iraurgi, et al., 2010; Topp & Mattick, 1997). Using the conservative cut-off score of five, 82% (n=72) of participants completing the SDS scored five or above, indicating a high level of opioid dependence and/or problematic use amongst the sample. It is important to note, however, that of this group who scored five or above, two-fifths (42%, n=30) reported engagement in a form of OST (including methadone, Subutex and Suboxone maintenance treatments) at the time of interview.

8.1.6 Prescription rates of opioid pharmaceuticals in Tasmania

There has been little change in the number of clients on Tasmania's pharmacotherapy program in recent years, in contrast to the steady growth in the early years of the program (Figure 42). Currently, there are 446 daily recipients of methadone, slightly lower than the figures reported between 2004 and 2007, which ranged from 509 to 531. Overall, the number of new admissions

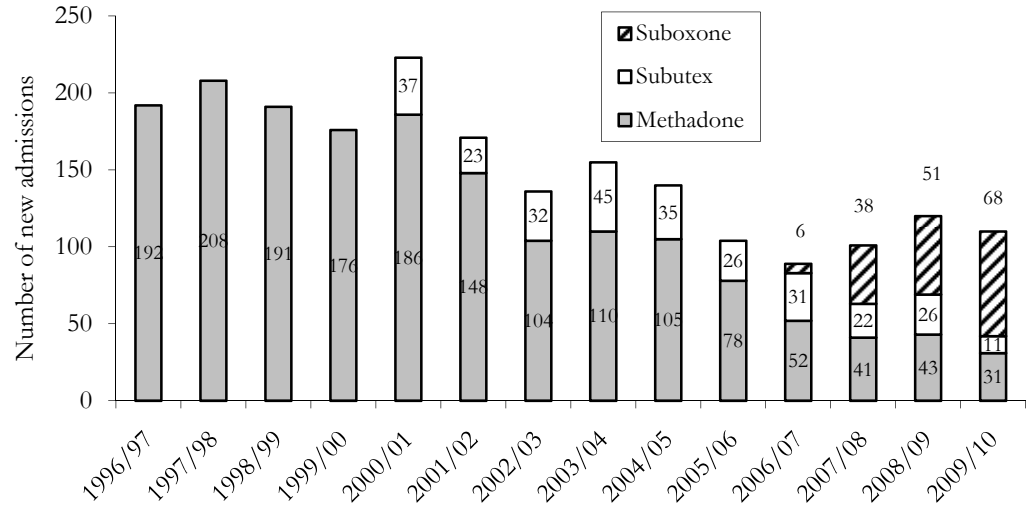
to pharmacotherapy treatments remained relatively stable since 2005. There were, however, notable differences in the number of new admissions to different forms of treatment. New admissions to the methadone program declined from 186 in 2000/01 to 31 in 2009/10, whilst the uptake of Subutex and Suboxone treatments increased, accounting for the decline in numbers of methadone maintenance clients (Figure 43). There are currently 61 daily recipients of Subutex (buprenorphine) treatment – which was made available as a treatment option for the first time in 2000/01. The number of new admissions remained relatively unchanged between 2000/01 and 2008/09, ranging between 22 and 45 per financial year; however in 2009/10, this has decreased to 11 new admissions. This decrease has been offset by an uptake in Suboxone treatment (buprenorphine-naloxone), with the number of new patients increasing from six in 2006/07 to 68 in 2009/10. The number of clients receiving pharmacotherapy treatment remained largely unchanged between 2004 and 2008, ranging between 599 and 615; however, in 2009 and 2010 this figure has increased slightly to 651 and 653 clients respectively.

Figure 42: Clients of the Tasmanian pharmacotherapy programs, 1997-2010



Source: Pharmaceutical Services, Department of Health and Human Services, Tasmania

Figure 43: New admissions to pharmacotherapy treatments in Tasmania, 1996/97-2009/10

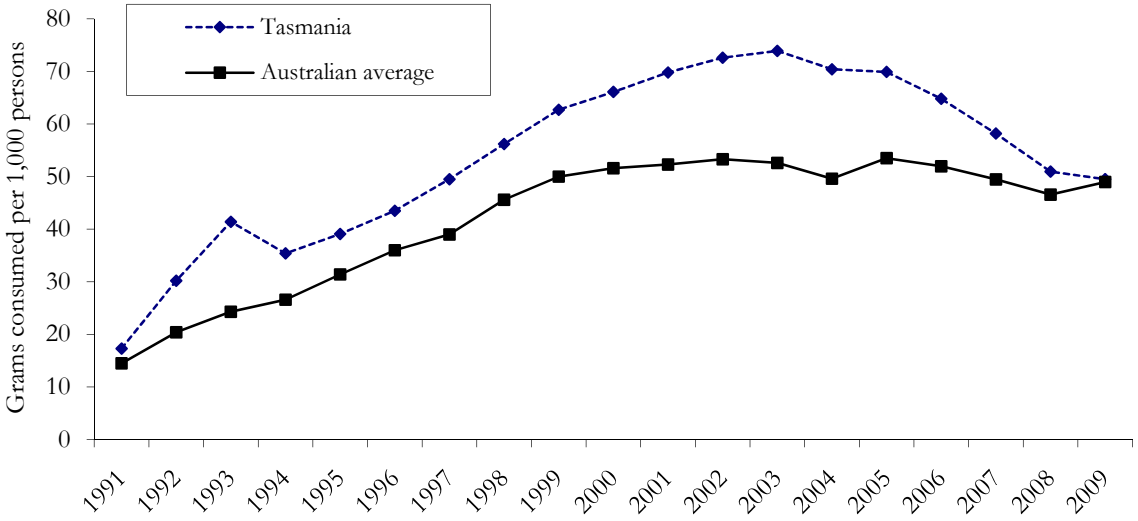


Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services, Tasmania

Tasmanian prescription rates for Schedule 8 pharmaceuticals[21] since 1991 were also provided by Pharmaceutical Services (Tasmanian Department of Health and Human Services). Between 1991 and 2007, the rate of Tasmanian consumption of morphine was consistently 110% or more of the national average. In 2008 and 2009, this rate decreased, with consumption of morphine in Tasmania in 2009 matching the national rate (101%: Figure 44).

Despite consumption of morphine per 1,000 persons in Tasmania decreasing from 73.9grams in 2003 to 49.5grams in 2009, the number of applications received by Tasmanian Pharmaceutical Services for approval to prescribe narcotics[22] steadily increased, almost exponentially, in recent years, from 351 in 1989/90 to 2,644 applications[23] in 2005/06, with a particularly marked increase in applications in 2006/07 to 4,317, and again in 2009/10, with 6,348 applications (Figure 45).

Figure 44: Consumption of morphine per 1,000 persons, 1991-2009



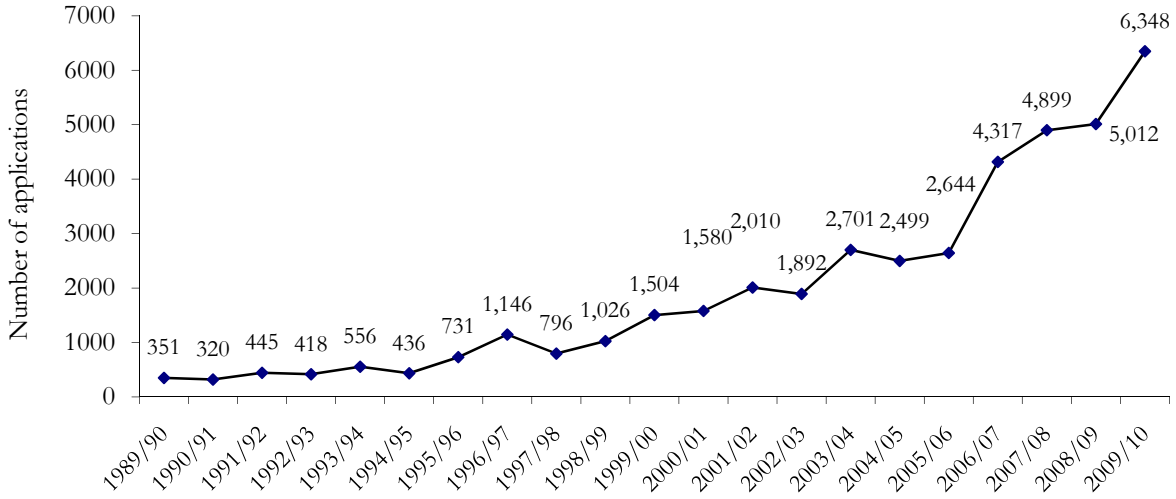
Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services

[21] Pharmaceuticals classed under Schedule 8 (termed Section 59 from 2009) are variously classed as narcotic substances or drugs of addiction/dependence in differing jurisdictions.

[22] The *Alcohol and Drug Dependency Act 1968* requires medical practitioners to seek the approval of the Secretary of Pharmaceutical Services when narcotics are prescribed for a patient for more than two months, or for a person who is drug dependent.

[23] It is worth noting that the level of compliance in regard to submission of applications is significantly dependent on reminders being sent to doctors, and as such these figures are unlikely to reflect the absolute number of cases requiring such a submission.

Figure 45: S22/Section 59 applications received by Pharmaceutical Services, Tasmania: 1989/90-2009/10



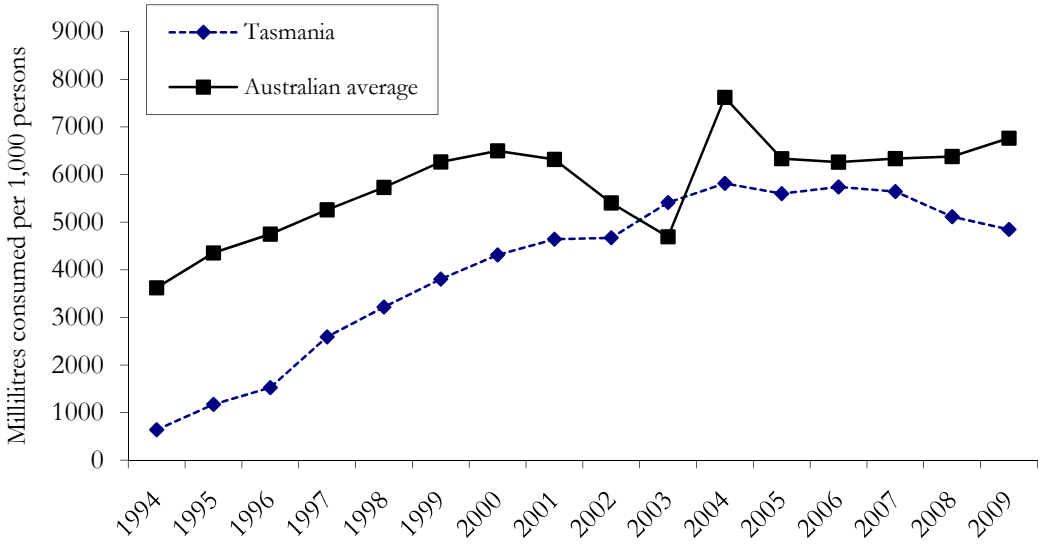
Source: Pharmaceutical Services, Department of Health and Human Services.
Note: Applications are for approval to prescribe narcotics to a patient for more than two months or for a person who is drug dependent

Despite the use of methadone syrup amongst a large proportion of the IDU sample in Tasmanian IDRS studies, local population rates of consumption of methadone syrup were continuously below that of the national average until 2002 (Figure 46). This partially reflected a sharp decline in consumption of methadone syrup nationally, beginning in 2001 with the wide introduction of Subutex (buprenorphine) maintenance treatment. Following some fluctuations in the extent of use of methadone syrup nationally, consumption has stabilised, with Tasmanian population rates of consumption at a level slightly below that seen nationally in 2009 (88% of the national average) (Figure 46).

Tasmanian consumption of methadone 10mg tablets, in contrast to the level of use of methadone syrup, has been consistently above 200% that of the national average since 1995 (Figure 47) with a rapid increase in use to 2000 (where local prescription rates were 260% of the national average), and again from 2003 to 2006 (from 253% of the national average to 278%) (Figure 47). In 2009, the level of Tasmanian consumption of Physeptone remained relatively stable at 243% of the national average.

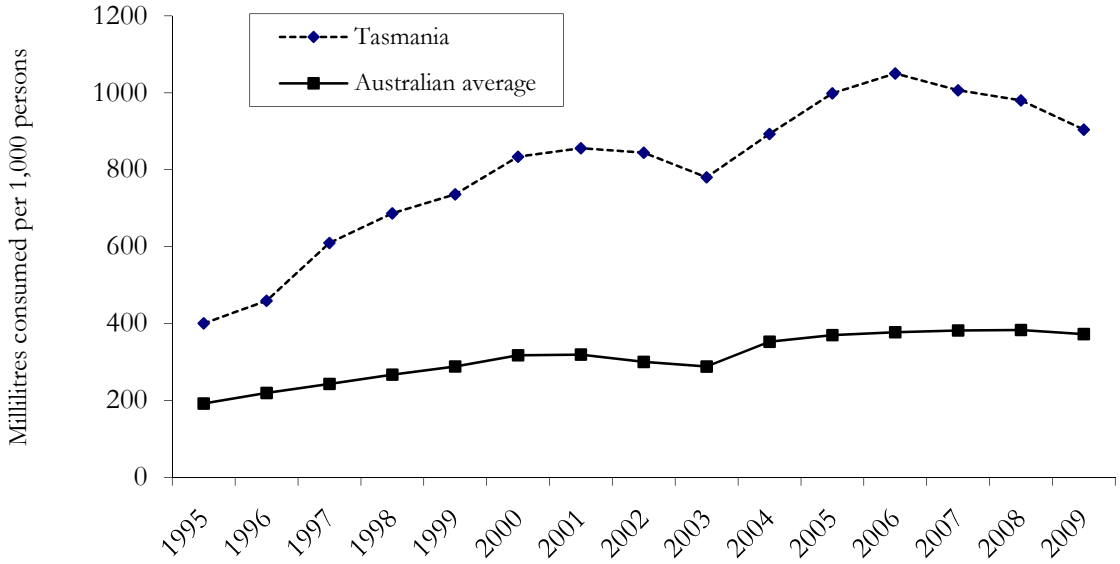
When trends across both preparations of methadone are combined, overall consumption of methadone in Tasmania remained below that of the Australian average until 2002, and in 2003 grew to 130% of the national average, due to a sharp decrease in the national rate of consumption (Figure 48). Between 2004 and 2007, the national and local rates of consumption stabilised, with Tasmanian rates approximately 110% of the national average (Figure 48). In 2008, however, the rate of use in Tasmania was comparable with the national average. In 2009, following a small increase in the national rate of consumption and a decrease in the local rate, the Tasmanian rate was below the national rate (88%).

Figure 46: Consumption of methadone syrup per 1,000 persons, 1994-2009



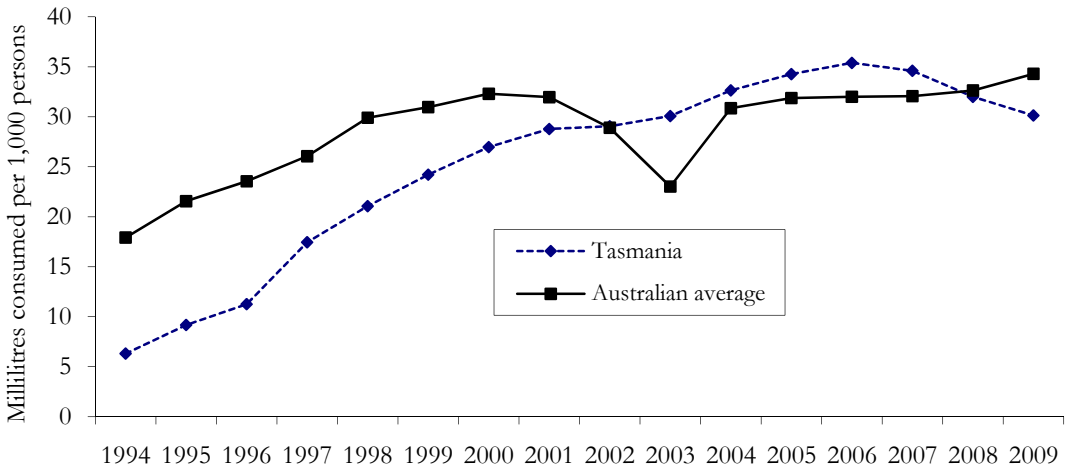
Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services

Figure 47: Consumption of methadone 10mg tablets per 1,000 persons, 1995-2009



Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services

Figure 48: Consumption of methadone per 1,000 persons, 1994-2009



Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services

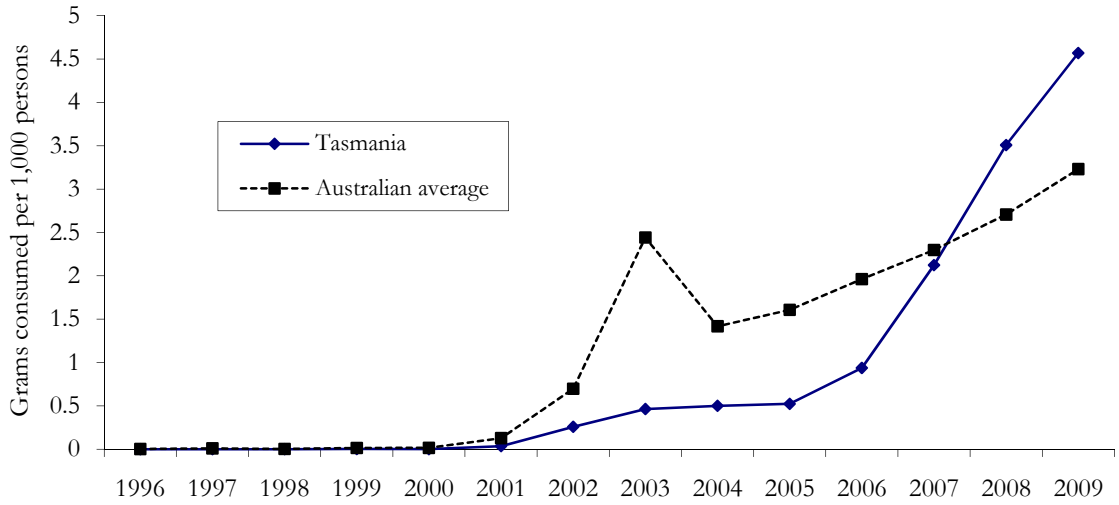
Tasmanian prescription rates for buprenorphine are detailed below in Figure 49. Following the trends in buprenorphine maintenance admissions, the rate of prescription of all forms of the drug[24] in the state increased tenfold between 2001 and 2003 from 0.04g to 0.46g per 1,000 persons, and again between 2005 and 2009, increasing nine-fold from 0.5g to 4.6g per 1,000 persons. National prescription rates for all forms of buprenorphine have also increased remarkably rapidly since 2001, largely due to the enthusiastic uptake of buprenorphine treatment in Victoria. Despite this, the Tasmanian population rate of prescriptions is greater than the national rate (142%).

There are two main forms of buprenorphine used in Australia in the context of opioid substitution therapy (OST): Subutex (buprenorphine) and Suboxone, which is a combination of buprenorphine and naloxone. Subutex was introduced into treatment settings in Australia from 2001, and Suboxone was introduced in 2005. Consumption of these forms is detailed in Figure 50. In Tasmania, consumption of Subutex has remained relatively unchanged between 2006 and 2009, ranging between 0.04g and 0.06g 2mg and 8mg tablets per 1,000 persons. Consumption of Suboxone, however, increased from 0.0001g 2mg and 8mg tablets per 1,000 persons respectively to 0.07g and 0.11g tablets respectively. Similar patterns were observed for national rates of consumption: whilst Subutex consumption decreased, consumption of Suboxone increased from 0.05g 2mg tablets and 0.04g 8mg tablets per 1,000 persons, to 0.14g and 0.13g tablets respectively.

Reports from KE regarding illicit use of buprenorphine have been rare in Tasmania. In the current study, one KE was aware of anecdotal reports of diversion of both Subutex and Suboxone, and that this may have been done to assist others relieve opiate withdrawal symptoms. In the 2009 study, one KE was aware of anecdotal reports of people finely cutting up buprenorphine patches, making a suspension from this and injecting it. Given the high use of illicit pharmaceutical opioids among the regular IDU population locally, and the notable rates of diversion of buprenorphine in other jurisdictions (Stafford & Burns, 2011), trends in use of buprenorphine merit continued attention as the drug continues to be more widely adopted as a treatment option locally in the coming years.

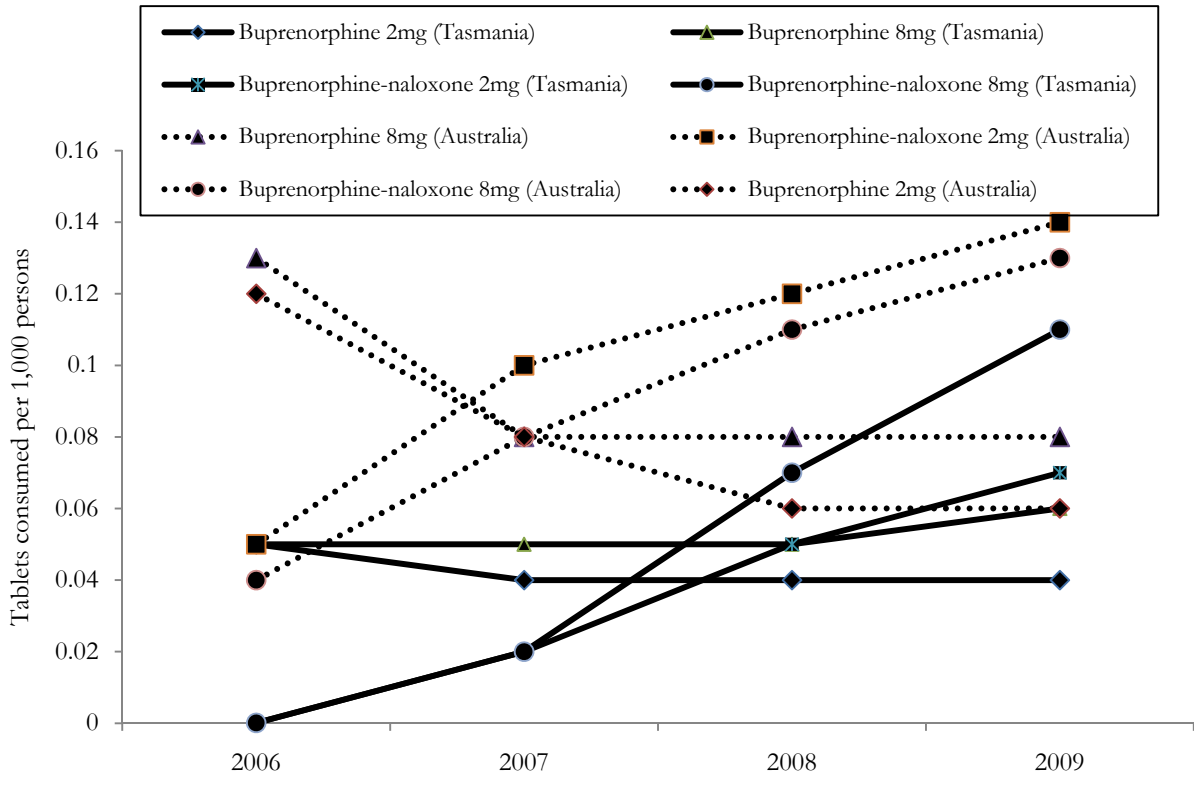
[24] This data includes both buprenorphine (Subutex, Norspan) and buprenorphine-naloxone (Suboxone) preparations.

Figure 49: Consumption of all forms of buprenorphine per 1,000 persons, 1996-2009



Source: National Drug System (formerly DRUMS), Pharmaceutical Services, Department of Health and Human Services

Figure 50: Consumption of buprenorphine and buprenorphine-naloxone per 1,000 persons, 2006-2009



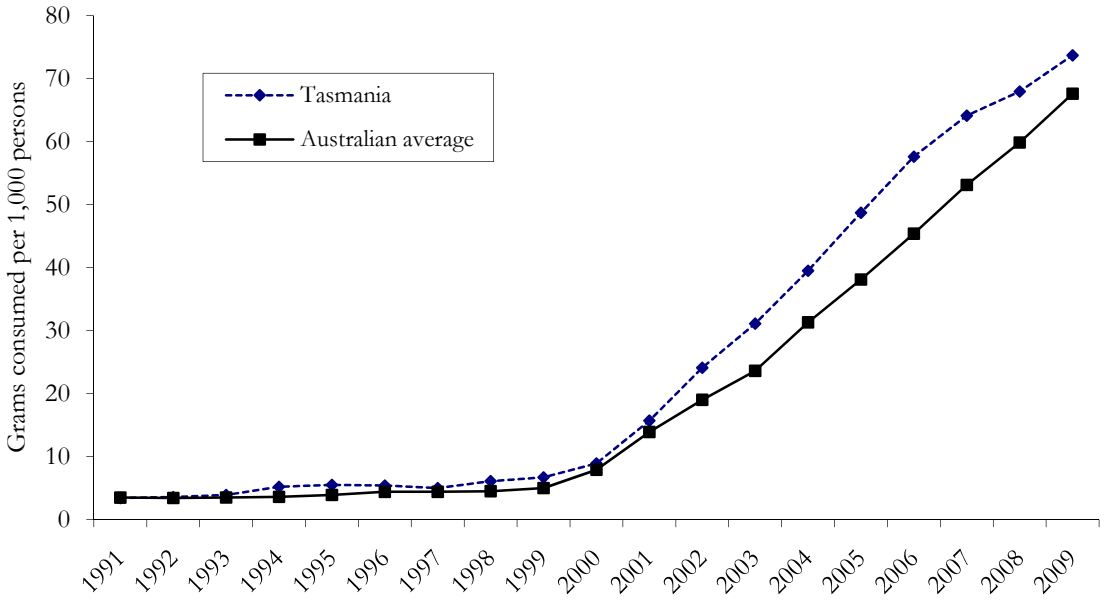
Source: National Drug System (formerly DRUMS), Pharmaceutical Services, Department of Health and Human Services

Finally, prescriptions of oxycodone are detailed in Figure 51. Nationally, there has been a rapid uptake in the use of this drug since 1999, with uptake in Tasmania being particularly enthusiastic: prescription rates have increased eight-fold in the ten years between 2000 and 2009. In 2009, local consumption of oxycodone was 109% of the national average.

A proportion of these differences in consumption rates can be accounted for by idiosyncrasies in prescription practices and the aging nature of the Tasmanian population. It is important to note that higher-than-average levels of prescription of opioid products certainly do not necessarily imply inappropriate patterns of clinical practice – indeed, there are many indications that, internationally, chronic pain (for which opioids are appropriately prescribed) is often under-recognised and unrelieved (see Brennan, Carr & Cousins, 2007 for a review on this issue).

Similarly, higher-than-average levels of opioid prescription do not indicate that IDU are responsible for these elevated rates. Indeed, a near-negligible proportion of IDU reported accessing opioids via licit means[25] in the six months prior to interview: with the exception of methadone as part of a maintenance program, only 13 of the current IDU cohort reported accessing morphine, oxycodone or methadone tablets via licit means in this time (eight oxycodone, three Physeptone, and two morphine). More detailed examinations of the issue of 'doctor shopping' and local IDUs' experience with access to analgesia from medical practitioners (Bruno, 2007) concur with the fact that IDU are generally not accessing opioids from medical practitioners directly via 'doctor shopping'.

Figure 51: Consumption of oxycodone per 1,000 persons, 1991-2009



Source: National Drug System and Pharmaceutical Services, Department of Health and Human Services

[25] During interviewing, 'licit means' was defined as having the drug prescribed directly to the individual. By this definition, doctor-shopping would be considered as 'licit means', which suggests that there is a stable illicit source of these drugs to IDU.

8.2 Price

8.2.1 Morphine

Participants reported the modal market price of morphine as around $1 per mg; in keeping with reports from 2008 (modal price $1/mg) (this data was not collected in 2009). One KE in the current study reported that the price for morphine was consistently $1 per mg.

In line with these reports, the modal price that users actually paid for their most recent purchase of morphine was $1 per mg. Modal prices for MS Contin were $30 for a 30mg tablet (range $20-30, n=40), $60 per 60mg tablet (range $40-80, n=64), and $100 for 100mg tablets (range $60-100, n=48) (Table 31). Purchase prices for Kapanol were similar: 50mg capsules cost a modal price of $50 (range $25-50, n=44), and 100mg Kapanol capsules cost a modal price of $100 (range $50-100, n=30). These modal purchase prices are consistent with prices reported in the 2009 IDRS study, however, they are higher than reported in previous local IDRS surveys: 60mg MS Contin tablets cost a modal purchase price of $50 between 2002 and 2008, increasing to $60 in 2009; similarly, the modal purchase price for 100mg MS Contin tablets increased from $70 during 2003 to 2005 to $80 between 2006 to 2008, and in 2009 the price again increased to $100. The modal purchase price for Kapanol also increased: 50mg capsules cost a modal price of $35 in 2005; this increased to $50 in 2008, and has remained stable since then. Similarly, the modal price for 100mg capsules increased from $70 between 2003 and 2007 to $100 in 2009 and 2010.

The majority of consumers reporting on morphine prices (69%, n=50 of those able to comment) believed that these had remained stable in the preceding six months. However, almost one-third of consumers (29%, n=21 of those able to comment) noted an increase in price during this period. Compared with previous years, purchase prices indicate more of an increase in price than was indicated by participant perceptions over the preceding six months.

8.2.2 Oxycodone

Prices for purchases of illicit oxycodone were first examined in the 2005 IDRS study[26]. In the current study, participants reported the modal market price of oxycodone as around $1 per mg, which was consistent with the prices reported for purchases in the preceding six months.

Participants reported a modal purchase price of $1 per mg: modal price for a 20mg OxyContin tablet was $20 (range $10-25, n=27) (Table 31); $40 per 40mg tablet (range $10-50, n=43), and $80 per 80mg tablet (range $40-80, n=35). When examining reported prices for OxyContin over time, it is clear that modal price estimates have increased, particularly regarding 80mg tablets, which increased from $50 in 2006 to $80 in 2008. An increase in the modal price for 40mg tablets has also been observed: increasing from $25 in 2006 to $40 in 2007 (Table 31).

Participants were asked to comment on perceived changes in price over the preceding six months. Amongst those participants who were able to comment on price trends for oxycodone, four-fifths reported the price to have remained stable (84%, n=46), and a small minority commented that the price for oxycodone had increased (13%, n=7). Comparison of the modal prices for most recent purchases of the drug amongst the 2009 and 2010 survey respondents provides support for reports of stable to increasing prices (Table 31).

[26] In IDRS studies prior to 2005, oxycodone price data have been collected where offered but not in a systematic fashion.

8.2.3 Methadone

Consistent with reports in previous local IDRS studies, consumers reported the modal market price of methadone as $1 per mg. Prices that participants reported paying for their last purchase of the drug were variable, however, the modal purchase prices provided by participants were the same as that for the market price. Since the nature of access to methadone syrup does not easily allow for standard purchase amounts to be made, IDU were asked to report the amounts and costs of their most recent purchase of methadone. Purchases, irrespective of quantity, cost a modal amount of $1 per mg (Table 31). The majority of participants who commented on price trends for methadone syrup in the preceding six months indicated that the purchase price had remained stable (89%, n=25). A small minority of this group noted a trend toward an increasing price (11%, n=3). When purchase prices for illicit syrup are compared over time, a stable trend can be clearly seen, which shows a purchase price for $1.00 per mg, except for 2005, when the cohort reported $0.80 per mg of syrup (Table 31).

The modal purchase price for illicit 10mg Physeptone tablets of methadone was $10 (median $13.50, range $10-20, n=28). In 2009, the median price was slightly higher than reported in 2010 and previous IDRS reports: between 2003 and 2007, the median purchase price was $10 and in 2008 this increased to $12 (modal price $10). Participants were divided regarding price trends for Physeptone in the preceding six months: 52% (n=15) noted the price had remained stable, and 45% (n=13) noted it had increased over this period.

Table 31: Modal last purchase price for most recent purchase of pharmaceutical opioids, 2002-2010

Preparation	2002 IDRS		2003 IDRS		2004 IDRS		2005 IDRS	
	Price	***n***	**Price**	***n***	**Price**	***n***	**Price**	***n***
MS Contin								
10 mg tablet	$7.50 ($5-10)	*2*	$5($5-15)	*3*	$4 ($3-15)	*3*	$10 ($10)	*2*
30 mg tablet	$20 ($10-30)	*45*	$20 ($20-30)	*18*	$20 ($1-25)	*26*	$25 ($15-35)	*21*
60 mg tablet	$50 ($18-60)	*86*	$50 ($15-60)	*51*	$50 ($4-58)	*50*	$50 ($25-60)	*42*
100 mg tablet	$80 ($20-100)	*73*	$70($12-100)	*44*	$70 ($5-80)	*44*	$70 ($50-90)	*47*
Kapanol								
20 mg capsule	$20 ($10-20)	*14*	$15 ($10-30)	*9*	$13 ($5-20)	*9*	$13* ($5-20)	*6*
50 mg capsule	$40 ($15-50)	*43*	$35 ($12-50)	*35*	$40 ($15-50)	*35*	$35 ($15-50)	*29*
100 mg capsule	$80 ($50-100)	*36*	$70($17-100)	*22*	$70 ($30-80)	*20*	$70 ($30-90)	*25*
Anamorph								
30 mg tablet	$25 ($10-30)	*44*	$20*($10-30)	*9*	$30 ($15-30)	*16*	$25*($22-45)	*3*
OxyContin								
10 mg tablet	-	-	-	-	-	-	$7.50*($5-10)	*2*
20 mg tablet	-	-	-	-	-	-	$15($10-20)	*5*
40 mg tablet	$15	*1*	$20 ($20)	*4*	$40	*1*	$20($15-30)	*11*
80 mg tablet	-	-	-	-	-	-	$40*($30-80)	*9*
Methadone syrup (price per mg)	$1.0($0.3-2.0)	*43*	$1.0($0.3-1.0)	*43*	$1.0 ($0.4-1.0)	*72*	$0.8 ($0.4-1.0)	*38*
Physeptone								
5 mg tablet	$5	*1*	-	-	$10	*2*	$5	*1*
10 mg tablet	$10 ($5-15)	*53*	$10 ($3-20)	*62*	$10 ($5-15)	*43*	$10 ($5-15)	*33*

Source: IDRS IDU interviews

*Median substituted for mode, as no single mode existed

Note: Reported price range in parentheses

Table 31: Modal last purchase price for most recent purchase of pharmaceutical opioids, 2002-2010 (continued)

Preparation	2006 IDRS		2007 IDRS		2008 IDRS		2009 IDRS		2010 IDRS	
	Price	*n*	Price	*n*	Price	*n*	Price	*n*	Price	*n*
MS Contin										
10 mg tablet	$5 ($5-10)	*3*	$5	*1*	$5	*2*	$10($10-20)	*4*	$10	*14*
30 mg tablet	$25 ($15-30)	*25*	$20($15-50)	*20*	$25 ($15-35)	*28*	$30 ($15-30)	*30*	$30($20-30)	*40*
60 mg tablet	$50 ($20-60)	*14*	$50($30-80)	*53*	$50 ($20-70)	*69*	$60 ($40-60)	*69*	$60($40-80)	*64*
100 mg tablet	$80 ($50-120)	*16*	$80($30-90)	*40*	$80 ($60-100)	*40*	$100 ($60-100)	*46*	$100($60-100)	*48*
Kapanol										
20 mg capsule	$10 ($5-20)	*11*	$10($8-20)	*7*	$20 ($15-30)	*7*	$20($10-25)	*9*	$20($10-20)	*16*
50 mg capsule	$35 ($10-80)	*31*	$40($20-50)	*24*	$50 ($30-55)	*49*	$50($30-80)	*46*	$50($25-50)	*44*
100 mg capsule	$70 ($20-120)	*34*	$70($50-95)	*22*	$80 ($50-100)	*23*	$100($60-100)	*23*	$100($50-100)	*30*
Anamorph										
30 mg tablet	-	-	-	-	$30	*1*	$30($20-30)	*5*	$30	*10*
OxyContin										
10 mg tablet	$5	*1*	$10($10-20)	*3*	$10 ($5-10)	*4*	$10($7-10)	*3*	$10($5-20)	*17*
20 mg tablet	$15*($10-20)	*5*	$20($20)	*4*	$20 ($10-20)	*20*	$20($5-20)	*12*	$20($10-25)	*27*
40 mg tablet	$25 ($5-40)	*14*	$40*($15-50)	*9*	$40 ($20-50)	*26*	$40($15-40)	*28*	$40($10-50)	*43*
80 mg tablet	$50 ($40-50)	*7*	$40($30-100)	*11*	$80 ($50-80)	*13*	$80($40-80)	*26*	$80($40-80)	*35*
Methadone syrup (price per mg)	$1.0($0.3-2.0)	*43*	$1.0($0.5-2.0)	*52*	$1.0 ($0.5-2.0)	*53*	$1.0($0.4-1.0)	*46*	$1.0($0.5-1.0)	*30*
Physeptone										
5 mg tablet	$4.25*($3.5-5.0)	*2*	$5	*1*	$5	*1*	-	*0*	$5($5-12.5)	*9*
10 mg tablet	$10 ($7-150)	*36*	$15($5-20)	*17*	$10 ($5-20)	*35*	$12.5*($5-25)	*44*	$10($10-20)	*28*

Source: IDRS IDU interviews

*Median substituted for mode, as no single mode existed

Note: Reported price range in parentheses

8.3 Form

8.3.1 Morphine

Consumer respondents were asked to nominate the preparations of morphine that they had used in the preceding six months. Of the 73 participants reporting use of non-prescribed morphine, use of MS Contin was the most common (95%, n=69), followed by Kapanol (79%, n=58). Smaller proportions reported recent use of MS Mono (30%, n=22), Anamorph (19%, n=14), liquid morphine (e.g. Ordine[27]: 18%, n=13) and hydromorphone (3%, n=2).

When asked to nominate which form they had used most often in the preceding six months, two-thirds reported illicit MS Contin (67%, n=49), and 26% reported illicit Kapanol (n=19), with small minorities nominating illicit MS Mono (4%, n=3), illicit Anamorph and illicit Ordine (1%, n=1 respectively).

All but one of the participants reporting use of morphine in the last six months (licit and illicit, n=74) had accessed morphine from sources other than a medical practitioner. It is clear from these figures that the majority of morphine used by participants in the current study did not come directly from medical practitioners.

8.3.2 Oxycodone

Three-fifths of the current IDU sample (60%, n=60) reported use of some preparation of non-prescribed oxycodone in the six months prior to interview. OxyContin was the most commonly reported form of the drug, with all but five participants recently using the drug (92%, n=55), and one-third of participants reporting recent use of Endone (35%, n=21). A small proportion of participants reported recent use of OxyNorm (13%, n=8). When asked which form they had used most often in the preceding six months, 95% (n=57) reported illicit OxyContin, 2% reported illicit OxyNorm (n=2), and 1% (n=1) reported illicit Endone.

All but one participant reporting recent use of oxycodone (licit and illicit, n=61), had accessed morphine from sources other than a medical practitioner. Eight participants also reported use of oxycodone that was prescribed to them. As noted for morphine, the majority of oxycodone used by participants in the current study did not come directly from medical practitioners.

8.3.3 Methadone

Sixty-one percent of the IDU sample had reported use of methadone syrup in the past six months, the majority of whom had been on a methadone maintenance program within this time (53%, n=33). Amongst those participants who reported having accessed methadone maintenance treatment in the preceding six months (n=33), two-fifths of this group had also used illicit methadone syrup (39%, n=13).

All participants reporting use of Physeptone in the last six months (licit and illicit, n=41), had accessed it from a source other than a medical practitioner. Three participants also reported use of Physeptone that was prescribed to them. Similar to the trend for morphine and oxycodone, the majority of Physeptone used by participants did not come directly from medical practitioners.

When asked to describe the form of methadone they had predominantly used in the preceding six months (n=68), almost half reported licit methadone syrup (47%, n=32), one-third reported

[27] Ordine is morphine hydrochloride in aqueous (water) solution, and contains sugar as a preservative.

illicit syrup (31%, n=21), 18% (n=12) reported illicit Physeptone tablets and 4% (n=3) reported licit tablets.

8.3.4 Other pharmaceutical opioids and related substances

Due to recent developments of new opioid-based, or strong analgesic pharmaceuticals, and the known interest/preference among the Tasmanian illicit drug market for pharmaceutical drugs, IDU were also asked about use of other pharmaceutical opioids and related substances in the preceding six months. Twenty-one percent of participants reported using illicit/diverted Tramadol in the six months prior to interview and 1% (n=1) reported use of illicit pethidine. No participants reported recent use of illicit Fentanyl, however, one KE noted small numbers or people, aged in their 20s, using Fentanyl patches that they had accessed from *'cancer patients'*.

Questions regarding use of over-the-counter codeine products (OTC-codeine), such as Nurofen Plus and Panadeine, were included in the 2010 questionnaire. Harms related to misuse of these drugs have been increasingly reported in the past few years: perforated gastric ulcers have been reported in association with misuse of ibuprofen, and liver damage has been associated with misuse of paracetamol (Nielsen & Cameron, 2009). One-third of the sample in 2010 reported recent use of OTC-codeine, at a median frequency of 24 days (range 1-180 days, n=35) which equates to use approximately once per week. Just ten participants reported use on a more frequent basis (72 days to 180 days, i.e. 3-7 days per week over the preceding six months).

Participants were asked if they had experienced bodily pain in the preceding four weeks. One-third of participants reported experiencing very mild or mild pain (32%, n=27), 19% (n=16) reported severe or very severe pain, 18% (n=15) moderate pain, and one-third reported no experience of pain over this period (32%, n=27). Of those participants experiencing pain (n=58), almost half had used OTC-codeine in the preceding four weeks to treat this (45%, n=26). The quantities of use of these preparations varied widely. On the last occasion of use, the median number of tablets/capsules of Nurofen Plus used was 2 (range 2-12, n=13), the median number of tablet/capsules of paracetamol and codeine preparations was four (range 2-75, n=15: including Panafen Plus, Panadeine, Panadeine Extra, Panalgesic, Panamax Co and Chemist's Own paracetamol and codeine), and the median number of Mersyndol tablets (Paracetamol, codeine phosphate, doxylamine succinate) was 5 (range 2-8, n=5). Participants were also asked to comment on the reasons they had used OTC-codeine in the preceding six months (n=35). Almost three-quarters of recent OTC-codeine users reported use solely to alleviate pain (71%, n=25). Small minorities reported use of OTC-codeine for intoxication (20%, n=7); to assist with sleep (11%, n=4) or as a substitute for other opioids (9%, n=3). The median number of days participants reported use of OTC-codeine for non-pain reasons was 24 (range 2-180 days, n=10), and the median number of tablets/capsules used was 15 (range 2-80, n=10).

Three KE noted three distinct client groups attending treatment services related to their use of OTC codeine products: firstly, people who use OTC-codeine to *'top-up'* other pharmaceutical opioid use (such as morphine); a second group who use large amounts of OTC-codeine with large amounts of alcohol; and thirdly, a group of older people, some of whom are employed, from middle class backgrounds, using for pain conditions. In May 2010, OTC-codeine products were rescheduled to Schedule 3 (Pharmacist Only), and the following restrictions were introduced: pack size limited to 5 days supply; maximum dosage unit of 12 mg codeine/15.4 mg codeine phosphate; and larger pack sizes and higher strengths of codeine to be prescription only medicines. According to two KE, the group of clients who were predominantly using OTC-codeine for pain have experienced difficulties accessing OTC-codeine since this rescheduling. As a result, some have alternatively sought codeine

preparations through GPs via prescription, and are consequently using higher doses of codeine than they were previously.

8.3.5 Use of different forms of pharmaceutical opioids across IDRS studies

Use of the different types of pharmaceutical opioids across the IDRS IDU samples is presented in Figures 52 and 53 below. It should be noted that these figures report on the proportion of the IDU participants reporting accessing these drugs illicitly (rather than directly from a doctor's prescription for them) in the six months prior to interview; and as such these results differ somewhat from the total proportion of the IDU samples in each study reporting any use of these products. Moreover, to allow for more consistent comparisons, Figure 52 presents illicit use of each pharmaceutical opioid type as a proportion of the number of pharmaceutical opioid consumers in each cohort, while Figure 53 presents illicit use as a proportion of the entire IDRS sample each year.

Figure 52 indicates that the proportion of the sample reporting recent use of illicit morphine – which was the predominant non-prescription pharmaceutical opioid used by IDRS IDU participants in all years with the exception of 2004 – had been in decline from 2001 to 2006. Between 2006 and 2008 this trend was reversed, with statistically significant increases in both the proportions of the entire cohort (58% in 2006, 81% in 2009: $\chi^2(1_{n=200})=11.4$, $p<0.001$) (Figure 53) and of opioid consumers (65% in 2006; and 84% in 2009; $\chi^2(1_{n=185})=8.12$, $p=0.004$) (Figure 52) reporting recent use of illicit morphine. In 2009 and 2010, the rate of use of illicit morphine stabilised (84% and 77% respectively of recent opioid users) (Figure 52).

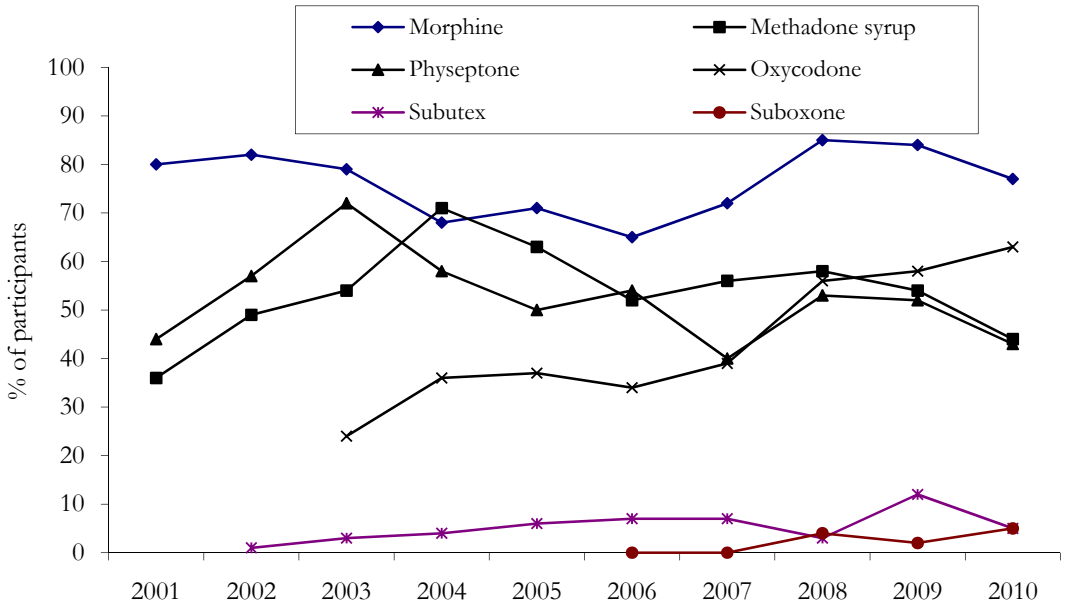
Use of illicit methadone (Physeptone) tablets steadily increased from 2001, where 40% of the sample had recently used the drug, rising to 64% in 2003, with use subsequently declining in 2004 and further still in 2005 to just 41%. Since 2005, the rate of use of Physeptone has varied between 37% and 50% (Figure 53).

Prior to 2003, use of illicit oxycodone was reported by a small number of participants anecdotally. Since this time, recent use of illicit oxycodone across samples has increased from 21% in 2003 to 60% in 2010 ($\chi^2(1_{n=200})=30.0$, $p<0.001$) (Figure 53).

Across the early years of the IDRS study locally, the proportion reporting recent use of illicit methadone syrup increased (32% in 2001 to 64% in 2004); however, this was most commonly used amongst those already enrolled in the methadone maintenance program. In 2005, the proportion of participants reporting recent use of methadone syrup declined to 52%, and has remained relatively stable since then (ranging between 42% and 55%). It is important to note that amongst all cohorts (with the exception of 2008 and 2010), the majority of those reporting illicit purchases of methadone syrup were individuals who themselves were also receiving methadone maintenance treatment (31%, n=13 in 2010).

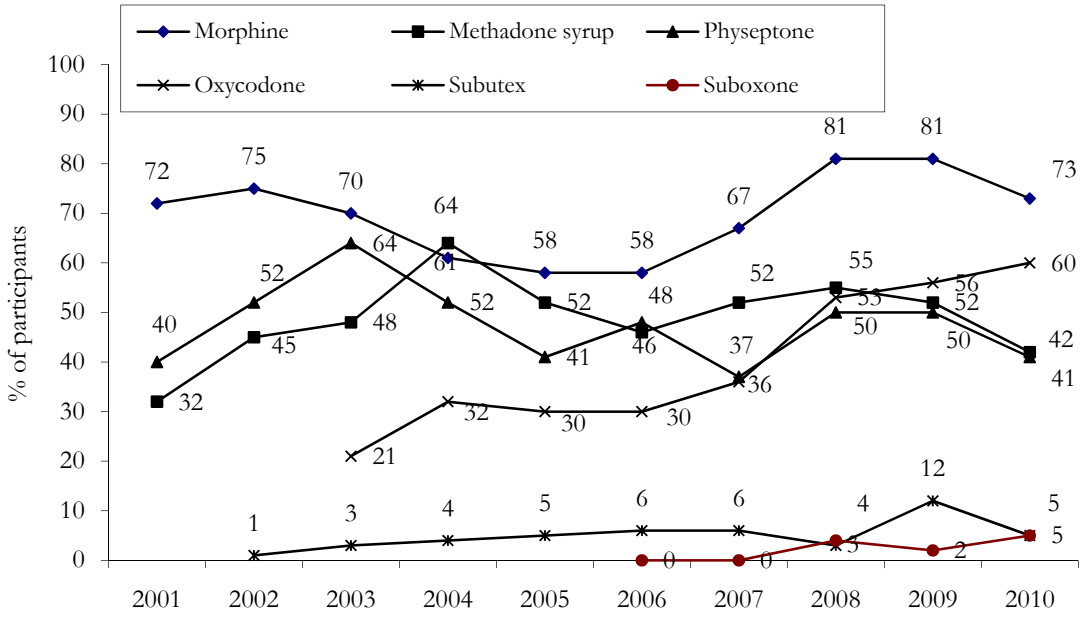
Use of illicit buprenorphine (Subutex) has remained very low across the ten years where the drug has been available for pharmacotherapy. In 2002, just one participant reported illicit use of this drug, and in 2010 this had increased to 5%. Similarly, use of illicit buprenorphine-naloxone (Suboxone) has remained very low across the four years where the drug has been available for pharmacotherapy. In 2006 and 2007, no participants reported use of illicit Suboxone; since this time the rate of recent used has remained very low (between 2% and 5%).

Figure 52: Proportion of opioid consumers within the Tasmanian IDRS IDU cohorts reporting non-prescription use of pharmaceutical opioids in the six months prior to interview, 2001-2010



Source: IDRS IDU interviews

Figure 53: Proportion of Tasmanian IDRS IDU cohorts reporting use of different types of diverted pharmaceutical opioids or related products in the six months prior to interview, 2001-2010



Source: IDRS IDU interviews

8.4 Availability

8.4.1 Morphine

The majority of the consumers interviewed who could comment on availability trends for morphine (n=76) reported that morphine was 'easy' or 'very easy' for them to obtain (88%: 62% 'easy'; 26% 'very easy'), and that the availability of morphine had remained stable (74%) in the six months prior to interview, with 16% reporting access had decreased.

Among the IDRS consumer sample, participants reported last purchasing morphine from a known dealer (53%, n=39) or from a friend (36%, n=26). Participants were also asked to comment on the last venue in which these recent purchases occurred: 34% (n=25) reported purchasing at an agreed public location; 30% (n=22) last purchased morphine in a dealer's home; 22% (n=16) in a friend's home; and 12% (n=9) last purchased via home delivery.

Seizures of morphine and other narcotic pills by Tasmania Police remained reasonably stable between 1999/00 and 2002/03: 215 tablets (100 of these being morphine) in 1999/00; 322 tablets in 2000/01 (21 morphine tablets); 254 tablets (63 morphine) in 2001/02; and 211 morphine tablets in 2002/03. Perhaps partially due to more specific coding of seizures of pharmaceuticals, a marked increase in the number of morphine tablets seized in 2003/04 was noted, with 686 morphine tablets seized in this period. However, in 2004/05, seizures had returned to their previous level at 230 tablets, and 6ml of liquid morphine. This decline in seizures continued, with 51 morphine tablets seized in 2005/06 and in 2006/07, 58 tablets and 14 units of liquid morphine were seized. In 2007/08, this trend was reversed, with 150 tablets and two ampoules of liquid morphine being seized. This trend has continued, with 230 tablets and 4ml of liquid morphine seized in 2008/09, and a large increase in 2009/10[28], with 932 tablets, 88 capsules and 15 ampoules seized.

8.4.2 Oxycodone

Three-fifths (61%) of the consumers interviewed in the 2010 IDRS study could confidently report on availability trends for oxycodone in the preceding six months, with three-quarters commenting that it was either 'easy' or 'very easy' to access (72%: 57% 'easy' and 15% 'very easy'). One-quarter of participants who commented reported that it was 'difficult' for them to access oxycodone (26%). The rate of participants reporting access to this drug to be 'difficult' had remained relatively unchanged since 2006 (ranging between 26% and 35%), however, these rates were notably lower than reported in the 2005 study, when three-fifths of participants (61%) who commented reported this. Four-fifths of the 2010 cohort who commented reported that this situation had remained stable (80%, n=49), and small minorities reported that access had become easier (11%, n=7) or more difficult (8%, n=5) in the preceding six months.

Participants had most commonly last purchased oxycodone from a known dealer (48%, n=27) or a friend (41%, n=23). Almost one-third of participants reported they had last purchased oxycodone in an agreed public location (30%, n=17), 29% (n=16) had accessed it from a dealer's home and 21% (n=12) via home delivery.

8.4.3 Methadone

Participants were divided regarding ease of access to illicit methadone syrup: 52% (n=16) considered it either 'easy' or 'very easy' to access (35% 'easy'; 16% 'very easy'), and 48% (n=15)

[28] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

considered it either 'difficult' or 'very difficult' to access (42% 'difficult'; 6% 'very difficult'). Again, as noted by IDU in previous years, the degree of availability is highly dependent on standing arrangements, with one participant from a previous study describing the situation as such: '*it is very easy to access if you have a pre-existing arrangement, but very difficult if you try to find it on a whim'*. Almost two-thirds of those participants reporting on trends in availability of illicit syrup perceived it as remaining stable in the preceding six months (63%, n=19); however, 33% (n=10) noted that it had become more difficult to access the drug in this time. In 2009, one KE noted that the drug had become more difficult for consumers to access over the preceding six months, and two KE had heard anecdotal reports of an increase in 'stand-overs' (intimidation used in order to access someone's take-away dose of methadone) outside well-known methadone dosing pharmacies, at least one of which involved violence. No KE reported this in the current study.

The majority of participants that had used illicit methadone syrup reported last purchasing the drug from a friend (70%, n=21), with small minorities purchasing from a known dealer (17%, n=5) and acquaintances (13%, n=4). There were several venues in which these purchases occurred, including agreed public locations (37%, n=11), a friend's home (30%, n=9), and smaller minorities purchasing in an acquaintance's home (13%, n=4), a dealer's home or via home delivery (10%, n=3 respectively). Due to concerns among some KE in previous years about use of 'spat out' doses of methadone syrup, IDU were asked about the source of their last illicit purchase of methadone syrup, with 89% (n=23) of those who responded reporting that the drug had come from a 'take-away'[29] dose. The remaining 12% (n=3) of participants reported they 'didn't know' the source of illicit methadone they had last used (Table 32).

In a continuation of trends identified in the 2004 study, the majority of participants reporting on the availability of illicit Physeptone tablets considered these as 'difficult' or 'very difficult' to access (63%: 53% 'difficult'; 9% 'very difficult'), with only a minority considering the drug as 'easy' (31%) or 'very easy' (6%) to access in the preceding six months. Two-thirds of participants reported no change in availability of Physeptone over the preceding six months (66%, n=21), and one-third reported access to have become more difficult (31%, n=10). Most IDU reported last purchasing Physeptone through a friend (45%, n=14), a known dealer (32%, n=10) or an acquaintance (23%, n=7). Venues which were most commonly cited for these transactions included an agreed public location (33%, n=10), a dealer's home (23%, n=7) or a friend's home (20%, n=6). Small minorities reported accessing Physeptone via home delivery (13%, n=4), or from an acquaintance's home (10%, n=3) (Table 32).

[29] Within the Tasmanian Methadone Maintenance Program, individuals predominantly receive their daily doses in a supervised manner. However, where appropriate, prescribers may authorise a limited number of take-away doses, where daily doses can be picked up in advance and consumed as is convenient for the individual.

Table 32: Pathways to illicit methadone access, 2010

	Illicit methadone syrup (n=30)	Illicit Physeptone tablets (n=31)
Last source person of illicit purchase		
Friend	70%	45%
Known dealers	17%	32%
Acquaintances	13%	23%
Last source venue for illicit purchase		
Agreed public location	37%	33%
Friend's home	30%	20%
Acquaintance's home	13%	10%
Home delivery	10%	13%
Dealer's home	10%	23%
Source of last illicit syrup[#]		
Take-away dose	89% (n=23)	n/a

Source: IDRS IDU interviews
[#] For those reporting source

8.4.4 Trends in availability of different forms of pharmaceutical opioids across IDRS studies

When IDU reports of the availability of illicit pharmaceutical opioids are compared across the 2003[30] and 2010 IDRS studies (Figure 54), several changes are notable. Firstly, in regard to morphine availability, between 2003 and 2010 there has been only slight variation in the overall proportion reporting that availability was 'easy' or 'very easy'. In 2010, the overall proportion of participants reporting 'easy' or 'very easy' access remained stable (88% in 2010; 79% in 2009; and 81% in 2008).

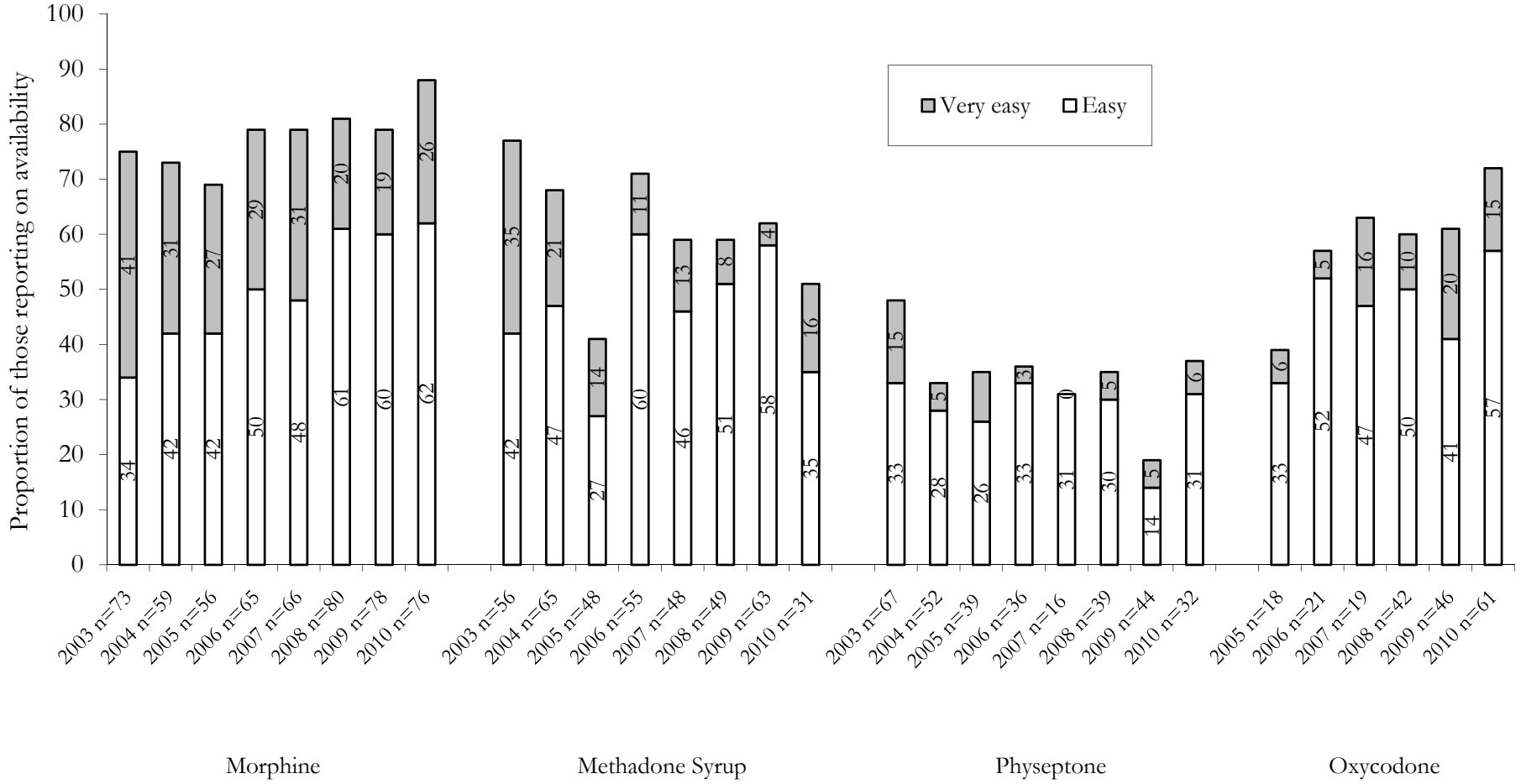
Availability of illicit methadone syrup has been more variable. Between 2003 and 2005, a steady decline in the proportion of consumers considering the drug as 'easily' or 'very easily' available was observed; however, this trend was reversed temporarily in 2006. Since 2007, availability of methadone syrup has been more stable, with between 51% and 62% of each sample reporting access to be either 'easy' or 'very easy'.

Availability reports for Physeptone were relatively stable between 2004 and 2010 (between 31-37% reporting 'easy' or 'very easy' access), with the exception of 2009, when 'easy' and 'very easy' access decreased to 19%.

Finally, while data on availability of oxycodone has only been collected since 2005, there appears to be a trend toward increasing availability over this period. In 2005, 39% of participants who commented reported access to be 'easy' or 'very easy'; this rate has increased to 72% in the current study ($\chi^2(1_{n=79})=5.3$, p=0.02).

[30] 2003 was the first year in which explicit differentiation was made between methadone syrup and Physeptone tablets in regard to availability.

Figure 54: IDU reports of 'easy' or 'very easy' availability of illicit pharmaceutical opioids 2003-2010



Source: IDRS IDU interviews

Most IDU participants who commented on changes in the number of people using morphine reported an increase (n=7), generally referring to an increase in morphine use amongst both males and females, between ages 15 to 25. Two participants noted that due to an increase in popularity of morphine, availability had recently decreased

The perception of an increase in the number of opioid consumers is in keeping with a number of trends in different datasets. Overall, there have been increases in the proportion of IDRS IDU cohorts reporting opioid use in the 2006-2010 studies, following a decline among the 2005 cohort. Reported use of opioids amongst clients of the NSP had been in steady decline between 2000/01 and 2004/05, but since 2006/07 the proportion of opioid consumers amongst NSP transactions increased markedly. As discussed in earlier sections, there may be alternative explanations for this change in NSP client data, including the closure of a high-traffic outlet primarily supplying equipment for methamphetamine injection, and changes in equipment supplied through NSP; however, the consistency between IDRS, NSP client data and the NSP survey data leads to greater confidence of a market shift toward increased use of opioids among regular IDU.

KE in the current and previous IDRS surveys reported particular concern with opioid consumers using methadone-alprazolam combinations. In 2010, 5% of consumers reported using such a combination in recent months, a significant decrease from 2009 (15%: $\chi^2(1_{n=100})=4.50$, p=0.03) (See Section 9.1.3). This combination of use is of considerable concern, not solely due to the deleterious effects of injection of benzodiazepines (see Fry & Bruno, 2002) but also due to the increased risk of overdose on use of multiple central nervous system depressant drugs. In previous IDRS reports, respondents have noted extremely disinhibited behaviour following such combined use. As such, the non-prescription combination use of opiates and benzodiazepines merits careful attention in the coming months, particularly from front-line health intervention workers.

8.5 Summary

Table 33: Summary of trends in opioid use

	Morphine	Methadone	Oxycodone
Modal Price	• $1/mg MS Contin, Kapanol • Price increased between 2008 and 2009, appear to have stabilised in 2010 • Stable/increasing price trend	• $1/mg, stable (syrup) • $1/mg, stable to increasing (tablets)	• $1/mg OxyContin • Price stable
Availability	• Easy to very easy • Stable over the last 6 months	• Mixed reports: syrup easy to access (if pre-arranged and purchased from friends or acquaintances); difficult and decreasing in availability otherwise • Illicit Physeptone access difficult – stable to increasingly difficult	• Easy to very easy to access • Stable over the past six months
Form	• MS Contin main form used; • Virtually all accessed illicitly rather than by 'doctor shopping' by IDU	• Both Physeptone tablets and methadone syrup accessed illicitly • Illicit syrup use more common amongst (non-stabilised)people engaged in methadone treatment	• OxyContin is the predominant form used; most is illicit
Use	• Proportion of IDRS participants reporting recent use of morphine was higher across 2008 to 2010 studies than previous years. This is consistent with NSP client transaction data. The price of morphine tablets have stabilised after increasing in 2009 • Illicit oxycodone use increasing (21% in 2003 to 60% in 2010), price and availability have stabilised after recent increases • Amongst those participants who reported having accessed methadone maintenance treatment in the preceding six months, two-fifths of this group had also used illicit methadone syrup, however, the frequency of use of illicit methadone was greater amongst participants engaged in methadone maintenance treatment		
Other trends	• Opioids accessed for illicit use by IDU are not coming from direct 'doctor-shopping' by IDU themselves		

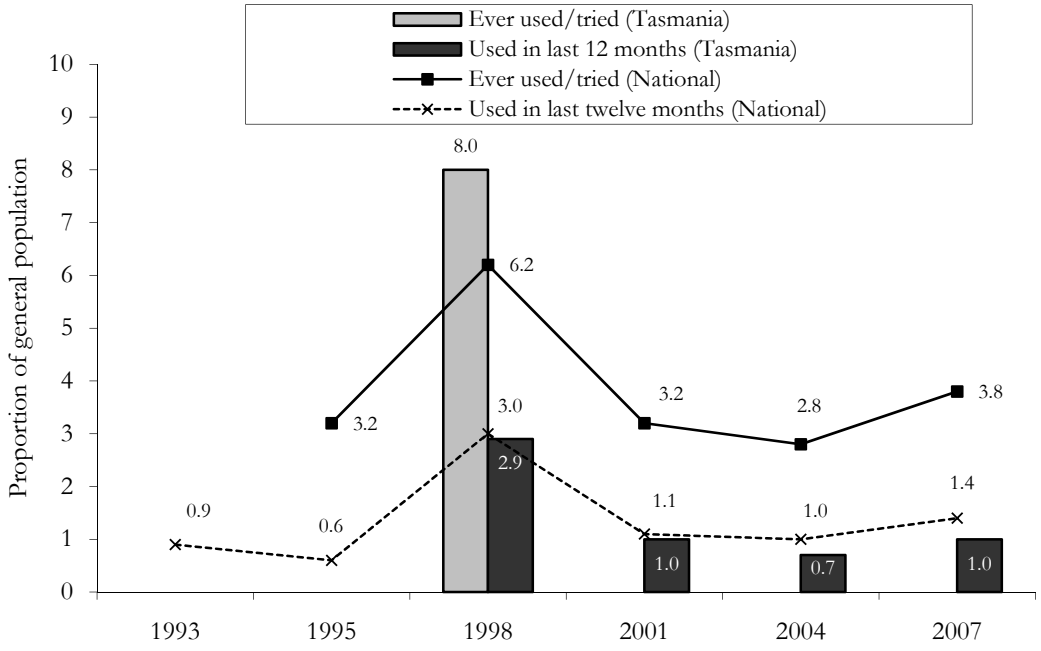
9.0 BENZODIAZEPINES

9.1 Use

9.1.1 Prevalence of benzodiazepine use

Of the 1,208 Tasmanians surveyed in the 1998 National Drug Strategy Household Survey (AIHW, 1999), 7.9% indicated that they had ever tried benzodiazepines for non-medical purposes, and 2.9% reported use in the year prior to the survey. Somewhat smaller proportions of the 2001 (1.0% of 1,349: AIHW, 2002) and 2004 surveys (0.7% of 1,208 participants: AIHW, 2005b) reported using benzodiazepines in the preceding year. Similarly, in 2007, 1.0% of respondents of a sample of 1,143 reported using benzodiazepines in the preceding year. While these are low base rates of reported benzodiazepine users, this does seem to suggest little evidence for a change in non-medical benzodiazepine use at the general population level between the 2001 and 2007 surveys (Figure 55).

Figure 55: Prevalence of benzodiazepine use in Australia and Tasmania among those aged 14 years and over, 1993-2007



Source: National Drug Strategy Household Survey 1993-2007

9.1.2 Use in particular populations

Benzodiazepines have consistently comprised approximately 10-16% of all positive urine screens for illicit drug use among Tasmanian prisoners between 1996/97 and 2000/01, despite markedly increasing numbers of positive urine screens during this period[31]. However, in 2001/02, the proportion of positive urine screens indicating use of benzodiazepines dropped to 7% (n=9), the lowest proportion since 1995/96 (6%). During 2002/03, however, the proportion of positive urine screens testing positive for benzodiazepines returned to 14%, a similar level to that in the 1996/97-2000/01 period, with the number of positive screens remaining at similar levels in subsequent years (12% in 2003/04; 20% in 2004/05; 16% in 2005/06). In 2006/07, this rate increased slightly to 24% of all positive urine screens and in the subsequent three financial years,

[31] These figures only include positive urine screens for benzodiazepines that were not prescribed to the prisoner.

the reported rate again decreased (7% in 2007/08; 9% in 2008/09; and 6% in 2009/10). It should be noted that an increasing proportion of urine screens are conducted on suspicion of use rather than random screens (e.g. in 2009/10, of those identified as positive for benzodiazepines, 92% of these cases were identified on suspicion), so these figures will necessarily be an overestimate of the prevalence of drug use in this context.

9.1.3 Benzodiazepine use among IDU

Reported use of benzodiazepines as the main drug injected by non-pharmacy NSP outlet clients has undergone subtle changes in the past nine years. In 2000/01 and 2001/02, 3.5% and 3.8% of NSP transactions respectively were reported for use of benzodiazepines (Table 34). Between 2002/03 and 2005/06, reports of benzodiazepines as the main drug injected had remained at 0.4% or less of non-pharmacy client transactions per annum, with small numbers of transactions relating to benzodiazepines. In 2006/07 and 2007/08, more than 300 transactions per annum occurred related to benzodiazepines (around 1% of total transactions), a notable increase from previous years. In the subsequent two reporting periods (2008/09 and 2009/10), this rate decreased to 0.4% and 0.6% respectively, as did the number of transactions (n=147; n=201 respectively) (Table 34). It should be noted, however, that there are limitations with this dataset (see Section 2.3) and that data from the NSP are likely to underestimate the true level of injection of benzodiazepines (as the question usually asked is *'what is the drug you usually inject?'*, and data from the IDRS indicates that benzodiazepine-injecting IDU will often report another drug as the drug they most often injected). In addition, one KE, employed in an NSP, noted that in general, clients won't state they are injecting benzodiazepines – especially alprazolam – as they are likely to receive a *'lecture about it'*.

Table 34: Proportion of transactions in which benzodiazepines were reported as 'drug most often injected' by Tasmanian non-pharmacy Needle and Syringe Program clients, 2000/01-2009/10

Year	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06	2006 /07	2007 /08	2008 /09	2009 /10
Number of transactions reporting benzodiazepines	505	761	52	139	36	52	304	399	147	201
Percent of total transactions reporting benzodiazepines	3.5%	3.8%	0.2%	0.4%	>0.1%	0.2%	0.9%	1.2%	0.4%	0.6%

Source: Population Health, Department of Health and Human Services

The majority of participants had used benzodiazepines at some stage in their lives (87%, n=87), and 86% had ever swallowed benzodiazepines. Three-quarters of the sample reported use of benzodiazepines in the six months preceding the interview (74%, n=74), with 71% using orally in this period. Lifetime injection of benzodiazepines was reported by 34% of the sample, and 16% had injected in the six months preceding the interview. As is shown in Figure 56, rates of overall recent use have remained fairly stable (74-88% across the 2000 to 2010 surveys), while recent injection rates in the IDRS IDU cohorts have been more variable. The proportion of participants reporting recent injection fell slightly between 2002 and 2005 (from a stable 37-38% between 2000 and 2002, to 23% in 2005), however, this rate increased over the following three

surveys to 36% in 2008. Since 2008, this rate has decreased significantly to 16% in 2010 ($\chi^2(1_{n=200})=9.4$, p=0.002). In addition, the rate of lifetime injection of benzodiazepines decreased between 2009 and 2010, from 51% to 34% ($\chi^2(1_{n=200})=5.2$, p=0.02).

The reduction in injection rates between 2002 and 2003 occurred following a policy change to reduce the availability of gel capsules of temazepam, the benzodiazepine and formulation most preferred for injection by IDU at this time, through the Pharmaceutical Benefits Scheme (PBS) in mid-2002. The effect of this policy change was more marked in other jurisdictions, with rates of recent benzodiazepine injection across the national IDRS samples declining from 24% in 2001 to 14% in 2004 (in contrast to the local change from 38% to 30% in this period: Stafford et al., 2005). Whilst the rate of recent injecting use of benzodiazepine decreased in the Tasmanian IDRS samples in recent years, it remained higher than that seen in the national IDRS cohorts (16% v. 8%) (Stafford & Burns, 2011) and reflects a shift in the preference of the type of benzodiazepine injected (discussed below)

In 2010, data was collected on use of licitly-accessed benzodiazepines (those prescribed directly to the individual using the drug) and illicit benzodiazepines (use of benzodiazepines that had not been prescribed to the individual). Three-fifths of the cohort reported ever having been prescribed a benzodiazepine (59%), with the majority having used the drug orally (58%), and 14% reported ever having injected licit benzodiazepines. Recent injection of prescribed benzodiazepines was reported by 6% of the cohort, at a median frequency of 17 days, which equates to use approximately once per 10 days (range 4-48 days).

Lifetime use of illicit benzodiazepines was reported by 74% of participants, with the majority of the cohort reporting oral use (68%), and one-quarter reporting ever having injected this type of drug (28%). In the preceding six months, 55% of participants reported use of illicit benzodiazepines, at a median frequency of 25 days (range 1-180 days), which equates to approximate use once per week on average. Recent injection of illicit benzodiazepines was reported by 15% of participants, at a median frequency of 6 days over this period (range 1-132 days). There was a large amount of overlap in the use of licit and illicit benzodiazepines: in the current cohort, 47% (n=35) of those who had recently used benzodiazepines reported use of illicit benzodiazepines only, 26% reported licit use only (n=19), and 27% had recently used benzodiazepines accessed both licitly and illicitly (n=20). Participants were also asked to comment on the form they had predominantly used in the preceding six months. Three-fifths of this group reported they had most often used illicit benzodiazepines (60%, n=44), compared with 41% (n=30) most frequently using licit benzodiazepines ($\chi^2(1_{n=100})=4.6$, p=0.03).

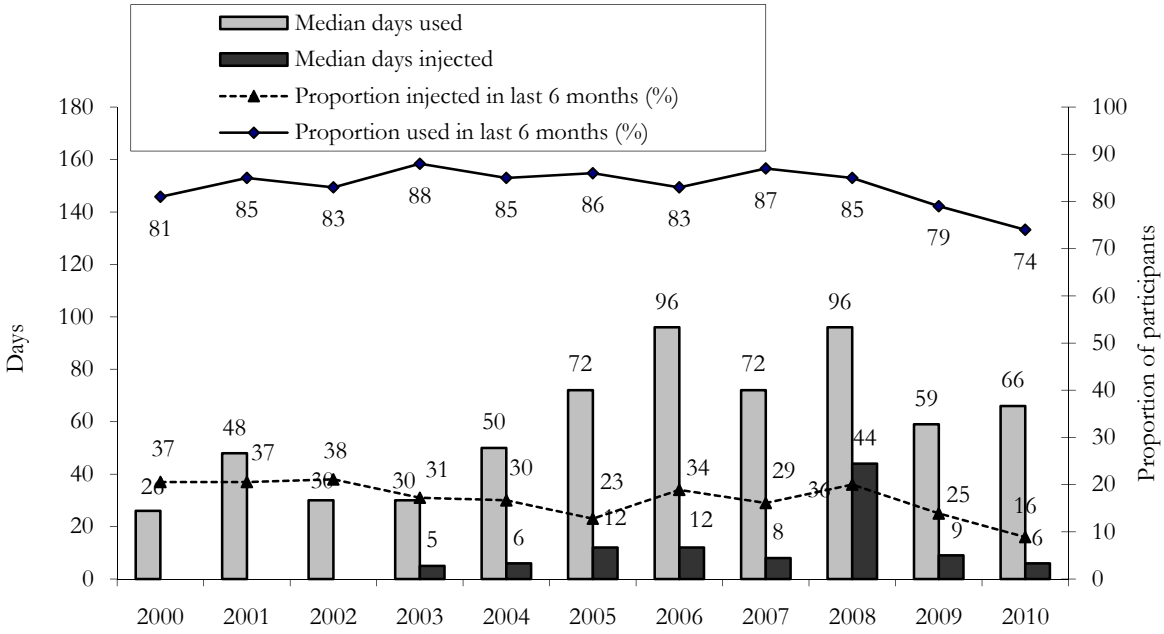
The demographic characteristics of those that had used benzodiazepines in the past 6 months were similar to those of other IDU (see Section 3.1) in terms of age, sex, cultural background, sexual preference, relationship status, education, employment, income sources, prison history, accommodation, age of first injection, duration of injecting career, drug first injected and drug of choice. However, those that had used benzodiazepines in the preceding six months were less likely to inject daily (38% vs. 60%: $\chi^2(1_{n=100})=3.74$, p=0.045), more likely to have been engaged in methadone maintenance treatment in the preceding six months (39% vs. 15%: $\chi^2(1_{n=100})=4.93$, p=0.021) and more likely to report methadone as the drug most injected in the preceding month (32% vs. 8%: $\chi^2(1_{n=100})=6.12$, p=0.01) than participants who reported no recent use of these drugs.

The median frequency of use of any form of benzodiazepine was a median of 66 days in the preceding six months amongst those using the drug (SD=74.6, range 1-180). Between 2000 and

2006, the overall median frequency of use increased, from 26 days in 2000 to 96 days in 2006. Since then, the median frequency had varied between 59 and 96 days (Figure 56).

Among the 16 participants that had recently injected any form of benzodiazepines, the median frequency of injection was 6 days in the preceding six months (range 1-180 days). The median frequency of injection of benzodiazepines has remained stable across the 2000 to 2010 studies, ranging between 5 and 12 days – with the exception of the 2008 study, in which the median frequency of injection increased to 44 days.

Figure 56: Proportion of participants reporting recent use of benzodiazepines and median frequency of this use, 2000-2010



Source: IDRS IDU interviews
Note: Frequency of injection of benzodiazepines was not collected prior to 2003.

High levels of oral benzodiazepine use in the last six months were seen amongst those IDU who had most often injected methadone (92%), morphine (63%) and methamphetamine (70%). Injection of benzodiazepines was reported by 19% of primary users of methadone, 13% of primary morphine users and just 5% of primary methamphetamine users (Table 35).

Table 35: Patterns of use of benzodiazepines amongst primary users of other drugs in the IDU sample, 2010

Drug most injected in the past month	Swallowed benzodiazepines in past 6 months	Injected benzodiazepines in the past 6 months
Methadone (n=26)	92% (n=24)	19% (n=5)
Morphine (n=38)	63% (n=24)	13% (n=5)
Methamphetamine (n=20)	70% (n=14)	5% (n=1)

Source: IDRS IDU interviews
Note: N=100, number of respondents in parentheses

Participants were asked to comment on the main reasons they had used illicit benzodiazepines in the last six months. Of the 57 participants who responded, three-fifths reported use for the purpose of self-treatment (61%, n=35), which included self-treating a mental health problem, most commonly anxiety, and self-treating opioid or benzodiazepine dependence. Almost half of the participants reported use for the purpose of intoxication as the main reason (44%, n=25), and small minorities reported use of illicit benzodiazepines as a 'substitute' for another drug (5%, n=3), to alleviate opioid withdrawal symptoms or 'opportunistic' use (4%, n=2 respectively).

Examination of Table 36 clearly indicates that, as per trends in previous IDRS cohorts, diazepam is the most commonly used benzodiazepine among those swallowing the drug (used by 100% of those swallowing a benzodiazepine in the preceding six months, n=71). Oral use of alprazolam (Xanax, Kalma, Aplrax) in the preceding six months steadily increased among IDRS IDU cohorts between 2001 and 2006 (16% of those reporting recent benzodiazepine use in 2001; 63% in 2006); however, this rate has been decreasing slightly in subsequent years (54% in 2010). Use of oxazepam (Serepax, Murelax, Alepam) was also common (49%, n=35), with rates of reported use in 2010 similar to previous years, which ranged between 37% and 49%. Oral use of temazepam tablets (Temtabs, Normison, Temaze) increased between 2009 and 2010, from 19% (n=14) to 34% (n=34: $\chi^2(1_{n=100})=5.0$, p=0.02). Reports of oral use of nitrazepam (Mogadon, Alodorm) amongst the IDU samples have remained relatively low since 2005, ranging between 9 and 25%.

Table 36: Benzodiazepine and related formulations used by IDU orally in the six months prior to interview, 2005-2010

Benzodiazepines	2005 (n=86) %	2006 (n=83) %	2007 (n=87) %	2008 (n=75) %	2009 (n=75) %	2010 (n=71) %
Alprazolam	44	63	46	55	49	54
Bromazepam	-	-	-	-	3	-
Clonazepam	5	6	5	7	17	17
Diazepam	85	80	82	97	96	100
Flunitrazepam	7	10	6	9	7	6
Nitrazepam	10	25	11	9	21	21
Oxazepam	37	43	44	37	49	49
Temazepam						
Capsules	3	1	5	1	3	-
Tablets	10	20	23	24	19	34
Doxylamine	-	-	3	1	-	3
Zolpidem	-	-	2	1	1	4

Source: IDRS IDU interviews.

In contrast to trends reported for oral use of benzodiazepines, use of alprazolam tablets was far more common amongst those injecting benzodiazepines than diazepam. Comparing the injection of the main types of benzodiazepines used for injection across IDRS IDU cohorts over time (Table 37), it is clear that use of gel capsule formulations of temazepam decreased (36% of the sample in 2001, falling to 4% in 2005 and no reports of this in 2010), reflecting their restriction and eventual removal from the market. Rates of injection of diazepam have remained relatively stable over time (6-12% of the cohorts between 2002 and 2009) (Table 37). The proportion of the IDU cohorts reporting recent injection of alprazolam steadily increased between 2001 and 2008, from 4% to 30%, however, since this time this rate has reduced (14% in 2010: $\chi^2(1_{n=100})=6.56$, p=0.010).

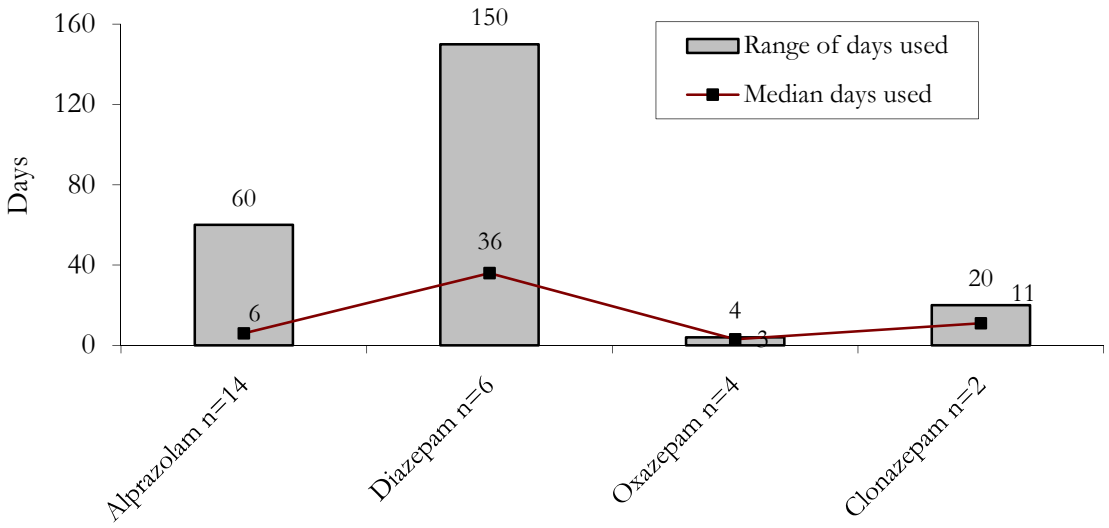
Table 37: Types of benzodiazepines commonly injected by IDU, 2001-2010 (N=100)

Injected in last 6 months:	2005	2006	2007	2008	2009	2010
Temazepam gel capsules	4	-	1	-	-	-
Alprazolam	19	27	25	30	20	14
Diazepam	8	10	6	12	11	6
Oxazepam	5	4	2	3	1	4
Clonazepam	2	2	2	3	4	2
Flunitrazepam	2	2	2	4	2	-

Source: IDRS IDU interviews

Participants who reported recent injecting use of benzodiazepines were asked how frequently they had injected each type of preparation. As shown in Figure 57, among those who commented (n=6), diazepam was injected at a median frequency of 36 days, which equates to use once to twice per week, and alprazolam was injected at a median frequency of six days (n=14), which equates to use approximately once per month. Very small numbers of participants (i.e. <5) commented for other types of benzodiazepines (Figure 57).

Figure 57: Median frequency and range of days of injecting use of benzodiazepines, 2010



Source: IDRS IDU interviews

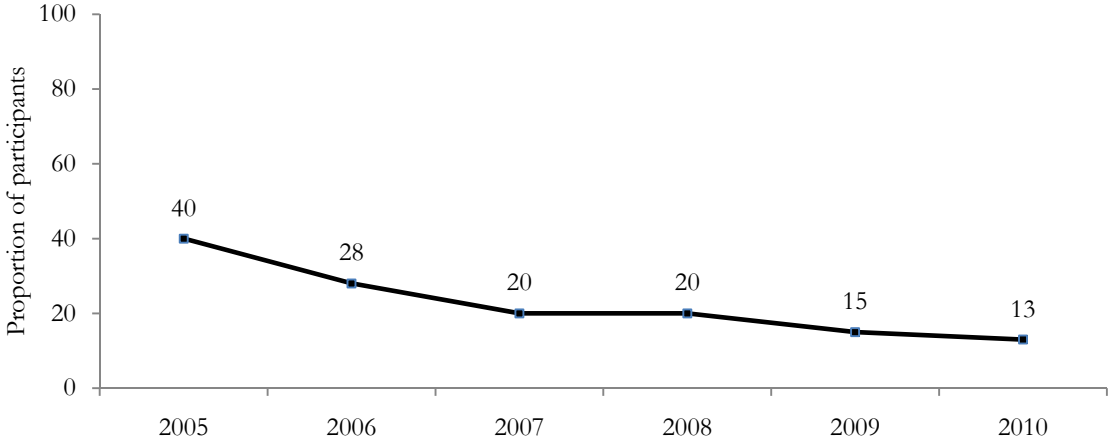
Participants were also asked if they had injected a benzodiazepine concomitantly with an opioid. This combination of use is of considerable concern, not solely due to the deleterious effects of injection of benzodiazepines (see Fry & Bruno, 2002), but also due to the increased risk of overdose following use of multiple central nervous system (CNS) depressant drugs, and,

moreover, the extremely disinhibited behaviour that can occur following such combined use. In 2010, 13% of participants reported concomitant injection of a pharmaceutical opioid and a benzodiazepine. This marks a significant decrease from the rate reported in 2005, when 40% of the sample reported this ($\chi^2(1_{n=100})=17.35$, $p<0.001$) (Figure 58).

Nine participants reported injecting a combination of benzodiazepine and methadone syrup in the preceding six months, at a median frequency of 12 days (range 1-72 days), which equates to use approximately once per fortnight. Of these participants, 56% (n=5) reported alprazolam as the benzodiazepine used, and 44% (n=4) reported diazepam. Injection of morphine and benzodiazepines in combination was reported by three participants at a median frequency of 4 days (range 1-4 days). Of these three participants, two used alprazolam and one participant used oxazepam. Two participants reported concomitant use of oxazepam and another benzodiazepine, at a median frequency of two days (range 1-2 days); both participants cited alprazolam as the form of benzodiazepine used.

KE commenting on predominant opioid users noted that use of both licit and illicit benzodiazepines was common in these groups. One KE noted that when regular pharmaceutical opioid users are unable to access opioids, they use large quantities of benzodiazepines, predominantly diazepam and alprazolam. KE reporting on groups of primary methamphetamine users also reported that benzodiazepine use was common in these groups, used to 'come down' from stimulant use. In 2008, a KE working in a non-pharmacy NSP commented that cases of benzodiazepine injectors experiencing gangrene, and in some cases amputation of the affected area, over the preceding two years have raised awareness among users of the dangers of injecting benzodiazepines, in particular alprazolam. In both the current and 2009 studies, KE noted that there was a stigma regarding injecting use of alprazolam.

Figure 58: Proportion of participants reporting recent concomitant injection of a pharmaceutical opioid and a benzodiazepine, 2005-2010



Source: IDRS IDU interviews

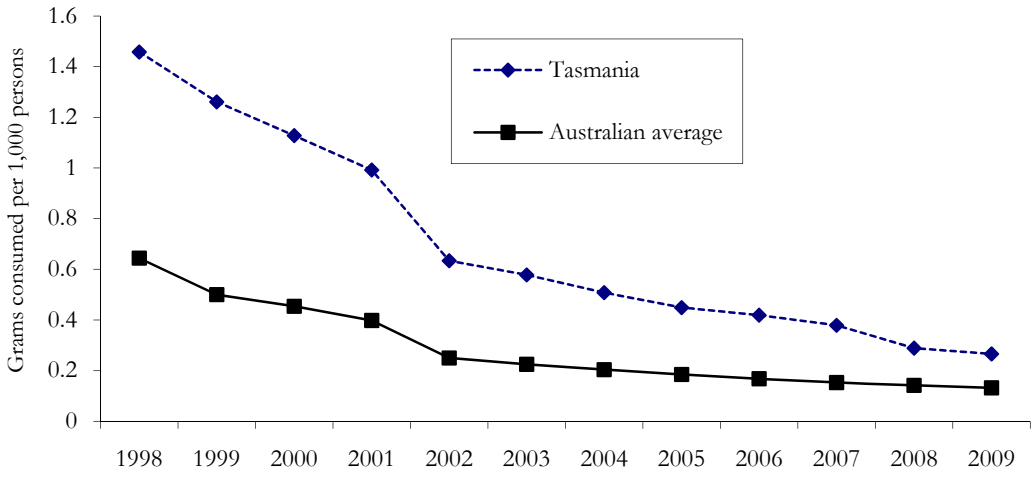
KE in NSP and drug treatment settings noted a decrease in reports of injecting use of alprazolam. One KE employed in an NSP noted *'there has been a drop in people injecting alprazolam; however, people aren't going to tell you they inject it because they'll get a lecture'*. In line with this, a second NSP KE noted that it had been a long time since a client reported injecting benzodiazepines. Two KE noted that most benzodiazepine use is oral, however, alprazolam tends to be injected

more often than other forms. One KE noted that *'alprazolam is like the haute couture and diazepam is the Best & Less option'*.

In the current study, two KE noted it was rare for clients to enter treatment reporting benzodiazepine use as the primary drug problem, and that it was more commonly a secondary drug. Similar reports from KE were provided in 2009. In 2006, one KE raised concerns regarding some consumers believing that as benzodiazepines are pharmaceutical drugs, they are less harmful to use. This view was supported by one KE in the 2008 study who noted that many consumers who present to treatment for opioid dependence often do not mention they are also dependent on benzodiazepines, despite high levels of both oral and injecting use.

Flunitrazepam (Hypnodorm, previously sold as Rohypnol) is a benzodiazepine that is preferred by some IDU due to its potent and quick-acting effect. Despite the prescription of this drug being tightly defined through the Pharmaceutical Benefits Scheme and its classification as a Schedule 8 drug, participants in recent local IDRS and related studies have continued to report some oral and intravenous use of Hypnodorm tablets, albeit in small amounts. Prescription rates of flunitrazepam in Tasmania (Figure 59) show low and declining levels of prescription of the drug both in the state and nationally, although prescription rates of flunitrazepam in Tasmania have remained consistently above 200% that of the national average between 1998 and 2009.

Figure 59: Consumption of flunitrazepam per 1000 persons, 1998-2009



Source: National Drug System (formerly DRUMS), Pharmaceutical Services, Department of Health and Human Services

9.2 Availability and access

In some instances KE found it difficult to separate licit and illicit use of benzodiazepines amongst the groups of consumers they were reporting on, as often there was a substantial amount of overlap in use, with, for example, some people receiving illicit medications as a gift from a friend, or others bingeing on a benzodiazepine prescription then having to purchase illicit benzodiazepines to maintain their usual base level of use. When IDU were asked their usual source of benzodiazepines in the preceding six months, two-thirds reported accessing these drugs through friends as either a gift or purchase (63%, n=36), more than half (56%, n=32) reported predominantly accessing via licit means (for genuine symptoms), and one-third reported accessing benzodiazepines via a dealer (30%, n=17) (Table 39). When considering all modes of

access to benzodiazepines in the preceding six months, the majority of respondents reported accessing tablets from friends as a gift or a purchase (70%, n=49), 47% via legitimate access through prescription (n=33), and one-third purchased from a dealer (33%, n=23) (Table 38).

When compared with the usual modes of access to benzodiazepines reported in previous IDRS cohorts, the rate of access via friends as either a gift or purchase is slightly greater in the last four years (2007-2010), ranging between 52% and 67%; prior to this the rate varied between 19% and 42% (Table 39). The rate of usual purchases from a dealer also increased: between 2000 and 2009, this ranged between 3 and 23%, in 2010 this increased to 30%, a statistically significant increase from 2009 (2009: 12%: $\chi^2(1_{n=100})=5.43$, p=0.02).

Those participants that had accessed illicit benzodiazepine tablets in the six months prior to interview were asked about their ease of access to such drugs in this time. Two-thirds of participants who commented (68%, n=40) felt that benzodiazepines were either 'easy' or 'very easy' to access ('easy': 44%, n=26; 'very easy': 24%, n=14), and 31% (n=18) of this group reported that it was 'difficult' for them to access illicit benzodiazepines. Two-thirds of this group reported availability had remained unchanged during the six months preceding (66%, n=38), and 29% (n=17) reported it had become more difficult to access illicit benzodiazepines.

Trends from Tasmania Police in regard to benzodiazepines appeared to remain relatively stable between 2000/01 and 2001/02, with seizures of 2,511 pills associated with Schedule 4 drugs in 2001/02, in comparison to 2,374 pills in 2000/01. During the 2003/04 financial year a new series of exhibit sheet rules were instigated for Tasmania Police seizures, which allowed the explicit recording of the types of tablets seized. In 2003/04, 443 tablets were seized. In subsequent years, there has been a varying number of benzodiazepine seizures reported: 200 in 2004/05 (96 being diazepam, 54 temazepam, 49 oxazepam and one flunitrazepam, 95% of which were seized in the south); 59 in 2005/06 (all diazepam); and six seizures of benzodiazepine, totalling 24 tablets, all of which were believed to be diazepam in 2006/07. In 2007/08, 139 tablets believed to be benzodiazepines were seized. Of these, 63 were believed to be diazepam, 54 were temazepam and 22 were flunitrazepam. In 2008/09, 347 tablets were seized: of these 265 were believed to be diazepam, 50 were believed to be flunitrazepam and 32 temazepam. In 2009/10[32], 220 tablets were seized: 121 temazepam and 99 diazepam tablets.

[32] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

Table 38: All modes of obtaining benzodiazepines in the six months prior to interview, 2001-2010

All modes of access	2001 (n=69) %	2002# (n=75) %	2003 (n=88)* %	2004 (n=85) %	2005 (n=86) %	2006 (n=81) %	2007 (n=77) %	2008 (n=83) %	2009 (n=75) %	2010 (n=70) %
Doctors (genuine symptoms)	57 *(n=39)*	53 *(n=40)*	n/a	59 *(n=50)*	64 *(n=55)*	59 *(n=48)*	62 *(n=47)*	49 *(n=41)*	56 *(n=42)*	47 *(n=33)*
Doctors (fake symptoms)	9 *(n=6)*	8 *(n=6)*	n/a	2 *(n=2)*	0	2 *(n=2)*	9 *(n=7)*	2 *(n=2)*	9 *(n=7)*	9 *(n=6)*
Forged prescriptions	0	0	n/a	0	0	0	1 *(n=1)*	0	1 *(n=1)*	0
Friends (gift or purchase) †	67 *(n=46)*	59 *(n=44)*	n/a	56 *(n=48)*	53 *(n=46)*	69 *(n=56)*	75 *(n=57)*	60 *(n=50)*	65 *(n=49)*	70 *(n=49)*
Friends (purchase)†	n/a†	n/a†	n/a	40 *(n=34)*	30 *(n=26)*	44 *(n=36)*	21 *(n=16)*	47 *(n=39)*	41 *(n=30)*	49 *(n=34)*
Dealer / street (purchased)	23 *(n=16)*	28 *(n=21)*	n/a	22 *(n=19)*	9 *(n=8)*	12 *(n=10)*	21 *(n=16)*	30 *(n=25)*	24 *(n=18)*	33 *(n=23)*
Dealer / street (swap drugs)	4 *(n=3)*	12 *(n=9)*	n/a	31 *(n=26)*	17 *(n=15)*	37 *(n=30)*	28 *(n=21)*	12 *(n=10)*	19 *(n=14)*	19 *(n=13)*
Theft	n/a	n/a	n/a	2 *(n=2)*	1 *(n=1)*	0	9 *(n=7)*	2 *(n=2)*	4 *(n=3)*	0

Source: IDRS IDU interviews

2002 data refer to a four-month period of accessing benzodiazepines (January-April 2002), due to the nature of the survey questions

*Data were only collected on 79 participants: proportions are calculated with reference to this number

†In 2003, data were divided according to purchase from friend or gift from friend to distinguish between these two methods of acquisition

Table 39: Primary modes of obtaining benzodiazepines in the six months prior to interview, 2001-2010

Primary mode of access	2001 (n=69) %	2002[#] (n=75) %	2003 (n=88)[*] %	2004 (n=85) %	2005 (n=86) %	2006 (n=80) %	2007 (n=76) %	2008 (n=83) %	2009 (n=75) %	2010 (n=57) %
Doctor (genuine symptoms)	45 *(n=31)*	47 *(n=35)*	48 *(n=38)*	44 *(n=37)*	56 *(n=48)*	53 *(n=42)*	61 *(n=46)*	49 *(n=41)*	52 *(n=39)*	56 *(n=32)*
Doctor (fake symptoms)	9 *(n=6)*	1 *(n=1)*	1 *(n=1)*	2 *(n=2)*	0	3 *(n=2)*	7 *(n=5)*	2 *(n=2)*	9 *(n=3)*	8 *(n=5)*
Forged prescriptions	0	0	0	0	0	0	0	0	0	0
Friends (gift or purchase)[†]	42 *(n=29)*	35 *(n=26)*	27 *(n=21)*	26 *(n=22)*	20 *(n=17)*	19 *(n=15)*	64 *(n=49)*	52 *(n=43)*	67 *(n=38)*	63 *(n=36)*
Friends (purchase)[†]	n/a[†]	n/a[†]	20 *(n=16)*	13 *(n=11)*	14 *(n=12)*	18 *(n=14)*	25 *(n=19)*	37 *(n=31)*	27 *(n=20)*	47 *(n=27)*
Dealer/street (purchase)	3 *(n=2)*	13 *(n=10)*	4 *(n=3)*	5 *(n=4)*	5 *(n=4)*	4 *(n=3)*	17 *(n=13)*	23 *(n=19)*	12 *(n=9)*	30 *(n=17)*
Dealer/street (swap drugs)	0	1 *(n=1)*	n/a	7 *(n=6)*	6 *(n=5)*	5 *(n=4)*	16 *(n=12)*	4 *(n=3)*	13 *(n=10)*	7 *(n=4)*
Theft	n/a	n/a	n/a	0	0	0	3 *(n=2)*	0	0	0

Source: IDRS IDU interviews

[#] 2002 data refer to a four-month period of accessing benzodiazepines (January-April 2002), due to the nature of the survey questions

[*]Data were only collected on 79 participants: proportions are calculated with reference to this number

[†]In 2003, data were divided according to purchase from friend or gift from friend to distinguish between these two methods of acquisition

9.3 Alprazolam

As discussed in Section 9.1.3, injecting use of alprazolam increased from 3% of the IDRS cohort in 2002 to 30% in 2008, (and subsequently decreased to 14% in 2010) - along with concomitant injecting use of alprazolam and opioids. Both KE and IDU participants have provided anecdotal reports of harms associated with this use, such as vascular damage, gangrene, amputations of limbs and overdose. Partly as a result of this, on 1 September 2007, Pharmaceutical Services Branch (of the Tasmanian Department of Health and Human Services) implemented regulatory changes regarding the prescribing and dispensing of alprazolam. These changes included restricting alprazolam prescribing amongst patients receiving opioid medication: prescribers for patients enrolled in methadone maintenance or buprenorphine treatments were required to obtain approval from the Clinical Director of Alcohol and Drug Services in order to prescribe alprazolam; and prescribers for patients receiving other types of opioid medications required authority from Pharmaceutical Services in order to continue prescribing alprazolam for longer than four weeks.

In response to these regulatory changes, new questions were included in the 2008-2010 IDRS questionnaires to measure the impact upon use of alprazolam amongst IDRS participants. Participants who reported use of illicit alprazolam over the preceding six months were asked to comment on availability. Of those that responded in 2010 (n=40), three-fifths of participants reported illicit alprazolam to be either 'easy' or 'very easy' for them to access (65%: 'easy' 50%, n=20; 'very easy' 15%, n=6), and the remaining one-third reported availability to be 'difficult' or 'very difficult' (33% and 3% respectively). These reports are the reverse of reports from the 2009 study, in which two-thirds reported illicit alprazolam availability to be either 'difficult' or 'very difficult', and one-third reported it to be either 'easy' or 'very easy'.

Over the preceding six months, the majority of participants felt that access to illicit alprazolam had not changed (59%, n=24), and 34% (n=14) reported it had become more difficult to access. These figures are in contrast to those reported in the 2008 and 2009 reports, in which 71% and 78% respectively reported access had become more difficult in the preceding six months.

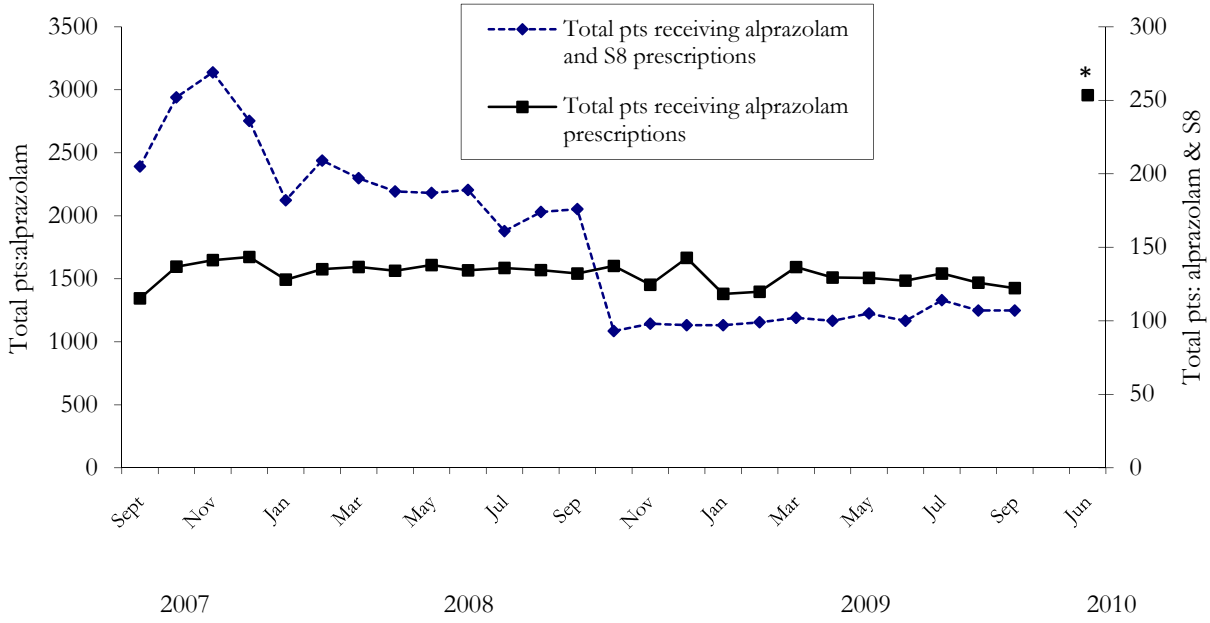
Participants were also asked to comment on price trends for illicit alprazolam. In 2010, the modal last purchase price paid for 2mg tablets of alprazolam was $15 (median $13.25, range $5-15, n=20), notably higher than reports from 2009: modal price for a 2mg alprazolam tablet was $10 (median $10.75, range $5-15, n=18). Participants were divided regarding changes in price for illicit alprazolam over the preceding six months: 53% (n=18) noted an increasing price trend and 44% (n=15) noted no change over this period.

Pharmaceutical Services (Tasmanian Department of Health and Human Services) has provided data summarising alprazolam prescription changes from September 2007 (when the regulatory changes were implemented) to June 2010. The total number of patients receiving prescriptions for alprazolam in September 2007 was 1,345 (Figure 60). This number increased slightly over the following three months to 1,673 in December, and then decreased by 11% to 1,493 patients receiving alprazolam in January 2008. Between January 2008 and September 2009, the total number of Tasmanian patients receiving alprazolam prescriptions has remained relatively stable (between 1,426 and 1,609 patients per month), with the exception of the period between November 2008 and February 2009, which saw more variable numbers of prescriptions (ranging between 1,380 and 1,666 per month) (Figure 60). In the 2009/10 period, this number increased, with 2,957 patient receiving alprazolam over this period[33].

[33] For the 2009/10 period, no monthly break-down of data was supplied.

The total number of patients receiving prescriptions for both alprazolam and a Schedule 8 (S8) drug increased from 205 in September 2007 to 269 in November 2007. This was followed by a sharp decrease over the following two months (182 patients in January 2008). Since early 2008, the total number of patients receiving prescriptions for both alprazolam and an S8 gradually declined, however, in October 2008, a sharp decline was recorded, with 93 patients receiving this combination of prescriptions. This lower number of patients receiving prescriptions for both alprazolam and an S8 was sustained through to September 2009 (data from October 2009-September 2010 were not available at the time of publication). According to information provided by Pharmaceutical Services, this decrease may in part be explained by patients ceasing their treatment with a pharmaceutical opioid in order to continue receiving alprazolam prescriptions.

Figure 60: Total numbers of Tasmanian patients receiving alprazolam and both alprazolam and a Schedule 8 drug, September 2007-June 2010



Source: Pharmaceutical Services, Department of Health and Human Services
* Data for the 2009/10 period was not provided to the authors by months, only a total for the financial year
Note: Data for total patients receiving both alprazolam and S8 prescriptions were not available for the 2009/10 period.

9.4 Trends in patterns of benzodiazepine use

KE and IDU consumers interviewed noted several recent trends in association with benzodiazepine use amongst IDU groups, with most revolving around use of Xanax[34] (alprazolam).

IDU consumers reported an increasing price for alprazolam tablets. One KE noted recent anecdotal reports of online purchases of alprazolam that were then sold to other users. KE reports suggested an overall decrease in injecting use of alprazolam, partly due to regulatory restrictions, and consumers' increasing knowledge of the harms associated with this practice,

[34] All KE and consumers referred to the drug as 'Xanax' rather than the more generic alprazolam, and as such, the authors have maintained this convention in this report.

and awareness that the therapeutic effects of alprazolam last longer when used orally. KE commenting on primary opioid and methamphetamine consumers generally noted that most of the clients they were familiar with reported some use of benzodiazepines. The most commonly cited benzodiazepine being used amongst these groups were diazepam and alprazolam.

9.5 Summary

There are clear indications that, following a reduction of the injection of benzodiazepines among IDU between 2002 and 2003, arising from the restriction and eventual removal of the preferred temazepam gel capsules from the market, injection of benzodiazepines remains an ongoing part of the local drug culture, with Tasmanian IDU consumers continuing to inject at rates relatively higher than those identified in other Australian jurisdictions. As noted in previous IDRS reports, it is also clear that alprazolam (Xanax in particular) has largely replaced the local illicit market for temazepam gel capsules among those IDU particularly interested in benzodiazepine injection, with this drug being used in similar ways to temazepam capsules by consumers, such as in simultaneous combination with methadone syrup or other opioids. Between the 2003 and 2008 studies, the proportion of the IDU samples reporting recent injection of alprazolam increased from 11% to 30%, however, since this time, this rate of injection has significantly decreased to 14% ($\chi^2(1_{n=100})=6.56$, $p=0.01$). The regulatory changes regarding alprazolam prescribing that were implemented by Pharmaceutical Services in September 2007 may account for recent indications of decreased availability and increased price of illicit alprazolam. Anecdotal reports from both IDU consumers and KE point to an increasing awareness amongst consumers of the physical and psychological harms associated with alprazolam injection. Additionally, the level of use and availability of benzodiazepines generally remains high for local IDU, particularly among primary users of opioids, which is again of concern given the increased risk of overdose when the two substances are combined. As such, patterns of benzodiazepine use and injection in the state continue to warrant very close attention.

10.0 OTHER DRUGS

10.1 Tobacco

Almost all participants in the current study reported lifetime use of tobacco (99%), with a similarly high proportion reporting use in the preceding six months (96%). The median frequency of this use was 180 days, equating to daily use. Ninety-three percent of the sample reported daily use of tobacco, a notably higher rate than was reported in the 2007 National Drug Strategy Household Survey, which estimated that 20.8% of the Australian population and 34.6% of the Tasmanian population aged between 30 and 39 (mean age of IDRS IDU cohort in 2010 was 35 years) smoked tobacco on a daily basis in the preceding 12 months (AIHW, 2008a,b).

10.2 Alcohol

Based on data from the 2007 National Drug Strategy Household Survey, it was estimated (from the sample of 1,143 participants) that approximately 40.5% of Tasmanians had used alcohol on a weekly basis in the year prior to interview, compared with 41.3% Australians nationally (AIHW, 2008a,b). The proportion of the Tasmanian NDSHS sample that had used alcohol daily in the year prior to interview was slightly lower in comparison to the national estimate (6.8% vs. 8.1%). Among those aged between 30 and 39 in the national NDSHS sample, 47.5% had used alcohol on a weekly basis and 4.6% had used alcohol on a daily basis in the past 12 months.

Almost all participants in the 2010 IDRS study reported lifetime use of alcohol (99%), and 64% of the cohort had used alcohol in the preceding six months. The median frequency of use amongst those who had recently consumed alcohol was 24 days, which equates to use once per week. Nine percent of participants (n=9) reported daily alcohol use in the preceding six months. One-quarter of the sample (27%) had used alcohol at least weekly (but not daily) during the six months preceding the interview, which is substantially lower than both the Tasmanian (40.5%) and national (41.3%) estimates of prevalence for the general population. However, the proportion reporting recent daily use of alcohol (9%) is higher than both the Tasmanian (6.8%), and national (8.1%) estimates of prevalence in the general population (aged 14 years and over), and also higher than the estimate for those aged 30-39 nationally (4.6%).

IDRS participants were also asked to complete the Alcohol Use Disorders Identification Test (AUDIT; Saunders et al. 1993) which is a brief screening scale to identify individuals with alcohol problems, including those in early stages. It is a 10-item scale, which assesses three conceptual domains: alcohol intake; dependence; and adverse consequences (Reinert & Allen, 2002). Total scores of 8 or more are recommended as indicators of hazardous and harmful alcohol use, as well as possible alcohol dependence (Babor et al., 2001). Higher scores indicate greater likelihood of hazardous and harmful drinking; such scores may also reflect greater severity of alcohol problems and dependence, as well as a greater need for more intensive treatment (Babor et al., 2001). Across the whole sample, the overall mean AUDIT score was 7.6 (median 4.0; range 0-38, SD=9.09, n=100), and amongst participants who reported use of alcohol in the preceding six months, the overall mean score was 11.6 (median=8.5; range 0-38, SD=9.13, n=64).

The total AUDIT score places respondents into one of four 'zones', or risk levels. Across the entire IDRS sample, almost two-thirds scored in the low risk zone (64%), a level reflecting low risk drinking or abstinence, 16% scored in zone 2, indicative of alcohol use in excess of low-risk guidelines, 8% scored in zone 3, harmful or hazardous drinking, and 12% scored in zone 4,

indicating that those in this zone may benefit from referral to assessment and possible treatment for alcohol dependence.

10.3 Ecstasy and related drugs

KE reported largely infrequent, oral use of 'ecstasy'[35] among a small minority of users of other illicit drugs, most commonly amongst groups that were primarily methamphetamine consumers, although reporting some use amongst primary cannabis-consuming groups and primary opioid-using groups.

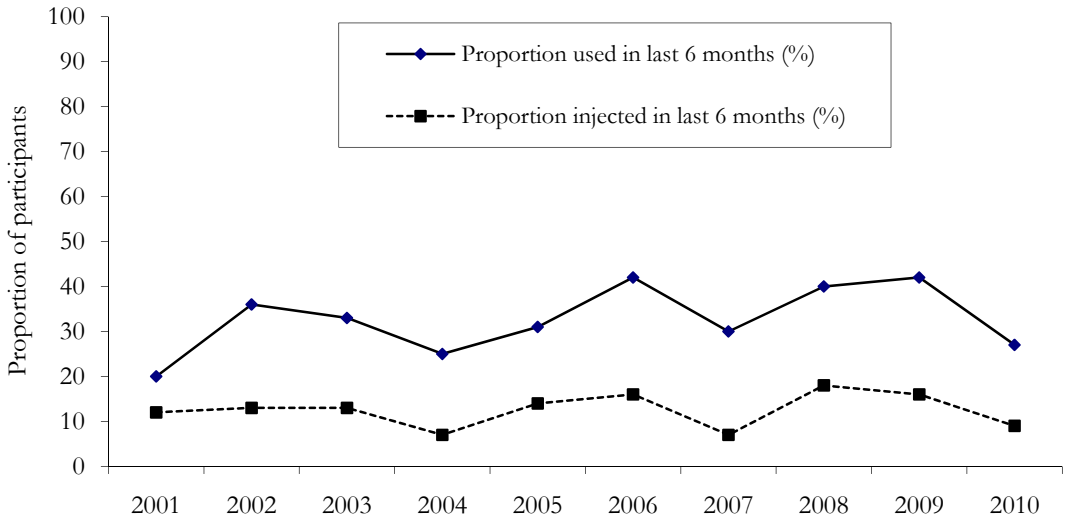
From the 1998 National Drug Strategy Household Survey for Tasmania (AIHW, 1999), 2.4% of those surveyed reported ever using ecstasy (n=28), while 0.7% had used it in the year prior to the survey. A very similar rate (0.8%) reported use of ecstasy in the year prior to interview in the 2001 NDSHS (n=1,349: AIHW, 2002b). In the 2004 survey, 1.6% of the 1,208 people sampled over the age of 14 years reported use of ecstasy in the previous year (AIHW, 2005b). In the 2007 survey, 2.4% Tasmanians reported use of ecstasy in the previous year (of a sample of 1,143), less than the rate reported nationally (3.5%) (AIHW, 2008b). While this may appear to suggest an increase in the prevalence of ecstasy use, given the small numbers of cases involved, this variation is well within that expected for sampling error, hence it is not possible to conclude that any reliable change in prevalence of ecstasy use had occurred between studies.

In the IDU sample, 69% had used ecstasy at some stage in their lives: swallowing of the drug was most common, reported by 64% of the sample; and 29% of the sample reported injecting at some point in their lifetime. Use of ecstasy in the previous six months was reported by 27%, at a median frequency of three days (range 1-42 days), which equates to use approximately once per two months. Oral use was reported by 22% of the sample, and 9% reported injecting in this period, at a median frequency of two days (range 1-40 days). As shown in Figure 61, these indications of use suggest a lower proportion of participants reporting recent use of ecstasy in 2010 compared with 2009 (2009: 42%; 2010: 27%: $\chi^2(1_{n=100})=4.34$, p=0.04).

The demographics of those that had used ecstasy in the past six months did not differ greatly from those of the larger IDU sample (see Section 3.1) in terms of age, cultural background, sexual preference, relationship status, education, prison history, accommodation, income received, current engagement in drug treatment, age of first injection, duration of injecting career, frequency of injection, drug of choice and first drug injected and drug most injected in the preceding month. However, recent ecstasy consumers in the current IDU cohort were more likely to be male (78% vs. 56%: $\chi^2(1_{n=100})=4.10$, p=0.034) than participants who had not reported recent ecstasy use. In addition, participants reporting recent use of ecstasy were also less likely to report being unemployed at the time of the interview (67% vs. 88%: $\chi^2(1_{n=100})=5.89$, p=0.019) and not surprisingly, more likely to report receiving income from a wage or salary in the preceding month (30% vs. 8%: $\chi^2(1_{n=100})=7.50$, p=0.01) than participants who had not reported recent ecstasy use.

[35] Intelligence reports from police in previous years suggest that many of the tablets sold as 'ecstasy' may not necessarily contain methylenedioxymethamphetamine (MDMA) as the primary active ingredient, although in recent years local seizures have increasingly identified the presence of tablets containing MDMA. As such, in this section, the term 'ecstasy' will be used to refer to tablets or powder sold under that name, rather than necessarily referring to MDMA.

Figure 61: Proportion of IDU reporting ecstasy use and injection in the preceding six months, 2001-2010



Source: IDRS IDU interviews

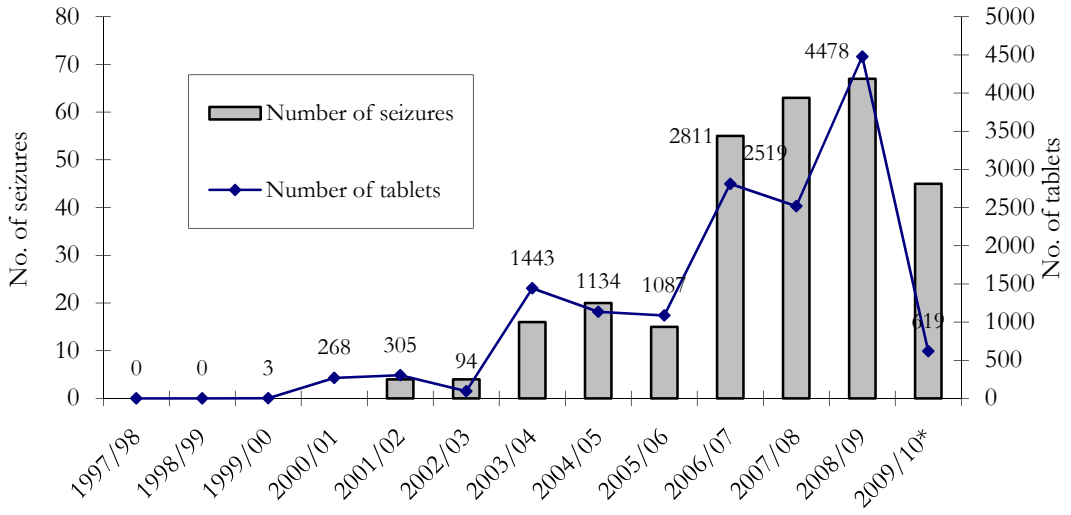
Trends in regard to price, purity and availability of ecstasy are not examined in detail within the IDRS study. However, a study conducted during a similar time-frame and methodology to the current study, using regular ecstasy users (REU) as the drug user cohort, has been conducted (Matthews & Bruno, 2011), and examines trends in ecstasy and other 'party drug' use in greater depth. This study found that whilst the median frequency of use remained relatively stable between 2009 and 2010, both availability and subjective purity had decreased in the preceding six months. The median price in Hobart in 2010 for ecstasy was $35 per tablet.

Figure 62 shows that there were no ecstasy tablets seized by Tasmania Police prior to the 1999/00 financial year. Since this time the number of tablets and the number of seizures have increased, with considerable increases observed in the number and total weight of seizures in the 2003/04 and 2006/07 reporting periods and a substantial increase in the total number of tablets seized during the 2008/09 period (4,478 tablets). In 2009/10 there was a notable decrease in both the number of seizures (n=45) and number of tablets seized[36] (619 tablets). In addition to these seizures of tablets, there were two seizures totalling 11 capsules and two seizures totalling 8.9 grams of powder in 2009/10.

There were three samples of phenethylamines (the class of drugs that ecstasy, or MDMA, and drugs such as 3,4 Methylenedioxyamphetamine (MDA), 3,4 Methylenedioxyethamphetamine (MDEA) and mescaline belong to) seized by Tasmania Police analysed for purity in 2003, returning a median purity of 28.5% (range 28.5-28.6%) (ACC, 2004). Similar results were returned from seizures analysed in 2003/04 (median purity 26.0%, range 10.4-44.5%, n=33) (ACC, 2005). No seizures were analysed for purity in 2004/05 or 2005/06. In 2006/07, four seizures were analysed, returning a median purity of 27.1% (range 26.0-54.7%), in 2007/08, three seizures were analysed, returning a median purity of 24.6% (range 6.4-26.6%), and 2008/09, two seizures were analysed returning a median purity of 34.3% (range 33.8-34.8%) (ACC, 2010). Data for 2009/10 was not available at the time of publication.

[36] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

Figure 62: Total number of tablets suspected to contain ecstasy seized by Tasmania Police, 1997/98-2009/10



Source: ACC**,** State Intelligence Services, Tasmania Police
* 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules
Note: Number of seizures was not available for the 1999/00 and 2000/01 periods; data includes only those seizures that were recorded in tablet form

Findings of the recent dedicated study into ecstasy use in Hobart (Matthews & Bruno, 2011) clearly indicate that availability and perceived purity decreased in the six months preceding the interview, and a corresponding increase in use of similar psychoactive substances such as methyl-methcathinone ('miaow', 'm-cat') was observed. This, and the dramatically decreased seizures by Tasmania Police, suggests lower levels of ecstasy in Hobart in 2010 than were present in the preceding four years.

Amongst IDRS participants, the very low median frequency of use, along with only a minority of this regular injecting drug user cohort reporting recent use of ecstasy, suggests that ecstasy use is generally a limited event among such groups, with regular injecting drug users tending to preferentially use opioids or methamphetamine at substantially greater frequency.

10.4 Prescription stimulants (dexamphetamine, methylphenidate)

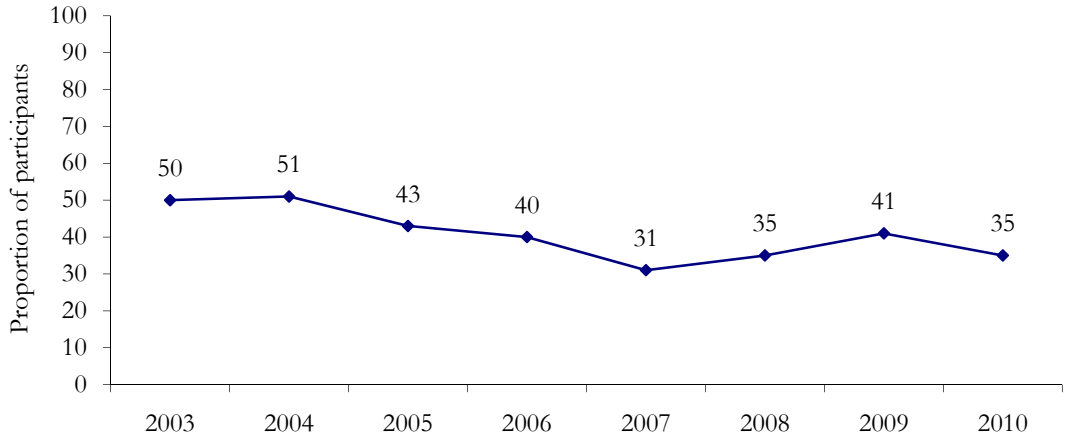
In the 2010 IDU sample, 65% had used illicit prescription stimulants at some stage in their lives. Injection of these drugs was most common, reported by 56% of the sample at some stage of their lives, and 28% in the preceding six months, at a median frequency of seven days in this period (range 1-96 days, SD=18.04). Swallowing of prescription stimulants was reported by 26% of the sample at some stage in their lives, while 11% had swallowed these drugs in the past six months. In total, 35% of the sample reported using illicit prescription stimulants in the past six months, with a median frequency of use of six days (range 1-96 days, SD=19.44) in this period. Of those who commented on the main type of pharmaceutical stimulant used (n=32), dexamphetamine (66%, n=21) was the most commonly used, followed by methylphenidate (34%, n=11).

While use of these drugs was relatively common among the IDU cohort, it appeared that they were predominantly used as a second-line drug, as just two participants reported prescription stimulants as the drug they had most commonly used in the preceding month. Looking at use of pharmaceutical stimulants over time, one notable trend was evident: the proportion of

participants reporting recent use decreased from 51% in 2004 to 31% in 2007 ($\chi^2(1_{n=100})=7.5$, p=0.006) (Figure 63).

Four KE commented on use of prescription stimulants: three who were employed in NSP settings noted recent increases in the number of client transactions, specifically for Ritalin, two of whom noted predominantly female clients. A fourth KE noted a small number of clients who had experienced chemical vasculitis from arterial injection of Ritalin in the preceding 12 months.

Figure 63: Recent use of illicit pharmaceutical stimulants amongst IDRS participants, 2003-2010



Source: IDRS IDU interviews

The demographic characteristics of those who had used prescription stimulants in the past six months did not differ from those of the larger IDU sample (see Section 3.1) in terms of age, sex, cultural background, sexual preference, education, employment status, relationship status, stable accommodation, prison history, frequency of injection, age at first injection, drug first injected, most injected and drug of choice. However, participants reporting recent use of illicit pharmaceutical stimulants were less likely to report engagement in opioid pharmacotherapy treatment in the preceding six months (26% vs. 45%: $\chi^2(1_{n=100})=3.45$, p=0.049) and more likely to report receiving income from criminal activity (34% vs. 12%: $\chi^2(1_{n=100})=6.87$, p=0.010) than participants reporting no recent use of illicit pharmaceutical stimulants. KE in previous IDRS studies have suggested that such prescription stimulants are more commonly used by younger (predominantly school-age) people. This was not supported in the current cohort, with no significant differences in age identified between those that had recently used pharmaceutical stimulants (35.6 years) and those that had not (34.4 years). One IDU participant and one KE noted that people using methamphetamine had started to use prescription stimulants over the last two years due to the poor quality of methamphetamine in the local market.

IDU reported the median market price of dexamphetamine tablets as $1 per mg (modal price estimate $1, range $0.80-1.40, n=16); and $0.92 per mg of methylphenidate (no single mode, range $0.83-1.00, n=2). These were consistent with the prices that IDU reported paying for their last purchase on the preceding six months.

Twenty-one participants could confidently comment on the last purchase price for 5mg dexamphetamine tablets, reporting a median price of $5 (modal price $5, range $4-7). Eight

participants commented on last purchase price for methylphenidate preparations, reporting a median price of $10 for a 10mg tablet (modal price $10, range $3-10) (Table 13). In 2009, the median and modal price for 10mg methylphenidate increased to $10, after consistently being reported to cost a median/modal price of $5. This increase was sustained in the current study.

Approximately half of those consumers able to report on price changes for pharmaceutical stimulants perceived no changes in the preceding six months (54%, n=13). However, two-fifths of participants (38%, n=9) perceived increases in price over this period.

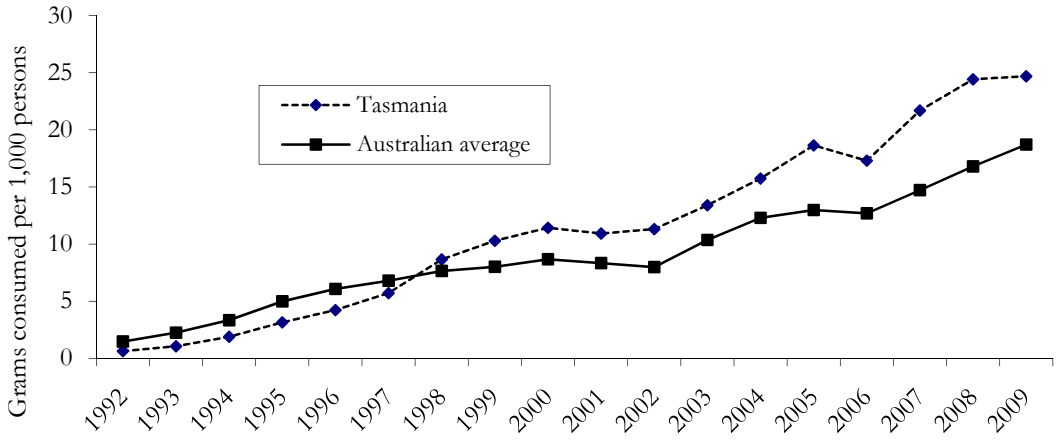
Participants were divided with regard to current availability of pharmaceutical stimulants (dexamphetamine, methylphenidate), with 52% considering these as 'difficult' (48%, n=13) or 'very difficult' (4%, n=1) to access, and 48% considering these preparations as either 'easy' (41%, n=11) or 'very easy' (7%, n=2) to access in the preceding six months. Participants were broadly in agreement over changes in availability over the preceding six months: 74% (n=20) noted no change in availability over the preceding six months; 15% (n=4) noted it had become increasingly difficult to access these drugs; and a small proportion noted increasing availability (7%, n=2).

When asked the source of their last purchase of illicit prescription stimulants, 45% (n=13) of participants reported purchasing from a friend, 41% (n=12) from a known dealer and 14% (n=4) purchased from an acquaintance. Participants were also asked to comment on the venue where they last purchased illicit prescription stimulants: 35% (n=10) purchased in an agreed public location; 24% (n=7) in a dealer's home; 21% (n=6) in a friend's home; and 14% (n=4) via home delivery.

Tasmanian prescription rates of methylphenidate and dexamphetamine (Figures 64 and 65) provide some context for these reports. Over the past decade, prescriptions of these stimulants have steadily grown nationally, most markedly for methylphenidate. Tasmanian consumption rates of methylphenidate were consistently below that of the Australian average until 1998, and rose to 128% of the national average in 1999, and maintaining this level over time (being 132% of the national level in 2009), even in the context of an increasing national prescription rate.

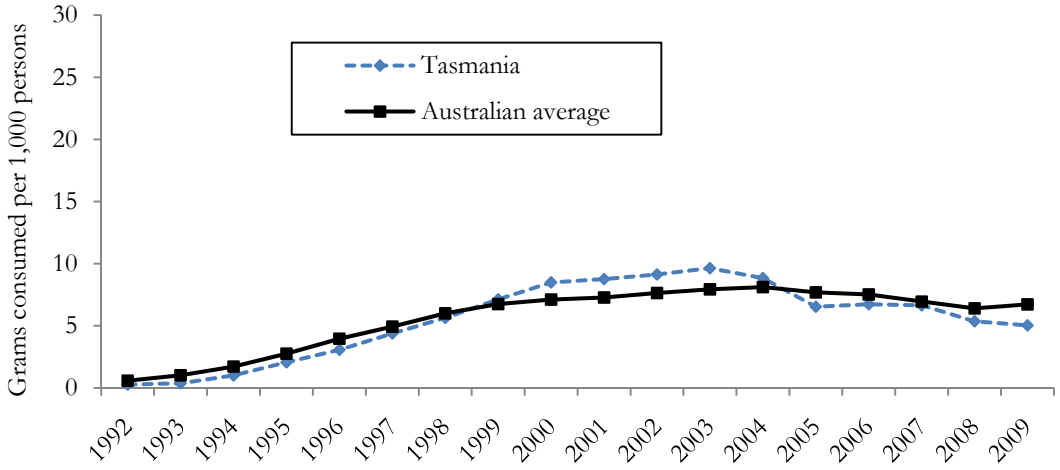
Tasmanian consumption rates of dexamphetamine were comparable to that of the national level between 1997 and 1999, rising to 120% of that of the steadily increasing Australian average between 2000 and 2003. However, in the first decline in prescription rates seen in these data, rates of dexamphetamine prescription fell to a level comparable to the national rate in 2004. In 2005, this decline in the Tasmanian consumption rates of dexamphetamine continued, falling to 85% of the Australian average. Between 2006 and 2008, the rates of prescriptions in Tasmania ranged between 84% and 96% of the national level, whereas in 2009 – in the face of a small increase in the national rate of prescription and a small decrease in the Tasmanian rate – the Tasmanian rate has decreased to 75% of the national rate.

Figure 64: Consumption of methylphenidate (Ritalin) per 1,000 persons, 1992-2009



Source: National Drug System (formerly DRUMS), Pharmaceutical Services, Department of Health and Human Services

Figure 65: Consumption of dexamphetamine per 1,000 persons, 1992-2009



Source: National Drug System (formerly DRUMS), Pharmaceutical Services, Department of Health and Human Services

10.5 Inhalants

While 27% of the IDU respondents reported ever using inhalants, just 3% had used them in the six months prior to interview. The inhalants reported included nitrous oxide, amyl nitrate, and paint. The use of these substances was extremely infrequent, with a median frequency of just one day in the preceding six months (range 1-2 days).

KE were not aware of any recent use of inhalants amongst the drug users they had contact with. In previous IDRS studies, KE reported that the substance users they were associated with were extremely negative toward use of inhalants, regarding it as a 'primary school thing'.

10.6 Hallucinogens

Twelve percent of the IDU respondents in the current study reported use of hallucinogens in the six months prior to interview, although almost three-quarters (71%) had used this class of drugs at some stage in their lives. The current frequency of use was rare, at a median of one day in the past six months (range 1-10 days). The majority of participants had used these drugs only once (n=7) or twice (n=2) in this time. The types of hallucinogens most commonly used amongst this group were lysergic acid diethylamide (LSD) (50%, n=6) and psychedelic mushrooms (42%, n=5). These indications of use are all similar to those reported in previous Hobart IDRS samples, with recent use remaining generally stable at around 20% of each cohort over this time, and the median frequency of use remaining at just one or two days in the preceding six months across each of these samples.

In the current study and in previous years, KE reports noted irregular use, most commonly of psychedelic mushrooms and LSD/'trips' amongst a small proportion of the consumers that they had contact with, with such reports more common amongst primary cannabis or methamphetamine consumers rather than groups that primarily used opioids. In support of this, the Ecstasy and related Drugs Reporting System – using similar methods to the IDRS but a primary ecstasy-using group as its consumer sample and conducted in Hobart (Matthews & Bruno, 2005, 2006, 2007, 2008, 2009, 2010, 2011) – found higher levels of hallucinogen use relative to the IDRS IDU cohort (albeit also at a low frequency) among frequent ecstasy users (27% of the 100 ecstasy users using LSD in the six months prior to interview in 2010; and 18% using mushrooms). More details in regard to patterns of hallucinogen use in such demographic groups can be found in Matthews and Bruno (2011).

Price information in regard to LSD has not been reported by the ACC in their annual reports since 2001/02, but was reported as costing $20-25 in this period. ACC arrest and seizure data for hallucinogens includes tryptamines such as LSD and psilocybin (mushrooms). There have been a small number of arrests in Tasmania in relation to hallucinogens between 1997/98 and 2008/09, ranging between one and three per financial year. In the 2009/10[37] period, Tasmania police reported three consumer arrests and one provider arrest in relation to hallucinogens. The number of seizures of hallucinogens has also been low: in 2009/10 Tasmania Police reported one seizure of mushrooms totalling 43.2 grams; four seizures of mushrooms each of one plant; and 10 seizures of LSD totalling 52 tabs (Tasmania Police State Intelligence Services).

10.7 Alkaloid poppies

Seven percent of the current cohort reported use of alkaloid poppies at some stage in the preceding six months (described by the IDU as opium or poppy tar). This level of recent use of alkaloid poppies is similar to that reported between 2006 and 2009 (8-12%), but remains somewhat less than that identified in the preceding five local IDRS IDU cohorts (12-21%) (Table 40).

Tasmania Police State Intelligence Services reported stable prices of $10 and $20 per 'ball' of poppy tar between January 2000 and June 2001, but have not reported price information for alkaloid poppy preparations since this time. Seizures of poppy products are reported in a variety of measures, (including grams of tar, resin, seed, poppy product and vegetable manner, numbers of capsules and plants, and units of plant material), rendering it difficult to clearly

[37] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

identify trends in seizure data (Table 40). In 2009/10[38], Tasmania Police reported making 13 seizures of poppy products, amounting to 913 units and 49.5g of a poppy product.

The diversion rate of Tasmanian alkaloid poppy crops, shown in Table 40 below, had been in decline between 1996/97 and 1997/98. Contrary to this trend, however, 1998/99 and 1999/00 saw a substantial amount of poppies stolen from crops. It should be noted that a small number of particularly large hauls were largely responsible for these rates of diversion (in one case, a single haul of approximately 50,000 capsules were stolen). In concert with trends suggesting a decline in alkaloid poppy use amongst IDU during 2001, there was a major decrease in the numbers of poppies stolen during 2000/01, when compared to the two earlier financial years (7,765 capsules in comparison to over 60,000 in 1998/99 and 1999/00). The 2001/02 financial year saw a doubling of the number of stolen poppy capsules (15,946) in comparison to the previous year, and thefts had continued to rise in 2002/03 and 2003/04 (to 20,223 and 24,128 capsules stolen per annum respectively). However, since 2003/04, the number of capsules stolen and the number of theft incidents recorded has declined markedly, despite a small increase between 2008/09 and 2009/10 (with 2,280 capsules stolen in 2008/09 and 4,772 in 2009/10; 17 incidents of theft reported in 2008/09 and 33 in 2009/10).

[38] Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

Table 40: Tasmanian alkaloid poppy crop diversion rates, 1996/97-2009/10

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Number of capsules stolen	42,426	30,424	66,013	62,700	7,765	15,946	20,223	24,128	16,201	10,263	9,344	820	2,280	4,772
Cost per hectare of securing poppy crops	$45	$39	$33	$27	$28	$28	$30	$47	$44	$62	$68	$71	$33	$30
Number of capsules stolen per hectare sown	3.95	2.44	4.41	2.99	0.39	0.81	1.11	1.97	1.25	1.06	1.04	0.07	0.14	0.23
Number of theft incidents reported	46	38	34	39	20	27	27	39	35	13	7	8	17	33
% of IDU sample reporting use	-	-	-	34	13	14	12	13	21	8	10	10	11	7
Median days used (among IDU using)	-	-	-	6 (1-151)	6 (1-81)	4 (1-45)	5 (1-48)	3 (1-96)	3 (1-144)	3 (1-100)	2 (1-45)	7 (1-100)	3 (1-90)	14 (1-45)
TASPOL seizures	-	-	-	*3,933 capsules*; 50g tar*	*3,522 capsules**	*382 capsules*; plus 9,319g of capsules*	*7 capsules plus 1,473.3g capsules; 84 plants; 2g tar*	*601 capsules; 18g resin; 31 plants; **	*626 capsules; 2,515.4g capsules; 2.7g resin; 473 plants; 11.7g seed*	*59 capsules; 33 plants; 3 seeds; 224.7g poppy products*	*363 capsules; 283.2g of capsules; 290ml liquid; 8 plants; 8 seeds*	*144 plants; 26 capsules; 64g*	*445 g of poppy products; 231 units*	*908 capsules; 3 units liquid; 2 units plant material; 49.2g seed; 0.3g veg matter*

Source: Poppy Board, Justice Department of Tasmania, Tasmania Police State Intelligence Services.

* May be an overestimate of seizures as Tasmania Police data are an amalgamation of plants, capsules and weight of seizures. Data reported here are the best estimate of seizure quantity

Note: 2009/10 data from Tasmania Police is preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

10.8 Summary of trends for other drugs

The IDRS methodology is not particularly well-suited to gathering data regarding trends in use of other illicit drugs such as ecstasy, hallucinogens and inhalants, as these populations often do not come into contact with the services KE are involved with, or they do not meet the criteria for inclusion in the IDU survey. As such, trends identified here should be interpreted with due caution and may merit further investigation using more appropriate methodologies.

The main trends identified for these categories of drugs are outlined below.

- Tobacco remained the most commonly used drug amongst the sample, with almost all participants reporting recent use.
- More than two-thirds of the 2010 cohort reported recent use of alcohol, with the median frequency of this use being weekly. Twenty percent of the sample reported harmful or hazardous drinking levels, or possible alcohol dependence, as scored by the AUDIT.
- Prescription stimulants were used by 35% of the participants in the current study on an infrequent basis and were generally not the stimulant drug most commonly used by such individuals.
- Twenty-seven percent of the IDU consumers interviewed had recently used ecstasy, a lower rate than reported in 2009 (42%). Use of ecstasy amongst IDU participants remained infrequent. Multiple sources of information suggested that the availability of ecstasy had increased in Hobart during recent years, just as it had across the country; however, in 2010, there were indications of decreasing availability and subjective purity of ecstasy and a corresponding increase in use of alternative psychoactive substances such methyl methcathinone (Matthews & Bruno, 2011).
- Twelve percent of the 2010 cohort reported recent use of hallucinogens, and frequency of use was very low. LSD and mushrooms were the predominant forms used.
- Use of illicit alkaloid poppies among the IDRS IDU cohort has remained low and stable since 2006, ranging between 7% and 11%. Reports of thefts from poppy crops declined dramatically in 2006/07 and 2007/08 (7 and 8 incidents respectively); however, a small increase was reported in 2009/10 (33 incidents).

11.0 HEALTH-RELATED TRENDS ASSOCIATED WITH DRUG USE

11.1 Overdose and drug-related fatalities

11.1.1 Opioids

Non-fatal overdose

All but one participant reported that they had used some form of opioid in their lifetime, and 29% of these had ever experienced a (non-fatal) opioid overdose. Among these 29 individuals that had ever experienced an opioid overdose, 17 (66%) had overdosed on heroin, 10 (34%) with morphine, seven (24%) on methadone and three (10%) on oxycodone (five of these participants reported overdosing on two or more different opioids). Four participants in the current cohort had overdosed on any opioid in the year prior to interview (Table 41): single participants with morphine; methadone and oxycodone; and a single participant using a combination of morphine and oxycodone. Of those participants who had ever overdosed on any opioid, the median number of times they had overdosed was once (for heroin overdose: median once, range 1-13 times; for morphine overdose: median once, range 1-2 times; for methadone overdose: median once, range 1; and for oxycodone: once, range 1-2 times). Among those that had ever experienced an opioid overdose, the median time since their last overdose was seven years: amongst those that had overdosed on heroin, it was 12 years (range 36-372 months); for morphine, it was five and a half years (range 12-192 months); for methadone four years (range 1-192 months) and for oxycodone 12 months (range 1-192 months).

The proportion of the sample reporting having ever overdosed on an opioid was slightly lower in 2010 (29%) than in 2009 (40%), but this difference was not statistically significant ($p=0.14$). Similarly, when observing the proportion of IDU participants that reported experiencing an overdose in the preceding year, a small decrease was noted between 2009 and 2010 (11% and 4% respectively), and again, this difference was not significant ($p=0.1$).

Participants reporting an opioid overdose in the 12 months preceding the interview were asked to comment on any treatments they received for this. Of the four participants who commented: one received treatment from a GP; one from a hospital emergency department; and two participants received treatment from ambulance officers.

Table 41: Reported experience of non-fatal opioid overdose among the IDU sample (N=100), 2000-2010

	% of IDU in past month										
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Overdosed (ever)~	31%	25%*	33%	34%	46% *35% heroin; 18% morphine*	33% *22% heroin; 6% morphine; 9% methadone*	32% *21% heroin; 8% morphine; 6% methadone*	34% *17% heroin; 11% morphine; 9% methadone*	26% *15% heroin; 7% morphine; 11% methadone*	40% *(25% heroin; 10% morphine; 5% methadone)*	29% *(17% heroin; 10% morphine; 7% methadone; 3% oxycodone)*
Median times ever overdosed	twice	once	once	twice	thrice *thrice (heroin); once (morphine)*	twice *twice (heroin); once (morphine; methadone)*	twice *thrice (heroin); once (morphine)*	once *twice (heroin); once (morphine)*	once *twice (heroin; morphine); once (methadone)*	once *once (heroin; morphine; methadone)*	once *once (heroin; morphine; methadone)*
Overdosed last 12 months~	10%	8%	7%	5%	11%	6% *2% heroin; 4% methadone*	1% *heroin*	7% *4% methadone; 3% morphine*	4% *4% methadone; 3% morphine*	11% *1% heroin; 5% morphine; 4% methadone; 1% morphine and methadone*	4% *1% morphine; 1% methadone; 1% oxycodone; 1% both morphine and oxycodone*

Source: IDRS IDU interviews.

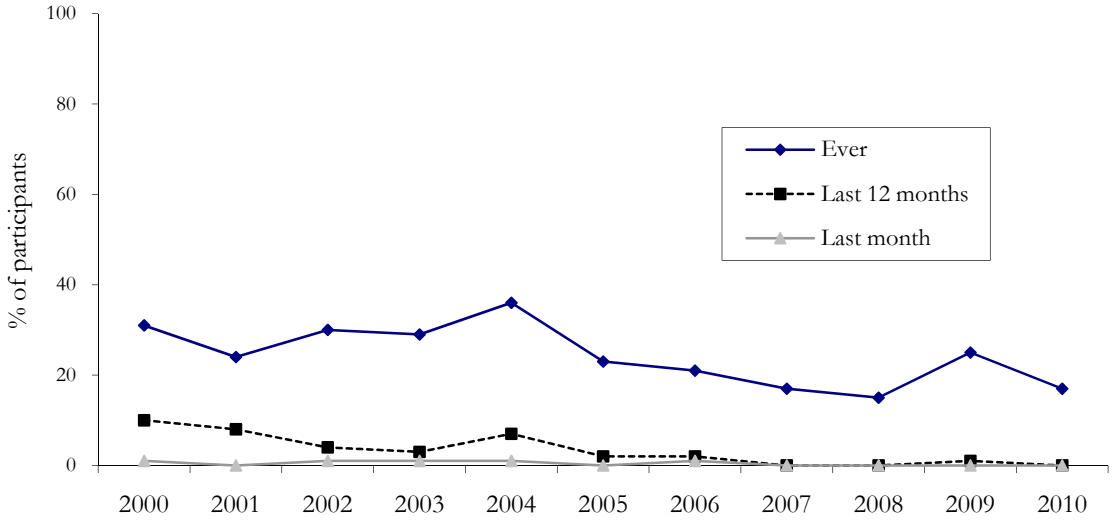
*All but one of these cases reported overdosing on heroin, rather than any other opioid. The varying case was a reported morphine overdose

~ Multiple responses allowed

Heroin

No participants in the current cohort reported experiencing a non-fatal heroin overdose in the year prior to interview. Examining trends in experience of heroin overdose in the IDRS IDU cohorts over time (Figure 66), it appears that recent experience of heroin overdose has been declining over time, consistent with the decline in use of this drug in successive cohorts.

Figure 66: Proportion of IDU participants who had ever overdosed on heroin, overdosed in the past 12 months, and the past month, 2000-2010



Source: IDRS IDU interviews

Note: The one participant who reported a heroin overdose in 2006 reported concomitant use of crystal methamphetamine

Methadone

Seven participants in the current cohort reported ever having experienced a non-fatal methadone overdose. Of this group, one participant reported experiencing a methadone overdose in the 12 months preceding the interview. The numbers of reports of experience of methadone overdoses are similar to those in 2009, where four participants had experienced a methadone overdose in the 12 months prior to interview.

Morphine

Overall, ten IDU participants (10%) in the current cohort reported ever having experienced a non-fatal morphine overdose, and two participants reported such an experience in the year prior to interview (one also reporting concomitant use of oxycodone). The rate of these experiences in the current cohort was similar to previous local IDRS studies.

Oxycodone

Three IDU participants (3%) in the current cohort reported ever having experienced a non-fatal oxycodone overdose, and two participants reported such an experience in the year prior to interview (one also reporting concomitant use of morphine).

Fatal Opioid Overdoses

The Australian Bureau of Statistics (ABS) has changed the way deaths data is collated, making comparisons to earlier overdose bulletins published by the National Drug and Alcohol Research Centre difficult. Since 2003, the ABS has progressively ceased visiting jurisdictional

coronial offices to manually update causes of death that had not been loaded onto the computerised National Coronial Information System (NCIS). In 2006, the ABS began to rely solely on data contained on NCIS at the time of closing the deaths data file. In addition, a number of jurisdictions, notably New South Wales and Queensland, reported backlogs in cases that had been finalised by the coroner (i.e. cases where the coroner had determined the cause of death), but not yet been loaded onto NCIS. This is likely to have an impact on the number of opioid-related deaths recorded at a national level in 2006, given that New South Wales and Queensland recorded the highest number of opioid-related deaths in Australia during the period 2000-2005. Accordingly, only drug-related deaths for 2006-2008 are reported here. These data should be interpreted in conjunction with the ABS Technical Note 2: *Coroner Certified Deaths*, 3303.0 2007 (Roxburgh & Burns, 2009).

The following findings relate to numbers of drug-related deaths recorded at the time of closure of the 2008 ABS deaths data file. These figures may not be complete due to changes in methodology. Data for causes of death for 2008 are preliminary, and are likely to change with the release of the first and final revision of the 2008 causes of death data. Revisions are due for release in March 2011 and March 2012 respectively.

The number of accidental deaths in Tasmania due to opioid use in 2007 was 11, which equates to a rate of 23 per million of population. In 2008, a smaller number of deaths due to opioid use were reported, however, the precise number was not provided to protect confidentially. Nationally in 2008, 337 deaths were attributed to such causes, which equates to a rate of 16 per million population (Table 42).

Table 42: Accidental deaths due to opioid use among those aged 15-54 years, 2006-2008

	2006	2007	2008
No. of accidental deaths due to opioid use			
Tasmania	10	11	np
Australia	269	266	337

Source: Roxburgh & Burns, in press
Note: data for causes of death for 2008 are preliminary, and are likely to change with the release of the first and final revision of the 2008 causes of death data
Note: np means that the data in these jurisdictions were not published in order to protect confidentiality (i.e. n<10)

11.1.2 Stimulants

Non-fatal stimulant overdoses

Participants were asked if they had ever experienced a non-fatal methamphetamine overdose. Methamphetamine overdose is often characterised by profuse sweating, increased pulse, blood pressure and body temperature, and in severe cases (which occur infrequently) can also result in cardiovascular problems, stroke, kidney failure and death. Amongst the current cohort, three participants reported ever having experienced a non-fatal methamphetamine overdose: all of these events were related to use of powder form. In the 12 months prior to the interview, one participant reported having experienced a non-fatal methamphetamine overdose. In 2009, two participants reported ever having experienced such an overdose; however, none of these had occurred in the preceding twelve months.

Fatal stimulant overdoses

As mentioned in Section 11.1.1, in previous IDRS reports, overdose-related fatalities data from 1998 to the present (provided by the ABS) have been discussed. Due to a change in the way

deaths data was collated by the ABS, it was not possible to compare 2006-2008 drug-related deaths to the earlier overdose bulletins published by the National Drug and Alcohol Research Centre that cover the period 1988 to 2005 (Roxburgh & Burns, in press).

The following findings relate to numbers of drug-related deaths recorded at the time of closure of the 2008 ABS deaths data file. These figures may not be complete due to changes in methodology (Roxburgh & Burns, in press).

Nationally in 2008, fewer deaths were found to be related to methamphetamine use than opioid use (Roxburgh & Burns, in press): 13 cases of accidental death for which methamphetamine was found to be the underlying cause, and 55 deaths where methamphetamine was thought to be either the underlying or a contributory cause (Table 43).

In 2008, cocaine was noted as the underlying cause of 2 deaths nationally, and there were 11 deaths where cocaine was mentioned as either the underlying or contributory cause (Table 43).

Table 43: Number of methamphetamine or cocaine deaths among those aged 15-54 years in Australia, 2006-2008

Cause of death	2006	2007	2008
Any mention of methamphetamine	66	49	55
Methamphetamine underlying cause	18	20	13
Any mention of cocaine	13	11	11
Cocaine underlying cause	6	7	2

Source: Roxburgh & Burns, in press
Note: data for causes of death for 2008 are preliminary, and are likely to change with the release of the first and final revision of the 2008 causes of death data

11.2 Drug treatment

11.2.1 Information-seeking: Alcohol and Drug Information Service (ADIS)

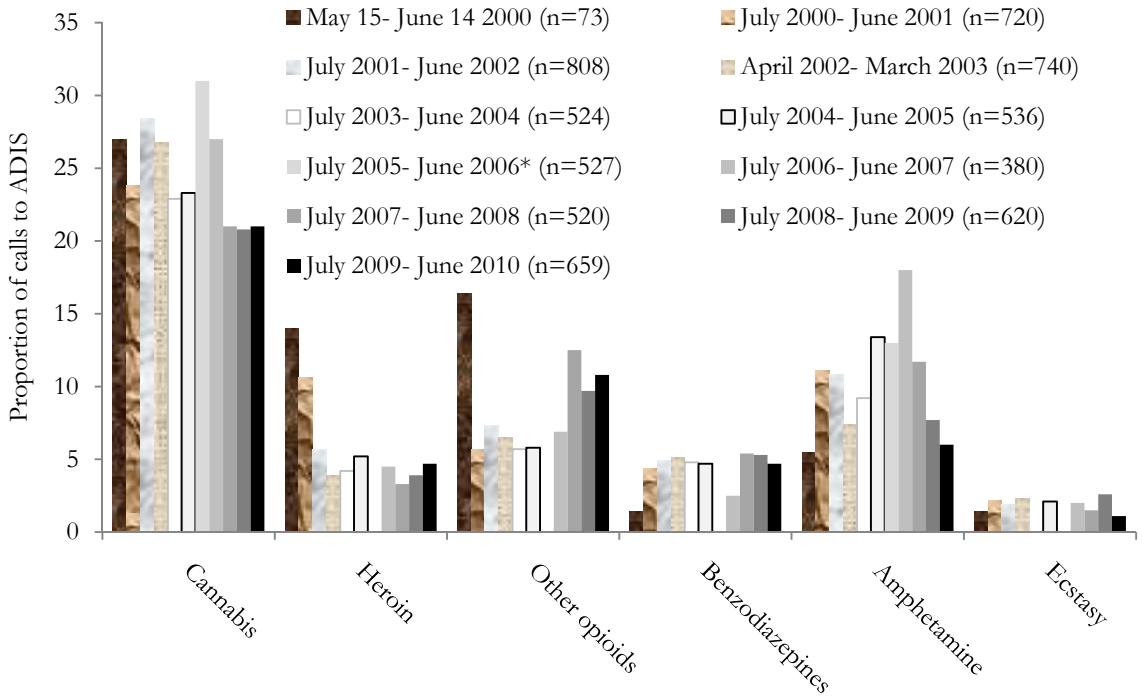
The Tasmanian Alcohol and Drug Information Service (ADIS) has been administered by Turning Point Alcohol and Drug Centre in Victoria since May 2000. Turning Point systematically records data for each call received; however, data has been reported over differing time periods due to the requirements of the Department of Health and Human Services. Thus, for comparative purposes (and since these annual data are the only information available to the authors), these slightly differing reporting periods will each be treated as financial year periods. The number of calls made to ADIS have slowly declined in recent years: there were 2,422 calls made to the service between 15 May 2000 and 30 June 2001; 2,208 in the 2000/01 financial year; 1,827 in 2001/02; 1,984 during the period April 2002 to March 2003; 1,837 during 2003/04; 1,498 in 2004/05; 1,469 in 2005/06; 1,474 in 2006/07; 1,525 in 2007/08; 1,556 in 2008/09 and 1,416 in 2009/10.

Among calls in 2000/01, where the demographics of a specific drug consumer were identified, there was an approximately equal gender distribution (50.1% male), which was particularly noteworthy, given that statistics from similar services in Victoria have consistently demonstrated a preponderance of male drug users in calls to their services, usually in the order of two-thirds male. In 2001/02, the drug users identified in calls to ADIS fell more closely to this 'traditional' bias, with 58% of calls relating to males, a ratio that has continued into recent years (56-63% male between 2002/03 and 2009/10).

Trends in the age of drug consumers identified in calls to ADIS over time are difficult to identify due to differences in the age groupings adopted across reports. During 2000/01, the majority of drug users identified were aged between 22 and 40 years of age (59%), although a sizeable proportion of calls related to people in the 16 to 18 year age group (15.5%). In subsequent years, it would appear that there has been a slow shift towards an increasing age of drug consumers identified in ADIS calls: over time the proportion over age 40 has increased (19% were over 40 in 2001/02 to 54% in 2009/10). Additionally, the proportion of ADIS calls from young people (i.e. aged less than 20 years) regarding drug use was stable at around 10% between 2001/02 and 2004/05. This rate rose slightly in 2006/07 to 17%; however, since this time this rate has been notably lower (1% in 2009/10).

In terms of the types of drugs that were enquired about in ADIS calls, again, it is difficult to make clear inferences regarding trends due to shifts in reporting criteria; however, in all sets of ADIS data, the bulk of calls pertaining to illicit drugs in each year were in regard to cannabis use, followed by amphetamine. A relative increase in the proportion of calls relating to cannabis was apparent in 2005/06 (23% in 2004/05; 31% in 2005/06), possibly reflecting media campaigns in regard to an association between cannabis use and mental health problems. The rate of calls in relation to cannabis use was notably lower between 2007/08 and 2009/10 (21% per reporting period). A slight increase was apparent in calls in relation to amphetamine in 2006/07 (13% in 2005/06; 18% in 2006/07), however, over the subsequent three financial years this rate has decreased (12% in 2007/08, 8% in 2008/09 and 6% in 2009/10) (Figure 67).

Figure 67: Percentage of calls to ADIS referring to persons using specific drugs, May 15, 2000-June 2010



Source: ADIS Tasmania Reports, Turning Point Alcohol and Drug Centre
* 2005/06 data were only provided for amphetamines and cannabis
Note: Calls referring to ecstasy were not specified in the 2004 reporting, and may have been collapsed into the 'other' column)

11.2.2 Treatment: Tasmanian Alcohol and Other Drug Treatment Minimum Data Set

The National Minimum Data Set (NMDS) for Alcohol and other Drug (AOD) Treatment Services was developed as a nationally consistent response to data collection for AOD treatment services. Data collection began on 1 July 2000, and data from Tasmanian government and non-government agencies across the state are presented in Table 44 below. Data from clients receiving only methadone maintenance treatment, and admitted patients in psychiatric hospitals or general hospital wards, are not included in these figures.

The findings from the 2008/09 data show 70% of those receiving services were male and 10% identified as being ATSI. Figures for the reported principal drug of concern in 2008/09 show 39% of clients reported cannabis and 38% alcohol, followed by amphetamine (9%) and morphine (6%) (Table 44).

There are several notable changes in the NMDS figures between the 2000/01 and 2008/09 datasets (Figure 68). Chief amongst these are the changes regarding alcohol being the predominant drug identified as primary drug of concern. Between 2000/01 and 2002/03, alcohol was commonly reported as the principal drug of concern for the largest proportion of drug treatment clients (approximately 40% of cases), with cannabis the next most commonly reported principal drug of concern, by a substantially smaller proportion (approximately 20% of clients). Between 2003/04 and 2005/06, alcohol and cannabis were the principal drugs of concern for equal proportions of treatment clients (approximately 30% of clients respectively); however, since 2006/07, more episodes were reported for cannabis as the principal drug of concern than alcohol (39% and 38% respectively in 2008/09). Variations in the proportion of treatment episodes related to nicotine have also occurred. In 2000/01, just 2.4% of episodes were reported for nicotine as the primary drug of concern. Between 2001/02 and 2004/05, this was the principal drug of concern for approximately one-sixth of clients (approximately 17%); however, since 2006/07, 1% or less of treatment episodes were reported for nicotine. Specific changes in relation to other drug types are discussed separately in following sections.

Table 44: Tasmanian Alcohol and Other Drug Treatment Services Minimum Data Set, 2000/01-2008/09

Total Data Set	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08*	2008/09*
n	1,404	1,735	2,568	2,357	1,921	1,512	1,564	2,302	2,081
% receiving service for their own use	91% (n=1,279)	97% (n=1,691)	89% (n=2,286)	68% (n=1,603)	71% (n=1,364)	90% (n=1,357)	95% (n=1,478)	92% (n=2,124)	95% (n=2,081)
For those receiving services for their own use									
Sex (% male)	65% (n=826)	66% (n=1,116)	66% (n=1,509)	58% (n=930)	59% (n=805)	60% (n=814)	64% (n~950)	69% (n~1455)	70% (n=1,451)
Aboriginal and/or Torres Strait Islander	8% (n=103)	7% (n=123)	8% (n=183)	6% (n=96)	7% (n=95)	7% (n=95)	11% (n~165)	11% (n~232)	10% (n=208)
Principal drug of concern									
Alcohol	39% (n=496)	37% (n=620)	41% (n=933)	29% (n=463)	31%(n=423)	38%(n=515)	36% (n=532)	32% (n~682)	38%(n~748)
Nicotine	2% (n=31)	17% (n=280)	18% (n=412)	13% (n=200)	17%(n=226)	2% (n=27)	0	n/r	1%(n~22)
Cannabis	23% (n=290)	25% (n=418)	19% (n=426)	37% (n=593)	31% (n=423)	34% (n=462)	39% (n=583)	45% (n~936)	39% (n~767)
Amphetamine	12% (n=155)	10% (n=161)	8% (n=180)	9% (n=136)	10% (n=134)	12% (n=160)	13% (n=190)	11% (n~239)	9% (n=169)
Cocaine	<1% (n=3)	0	0	<1% (n=2)	0	<1% (n=1)	0	0	0
'Ecstasy' and related	<1% (n=1)	<1% (n=5)	0	<1% (n=11)	<1% (n=10)	1% (n=15)	2% (n=25)	2% (n~36)	1% (n~26)
Heroin	2% (n=30)	1% (n=18)	<1% (n=12)	<1% (n=13)	<1% (n=3)	<1% (n=11)	<1% (n=6)	<1% (n~7)	<1% (~10)
Morphine	7% (n=84)	7% (n=121)	n/r	n/r	6% (n=80)	5% (n=64)	3% (n=40)	5% (n~97)	6% (n~127)
Methadone	6% (n=77)	<1% (n=3)	4% (n=79)	3% (n=48)	2% (n=27)	3% (n=46)	2% (n=25)	1% (n~23)	1% (n~26)
Other opioids	4% (n=53)	1% (n=19)	8% (n=173)	n/r	<1% (n=12)	n/r	n/r	<1% (n~12)	2% (n~38)
Benzodiazepines	3% (n=37)	2% (n=29)	<1% (n=16)	1% (n=16)	<1% (n=11)	1% (n=18)	1% (n=21)	1% (~27)	1% (n~28)
Other	<1% (n=10)	<1% (n=7)	2% (n=55)	7% (n=114)	1% (n=15)	1% (n=15)	3% (n=48)	2% (n~36)	0

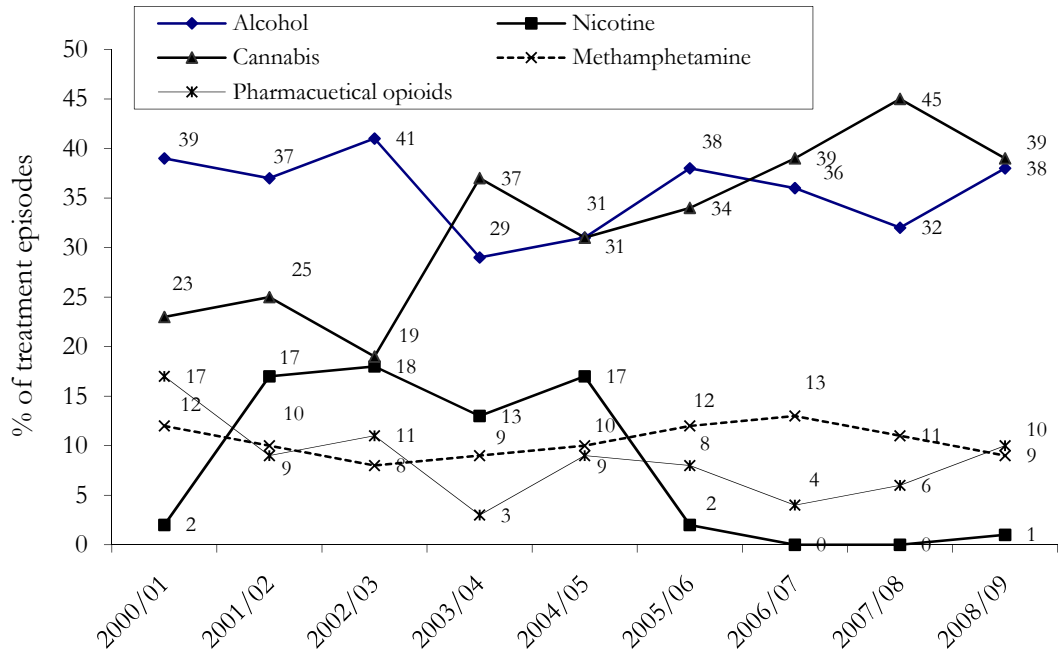
Source: Australian Institute of Health and Welfare

* The total number of closed treatment episodes may be undercounted because two agencies only supplied drug diversion data

n/r Not recorded

Note: Multiple presentations of the same individual excluded

Figure 68: Tasmanian Alcohol and Other Drug Treatment Services Minimum Data Set: Principal drug of concern, 2000/01-2008/09



Source: Australian Institute of Health and Welfare

Heroin

The proportion of treatment episodes noting heroin as the principal drug of concern has remained very low in Tasmania, at 1% or less since 2001/02. Local rates are notably lower than those reported nationally, where 10.3% of treatment episodes were related to heroin as a principal drug of concern in 2008/09 (AIHW, 2010). Data for the 2009/10 financial year were not available at the time of publication.

Methamphetamine

In the 2008/09 NMDS, meth/amphetamine was reported as the principal drug of concern for 8.5% of treatment episodes in Tasmania and 9.2% nationally (AIHW, 2010). This local rate is significantly lower than reported in 2007/08 (11.3%: $\chi^2(1_{n=4107})=1.96$, p=0.004) (Table 44).

Calls relating to use of amphetamine to the Tasmanian ADIS telephone service increased relatively between 2005/06 and 2006/07, from 13% to 18%, however, in 2007/08 and 2008/09, this rate retuned to levels reported prior to 2006/07 (12% and 8% respectively). Amphetamine has remained the third most common drug enquired about in calls to ADIS since 2000/01, following alcohol and cannabis.

Cocaine

In 2008/09, there were no reports of treatment episodes provided in which cocaine was the principal drug of concern. Reports of cocaine as the principal drug of concern amongst Tasmanian clients of drug treatment services are uncommon, comprising just 0.2% or less of annual treatment episodes between 2000/01 and 2006/07 (AIHW, 2008c). This is comparable with national figures: in 2008/09, just 0.3% of treatment

episodes reported in the NMDS related to individuals whose principal drug of concern was cocaine.

Cannabis

In 2008/09, 38.7% of Tasmanian drug treatment episodes reported to the NMDS related to clients reporting cannabis as their principal drug of concern (AIHW, 2010). This was significantly higher than the national rate reported for cannabis (22.5%: $\chi^2(1_{n=140010})=392.26$, $p<0.001$). This greater proportion of episodes for cannabis use may be related to the inclusion of treatment episodes from the Illicit Drug Diversion Initiative (IDDI), which addresses cannabis use in Tasmanian jurisdictions. The proportion of treatment episodes in Tasmanian drug treatment services relating to concerns with cannabis has varied over the past eight years: between 2000/01 and 2002/03 the proportion of such episodes ranged between 19% and 25%. In 2003/04, this increased sharply to 37%, and remained around this level (ranging between 31% and 39%) until 2008/09, with the exception of 2007/08 when this rate increased significantly to 45.3% (95%CI of difference 1-8%).

In 2007/08 and 2008/09, approximately one-fifth of calls to ADIS reported cannabis to be the primary drug of concern (21% respectively). This is relatively similar to the rates reported in preceding years, with the exception of 2005/06, when 31% of calls to ADIS reported cannabis to be the primary drug of concern (Figure 67). This increase in 2005/06 may have reflected media campaigns in regard to an association between cannabis use and mental health problems.

Methadone

The proportion of treatment episodes where methadone was the principal drug of concern was similar for Tasmanian clients (1.3%) and the levels seen nationally (1.5%) in 2008/09 (AIHW, 2010). Between 2002/03 and 2005/06, the proportion of treatment episodes in Tasmania for individuals reporting methadone as their principal drug of concern ranged between 2.0% and 3.5%, slightly higher than reported between 2006/07 and 2008/09 (1.7%, 1.1% and 1.3% respectively).

Morphine

During 2008/09, morphine was reported as the principal drug of concern in 6.4% of treatment episodes in Tasmania (AIHW, 2010). This was a significantly greater proportion than reported nationally (1.4%: $\chi^2(1_{n=140010})=349.05$, $p<0.001$). The local Tasmanian rate of treatment episodes for morphine has remained relatively unchanged since 2000/01, ranging between 2.7% to 7.2%.

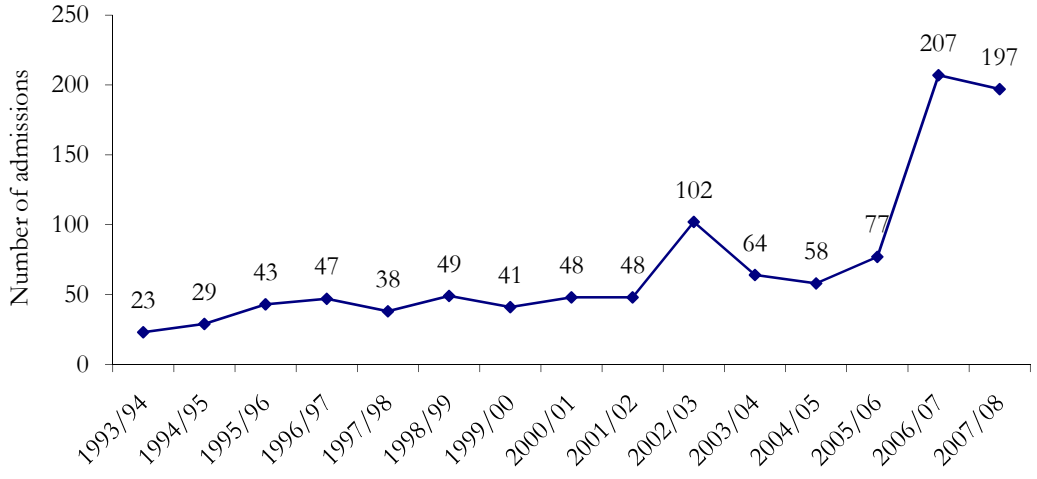
11.3 Hospital Admissions

Hospital morbidity data in relation to use of drugs have been provided by the AIHW for the 1993/94 to 2007/08 financial year periods (data for 2008/09 were not available at the time of publication) (Roxburgh & Burns, 2010). These data relate to Tasmanian public hospital admissions for individuals aged between 15 and 54 years where drug use was recorded as the 'principal diagnosis'; namely, where the effect of drugs was established, after study, to be chiefly responsible for occasioning the patient's episode of care in hospital (with the exception of admissions for psychosis and withdrawal). These figures were based on diagnoses coded according to the International Classification of Diseases (ICD) 10, second edition. It is also important to note that data from the state's single public specialist detoxification centre were only included in this dataset from June 2002.

11.3.1 Heroin and other opioids

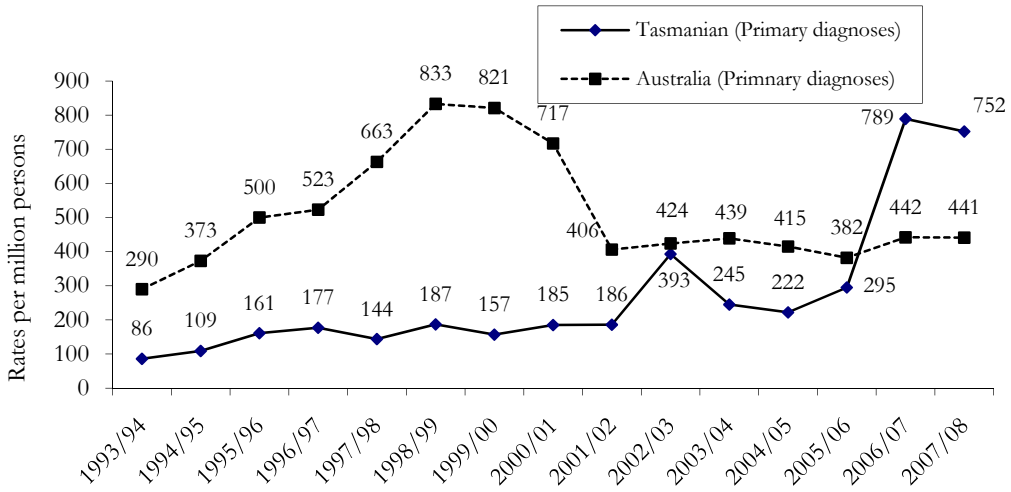
Tasmanian hospital admissions in relation to opioids are presented in Figure 69. Between 1993/94 and 2001/02, primary diagnoses relating to opioid use in Tasmania had remained relatively stable – between 23 and 49 admissions per financial year. However, when data from the state's public detoxification centre were included in these figures (July 2002), there was a marked but unsustained increase in the number of admissions (rising from 48 admissions in 2001/02 to 102 in 2002/03, and falling to 64 in 2003/04). Over the following two financial years, the number of opioid-related hospital admissions remained slightly higher than seen prior to 2002 (58 and 77 admissions respectively). In 2006/07, the number of hospital admissions increased dramatically to 207. This increase was sustained in 2007/08, with 197 admissions in Tasmania (data for 2008/09 were not available at the time of publication). As can be seen in Figure 70, when the Tasmanian rate of opioid-related admissions per million population is compared to that of the national Australian level, prior to the inclusion of figures from the public detoxification service (July 2002), local admission rates for such cases were substantially lower than the national rates. In 2002/03, when detoxification patients were included, local admission rates were comparable to those nationally (393 v. 424 admissions per million persons between the ages of 15 and 54 years respectively). However, in 2003/04, local admission rates returned to around half that of the national level, and remained at a similar level in 2004/05 (222 v. 415 admissions per million persons between the ages of 15 and 54 years respectively), reflecting the decrease in admissions locally in comparison to a stable level nationally. In 2005/06, the rate of Tasmanian admissions increased to 77% of the national rate, and over the subsequent two financial years, the rate of Tasmanian admissions increased dramatically to 164% in 2006/07 and 170% in 2007/08 of the national rate (Figure 70).

Figure 69: Public hospital admissions amongst persons aged 15-54 in Tasmania where opioid use was noted as the primary factor contributing to admission, 1993/94-2007/08



Source: Australian Institute of Health and Welfare (Roxburgh & Burns, 2010)

Figure 70: Public hospital admissions among persons aged 15-54 where opioids were noted as the primary factor contributing to admission, rates per million population for Tasmania and Australia, 1993/94-2007/08

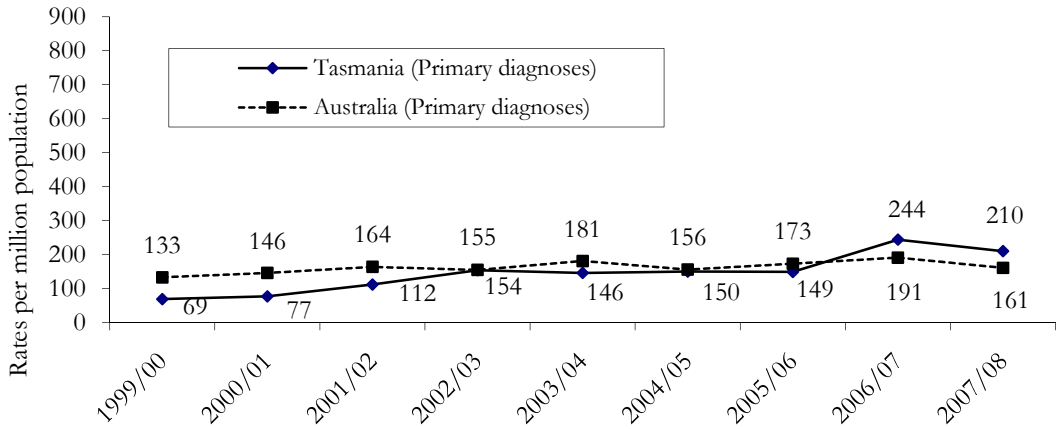


Source: Australian Institute of Health and Welfare (Roxburgh and Burns, 2010)

11.3.2 Methamphetamine

Population-adjusted rates of Tasmanian public hospital admissions, where methamphetamine use was noted as the principal diagnosis, are presented in Figure 71 below. It is clear that national admission rates were generally increasing between 1999/00 and 2003/04, with Tasmanian admission rates following this pattern to 2002/03. Local population-adjusted rates were substantially lower than the national figures prior to 2002/03. However, these figures did not include data from the state's detoxification service (introduced for the first time in the 2002/03 figures). Between 2002/3 and 2005/06, local population-adjusted rates were similar to the national figures. However, in 2006/07 and 2007/08, the Tasmanian rate of admissions per million persons increased to approximately 130% of the national rate (Tasmanian rate per million persons in 2007/08: 210; national rate per million persons: 161) (data for 2008/09 were not available at the time of publication).

Figure 71: Public hospital admissions among persons aged 15-54 where methamphetamine was noted as the primary factor contributing to admission, rates per million population for Tasmania and Australia, 1999/00-2007/08

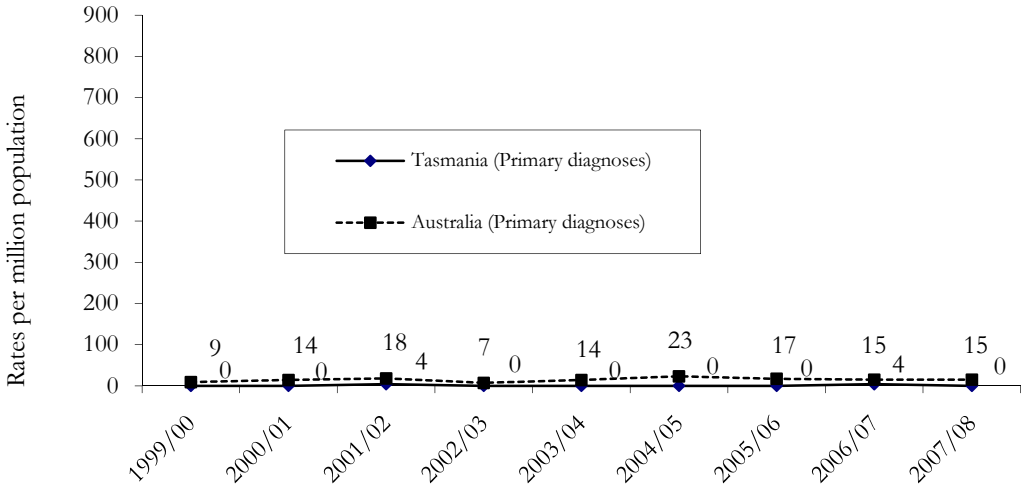


Source: Australian Institute of Health and Welfare (Roxburgh & Burns, 2010)

11.3.3 Cocaine

Consistent with the apparent low levels of availability and use of cocaine locally, the rate of cocaine-related hospital admissions amongst those aged between 15 and 54 years in Tasmania is consistently very low (between zero and four persons per million between 1999/00 and 2007/08) (Figure 72). When the local rates of cocaine-related public hospital admissions are compared to the national Australian rate (Figure 72), these are substantially lower, with the total local cases where cocaine was noted as the primary factor contributing to the admission remaining 26% or less than that of the national rate between 1999/00 and 2007/08 (data for 2008/09 were not available at the time of publication).

Figure 72: Public hospital admissions among persons aged 15-54 where cocaine was noted as the primary factor contributing to admission, rates per million population for Tasmania and Australia, 1999/00-2007/08



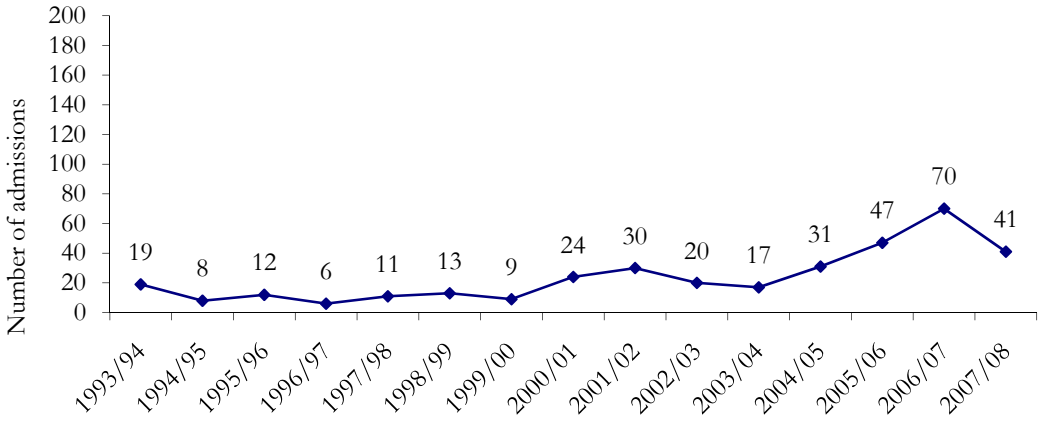
Source: Australian Institute of Health and Welfare (Roxburgh & Burns, 2010)

11.3.4 Cannabis

Tasmanian public hospital admissions where cannabis use was noted as the principal diagnosis among persons aged 15-54 years are presented in Figure 73. Examining these figures, it appears that the number of cases per annum has increased in recent years: between 1993/94 and 1999/00 there were around 11 cases per annum (6-19); and over the following two financial years the number of admissions increased (24 admissions in 2000/01 and 30 admissions in 2001/02). This trend towards increasing numbers of cannabis-related hospital admissions was reversed over the following two financial years (20 admissions in 2002/03 and 17 in 2003/04); however, after this period, the number of cannabis-related admissions among persons aged 15-54 years increased markedly, from 17 admissions in 2003/04 to 70 in 2006/07. In 2007/08, this number again decreased, with 41 admissions reported (data for 2008/09 were not available at the time of publication). The population-adjusted rates for cannabis-related admissions in Tasmania have increased overall since 1993/94; most dramatically so between 2003/04 and 2006/07, from 65 to 267 admissions per million population (Figure 74). In 2007/08, this trend was reversed, with 156 admissions per million persons reported. The national rate has also gradually increased – from 41 admissions per million population in 1993/94 to

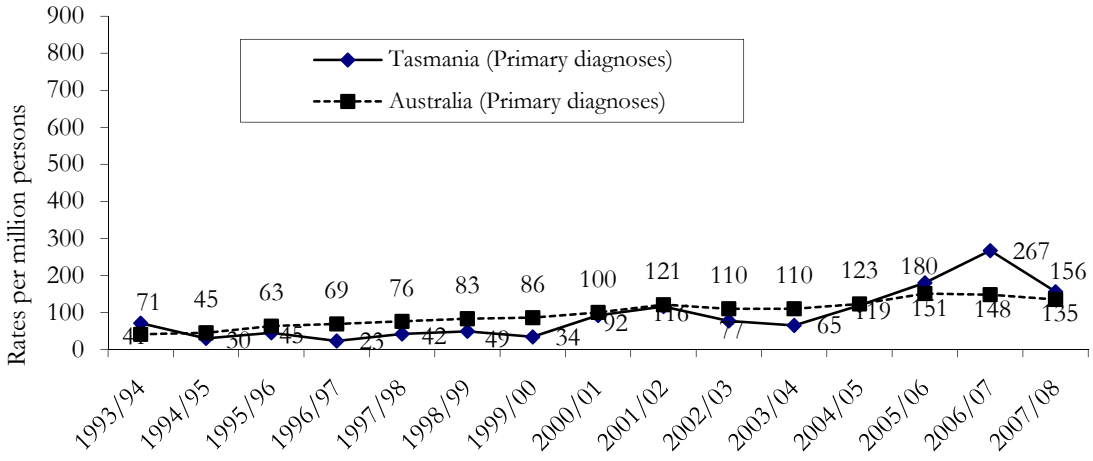
135 in 2007/08. The Tasmanian admission rate per million population had consistently been lower than the national rate between 1994/95 and 2004/05, however, this trend was reversed in 2005/06, with the Tasmanian admission rate increasing to 119% of the national rate. This peaked in 2006/07, with the Tasmanian rate being 180% of the national rate. In the following financial year, the Tasmanian admission rate decreased to 115% of the national rate (Figure 74).

Figure 73: Public hospital admissions amongst persons aged 15-54 in Tasmania where cannabis use was noted as the primary factor contributing to admission, 1993/94-2007/08



Source: Australian Institute of Health and Welfare (Roxburgh & Burns, 2010)

Figure 74: Public hospital admissions among persons aged 15-54 where cannabis was noted as the primary factor contributing to admission, rates per million population for Tasmania and Australia, 1993/94-2007/08



Source: Australian Institute of Health and Welfare (Roxburgh & Burns, 2010)

11.4 Injecting risk behaviours

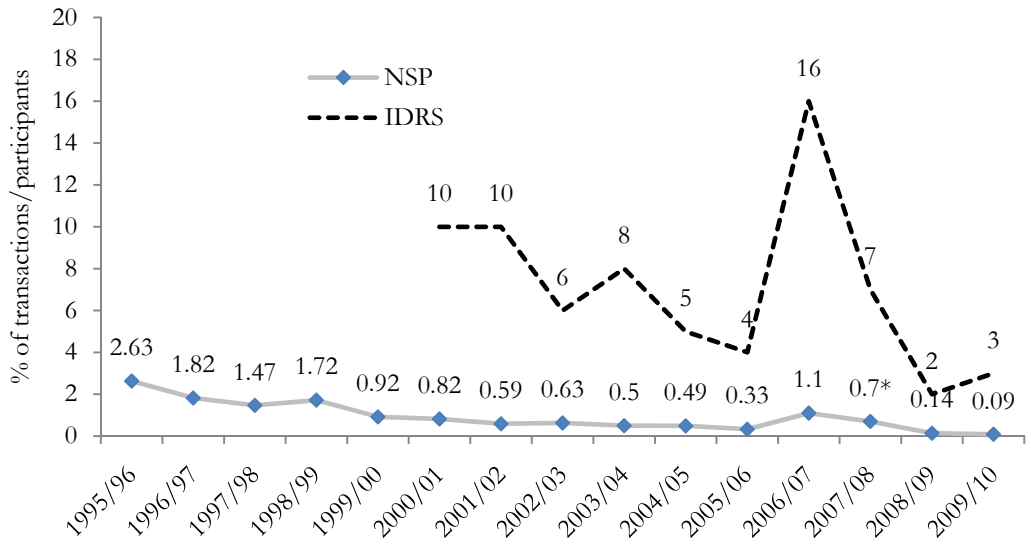
11.4.1 Sharing of injecting equipment

Needle and Syringe Program Data

The sharing of needles, syringes and other equipment associated with the preparation or injection of drugs is important with respect to the risk of exposure to blood-borne viral infections (BBVI) such as HIV, HBV and HCV. Clients of non-pharmacy NSP outlets are routinely asked whether they have shared needles and syringes or other injection equipment since their last visit to the service.

Reported sharing of needles/syringes by clients of non-pharmacy Needle and Syringe Program outlets overall in Tasmania have shown a reasonably steady decline from 2.6% in 1995/96 to 0.3% in 2005/06; however, in 2006/07, this trend was briefly reversed, and the proportion increased to 1.1%. In the three financial years following this, the rate has declined, and was 0.09% in 2009/10 (Figure 75). These rates have been consistently lower than reported by participants in the IDRS studies, but have followed a similar downward trend.

Figure 75: Reported sharing of needles and syringes by non-pharmacy Needle and Syringe Program clients, 1995/96-2009/10



Source: Population Health, Department of Health and Human Services. IDRS IDU interviews
* In 2007/08, one NSP outlet, accounting for 19% of transactions, did not collect data on sharing. The transactions from this outlet were excluded from this calculation

IDRS IDU Data

Amongst the IDRS IDU sample, sharing and re-use of injecting equipment was seen at substantially lower levels in the 2010 study in comparison to the 2007 study. In 2007, many of the measures for sharing of injecting equipment increased dramatically from previous stable levels.

Among the 2010 IDRS IDU sample, 13% of participants reported providing a used needle/syringe to others in the month prior to interview. This marks a dramatic and statistically significant decrease from 2007 (29%: $(\chi^2(1_{n=100})=6.8$, $p=0.009)$, but is similar

to the rates reported in IDRS reports in 2009, 2008 and preceding 2007 (Table 45). These participants reported providing their used equipment to others either once (n=4), twice (n=3), on three to five occasions (n=5) or six to ten times (n=1) in the preceding month.

Among these samples of regular injecting drug users in Hobart, the proportion of respondents reporting using a needle/syringe after it had been used by someone else has also decreased substantially in the current study, from 16% in 2007 to 3% in 2010 ($\chi^2(1_{n=100})=8.374$, p=0.004). It is noteworthy that despite a decreased rate of sharing, this level of recent sharing among a regular injecting cohort remains substantially greater than that reported in the NSP client data.

More than two-fifths (44%) of the consumers sampled reported re-using their own injection equipment in the month prior to interview, a significant decrease from 2009 (63%: $\chi^2(1_{n=100})=6.512$, p=0.01). Among the current group who reported re-use of their injecting equipment, the majority had done this on either one (39%, n=17) or two occasions (23%, n=10) in the last month; with small minorities doing so on six to ten occasions (16%, n=7); three to five occasions or more than 10 occasions in the month preceding the interview (11%, n=5 respectively). The equipment most commonly re-used were winged-infusion sets ('butterflies', 35%, n=15), followed by 1ml syringes, 3/5ml barrels and 20ml barrels (28%, n=12 respectively). Participants predominately noted that they had re-used because they required equipment on occasions when accessible outlets were closed (nights or weekends, 57%, n=25), and small proportions noted re-using equipment because the outlet was too far away for them to access (7%, n=3), and due to policy limits on supply (9%, n=4). In August 2006, the Tasmanian Department of Health and Human Services (Population Health) amended the policy regarding provision of injecting equipment at non-pharmacy NSP: provision of winged-infusion sets ('butterflies') were to be made available only to clients reporting use of large volume injections (e.g. methadone syrup and, in some instances, morphine). Previous to this change, all clients were able to access this form of equipment.

Sharing of other types of injecting equipment in the month prior to interview (such as tourniquets, water, swabs and mixing containers) was reported by 32% of the sample in 2010. Spoons and mixing containers were shared by 19% of participants, tourniquets were shared by 14%, filters were shared by 12% and water was shared by 6% of participants in this time. All rates of sharing of injecting equipment appear to have remained relatively stable since 2004, with the exception of 2007, when large increases in a range of sharing practices were recorded (Table 45). It is important to note that these reports of sharing of equipment include cases where all individuals involved were using sterile equipment (e.g. two people using sterile syringes to draw a drug mix from a spoon), however, even these practices provide some risk of exposure to BBVI.

Table 45: Proportion of the IDU sample (N=100) reporting sharing of injection equipment in the month prior to interview, 2002-2010

	Proportion of IDRS IDU in the past month								
	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	2010 %
Borrowed used needles	10	6	8	5	4	16	7	2	3
Lent used needles to others	1	3	12	14	13	29	9	13	13
Shared spoons/containers	1	1	8	4	7	20	15	17	19
Shared water	1	2	11	5	11	17	11	6	6
Shared filters	1	1	8	2	5	8	6	8	12
Shared tourniquets	14	11	21	15	16	22	11	16	14

Source: IDRS IDU interviews
Note: Multiple responses allowed

In the current study, some aspects of injection practices were examined in more detail. Despite the current IDU cohort being regular injecting drug users, only four-fifths (82%) reported that they always injected themselves. Five percent of participants 'never' self-injected (n=5), 1% self-injected 'sometimes' (n=1), 2% 'about half the time' (n=2) and 10% 'usually' injected themselves in the preceding month (n=10). The demographic characteristics of participants that did not always self-inject were similar to participants that always self-injected in terms of sex, cultural background, sexual preference, education, employment, frequency of injection, drug of choice, drug most injected, frequency of injecting, injecting career and involvement in treatment. However, participants who reported always injecting themselves were significantly younger (34 years vs. 39 years: $F(1,98)=5.399$, $p=0.022$) and younger when they first injected (19 years vs. 24 years: $F(1,98)=7.035$, $p=0.009$) than those who did not always self-inject. In addition, participants reporting always self-injecting were also more likely to have earned income form a wage or salary in the preceding month (17% vs. 0%: $\chi^2(1_{n=100})=3.573$, $p=0.05$), to report ever having been imprisoned (48% vs. 22%: $\chi^2(1_{n=100})=3.866$, $p=0.42$) and were more likely to report reusing their own injecting equipment in the preceding month (51% vs. 17%: $\chi^2(1_{n=99})=6.875$, $p=0.008$) than those who did not always self-inject.

11.4.2 Use of filters

Injection of pharmaceutical and illicit drugs (such as methamphetamine or heroin) carries a variety of risks to the user. The range of ingredients contained within a solution for injection in addition to the desired active ingredient varies widely, with many carrying the potential to cause harm when injected. Both pharmaceuticals and 'street' drugs contain particles that may not dissolve in solution and, when injected, may be large enough to form tissue granulomas in various body organs, particularly the liver and lungs or to cause blockage of pulmonary capillaries, which may potentially lead to pulmonary hypertension and right-sided heart failure. Larger particles or clumps of particles can also become lodged in blood vessels, decreasing and potentially stopping the blood supply to the surrounding tissue, resulting in death of that tissue (gangrene). Use of filters in the preparation of drugs for injection can assist in reducing some of these risks. Participants in the current study were asked to comment on their use of commercial and makeshift filters in the preparation of drugs for injection. Filter types commonly used include commercially-available syringe filters: 0.45 μm wheel filters (hereafter referred to as a 'pill filter'), 0.22 μm wheel filter ('bacterial filter'); and makeshift filters, including filters commercially sold for use with hand-rolling tobacco ('roll-your-own filter'), filters taken

from tailor-made cigarettes ('tailor cigarette filter'), and cotton buds, cotton balls, tampons, or alcohol swabs.

Opioids

Morphine

The majority of participants who commented had used some form of filter the last time they prepared morphine for injection (92%, n=67). The most commonly used filters amongst this group were roll-your-own cigarette filters (32%, n=23) and 'tailor' cigarette filters (29%, n=21), followed by a pill filter (16%, n=12), a bacterial filter (8%, n=6), or cotton wool (7%, n=5) (Table 46). Amongst participants reporting no use of a filter on the last occasion of use of morphine (n=6), three noted they felt there was no need to filter, and a single participant reported they thought they lost too much of the drug through the filtering process. A recent study examining the effectiveness of a range of filters on morphine tablets found no significant loss of the active drug when at least two flushes with water for injection were carried out (McLean et al., 2009). Two KE commented that they were aware of an increase in the number of clients using pill and bacterial filters when preparing morphine tablets for injection. One of the KE noted some clients had experienced problems such as blockages of the filter during this process, and suggested the need for more education. A third KE noted that some older morphine users who had been injecting for many years did not filter, stating *'why change* [start using filters] *when it has been working well for so long'*.

Participants reporting recent injecting use of morphine were asked if they had heated the morphine tablet/capsule during preparation for injection. This question was included in the current survey as a recent study investigating effectiveness of filtration on morphine tablets for injection found that heating morphine tablets in water for injection prior to filtering may allow wax to pass through filters, subsequently forming into particles when cooling, which effectively undermines the effectiveness of the filtering process (McLean et al., 2009). Two-thirds of recent morphine injectors reported this practice (67%, n=49): of this group, 10% (n=5) did not filter; 61% (n=30) used a cigarette filter (either roll-your-own or 'tailor'), 22% (n=11) used a 'wheel' filter (either a pill or bacterial filter) and 6% (n=3) used cotton wool.

Oxycodone

Of those participants commenting on use of a filter during the preparation of oxycodone tablets for injection (n=56), the majority used some sort of filter (96%, n=54). Similar to morphine, the filters most commonly used for the last injection of oxycodone were roll-your-own cigarette filters (38%, n=21) and 'tailor' cigarette filters (36%, n=20), followed by a pill filter (11%, n=6), a bacterial filter (7%, n=4) or cotton wool (5%, n=3 respectively) (Table 46).

Participants reporting recent injection of oxycodone were asked if they had heated the tablet during preparation. Three-fifths of recent oxycodone injectors reported this practice (60%, n=31): of this group, 3% (n=1) did not filter; 70% (n=21) used a cigarette filter (either roll-your-own or 'tailor'); 20% (n=6) used a 'wheel' filter (either a pill or bacterial filter); and 3% (n=1) used cotton wool.

Methadone syrup

Among those able to comment on preparation of methadone syrup for injection (n=45), almost half had not used a filter last time they injected this drug (47%, n=21). Two-fifths of the group reported use of a bacterial filter (42%, n=19), and small minorities reported

use of a roll-your-own cigarette filter (4%, n=2), a pill filter or 'tailor' cigarette filter (2%, n=1 respectively) (Table 46). Of the 21 participants reporting no use of a filter on the last occasion of methadone injection, the majority (67%, n=14) felt there was no need to use a filter, whilst small minorities reported reasons including: concern about loss of the drug (n=2); and 'habit' not to use a filter (n=2).

Physeptone

The majority of participants who commented on use of a filter in preparation of Physeptone to inject had used a filter the last time they injected the drug (66%, n=21). Pill filters were the most commonly used (31%, n=10), followed by roll-your-own cigarette filters and 'tailor' filters (13%, n=4 respectively). Of the 11 participants reporting no use of a filter on the last occasion of Physeptone injection, almost half reported they felt no need to filter (45%, n=5), and single participants reported concern about loss of the drug through filtering: that it takes too long; and they don't like to filter.

Methamphetamine

Participants who reported recent use of any form of methamphetamine (n=68) were asked if they had used a filter the last time they injected this drug (Table 46). Almost three-quarters of this group reported no use of a filter (71%, n=48), with the remainder reporting use of a roll-your-own cigarette filter (12%, n=8), a 'tailor' cigarette filter (10%, n=7), cotton wool (4%, n=3) or a pill filter (1%, n=1). Of the 48 participants reporting they had not used a filter, the majority reported they saw no need for filtering (65%, n=31), and one-quarter noted concerns about loss of the drug through filtering (23%, n=11).

One NSP KE commented that whilst most methamphetamine users don't filter, fewer injecting complications were observed amongst this group. This KE also noted, however, that many primary methamphetamine users tend not to engage with the NSP service to the same degree as other service users, so it is possible that these harms are experienced, but are not discussed with the NSP worker as readily.

Pharmaceutical stimulants

Three-quarters of the participants who reported recent injection of pharmaceutical stimulants reported they had used some form of a filter the last time they injected this drug (78%, n=18). The most commonly cited filter was a pill filter (43%, n=10); small minorities reported use of a 'tailor' cigarette filter (17%, n=4), a roll-your-own cigarette filter or bacterial filter (9%, n=2 respectively) (Table 46). Forty-six percent of respondents reported they had not used a filter as they felt there was no need (n=31), and 16% (n=11) reported concerns about loss of the drug through filtering.

Benzodiazepines

Fifteen participants commented on their use of a filter during the preparation of a benzodiazepine tablet or capsule for injection. Three-quarters of this group reported use of a filter the last time they injected (73%, n=11). The predominant form of filter used was a pill filter (33%, n=5), with smaller minorities reporting use of a roll-your-own cigarette filter (20%, n=3), or a 'tailor' cigarette filter (13%, n=2) (Table 46). Amongst the participants reporting no use of a filter on the last occasion of injection of a benzodiazepine, two participants noted concerns about loss of the drug through filtering, a further two felt there was no need to filter, and a single participant also noted that filtering takes too long, stating *'when you're using lots of Xanax, using a pill and bacterial filter takes an hour'.*

Table 46: Use of a filter the last time injected a drug, 2010 (N=100)

	No filter	0.45 µm wheel filter *('pill filter')*	0.22 µm wheel filter *('bacterial filter')*	Commercial filter for hand-rolling tobacco *('roll-your-own filter')*	Filter from tailor-made cigarette *('tailor cigarette filter')*	Cotton wool
Opioids						
Morphine (n=73)	8% (n=6)	16% (n=12)	8% (n=6)	32% (n=23)	29% (n=21)	7% (n=5)
Oxycodone (n=56)	4% (n=2)	11% (n=6)	7% (n=4)	38% (n=21)	36% (n=20)	5% (n=3)
Methadone syrup (n=45)	47% (n=21)	2% (n=1)	42% (n=19)	4% (n=2)	2% (n=1)	-
Physeptone (n=32)	34% (n=11)	31% (n=10)	6% (n=2)	13% (n=4)	13 (n=4)	3% (n=1)
Methamphetamine *(n=68)*	71% (n=48)	1% (n=1)	-	12% (n=8)	10% (n=7)	4% (n=3)
Pharmaceutical stimulants *(n=23)*	22% (n=5)	43% (n=10)	9% (n=2)	9% (n=2)	17% (n=4)	-
Benzodiazepines *(n=15)*	27% (n=4)	33% (n=5)	7% (n=1)	20% (n=3)	13% (n=2)	-

Source: IDRS IDU interviews
Note: Multiple responses allowed

In Tasmania, a trial of free provision of both pill and bacterial filters was commenced by Population Health (Department of Health and Human Service) in May 2007, and has since become standard practice in all primary NSP. This involves the staff at non-pharmacy NSP providing both pill and bacterial filters to clients, along with information regarding their correct use. Small quantities of these filters are provided at either no or minimal cost to clients. As this practice has coincided with the data collection period for this study, it is, therefore, possible that the rates of use of these commercially-available filters may be higher than would be observed locally prior to this trial.

11.5 Blood-borne viral infections

Blood-borne viral infections (BBVI), in particular HIV/AIDS, HBV and HCV, are 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 diseases. The Department of Health and Human Services, Public Health Division, records notifications of diagnoses of HIV, HBV and HCV in Tasmania, and, where possible, records the relevant risk factors for infection the person may have been exposed to. Table 47 indicates the number of cases of BBVI recorded in the state between 1991 and 2010. In regards to the markedly increased incident (new) cases of HCV infection between 1997 and 1998, this is likely to simply reflect improvement in the surveillance system. Up until 2003, incident cases of HCV remained between 13 and 18 cases per annum, with the exception of 2000, in which 30 cases were reported. Since 2003, the number of incident cases has been slightly higher, ranging between 17 and 27 cases per annum, except in 2006 when just 10 cases were reported (Figure 76).

In contrast, unspecified (not new infections) notifications of HCV had steadily increased between 1997 and 2003 (rising from 195 to 345 cases in this period), but declined over 2004 and 2005 (falling from 345 cases in 2003 to 213 in 2005). The number of unspecified notifications remained relatively stable since 2006 (ranging between 231 and 260 cases per annum), with the exception of a small increase in 2008 to 325 cases.

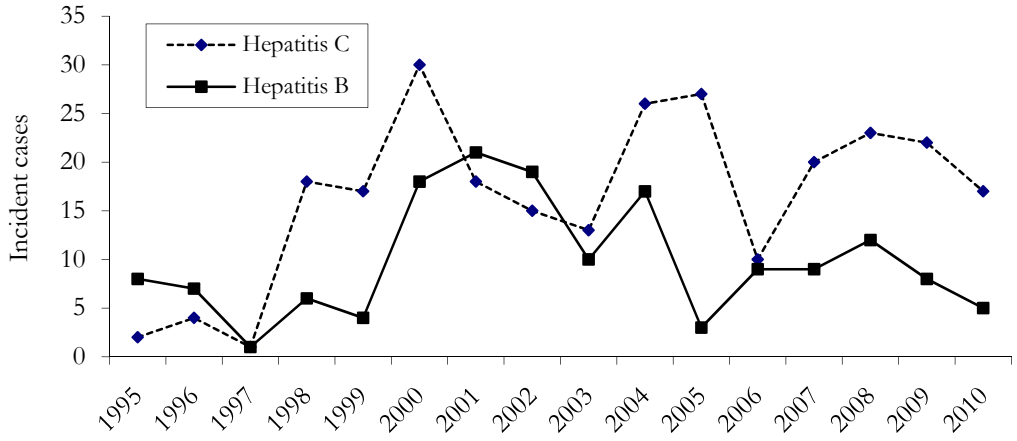
Similar to the pattern for incident cases of HCV, incident cases of HBV have remained between 17-21 cases per annum between 2000 and 2004, with the exception of a smaller number of cases in 2003 (n=10), and very small numbers of cases reported between 2005 and 2010 (ranging between 3 and 12 cases over this period). Reports of unspecified HBV infections (not new cases) have varied around 40 cases (22-77) per annum between 1991 and 2010, showing no clear trend in any direction.

Table 47: Rates of notifiable blood-borne viral infections in Tasmania, 1991-2010

	Blood-borne viral infections			
Year	**Hepatitis C (incident)**	**Hepatitis C (unspecified)**	**Hepatitis B (incident)**	**Hepatitis B (unspecified)**
1991	*n/a*	*n/a*	*n/a*	50
1992	*n/a*	*n/a*	*n/a*	52
1993	*n/a*	*n/a*	0	33
1994	*n/a*	*n/a*	0	40
1995	2	226	8	56
1996	4	262	7	38
1997	1	195	1	22
1998	18	255	6 (5)	28
1999	17	281	4 (4)	27
2000	30	298	18 (5)	39
2001	18	316	21	20
2002	15	320	19	34
2003	13	345	10	71
2004	26	285	17	60
2005	27	213	3	52
2006	10	259	9	46
2007	20	255	9	38
2008	23	325	12	58
2009	22	260	8	77
2010	17	231	5	48

Source: Communicable Diseases Network – Australia New Zealand – National Notifiable Diseases Surveillance System, and Public Health, Department of Health and Human Services (data as of Dec 13, 2010 and subject to revision)
n/a Refers to cases where either no data were available or where recorded data were not specifically broken into incident and unspecified cases

Figure 76: Total notifications of incident hepatitis B and C infections in Tasmania, 1995-2010

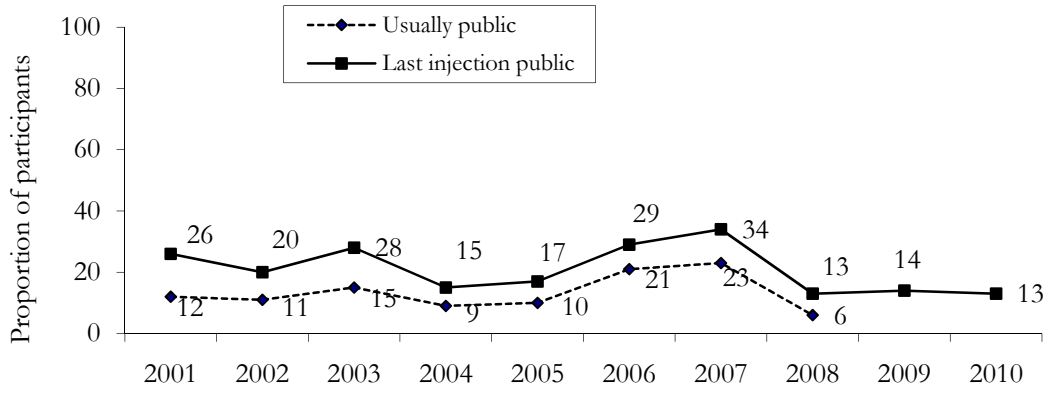


Source: Communicable Diseases Network – Australia New Zealand – National Notifiable Diseases Surveillance System, and Public Health, Department of Health and Human Services
Note: Data as of Dec 13, 2010 and subject to revision

11.5.1 Location of injections

Participants were asked to comment on the location in which they last injected in the month preceding the interview (Figure 77). Injecting in a public space is of particular concern as it is related to increased risk of overdose and injecting related vascular problems (Darke, Kaye & Ross, 2001). Between the 2001 and 2007 surveys, 15% to 34% of each cohort reported last injecting in public; however, in the 2008 to 2010 surveys, the proportion reporting last injecting in public locations such as a public toilet, a car, or on the street, slightly decreased (13% in 2008; 14% in 2009; 13% in 2010) (Figure 77).

Figure 77: Proportion of IDU participants reporting injecting in a public place, 2001-2010



Source: IDRS IDU interviews
Note: Since 2009, only 'location of last injection' was asked

11.5.2 Sources of new injecting equipment

Almost all participants (98%) reported having accessed clean needles/syringes from a non-pharmacy NSP in the six months preceding the interview (Table 48). This is consistent with the fact that the majority of participants were recruited and interviewed at non-pharmacy NSP outlet sites. One-quarter of participants reported purchasing clean needles/syringes from a pharmacy (26%); less common sources include access from a friend (15%), partner (8%) or a dealer (1%).

Table 48: Sources of clean needles/syringes in the preceding six months, 2010

Sources of needles/syringes	% (N=100)
Non-pharmacy NSP	98%
Pharmacy	26%
Friend	15%
Partner	8%
Dealer	1%
Vending machine	–

Source: IDRS IDU interviews.
Note: Multiple responses allowed

11.6 Self-reported injection-related health problems

There was a substantial rate of injection-related problems reported by the IDU surveyed, with 63% reporting at least one such problem in the preceding month (Table 49). This rate of experience of injection-related health problems is lower than reported in 2009, but is in keeping with previous reports. Between 2000 and 2004, 72% to 78% of each sample reported an injection-related health problem; this decreased over the 2005 to 2010 period, with between 50% and 63% of each sample reporting this – with the exception of 2009 (80%).

The most commonly reported problems among the current IDU cohort were scarring/bruising of injection sites (51%) and 'difficulty injecting' (42%), indicating vascular damage. Comparing rates of recent injection-related problems for the 2009 and 2010 Tasmanian IDU samples, of note is the decrease in the rate of reported scarring/bruising problems, from 71% in 2009 to 51% in 2010 ($\chi^2(1_{n=192})=7.203$, $p=0.007$). The rate of reported difficulty injecting also decreased between the 2009 and 2010 studies (from 53% to 42%), however, this difference was not statistically significant ($p=0.19$). Other injection-related health problems have remained relatively stable.

Reported rates of experience of 'dirty hits' amongst the cohorts ranged between 18% and 31% between 2001 and 2005. Since this time, the rate has been lower, ranging between 9% and 17% (Table 49). Experience of a 'dirty hit' – feeling physically unwell soon after injection – is commonly due to the injection of contaminants or impurities. In the 2010 cohort, of the 12 participants reporting experience of a 'dirty hit', three noted that this followed injection of methadone, a further three participants reported methamphetamine, two participants reported morphine, and single participants reported oxycodone, Suboxone and combinations of morphine and oxycodone, and morphine and benzodiazepines. This association of 'dirty hits' with methadone injection has been reported in the current and previous local IDRS studies, where consumers suggested that this was due to non-sterile water being used for the dilution of methadone syrup. In keeping with this suggestion, in the 2010 study, two KE noted an increasing number of people feeling 'sick' from injection of methadone syrup, which they suggested was possibly due to use of tap water in the dilution of these doses.

Table 49: Injection-related health problems reported by participants in the IDU survey in the month prior to interview (N=100)

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	2010 %
Scarring/bruising	59	42	53	49	42	31	29	33	31	71	51
Difficulty injecting	50	48	48	51	49	47	38	40	39	53	42
Thrombosis	18	21	5	10	8	12	5	3	4	10	9
'Dirty hit'	15	31	18	31[#]	24[~]	19[@]	15[^]	15[+]	9[**]	17[α]	12[^^]
Infections/abscesses	9	9	8	8	11	11	7	11	5	7	10
Overdose	0	0	0	0	1	1	1	4	0	4	2
At least one injection-related problem	78 (range 1-5, median 2*)	72 (range 1-5, median 2*)	72 (range 1-5, median 2*)	76 (range 1-5, median 2*)	72 (range 1-5, median 2*)	62 (range 1-5, median 2*)	50 (range 1-3, median 1*)	57 (range 1-5, median 2*)	54 (range 1-5, median 1*)	80 (range 1-5, median 2*)	63 (range 1-4, median 2*)
Median injection frequency	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week	More than once per week
% injecting daily	31	29	29	17	27	30	37	20	29	30	43

Source: IDRS IDU interviews

[*] For those noting injection-related problems:

[#] 83% of these were due to methadone injection, 10% to morphine and 7% attributed to methamphetamine

[~] 58% of these were attributed to methadone injection, 25% from morphine, 17% to methamphetamine

[@] 50% of these were due to methadone injection, 28% to methamphetamine injection, 17% to morphine injection and 6% attributed to benzodiazepine injection

[^] 67% of these were attributed to methadone injection, 13% to methamphetamine, 13% to morphine and 7% to benzodiazepines

[+] 40% were attributed to methadone; 13% to morphine; and 7% to each to methamphetamine, methamphetamine and other opiates, methamphetamine and morphine, benzodiazepines and morphine and benzodiazepines and methadone

[**] 44% of these were attributable to methadone injection, 33% to morphine injection and 11% to benzodiazepine injection and homebake injection

[α] 47% of these were attributable to methadone injection, 41% to morphine, and 12% to methamphetamine injection and benzodiazepine injection

[^^] 25% of these were attributable to either methadone or methamphetamine, 17% to morphine, 8% to either oxycodone, Suboxone, a combination of oxycodone and morphine or morphine and benzodiazepines

11.7 Mental and physical health

11.7.1 Mental health

As there exists a substantial body of work identifying increased rates of mental health issues among those who use illicit drugs, IDU participants were asked if they had experienced a mental health problem in the six months preceding the interview (Table 50). Fifty-two percent of participants self-reported experiencing a mental health problem in this period, similar to that seen in studies between 2004 and 2009 (ranging between 43% and 60%) (Table 50). Three-quarters of the group reporting recent experience of a mental health problem had recently attended a health professional for mental health issues (73%, n=38). The most commonly reported mental health problems amongst this group of participants were depression (77%, n=40) and anxiety (52%, n=27). These have remained the predominant issues in each of the IDRS cohorts, just as they are in the general population (ABS, 2006).

In regard to changes in self-reported mental health problems amongst IDU participants across these studies, reports of depression (among those reporting recent experience of any mental health problem) have remained relatively stable since 2005 (between 77% and 83%), with the exception of the 2007 and 2009 samples, in which 57% and 67% respectively reported recent experience of depression. This change was partially offset by a slight increase in the proportions reporting experience of bipolar affective disorder (which is related to depression). In keeping with the reducing levels of use of the more high-potency forms of methamphetamine amongst the cohorts since 2007, the proportions self-reporting anxiety disorders have decreased. Between 2004 and 2006, this rate had been steadily increasing, from 42% to 62%; however, over the following three years, the rate decreased to 43% in 2009. In 2010, a small increase was observed (52%), but this was not statistically significant (p=0.5). Similarly, reports by participants regarding experiences of paranoia, a symptom that is common following extended methamphetamine use, was higher in 2004 and 2005 (11% and 14% respectively), and remained at very low levels between 2006 and 2009 (ranging between 0% and 4%). In 2010, this increased slightly to 12%, but this was not statistically significant. Self-reported rates of psychosis and related problems (psychotic episodes, schizophrenia, drug-induced psychosis) ranged between 13% and 18% between 2004 and 2007, however these rates declined slightly in 2008 and 2009 (7% and 11% respectively), but again increased slightly in 2010 (15%).

Participants who reported experience of a mental health problem in the preceding six months were asked if they had been prescribed any medication for mental health problems over this period. Of those who had been prescribed such a medication (n=38), almost three-fifths (58%, n=22) reported being prescribed an antidepressant. There was a wide range of types of antidepressants participants named, including mirtazepine (n=5), citalopram (n=3), doxepin, fluvoxamine, venlafaxine and duloxetine (n=2 respectively), amitryptaline, escitalopram, moclobemide, sertraline and desvenlafaxine (n=1 respectively). Eight participants reported being prescribed antipsychotic medication: clozapine, chlorpromazine, quetiapine, risperidone and olanzapine); and ten participants reported being prescribed benzodiazepines for mental health treatment (diazepam n=7, oxazepam n=1).

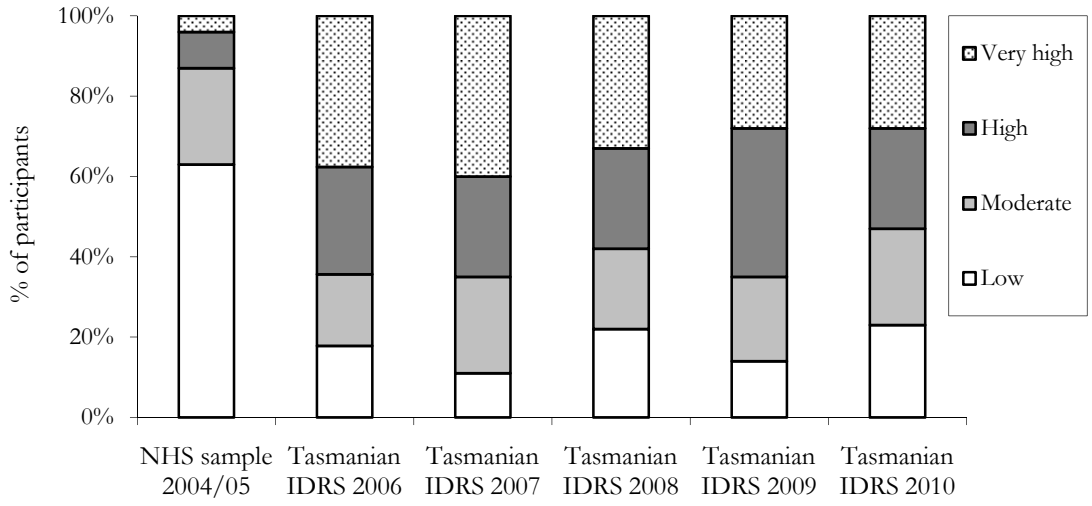
Table 50: Experience of mental health problems amongst IDRS IDU participants, 2004-2010

	2004 IDRS		2005 IDRS		2006 IDRS		2007 IDRS		2008 IDRS		2009 IDRS		2010 IDRS	
	%	%	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
% self-reporting mental health problem last 6 months	53	53	58	*58*	50	*50*	60	*60*	43	*43*	46	*46*	52	*52*
Of these:														
% attending a health prof. for a mental health problem in past 6 months	83	44	74	*43*	76	*38*	82	*49*	72	*31*	61	*28*	73	*38*
Specific type of mental health problem experienced amongst those with a self-reported mental health problem														
	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
Depression	81	*43*	83	*48*	80	*40*	57	*34*	79	*34*	67	*31*	77	*40*
Bipolar Disorder	8	*4*	5	*3*	6	*3*	15	*9*	9	*4*	20	*9*	14	*7*
Anxiety	42	*22*	57	*33*	62	*31*	48	*29*	42	*18*	43	*20*	52	*27*
Panic	8	*4*	19	*11*	8	*4*	8	*5*	19	*19*	11	*5*	19	*10*
Paranoia	11	*6*	14	*8*	4	*2*	2	*1*	-	-	4	*2*	12	*6*
Schizophrenia/Psychosis	13	*7*	17	*10*	14	*7*	18	*10*	7	*3*	11	*5*	15	*8*
Obsessive-compulsive disorder	4	*2*	2	*1*	2	*1*	2	*1*	-	-	-	-	4	*2*
Personality disorder	4	*2*	3	*2*	4	*4*	5	*3*	-	-	7	*3*	10	*5*
Post-traumatic stress disorder	-	-	-	-	-	-	5	*3*	-	-	4	*2*	8	*4*

Source: IDRS IDU interviews

With the aim of a more objective assessment of the degree of psychological distress amongst the IDU samples, participants were asked to complete the Kessler 10 Scale (K10). The K10 examines negative emotional states, with a focus on anxiety and depressive symptoms, in the four weeks preceding the interview. The scores are totalled and grouped into four categories of psychological distress: low; medium; high; very high. Participants who fall into the 'very high' category may require professional help (ABS, 2001), and demonstrate high concordance with the presence of a diagnosable mental health disorder. Ninety-six participants in the current study completed the K10 (Figure 78). Twenty-eight percent of participants (n=27) scored in the 'very high' category of psychological distress, 25% scored in the 'high' category (n=24), 24% in the 'moderate' category (n=23), and 23% fell into the 'low' level of psychological distress category (n=22). These findings are similar to those from previous IDRS studies, but are dramatically and statistically significantly different to those found in the National Health Survey (2004/05, which focused on a sample of 19,680 from the general population) (ABS, 2006), in which two-thirds of the participants (63%) were classified in the 'low' level of psychological distress (compared with 23% of the Tasmanian IDRS: $\chi^2(1_{n=19,776})=63.99$, $p<0.001$), and just 4% were classified in the 'very high' level (compared with 28% in the IDRS: $\chi^2(1_{n=19,776})=134.85$, $p<0.001$), indicative of a potential need for professional assistance (Figure 78). In keeping with these findings, KE commenting on primary consumers of cannabis and methamphetamine noted mental health problems amongst these client groups including depression, anxiety, paranoia, and difficulties with emotional regulation.

Figure 78: Responses to the K10 questionnaire in the National Health Survey 2004/05 and IDRS, 2006-2010

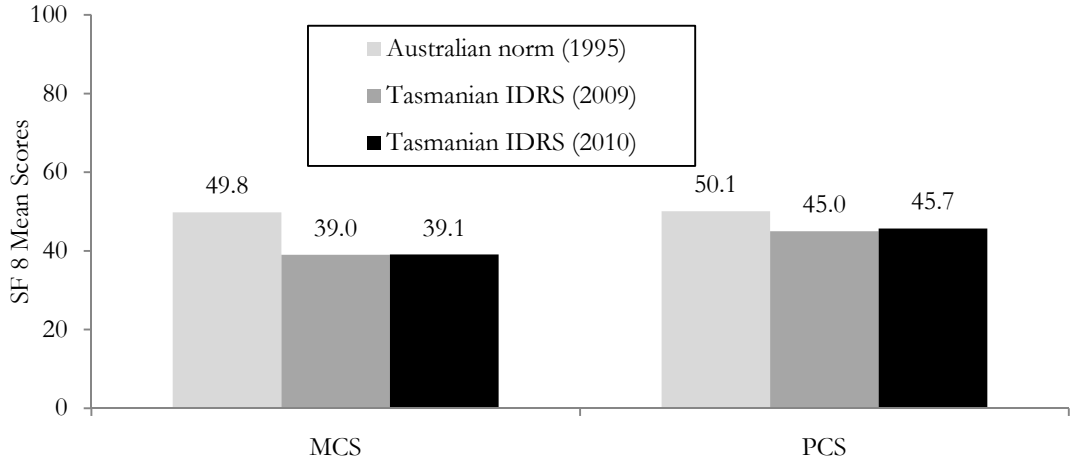


Source: IDRS IDU interviews and National Health Survey, 2004/05

11.7.2 Physical Health problems (SF-8)

The Short Form-8 Health Survey (SF-8) is a questionnaire designed to provide information on general health and wellbeing. It was administered for the first time in the IDRS in 2008. The SF-8 measures eight health concepts: physical functioning; role limitations due to: physical health problems; bodily pain; general health; energy/fatigue; social functioning; role limitations due to emotional problems; and psychological distress and wellbeing. The scores generated by these eight variables are combined to generate two composite scores, the physical component score (PCS) and the mental component score (MCS) (Lefante J. et al., 2005). The SF-8 scoring system was developed to yield a mean of 50 and a standard deviation of 10. Participants in the 2010 Tasmanian IDRS study scored a mean of 39.1 (SD=12.4) for the MCS, one standard deviation lower than the Australian general population mean score of 49.8 (ABS, 1995), and similarly, the mean score for the PCS for the IDRS sample was 45.7 (SD=10.8), lower than the score reported for the general population (50.1) (Figure 79). This indicates that IDU had both poorer mental and physical health than the population average.

Figure 79: SF-8 scores for IDU compared with the general Australian population, 2009-2010

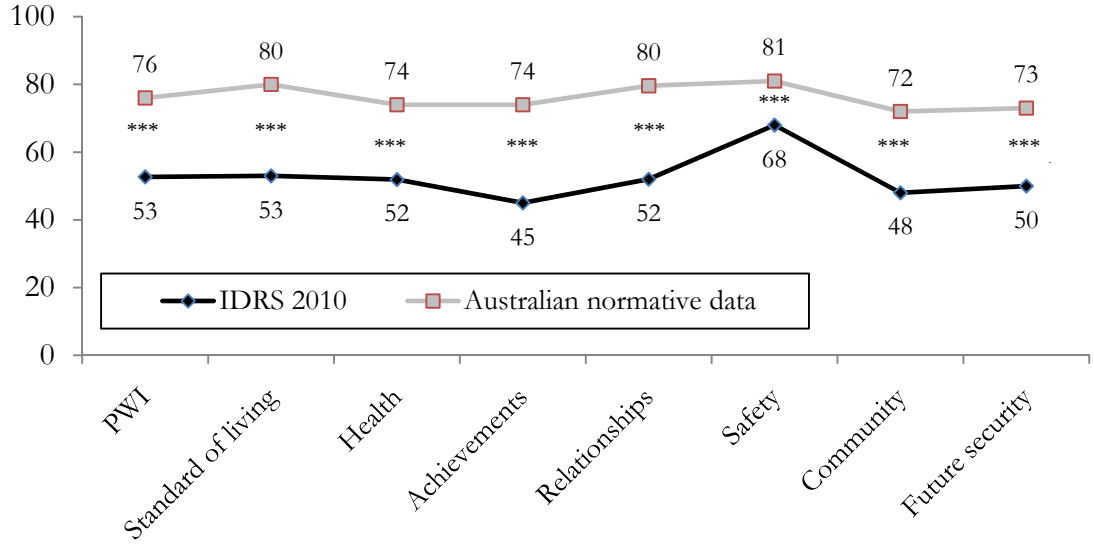


Source: IDRS IDU interviews, Australian Bureau of Statistics, 1995

11.7.3 Quality of Life

The Personal Wellbeing Index (PWI) was developed by Cummins and colleagues (1994) to measure subjective wellbeing. It consists of seven domains: standard of living; health; achievements in life; personal relationships; community connectedness; safety; and future security. The Personal Wellbeing Index is the aggregated score across all these domains (Cummins, et al. 1994). The Tasmanian IDRS participants scored significantly lower on the aggregated score than the Australian normative data (52.8 v. 76.3: $t_{(100)}$=11.47, $p<0.001$). The mean scores for the Tasmanian IDRS participants (n=94) for all domains were significantly lower than the Australian normative scores (Cummins et al., 2008) (Figure 80).

Figure 80: Personal Wellbeing Index assessment of quality of life in Tasmanian IDRS participants and a comparison Australian general population sample



Source: IDRS IDU interviews, Cummins, et al., 2008
*** p≤0.001

11.7.4 Utilisation of General Practitioners

Participants were asked to comment about utilisation of general practitioners (GPs) in the preceding 12 months. Eighty-three percent of the sample reported accessing a GP in this period, and across the entire sample, the median frequency of visits was 6 times (range 0-80, n=100). One-fifth of the sample (38%, n=38) had visited a GP for treatment for mental health problems over this period, at a median frequency of 4 times (range 1-26 times). Four-fifths of this group reported seeing the same GP for these visits (84%, n=32). Of the six participants seeing more than one GP for their mental health, five reported seeing two GPs and one participant had seen four GPs over the preceding 12 months.

11.7.5 Social networks

Interpersonal relationships are a vital element in healthy 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 Organization, 2005). Regular drug users, particularly regular injectors, are a group that tend to be marginalised by society and experience many hardships including homelessness, imprisonment, social and financial disadvantage and physical health problems all of which may contribute to a mental health condition. Social networks may play an important support role for this group.

Almost one-third of participants were in contact with a member of their family on a daily basis (29%), and 28% were in contact at least weekly, but not daily. Smaller proportions of participants reported contact with family members one to three times per month (13%); less than monthly (18%); or never (11%). Two-thirds of the sample reported having a family member/s they felt they could rely upon when experiencing a serious problem (66%), and the median number of such family members was one (range 1-3).

Half of the sample reported having a family member they felt they could confide in (49%), with a median of one such family member (range 1-3). Participants were also asked about connectedness with friends: two-fifths of the sample (43%) reported daily contact with a friend; 33% reported weekly (but not daily) contact; 4% reported contact on one to three days per month; 5% less than once per month; and 8% reported no contact with friends. Three-fifths of the sample (62%) reported having a friend they felt they could rely on if they experienced a serious problem. Participants were also asked how much they felt they could rely on their partner (if in a relationship, n=57) for support if experiencing a serious problem: the majority reported they could rely on their partner 'a lot' (70%, n=40); 17% (n=10) reported 'some'; 9% (n=5) reported 'a little'; and 4% (n=2) reported 'not at all'.

11.7.6 Body Mass Index

Eating disorders and drug use disorders are significant public health problems; however, epidemiologic research examining their associations yields ambiguous results. Evidence of a relationship between obesity and alcohol use is found in some studies (Wannamethee, et al., 2003). As to the relationships between overweight/obesity and nicotine dependence, studies have found overweight and obese men, but not women, were more likely to be former daily smokers than non-smokers (John, et al., 2006; (Zimlichman, et al., 2005). 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, et al., 2007).

The relationship between body mass index (BMI) and illicit drug use disorders is also unclear. For instance, cannabis can stimulate appetite whereas cocaine is a stimulant and appetite suppressant, but one study found similar prevalence of overweight in individuals with illicit drug use disorders as that found in the general population (Rajs, et al., 2004) and another study found both positive and negative associations of BMI with various substance use disorders, and significant gender differences in those relationships (Barry & Petry, 2009). Finally, BMI and drug use are both associated with mental health problems (Kemp, et al., 2009).

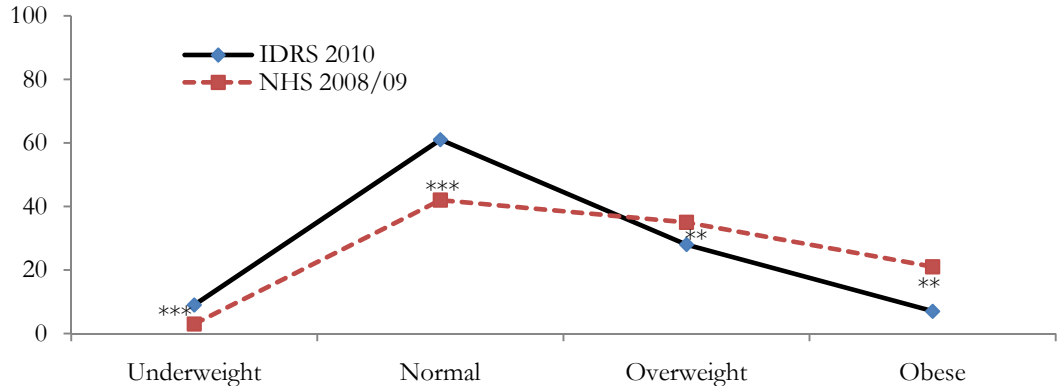
Across the sample (n=92), the majority of participants were in the healthy weight range (61%, n=56), with one-fifth in the overweight range (21%, n=19) (Table 51). When comparing across sexes, more females scored in the underweight category ($\chi^2(1_{n=92})=9.611$, p=0.008). When comparing all IDRS participants with a sample from the 2008/09 National Health Survey (ABS, 2009), significant differences were found for all categories (Figure 81).

Table 51: Body Mass Index categories of IDRS participants, 2010

	NHS 2007/08 %	IDRS sample N=92 %	IDRS: Female N=34 %	IDRS: Male N=57 %
BMI:				
Underweight	3	9	21	2
Healthy	42	61	56	63
Overweight	35	21	9	28
Obese	21	10	15	7

Source: IDRS IDU interviews, Australian Bureau of Statistics, 2009

Figure 81: Body Mass Index categories for IDRS 2010 and NHS 2007/08 participants



Source: IDRS IDU interviews, Australian Bureau of Statistics, 2009
Note: * p≤0.05; ** p≤0.01; *** p≤0.001

11.7.7 Sexual health

Participants were asked about health seeking practices specifically regarding sexual health. Half of those participants responding reported they had been tested for a sexually transmitted infection (STI) in the preceding two years (50%, n=48). Participants provided a variety of reasons for deciding to be tested: 33% (n=16) were tested after their health care provider suggested it; 17% (n=8) in response to unprotected sex; 10% (n=5 respectively) as they either had symptoms of an STI or were in prison (where this service is offered); and 4% (n=2 respectively) to either be clear of an infection after ending a relationship or before commencing a new relationship, or because of high-risk activities (e.g. sex work). The majority of participants reported being tested for an STI by a GP (54%, n=26), with smaller proportions reporting prison health services (21%, n=10), sexual health clinic (15%, n=7) or whilst in hospital (10%, n=5). Participants who reported being tested for an STI in the preceding two years were significantly younger (30.6 years vs. 38.7 years: $F(1,95)=21.53$, $p<0.001$), less likely to report being heterosexual (75% vs. 90%: χ^2 $(1_{n=97})=3.67$, $p=0.049$), and reported a shorter injecting career (12.6 years vs. 16.5 years: $F(1,95)=7.82$, $p=0.006$) than those participants reporting no such recent tests.

Female participants were also asked whether they had had a Pap (Papanicolaou) smear test in the preceding two years. This is a routine screening test, generally recommended once per two years, to detect both premalignant and malignant processes in the cervix. More than half of the female participants reported having a Pap smear in the preceding two years (54%, n=21). Of this group, the majority of participants reported these tests occurred with a GP (62%, n=13), a sexual health clinic (29%, n=6) or a hospital (10%, n=2).

11.8 Driving risk behaviour

The majority of consumers interviewed in the current study had driven a car in the preceding six months (59%). Of these participants, three-quarters self-reported that they had driven within one hour of consuming illicit drugs[39] (73%, n=43), a similar

[39] Note that this includes prescription drugs but only if they were not prescribed to the individual using them.

proportion to that identified in the 2009 cohort (78% of the 65 that had recently driven). Table 52 summarises the drugs that were used: cannabis (37%, n=16); illicit methadone (35%, n=15) and illicit morphine (30%, n=13) were most commonly cited.

When reviewing rates of reported driving soon after consuming an illicit drug, one of the more notable changes was the extent of use of methamphetamine in this context. While the overall rate of reported driving under the influence of drugs has remained relatively stable, in 2005, 74% of participants who had recently drug-driven reported they had used methamphetamine, with this declining to just 12% in 2010. This decrease was consistent with the decreasing trends of methamphetamine use amongst IDRS samples since 2005.

Use of illicit methadone increased between 2005 and 2006 (from 38% to 56%), which may be partly explained by an increase in opioid-using consumers in the sample. This rate remained relatively stable in 2007, however, over the 2008 and 2009 period, this rate declined to 22% and 18% respectively. In 2010, this rate again increased (35%, n=15), despite a lower proportion of participants reporting recent use of illicit methadone.

Reports of driving under the influence of illicit morphine increased slightly between 2005 and 2008, from 25% to 42%; however, this trend has not been sustained, with 24% of the 2009 and 30% of the current cohort reporting driving under the influence of morphine.

The extent of reports of driving while under the influence of cannabis remained relatively stable in the 2005-2009 cohorts, ranging between 51% and 67% of those drug-driving. A small decrease was reported in 2010 (37%), but this was not statistically significant. Given the relatively stable high rates of driving under the influence of drugs in the past five cohorts, it is important to monitor changes in such behaviour in future IDU cohorts as roadside drug testing and drug driving education campaigns are increasingly implemented in the state.

Fifty-eight participants who had recently drug-driven commented on their perceived level of impairment on the last occasion this occurred. Three-fifths of this group perceived that their drug use had had no impact on their driving ability on this occasion (60%, n=32), and one-quarter perceived slight impairment (26%, n=14). Minorities of participants noted their driving ability to be 'quite impaired' (6%, n=3), 'slightly improved' or 'quite improved' (4%, n=2 respectively).

Of the 59 participants who reported having driven a vehicle in the preceding six months, 25% (n=15) reported they had driven whilst under the influence of alcohol in this period. Of this group, 12 reported they had driven whilst over the legal limit for blood alcohol concentration in the preceding six months, at a median frequency of four occasions (range 1-150 occasions).

Roadside drug testing was introduced in Tasmania in 2005. Drivers who are selected for this are required to provide a saliva sample, which is then analysed, returning a result in approximately five minutes. Drivers who test positive are then requested to provide a blood sample for confirmation of this result. In Tasmania, drivers are typically tested for cannabis, amphetamine and MDMA. Seventeen participants in the current study reported they had ever undergone such testing, with eleven reporting this had occurred on one occasion and six participants reporting this had occurred on two or more occasions. Six of these participants reported testing positive for the most recent test.

Table 52: Proportion of IDU driving a car in the preceding six months that had driven soon after using non-prescription drugs, 2005-2010

	2005		2006		2007		2008		2009		2010	
	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
Drove a vehicle in last 6months	84	*84*	73	*73*	57	*57*	64	*64*	65	*65*	59	*59*
Of these:												
% driven within 1 hour of consuming illicit drugs	63*	*53*	68	*50*	74	*42*	64	*41*	78	*51*	73	*43*
Opioids												
Heroin	2	*1*	2	*1*	-	-	-	-	-	-	-	-
Methadone (illicit)	38	*20*	56	*28*	50	*21*	22	*9*	18	*9*	35	*15*
Morphine (illicit)	25	*13*	38	*19*	33	*14*	42	*17*	24	*12*	30	*13*
Methamphetamine												
(any)	74	*39*	62	*31*	40	*17*	7	*3*	25	*13*	12	*5*
Powder	49	*26*	30	*15*	36	*15*	5	*2*	16	*8*	12	*5*
Base	43	*23*	26	*13*	5	*2*	-	-	10	*5*	-	-
Crystal/ice	6	*3*	24	*12*	5	*2*	2	*1*	-	-	-	-
Cannabis	62	*33*	56	*28*	67	*28*	56	*24*	51	*26*	37	*16*
Benzodiazepines	30	*16*	18	*9*	33	*14*	22	*9*	6	*3*	9	*4*
Ecstasy	4	*2*	-	-	-	-	-	-	2	*4*	2	*1*

Source: IDRS IDU interviews

*In 2005, this question did asked participants if they had driven soon after using illicit drugs

11.9 Summary of health-related trends

Overdose

Small proportions of participants reported experiencing a non-fatal overdose from use of morphine, methadone or oxycodone in the preceding 12 months. The number of accidental deaths in Tasmania attributable to opioid use in 2007 was 11. In 2008, a smaller number of deaths due to opioid use was reported (less than 10), however the precise number was not provided to protect confidentially. Nationally in 2008, 337 deaths were attributed to such causes, which equates to a rate of 16 per million population. This rate is slightly higher than reported in 2007 (n=266, 13 per million population)

Drug treatment

According to the Tasmanian NMDS, cannabis and alcohol were the most commonly reported illicit drugs of concern among clients of Tasmanian drug treatment agencies in 2008/09, accounting for 39% and 38% respectively of treatment episodes. Methamphetamine was the principal drug of client's concern in 8.5% of treatment episodes in Tasmania and 9.2% nationally. Problems with opioids comprised a smaller proportion of treatment episodes: morphine was the principal drug of concern noted in 6.4% of treatment episodes in Tasmania, significantly higher than the national rate (1.4%); and methadone was the principal drug of concern noted in 1.3% of episodes locally and 1.5% nationally.

Hospital admissions

Between 2003/04 and 2004/05, Tasmanian rates of public hospital admission for opioids were around half that of the national level; however, in 2006/07, this increased dramatically, with the Tasmanian rate of admissions around 164% of the national rate. This increased rate has continued into 2007/08, with the Tasmanian rate of admissions being 170% of the national rate (752 v. 441 admissions per million persons between the ages of 15 and 54 years in 2007/08).

Tasmanian hospital admission rates for methamphetamine were stable between 2002/03 and 2005/06, with approximately 150 admissions per million persons (aged 15-54). In 2006/07, this increased to 244 admissions per million population, however, in 2007/08, this rate decreased to 210 admission per million population, which represents 130% of the national rate (210 v. 161 admissions per million persons between the ages of 15 and 54 years in 2007/08).

Tasmanian public hospital admission rates where cannabis use was noted as the principal diagnosis, increased notably in 2006/07, from 65 admissions per million population in 2003/04 to 267 per million population in 2006/07. In 2007/08, this rate decreased to 156 admissions per million population. The Tasmanian admission rate per million population has been greater than the national rate since 2005/06 (120% in 2005/06; 164% in 2006/07; and 115% in 2007/08).

Injecting risks

Self-reported rates of sharing of needles or syringes among clients of non-pharmacy NSP outlets had steadily declined over time (from 2.6% of all transactions in 1995/96 to 0.3% in 2005/06); however, in 2006/07, this trend was briefly reversed (with 1.1% of client transactions reporting sharing needles or syringes) – this rate has continued to decrease since this time, to 0.09% in 2009/10.

The current Tasmanian IDRS study identified a similar pattern with rates of sharing amongst IDU participants increasing sharply in 2007, and decreasing over the subsequent periods. Three percent of the current cohort reported use of another person's used needle/syringe in the month prior to interview, a rate lower than was reported in 2007 (16%) – a year in which a significantly greater proportion of participants reported sharing injecting equipment – but similar to rates in other years. Similarly, the number of participants reporting providing their used equipment to another person decreased from 29% in 2007 to 13% in 2010, returning to a similar level to that reported in other Tasmanian IDRS reports.

Two-fifths of the consumers interviewed (44%) reported re-using their own injection equipment in the month prior to interview, with the majority of these participants re-using on multiple occasions in this time. The main forms of equipment that consumers reported re-using were winged-infusion sets ('butterflies'), 1ml syringes, 3/5ml barrels, and 20ml barrels. Requiring equipment after-hours (nights or weekends) was the main reason participants provided for re-using equipment.

These are harmful injection practices, as repeated use of needles leaves them blunt, which could cause damage to the venous system, and use of non-sterile equipment can lead to the introduction of bacteria into the bloodstream, which can lead to infections, septicaemia or endocarditis. Sharing of injecting equipment greatly increases the chance of transmission of blood-borne viruses such as HCV or HIV.

Self-reported mental health

Fifty-two percent of participants reported experiencing a mental health problem in the preceding six months. Depression and anxiety-related disorders were the most commonly cited. Rates of psychological distress, as assessed with the Kessler 10 and the SF-8, were substantially higher in the IDRS sample in comparison to the Australian national average

General health and quality of life

Self-reported general health amongst IDU participants was generally poorer than was reported for general population samples. IDRS participants scored lower on the Physical Component of the SF-8 than was reported in the NHS (ABS, 1995), and lower in all measures of the Personal Wellbeing Index than reported for the normative Australian population scores.

Driving risk behaviour

Three-fifths of the consumers interviewed who had driven a car in the past six months had done so within an hour of using illicit or non-prescribed drugs on at least one occasion. Cannabis, illicit methadone and illicit morphine were most commonly involved. While the extent of self-reported driving under the influence of drugs has remained stable in the past four local IDRS studies, the level of drug-driving involving methamphetamine has decreased from 74% of those who had driven in 2005 to 12% in 2010, possibly reflecting the trend toward decreasing use of methamphetamine amongst IDRS cohorts.

12.0 LAW ENFORCEMENT-RELATED TRENDS ASSOCIATED WITH DRUG USE

12.1 Reports of criminal activity among IDU participants

Almost half of the IDU respondents self-reported they had been arrested in the preceding 12 months (47%). This is slightly – but not significantly – higher than the rate reported for the 2010 national IDRS sample (39%, n=352, p=0.15). The crimes most commonly reported were property crimes (20%) and violent crimes (19%) (Table 53).

Participants were asked to comment on the frequency of these crimes in the month preceding the interview. Among those reporting involvement in property crimes (n=29), this most commonly occurred less than once per week (38%, n=11), or more than weekly but less than daily (31%, n=9), with smaller proportions reporting carrying out such activities once per week (17%, n=5), or daily (14%, n=4). One-third of participants reported dealing drugs in the month preceding the interview (35%, n=35). Amongst this group, this most commonly occurred less than once per week (40%, n=14) or more than weekly but less than daily (29%, n=10), with smaller proportions reporting dealing once per week (20%, n=7) or daily (11%, n=4). Thirteen participants commented on the frequency of carrying out violent crimes in the month preceding the interview: eleven participants reported such a crime occurring less than weekly; and single participants reported this occurring more than weekly but less than daily or daily.

In 2010, the rate of participants self-reporting involvement in criminal activity in the month preceding the interview was 51%, similar to rates reported in previous local IDRS studies (rates have fluctuated between 48% and 63% since 2002) (Figure 82). It should be noted that these fluctuations are within the range expected for sampling variability.

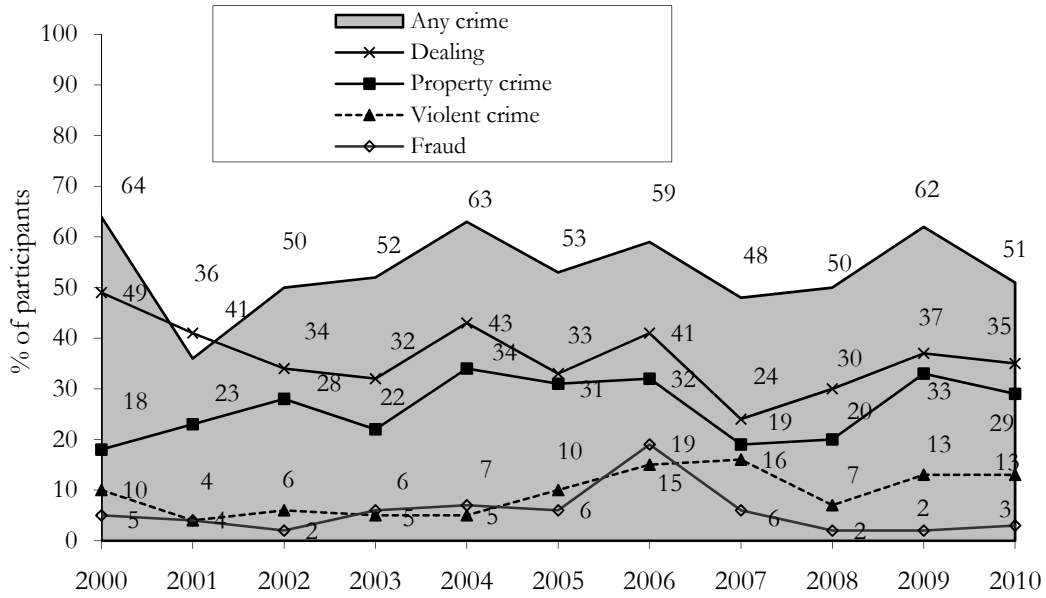
Table 53: Self-reported arrests among IDU (N=100), 2002-2010

Activity	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	2010 %
% arrested last 12 months	41	46	51	47	55	46	47	49	47
% arrested for:									
Property crime	25	21	29	16	16	19	20	23	20
Use/possession-drugs	9	2	9	5	5	2	10	4	9
Violent crime	14	5	9	11	16	9	8	10	19
Fraud	0	3	2	1	3	2	1	2	0
Dealing/trafficking	1	0	1	2	3	1	0	4	2
Driving offence	5	2	6	11	10	6	10	12	6
Alcohol and driving	2	1	1	0	0	6	1	5	5
Drugs and driving	3	3	2	0	1	6	1	2	2
Use/possession-weapons~	-	-	-	-	-	-	2	5	2
Other reason	8	16	14	16	22	17	11	9	6

Source: IDRS IDU interviews

~ This response was only included in the 2008-2010 studies

Figure 82: Self-reported criminal activity in the preceding month amongst IDU, 2000-2010



Source: IDRS IDU interviews

12.2 Arrests

Since 2000, Tasmania has had a drug diversion program (the Illicit Drug Diversion Initiative). This diversion model encompasses individuals who have been apprehended for no more than three offences in the past ten years, and follows a three-tiered approach to diversion. Individuals with a first minor cannabis offence are cautioned and provided with health and legal information, as well as contact details of referral and treatment services, and do not receive any criminal record. Second-time offenders are cautioned and diverted into a brief face-to-face intervention with a health professional. Again, there is no criminal conviction; however, if they fail to attend the brief intervention the individual is prosecuted for the drug offence. Third-time offenders are cautioned and diverted directly to assessment and treatment through the Department of Health and Human Services, Alcohol and Drugs Service. Charges are not pursued providing there is attendance and compliance with the requirements of treatment as assessed. In the case of a first offence with an illicit drug other than cannabis, individuals are immediately diverted to the third tier of diversion (as per third time cannabis offenders). As such, while diversions may be employed for consumer offences for any illicit drug, as the majority of diversions involve cannabis consumers, data from the Illicit Drug Diversion Initiative are summarised in the cannabis arrests section below (Section 12.2.4).

12.2.1 Heroin

Tasmania Police State Intelligence Services reported no arrests involving offences relating to heroin between 2000/01 and the 2003/04 financial years[40]. In the 2004/05 financial year there was a single arrest[41] in the north of the state (relating to the seizure of

[40] ACC reported six male and four female consumer arrests relating to 'heroin and other opioids' in the 2003/04 financial year, with all of these arrests relating to pharmaceutical opioids rather than heroin.
[41] ACC reported eight consumer arrests (five males, three females) and two male provider arrests relating to 'heroin and other opioids' in the 2004/05 financial year, with all of these arrests, other than a single female consumer, relating to pharmaceutical opioids rather than heroin.

0.2g of a drug believed to be heroin in the first quarter of 2005). Similarly, in 2005/06, Tasmania Police arrested one individual in the south of the state[42] (relating to a seizure of 2.8g in the fourth quarter of 2005). No arrests for heroin were made between 2006/07[43] and 2009/10[44] financial years. One KE from the legal field noted they were not aware of any persons charged with a heroin-related offence in Hobart for many years. Due to the small numbers and lack of specificity of reporting of opioid-related arrests in previous years[45], the identification of trends from such data is difficult, other than to provide further support for indications from other data sources of a limited availability and use of the drug locally.

12.2.2 Methamphetamine

Arrest data for methamphetamine-related offences indicated a marked increase in the number of arrests between 1998/99 and 2001/02 (n=7 and n=89 respectively) (Table 54). The main increase over this period related to those charged with 'consumer'-type offences (such as use and possession), consistent with reports of increased availability and use of methamphetamine, although there was a concomitant, albeit less marked, increase in the number of supply-type arrests in this period. The 2003/04 financial year saw a decline in the number of arrests (from n=66 in 2002/03 to n=39 in 2003/04), with this reduction primarily relating to a decline in the number of arrests for consumer-type offences rather than that of providers. Up until 2007/08, there had been increases in the number of consumer arrests (ranging between 6-71 arrests from 1996/97 to 2005/06; n=107 in 2007/08) and provider-type arrests (n=8 in 2003/04; n=70 in 2007/08). In 2008/09, ACC reported a decrease in total number of arrests (n=117), with much of this decrease attributable to decline in consumer arrests (n=47). In 2009/10, preliminary data from Tasmania Police suggest a decrease in the total number of arrests (n=85), with a decrease in provider arrests accounting for much of this (n=30). It is important to note that this data is preliminary and subject to revision (totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules), and as such, care should be taken when interpreting it.

---

[42] ACC reported ten consumer arrests (seven males, three females) and six provider arrests (five male and one female) relating to 'heroin and other opioids' in the 2005/06 financial year, with all of these arrests, other than a single consumer, relating to pharmaceutical opioids rather than heroin.

[43] ACC reported 11 consumer arrests (nine males, two females) and five provider arrests (two male, three female) relating to 'heroin and other opioids' in the 2006/07 financial year, with all of these arrests relating to pharmaceutical opioids rather than heroin.

[44] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

[45] Data specifically regarding heroin-related offences prior to 1999/00 is unavailable as the Australian Crime Commission reports offences related to all opioids (including, for example, morphine and methadone) within a single category.

Table 54: Consumer and provider arrests for methamphetamine and related substances, 1996/97-2009/10

	1996/97 n	1997/98 n	1998/99 n	1999/00 n	2000/01 n	2001/02 n	2002/03 n	2003/04 n	2004/05 n	2005/06 n	2006/07 n	2007/08 n	2008/09 n	2009/10†
Consumers														
Female	3	5	0	4	9	18	8	10	9	10	24	26	10	15
Male	15	9	4	14	51	53	34	21	34	33	84	81	37	40
Unknown	0	1	2	2	0	0	0	0	0	0	0	0	0	0
Total	18	15	6	20	60	71	42	31	43	43	108	107	47	55
Providers														
Female	0	0	0	0	1	6	2	1	3	9	14	13	7	6
Male	2	0	1	7	9	12	17	7	23	25	55	57	61	24
Unknown	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Total	2	0	1	8	10	18	19	8	26	34	69	70	68	30
Total arrests	20	15	7	28	70	89	66	39	69	83	179	177	117	85

Source: Australian Crime Commission (previously the Australian Bureau of Criminal Intelligence) and State Intelligence Services, Tasmania Police

† 2009/10 data is preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules. Cases here relate to both arrest and summons charges for methamphetamine-related offences

Note: 'Consumer' refers to persons charged with use-type offences (e.g. possession, administration), while 'provider' refers to persons charged with supply-type offences (e.g. supply, cultivation or manufacture). Where a person has been charged with multiple offences within a category, that person is only counted once in these statistics

Note: Includes those offenders whose consumer/provider status was not stated, so total may exceed the sum of the table cells

12.2.3 Cocaine

Arrests for cocaine-related offences in Tasmania have been infrequent. Three arrests for cocaine offences were made by Tasmania Police in 2009/10[46]; and single arrests were made in 2008/09, 2006/07, 2001/02 and two arrests were made in 2000/01. No arrests were made between 2002/03 and 2005/06 and 2007/08 (Australian Bureau of Criminal Intelligence, 2001; Australian Crime Commission, 2002, 2003, 2004, 2005, 2006, 2007, 2008; and State Intelligence Services, Tasmania).

12.2.4 Cannabis

The Tasmanian Illicit Drug Diversion Initiative, which primarily, but not exclusively, relates to cannabis consumer offences has been well supported by police, with well in excess of 1,500 diversions made per annum between 2007/08 and 2009/10 (Table 55). The number of second- and third-level diversions (to health interventions) have increased overall since 2000/01, from 151 to 615 in 2009/10[47] (Table 58).

Table 55: Drug diversions or cautions issued by Tasmania Police, 2000/01-2009/10

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07*	2007/08	2008/09	2009/10#
Number of cautions/ diversions state-wide	612	978	1,337	1,398	1,330	1,158	1,361	1,681	1,528	1,609
Number diverted to health intervention state-wide	151	n/r	263	179	365	236	369	634	536	615~

Sources: Department of Police and Emergency Management Corporate Reporting Services Annual Corporate Performance Reports – Total District Drug Diversions; Tasmania Police Drug Offence Reporting System; Alcohol and Drug Service

2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

~ This figure also includes 86 diversions for other illicit/licit drug offences

* These figures are also included within the Alcohol and Other Drug Treatment Services Minimum Dataset statistics

n/r Refers to cases where the relevant data were not reported to the authors

Note: These figures may differ from data submitted to the Australian Crime Commission if the decision to charge persons was altered to a caution after the figures were forwarded to State Intelligence Services

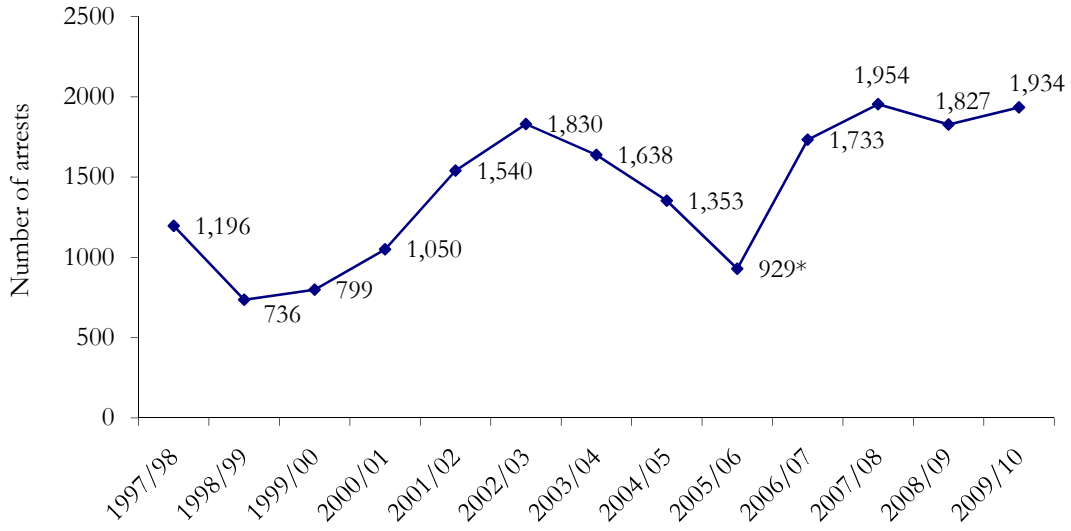
Cannabis-related arrests appeared to have more than doubled between 1998/99 and 2002/03, from 736 to 1,830 arrests respectively (Figure 83). As this increasing trend coincided with the implementation of the Cannabis Cautioning Program, and subsequently the Illicit Drug Diversion Initiative, it was likely that much of this increase simply reflected the increase in utilisation of 'official' cautions and diversions by Tasmania Police (which are included in these statistics) over 'unofficial' warnings, which

[46] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

[47] The 615 diversions also include 86 diversions for other illicit/licit drug offences. In addition, 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

would not be recorded in these statistics in preceding years. Between 2002/03 and 2004/05, the number of cannabis-related arrests appeared to have declined to 1,353 (data from 2005/06 supplied by Tasmania Police was incomplete); however, this trend has been reversed since this time with 1,934 arrests reported in 2009/10. It is important to note that these data are preliminary and subject to revision (totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules) and, as such, care should be taken when interpreting them.

Figure 83: Number of arrests (including cautions and diversions) for cannabis-related offences in Tasmania, 1997/98-2009/10



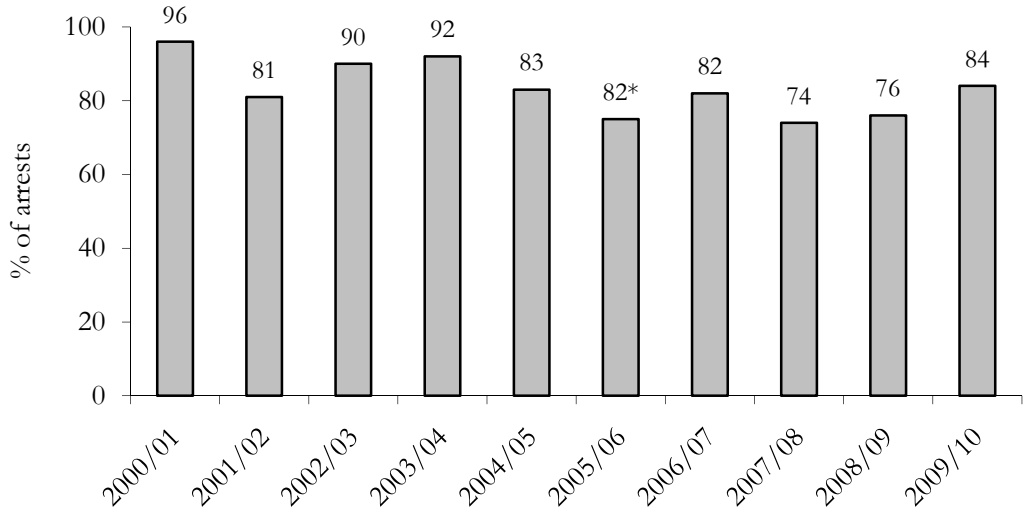
Source: Australian Illicit Drug Reports 1997/98-2007/08; Australian Bureau of Criminal Intelligence (now the Australian Crime Commission); and Tasmania Police State Intelligence Services State-wide Illicit Drug Reports

* Arrests for 2005/06 were only reported to the ACC for part of the financial year

Note: 2009/10 data supplied by Tasmania Police are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

Figure 84 indicates the proportion of arrests for offences relating to the possession or use of cannabis (consumer offences) as opposed to supply-type (provider) offences between 2000/01 and 2009/10. Between 2000/01 and 2009/10, the proportion of arrests relating to consumer-type offences has been relatively stable (ranging between 74% and 96%: Figure 84). Overall, the clear majority of arrests remain consumer-related rather than provider-related.

Figure 84: Consumer arrests (including cautions and diversions) for cannabis-related offences as a proportion of all cannabis-related arrests in Tasmania 2000/01-2009/10



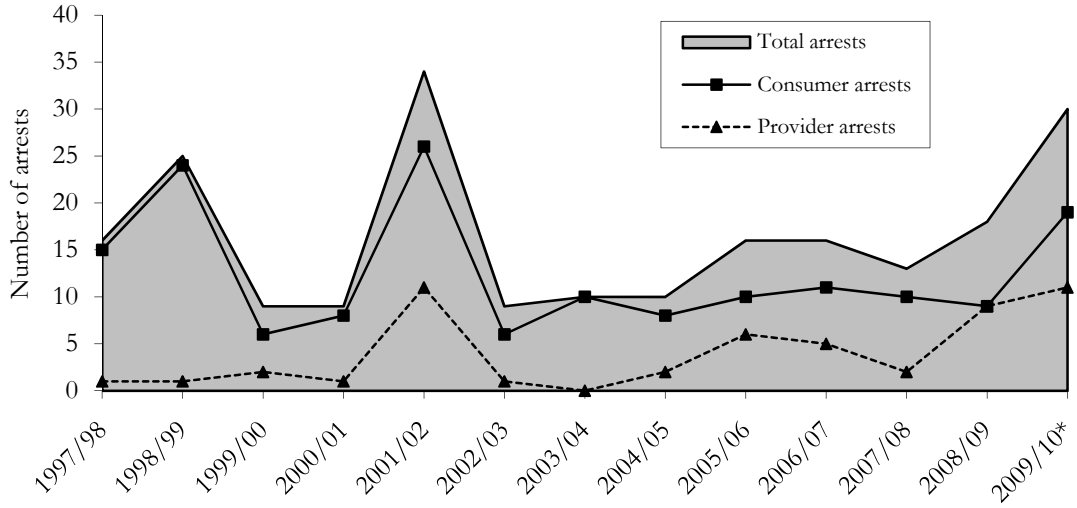
Source: Australian Illicit Drug Reports 1997/98-2007/08, Australian Bureau of Criminal Intelligence (now the Australian Crime Commission), and Tasmania Police State Intelligence Services State-wide Illicit Drug Reports.
* Arrests for 2005/06 were only reported to the ACC for part of the financial year
Note: Note: 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

12.2.5 Other opioids

Between 1997/98 and 2001/02, there were small and variable numbers of arrests made by Tasmania Police involving offences relating to opioids (including heroin and other narcotics[48]), fluctuating around 22 cases per annum (range 16-34). Amended counting rules applied from 2002/03 mean that subsequent data is not directly comparable. Since this time, the number of arrests remained relatively small and stable, fluctuating at around 13 cases per annum (range 9-16) between 2002/03 and 2008/09 (Figure 85), however in 2009/10[49], preliminary data from Tasmania Police suggest this has increased to 30 such arrests.

[48] For recording purposes, Tasmania Police class any Schedule 8 drug as 'Narcotic'. Schedule 8 drugs are 'Drugs of Addiction'.
[49] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules.

Figure 85: Number of arrests for opioid-related offences in Tasmania, 1997/98-2009/10



Source: Australian Illicit Drug Reports 1997/98-2001/02, Australian Bureau of Criminal Intelligence; Illicit Drug Data report 2002/03- 2008/09, Australian Crime Commission; and Tasmania Police State Intelligence Services State-wide Illicit Drug Reports

2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report and ACC-IDDR due to differences in counting rules

Note: Counting rules for arrests prior to 2002/03 differ from those applied currently, so these years are not directly comparable

Note: Arrests for 2005/06 were only reported to the ACC for part of the financial year.

12.2.6 Benzodiazepines

Trends from Tasmania Police in regard to benzodiazepines appeared to remain relatively stable between 2000/01 and 2001/02, with 78 arrests (72 consumers, six providers) associated with Schedule 4 drugs in 2001/02, in comparison to 93 arrests (84 consumers, nine providers) in 2000/01. Counting rules for this data had changed in 2002/03 and, as such, subsequent data are not directly comparable. Using these new processes, four consumers were arrested in relation to benzodiazepines in 2002/03 and one in 2003/04. In 2004/05, six arrests were made in relation to benzodiazepines, all of which related to consumer-type offences. In 2005/06 and 2006/07, five arrests were made per annum, four of which were consumer-type offences and one each year was a provider-type offence. In 2007/08, eight arrests were made – six consumer and two provider arrests; in 2008/09, seven arrests were made – five consumer and two provider arrests; and similarly in 2009/10[50], six arrests were made, all of which were consumer arrests.

12.2.7 Drug-Related Charges in Tasmanian Courts

As shown in Table 56, the number of individuals before the Supreme Court for selling or trafficking in drugs has increased from 20 individuals in 2003/04 to 75 in 2007/08 (data for 2008/09-2009/10 were not provided to the authors at the time of publication). As part of the context of these increases, the *Misuse of Drugs Act 2001* implemented changes to the existing law and may have expanded the number of prosecutions appropriate for presentation to the Supreme Court. The act was further amended in 2004. It is thus likely that the recent apparent increase in charges (from 20 in 2003/04 to 75 in 2007/08)

[50] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

may largely relate to such legal changes[51], rather than being necessarily reflective of substantial changes in the rate of such offences. In 2003/04 and 2004/05, the majority of relevant charges before the Supreme Court related to trafficking in a controlled substance (16 individuals in 2003/04 and 19 in 2004/05) and cultivating a controlled plant for sale (three individuals in 2003/04 and 10 in 2004/05). This level of detail was not provided for the 2005/06 to 2007/08 financial years.

The number of individuals before the Magistrates Court for drug-related matters has remained relatively stable between 2003/04 and 2009/10 (Table 56, Figure 86), however, in 2008/09, the number of individuals before the court for possession and use offences increased from a range of 414-517 individuals per financial year to 886. In 2009/10, this decreased to 637 individuals.

Since 2004/05, the number of individuals incarcerated at Hobart Prison in relation to drug offences remained stable (between 53 and 57 per financial year[52]), with the exception of 2008/09, when this number increased slightly to 84 individuals. The number of offences among those incarcerated has increased from 84 in 2003/04 to 166 in 2008/09, however, this decreased to 121 in 2009/10 (Table 56). These changes largely relate to increases in the numbers imprisoned on charges of trafficking in a controlled substance (seven charges in 2003/04 and 52 in 2008/09) with a subsequent decrease in 2009/10 (22 charges) and possession of a controlled plant or its products (21 charges in 2003/04; 38 in 2008/09; and 30 in 2009/10) (Table 56).

[51] In that, in 2005 the full effect of the enactment of the *Misuse of Drugs Act 2001,* together with several prosecutions being withheld while amendments effected in 2004 were being expected, which then were the subject of a reference to the Court of Criminal Appeal to determine if there were any retrospective effect: T. Ellis S.C., *(Personal Communication*, 2005 and 2007)

[52] In 2007/08, the total number of people incarcerated in the Hobart Prison was not provided to the authors

Table 56: Number of individuals before Tasmanian courts or imprisoned on drug charges, 2003/04 -2009/10

		2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10
SUPREME COURT OF TASMANIA								
Number of indictable charges relating to *Misuse of Drugs Act* *		20	33	47	66	75	n/p	n/p
HOBART MAGISTRATES COURT								
Number of individuals before the court for:								
(alleged number of offences in parentheses)	*D*ealing and trafficking in drugs	120 *(138)*	123 *(130)*	106 *(118)*	97 *(106)*	104 *(114)*	128 *(130*)	125 *(132)*
	Importing /exporting of drugs	1 *(1)*	0	2 *(3)*	0	*0*	0	0
	Manufacturing/growing of drugs	102 *(105)*	80 *(81)*	93 *(96)*	107 *(114)*	96 *(102)*	98 *(102)*	112 *(113)*
	Possession and/or use of drugs	414 *(829)*	414 *(800)*	422 *(823)*	480 *(996)*	517 *(982)*	886*(1056)*	637*(1171)*
	Other drug offences	4 *(6)*	1 *(1)*	1 *(1)*	0	1 *(1)*	1 *(1)*	0
HOBART PRISON*	Number of individuals incarcerated	36	55	57	56	n/p	84	53
	Number of offences among those incarcerated	84	101	117	128	144	166	121
OFFENCE BREAKDOWN:								
Grow prohibited plant/substance	Cultivate a controlled plant	4	11	4	7	10	11	8
	Cultivate prohibited plant	0	2	9	6	1	5	1
Possession/use	Possess a controlled drug	12	14	8	7	12	18	14
	Possess a prohibited plant	2	1	2	3	0	2	1
	Possess controlled plant or its products	21	26	36	41	42	38	30
	Possess prohibited substance	4	1	3	1	0	1	1
	Possess restricted substance	0	2	1	0	0	0	0
	Possess/Use/Administer a controlled drug	0	1	2	2	5	0	1
	Possess narcotic substance	3	1	0	0	0	0	0
	Use a controlled drug	3	7	6	3	9	7	16
	Use prohibited substance	2	1	2	0	0	0	0
	Possess thing used for administration of controlled drug	3	9	11	15	15	10	12

Sources: Department of Public Prosecutions (Supreme Court data); Magistrates Court (Magistrates Court data); Corrective Services (Prison data), Department of Justice and Industrial Relations

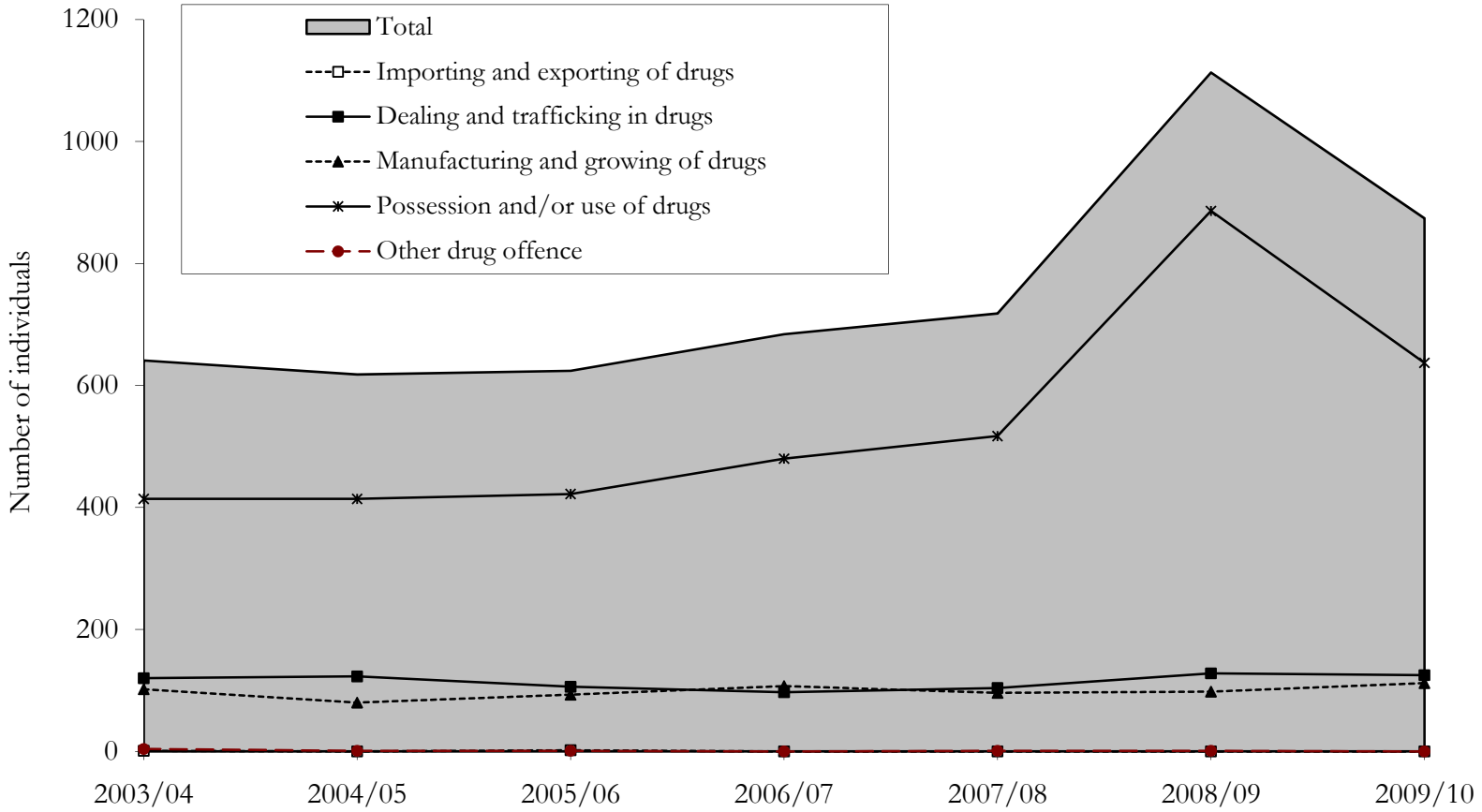
* This includes all indictable charges under the *Misuse of Drugs Act 2001*, which includes manufacturing a controlled drug for sale, cultivating a controlled plant for sale, possession of thing used in manufacture of a controlled substance for sale, possession of thing used for cultivation of a controlled plant for sale, manufacturing a controlled precursor intended for use in manufacture of controlled drugs for sale, selling a controlled precursor for use in manufacturing a controlled drug, trafficking in controlled substances and controlled drugs. n/p – Data not provided

Table 56: Number of individuals before Tasmanian courts or imprisoned on drug charges, 2003/04 -2009/10 (continued)

	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10
Prescription offences							
Possess a prescription knowing it to be forged or unlawfully altered	0	0	1	0	0	0	0
Unlawfully alter a prescription	0	0	1	0	1	0	0
Unlawfully possess blank prescription form	0	0	1	0	0	0	0
Utter a prescription knowing it to be forged or unlawfully altered	1	0	3	0	1	1	2
Sell/supply narcotic substance							
Supply or Sell raw narcotic or narcotic substance	1	0	0	0	0	0	0
Selling/Supplying controlled drug	5	6	4	1	3	8	5
Sell/supply prohibited substance/plant							
Make, refine, prepare, sell or supply a prohibited substance	0	1	0	0	0	0	0
Sell prohibited substance	0	2	0	1	0	0	1
Sell or supply controlled plant	3	3	1	1	4	4	5
Sell prohibited plant	0	0	1	0	0	0	0
Cultivate a controlled plant for sale	1	0	1	1	1	5	2
Possessing thing intended for use in cultivation of controlled plant for sale	1	0	0	0	0	1	1
Traffic in controlled/prohibited/narcotic substance							
Traffic narcotic substance	1	0	3	0	0	0	0
Trafficking in controlled substance	7	7	8	22	36	52	22
Traffic prohibited plant							
Traffic in a prohibited plant	4	1	4	1	1	0	0
Manufacture a controlled drug for sale							
Manufacturing a controlled drug for sale	0	0	2	1	0	1	0
Manufacturing controlled drug	0	0	0	0	1	0	0
Possessing thing intended for use in manufacture of controlled substance for sale	1	1	1	1	0	1	0
Other							0
Fail to comply with *Poisons Act* provisions	2	0	0	0	0	0	0
Possess implement Contrary to the Act	1	3	1	0	0	0	0
Supplying controlled drug to a child	0	0	1	1	2	0	0

Sources: Department of Public Prosecutions (Supreme Court data); Magistrates Court (Magistrates Court data); Corrective Services (Prison data), Department of Justice and Industrial Relations

Figure 86: Number of individuals before the Hobart Magistrates Court for drug-related offences, 2003/04-2009/10



Source: Hobart Magistrates Court

12.3 Expenditure on illicit drugs

Participants were asked how much money they had spent on illicit drugs on the day prior to interview. These responses are summarised in Table 57. This shows that more than two-thirds of the cohort (70%) spent money on illicit drugs the day prior to the interview, and that this was most commonly between $50 and $99 and $100 and $199 (21%, n=19 respectively). The average amount of money spent amongst the sample was $72 (SD=$105, range $0-700, median $50). Amongst the group that did spend money on illicit drugs on the day prior to the interview, the average expenditure was $103 (SD=$112, range $5-700, median $80). Between 2004 and 2010, the proportion of participants spending any money on illicit drugs on the day prior to the interview has increased (40% in 2004, 70% in 2010: χ^2 ($1_{n=189}$)=15.51, p<0.001).

Table 57: Amount spent on illicit drugs on day prior to interview, 2004-2010

Amount spent on day prior to interview	2004 N=100 %	2005 N=100 %	2006 N=100 %	2007 N=100 %	2008 N=100 %	2009 N=96 %	2010 N=89 %
Nothing	60	55	45	49	46	34	30
Less than $20	3	2	4	4	2	5	5
$20-$49	19	15	12	19	18	15	15
$50-$99	10	14	17	13	15	24	21
$100-$199	2	8	11	12	17	18	21
$200-$399	5	4	8	2	2	4	6
$400 or more	1	2	3	1	0	0	2

Source: IDRS IDU interviews

12.4 Summary

Self-reported criminal activity

Half of the IDU respondents self-reported involvement in some type of criminal activity in the preceding month (51%). The crimes most commonly reported were dealing drugs and property crime. Half of the IDU respondents had been arrested in the previous 12 months (47%), a rate slightly higher – but not significantly – than that reported in the 2010 National IDRS sample (32%) (Stafford & Burns, 2011). Most arrests related to property and violent crimes.

Arrests

In keeping with low levels of use and availability of heroin in Tasmania among IDU participants, very few heroin-related arrests have been reported by Tasmania Police over recent years. No arrests were reported for the 2000/01-2003/04 and 2006/07-2009/10[53] financial years, with just single arrests made in 2004/05 and 2005/06.

Conversely, reports of arrests for methamphetamine-related offences had increased from 20 in 1996/97 to 177 in 2007/08. This trend was reversed in 2008/09 and 2009/10, with 117 and 85 such arrests respectively being reported by Tasmania Police[54].

The number of arrests related to cannabis decreased from 1,830 in 2002/03 to 929 in 2005/06, however in 2007/08, the number of such arrests increased to 1,954, and has remained largely unchanged since this time. The majority of drug-related arrests reported in Tasmania are for cannabis offences (76-96% from 1997/98 to 2009/10).

Drug-Related Charges in Tasmanian Courts

The number of individuals before the Supreme Court of Tasmania facing charges under the *Misuse of Drugs Act 2001* has increased from 20 individuals in 2003/04 to 75 in 2007/08. It is likely that the recent apparent increase in charges may largely relate to legislative changes rather than being necessarily reflective of substantial changes in the rate of such offences.

The number of individuals before the Magistrates Court for drug-related matters has remained relatively stable between 2003/04 and 2009/10, with the exception of an increase in 2008/09. Possession and/or use of drugs charges were the most commonly reported charges made under the Drugs of Misuse Act in 2009/10.

[53] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

[54] 2009/10 data are preliminary and subject to revision. Totals may differ from those reported in the Department of Police and Emergency Management annual report due to differences in counting rules

13.0 IMPLICATIONS

The findings of the Tasmanian 2010 IDRS suggest the following areas for further investigation and possible consideration in policy.

1. Proactive harm reduction interventions targeted to injectors of pharmaceuticals
Tasmania, like a number of other regions removed from heroin distribution networks (such as the Northern Territory and New Zealand) has a long-established culture of injection of opioid-based pharmaceuticals. In the 2010 Tasmanian IDRS, high levels of injecting use of morphine and oxycodone have continued. As such, research into factors that would reduce the harms associated with the tablet preparations commonly used within the local IDU population, and dissemination of this information to users through continued training of NSP staff and peer groups, are necessary.

Recent Hobart-based studies investigated the efficacy of a range of different filtration methods on samples of morphine and oxycodone tablets. These studies found that whilst the commercially available filters (0.22 μm bacterial filter and 0.45 μm pill filter) dramatically reduced the presence of large particles that may potentially cause harm to the user (including the development of granulomas and blockages in the venous system), they did not reduce the particle count to a level considered safe for injection (McLean, et al., 2009). Further work is required to identify simple and effective techniques that are both low-cost and acceptable to consumers.

In the face of relatively high rates of injection of pharmaceutical opioid tablets and capsules amongst injecting drug users locally and in other Australian jurisdictions, consideration of other effective harm reduction approaches such as trials of injectable opioid treatments warrant renewed attention.

2. Monitoring and dissemination of information in regard to emergent trends in use of diverted pharmaceuticals
Oxycodone prescriptions both locally and nationally have continued a rapid increase in recent years. With diverted oxycodone use increasing amongst local IDU consumers, but still infrequent, it may be the case that knowledge of the drug amongst the consumer community is still developing. Reviews of opioid equianelgesic dose ratios suggest that oxycodone is between 1.5-2.0 times the potency of morphine (Pereira et al., 2001). Moreover, oxycodone reaching systemic circulation after injection is more than twice that after oral or rectal administration (Leow et al., 1992). While conducting interviews for the current study, it was apparent that a small proportion of both consumers and KE were not aware that oxycodone, although similar in presentation and trade name (e.g. morphine – MS Contin, oxycodone – OxyContin) is not the same drug, and is indeed more potent than morphine, and that caution needs to be exercised in its use. Further, given the talc content of the tablets, careful preparation and filtering of the drugs is required to minimise the risk to users of granulomas (Roberts, 2002). Frontline workers need to be aware of these issues and to implement harm reduction interventions with potential injecting consumers of this drug.

Research examining misuse of pharmaceutical products, such as benzodiazepines and codeine-based products in populations other than IDU is warranted, as this has been a demographic identified in both KE interviews in the current study and in associated local research (Nielsen & Cameron, 2009; Fry & Bruno, 2002; Bruno, 2004b) but not accessed within the methodology of the IDRS, and this population has, to date, been largely invisible in research or other data collections.

3. Increased attention to mental and physical health and wellbeing amongst people with substance dependence issues

The current study identified, on average, poorer physical and mental health/function among the IDRS sample in comparison with samples from the general Australian population. Similarly, levels of psychological distress amongst the IDRS sample were also found to be significantly greater than reported by a sample of the general population. Half of the IDRS participants self-reported experience of a recent mental health problem, and one-quarter of these did not attend a health professional for this. In addition – and not surprisingly – the self-reported quality of life of participants was significantly lower than the Australian norm.

These findings support the large body of knowledge relating to comorbid disorders and complex vulnerabilities that affect this population, and underpin the need for clients of drug treatment services to be assessed and provided with treatment for physical and mental health problems, which can both be integral to substance use treatment. Partnerships and establishment of clear referral pathways between services including – but not limited to – mental health and AOD sectors, general practitioners, Housing and Child and Family Services, are crucial to meet the needs of this group.

4. Continued monitoring and focused interventions to reduce the harms associated with benzodiazepine injection

Intravenous administration of benzodiazepines has proved resilient amongst local IDU: despite the removal of temazepam gel capsules from the market due to the harms associated with their use, alprazolam has clearly been used in similar ways by a substantial proportion of local consumers. Of particular concern is the combined injection of alprazolam and methadone syrup, as this is a practice that substantially increases the risk of overdose. There is considerable concern about this practice amongst consumers and service providers alike.

In September 2007, the Tasmanian Pharmaceutical Services Branch introduced regulatory changes affecting the prescription of alprazolam, with the aim of reducing misuse of this drug. This change, in combination with a growing awareness amongst users of the serious harms associated with alprazolam injection, appear to have contributed to a decrease in injecting use of alprazolam amongst the current cohort. It will be important to continue to monitor these trends relating to use of alprazolam and other benzodiazepines. NSP workers are well positioned to identify changes in patterns of use of benzodiazepines and, as such, are well placed to provide harm reduction interventions to clients.

5. Implementation of harm reduction approaches to reflect the needs of methadone pharmacotherapy clients

With the entrenchment of a culture of injection of methadone syrup locally (although this remains predominantly an issue for individuals enrolled in the state methadone maintenance program injecting their own methadone), continued consideration of pragmatic harm reduction approaches to such use is warranted, either at the level of the consumer, with ongoing provision of free or affordable biological filters, and/or at the policy level, requiring use of sterile water for dilution of methadone doses (which is a recommendation of the Tasmanian Methadone Policy, 2000, but does not appear to be uniformly followed by dispensers) or switching to Biodone syrup, as this preparation does not contain the agent sorbitol, which can cause irritation and harm to the venous system.

6. Interventions to improve injection practices and injection-related health

The detailed face-to-face interviews in local IDRS studies continue to identify a relatively high level of risky injection practices amongst the consumer cohort that have not been identified in other data sources (such as NSP data or the NSP study). In 2010, more than two-fifths of the sample reported reusing their own injecting equipment in the preceding month, and 13% had given a used needle to another individual. It is important to note, however, that these rates are vastly improved from those reported in the 2007 study, in which around one-third of participants had lent their used needle/syringe to another person. Nevertheless, given the ongoing identification of infections and complications due to injecting (such as venous damage, abscesses and gangrene), both among the current IDU sample and identified by KE, this is clearly an ongoing issue which demands intervention.

The high level of re-use and sharing of injection equipment requires the attention of the Needle and Syringe Program as a priority to identify whether systemic barriers exist – such as the lack of an after-hours NSP service – which may be hampering access to sterile injecting equipment.

In the short-term, information on procedures for cleaning injection equipment, and the harms associated with use of non-sterile equipment, should continue to be actively provided to consumers. Continued emphasis on targeted strategies to reduce the rates of sharing of needles/syringes and other injection equipment (such as tourniquets, filters and mixing containers), and to improve awareness and adoption of safe injection practices and vein care among IDU, is clearly warranted.

7. Continued monitoring of new and emerging drugs

In the current study, several participants and KE noted increasing use and availability of methcathinone ('miaow', 'm-cat'), a drug not reported on in previous IDRS surveys. Similarly, the Tasmanian EDRS study, carried out in a similar time-frame using the same methodology, also noted an increase in the use and availability of this drug amongst participants who were regular ecstasy-users. Suggestions have been made that the use of these new and emerging drugs is likely to increase in the near future. Of particular concern is that the potential harms of such substances are unknown. Both the EDRS and IDRS play an important role in the continued identification and monitoring of these new drugs and related harms.

8. Monitoring and application of region-specific drug trend information

As the Tasmanian illicit drug use culture has been consistently shown to differ substantially from other jurisdictions (with regard to patterns of use of pharmaceutical products rather than substances such as heroin, due the low local availability of this drug), drug education programs and harm reduction information campaigns need to be tailored to the particular needs and types of substances used within the state.

It would be beneficial to continue to extend the methodology of the IDRS into the other regions of the state (such as Launceston and the North-West coast) to form a state-wide drug trend monitoring framework. There has been little specific research examining patterns of drug use within these areas, and similarly, there is a paucity of indicator data that is available on a region-specific basis. Due to their access to air and sea ports and establishment of organised motorcycle group headquarters, availability and use of illicit substances may differ substantially in these regions from patterns seen in Hobart. Pilot studies extending the IDRS methodology into the north and north-west of Tasmania in 2003 and 2006 have provided evidence that there are clear distinctions between the drug markets in these regions (Bruno, 2004a; de Graaff & Bruno 2007b). As such, it may not be appropriate to infer similarity between drug trends and emergent issues identified in Hobart-based studies to these regions.

9. Evaluation of the impact of, and further targeting of, drug driving interventions among regular drug consumers

A substantial proportion of the consumers interviewed in the IDRS study reported driving while affected by drugs (three-quarters of those with access to a vehicle). This has remained stable across the past six IDRS IDU cohorts, despite the implementation of roadside drug-testing by Tasmania Police and associated driver education campaigns. While reports of driving while affected by most drug types remained relatively unchanged, there was a decline in reports of driving under the influence of cannabis (ranging from 51% to 67% between from 2005 and 2009; 37% in 2010). This suggests that drug-driving interventions may indeed have an impact in this demographic, and further monitoring and evaluation of these strategies among this group is recommended, particularly where this information could be used to tailor campaigns to this particularly risky demographic.

REFERENCES

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition)*. Washington DC: American Psychiatric Association.

Australian Bureau of Criminal Intelligence (1997). *Australian Illicit Drug Report 1995-96*. Canberra: ABCI.

Australian Bureau of Criminal Intelligence (1998). *Australian Illicit Drug Report 1996-97*. Canberra: ABCI.

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

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

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

Australian Bureau of Criminal Intelligence (2002). *Australian Illicit Drug Report 2000-01*. Canberra: ABCI.

Australian Bureau of Statistics (2001). *Information Paper: Use of the Kessler Psychological Distress Scale in ABS Health Surveys, Australia, 2001*. Canberra: ABS.

Australian Bureau of Statistics (1998). *Mental Health and Wellbeing: Profile of Adults, Australia 1997*. Canberra: ABS.

Australian Bureau of Statistics (2006). *2004-05 National Health Survey: Summary of Results*. Canberra: ABS.

Australian Bureau of Statistics (2009). *National Health Survey: Summary of Results, 2007/08*. Canberra: ABS.

Australian Crime Commission (2003). *Australian Illicit Drug Report 2001-02*. Canberra: ACC.

Australian Crime Commission (2004). *Australian Illicit Drug Report 2002-03*. Canberra: ACC.

Australian Crime Commission (2005). *Australian Illicit Drug Report 2003-04*. Canberra: ACC.

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

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

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

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

Australian Institute of Health and Welfare (1999). *1998 National Drug Strategy Household Survey: First Results*. AIHW Cat. No. PHE 15, (Drug Statistics Series). Canberra: AIHW.

Australian Institute of Health and Welfare (2002a). *2001 National Drug Strategy Household Survey: First Results*. AIHW Cat. No. PHE 35, (Drug Statistics Series). Canberra: AIHW.

Australian Institute of Health and Welfare (2002b). *2001 National Drug Strategy Household Survey: State and Territory Supplement*. AIHW Cat. No. PHE 37, (Drug Statistics Series). Canberra: AIHW.

Australian Institute of Health and Welfare (2005a). *2004 National Drug Strategy Household Survey: First Results*. AIHW Cat. No. PHE 57, Drug Statistics Series No. 13. Canberra: AIHW.

Australian Institute of Health and Welfare (2005b). *2004 National Drug Strategy Household Survey: State and Territory Supplement*. AIHW Cat. No. PHE 66, Drug Statistics Series No. 16. Canberra: AIHW.

Australian Institute of Health and Welfare (2008a). *2007 National Drug Strategy Household Survey: First Results*. AIHW Cat. No. PHE 98, Drug Statistics Series No. 20. Canberra: AIHW.

Australian Institute of Health and Welfare (2008b). *2007 National Drug Strategy Household Survey: State and Territory Supplement*. AIHW Cat. No. PHE 102, Drug Statistics Series No. 21. Canberra: AIHW.

Australian Institute of Health and Welfare (2008c). *Alcohol and other drug treatment services in Tasmania: Findings from the National Minimum Data Set (NMDS) 2006-07*, Drug Statistics Series. Canberra: AIHW.

Australian Institute of Health and Welfare (2009). *Alcohol and other drug treatment services in Tasmania: Findings from the National Minimum Data Set (NMDS) 2007-08*, Drug Statistics Series. Canberra: AIHW.

Australian Institute of Health and Welfare (2010). *Alcohol and other drug treatment services in Australia 2008–09: report on the National Minimum Data Set.* Drug treatment series no. 10. Cat. no. HSE 92.Canberra: AIHW.

Babor, T., Higgins-Biddle,J., Saunders, J., Monteiro, M. (2001). *AUDIT – The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care.* Geneva: World Health Organization.

Barry, D. & Petry, N. (2009). Associations between body mass index and substance use disorders differ by gender: Results from the National Epidemiologic Survey on Alcohol and Related Conditions Addictive Behaviours. *Addictive Behaviour,* 34(1): 51-60.

Black, E., Roxburgh, A., Degenhardt, L., Bruno, R., Campbell, G., de Graaff, B., Fetherston, J., Kinner, S., Moon, C., Quinn, B., Richardson, M., Sindicich, N. & White, N. (2008) *Australian Drug Trends: Findings from the Illicit Drug Reporting System, 2007*. NDARC Australian Drug Trends Series No. 1. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Breen, C., Degenhardt, L., Roxburgh, A., Bruno, R., Duquemin, A., Fetherston, J., Fischer, J., Jenkinson, R., Kinner, S., Longo, M., & Rushforth, C. (2003). *Australian Drug Trends: Findings from the Illicit Drug Reporting System, 2002*. NDARC Monograph No. 50. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Breen, C., Degenhardt, L., Roxburgh, A., Bruno, R., Fetherston, J., Jenkinson, R., Kinner, S., Moon, C., Proudfoot, P., Ward, J., & Weekley, J. (2004). *Australian Drug Trends 2003: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Monograph No. 51. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Brennan, F., Carr, D.B. & Cousins, M. (2007). Pain Management: A Fundamental Human Right. *Anesthesia & Analgesia*, 105, 205-11.

Bruno, R. (2004a, unpublished). *Status of Drug Use in Tasmania, Second Report*. Hobart: Tasmanian Department of Health and Human Services.

Bruno, R. (2004b, unpublished). *Tasmanian Technical Report: Benzodiazepine and Pharmaceutical Misuse and Their Relationship to Crime*. Hobart: University of Tasmania.

Bruno, R. (2005). *Tasmanian Drug Trends 2004: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 215. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. (2006). *Tasmanian Drug Trends 2005: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 245. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. (2007). *Benzodiazepine and pharmaceutical opioid misuse and their relationship to crime: An examination of illicit prescription drug markets in Melbourne, Hobart and Darwin. Tasmanian Report.* National Drug Law Enforcement Research Fund Monograph No. 22. Hobart: Commonwealth of Australia

Bruno, R. & McLean, S. (2000). *Tasmanian Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 84. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. & McLean, S. (2001). *Tasmanian Drug Trends 2000: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 109. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. & McLean, S. (2002). *Tasmanian Drug Trends 2001: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 135. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. & McLean, S. (2003). *Tasmanian Drug Trends 2002: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 148. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. & McLean, S. (2004a). *Tasmanian Drug Trends 2003: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 178. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R. & McLean, S. (2004b). *Tasmanian Party Drug Trends 2003: Findings From the Party Drug Initiative (PDI).* NDARC Technical Report No. 186. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Bruno, R., Murray, N., McLean, S., de Graaff, B., & Brandon, S. (2008) *Filtering pharmaceutical opioids for injection: What methods are being used and how effective are they?* Paper presented at APSAD Conference, Sydney, 2008.

Buddle, M., Zhou, J. & MacDonald, M. (2003). *Prevalence of HIV, HCV and injecting and sexual behaviour among IDU at Needle and Syringe Programs: Australian NSP survey national data report 1995-2002.* Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

Chesher, G.B. (1993). Pharmacology of the sympathomimetic psychostimulants. In: D. Burrows, B. Flaherty & M. MacAvoy (eds.), *Illicit Psychostimulant Use in Australia.* Canberra: Australian Government Publishing Service (pp. 9-30).

Communicable Diseases Network Australia, *National Notifiable Diseases Surveillance System.* Available at: http://www.health.gov.au/pubhlth/cdi/nndss/nndss2.htm

Cormack, S., Faulkner, C., Foster Jones, P. & Greaves, H. (1998). *South Australian Drug Trends 1997: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 57. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Cummins, R. A., McCabe, M. P., Romeo, Y. & Gullone, E. (1994) The Comprehensive Quality of Life Scale: Instrument development and psychometric evaluation on tertiary staff and students. *Educational and Psychological Measurement*, 54, 372-382.

Cummins, R., Woerner, J., Gibson, A., Lai, L., Weinberg, M. & Collard, J. (2008) The Australian Unity Wellbeing Index: Survey 20, Part A: The Report. Australian Centre on Quality of Life. http://www.deakin.edu.au/research/acqol/index_wellbeing/index.htm

Darke, S., Kaye, S. & Ross, J. (2001). Geographical injection locations among injecting drug users in Sydney, Australia. *Addiction*, 96, 241-46.

Degenhardt, L. (2001). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Degenhardt, L. (2002). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Degenhardt, L. (2003). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Degenhardt, L., Kinner, S., Roxburgh, A., Black, E., Bruno, R., Fetherston, J. & Fry, C. (2008). Drug use and risk among regular injecting drug users in Australia: does age make a difference? *Drug and Alcohol Review*, 27 (4), 357-60.

de Graaff, B. & Bruno, R. (2007a). *Tasmanian Drug Trends 2006: Findings from the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 273. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

de Graaff, B. & Bruno, R. (2007b, unpublished). *Tasmanian Statewide Extension of the Illicit Drug Reporting System.* Hobart: University of Tasmania.

de Graaff, B. & Bruno, R. (2008). *Tasmanian Drug Trends 2007: Findings from the Illicit Drug Reporting System (IDRS).* NDARC Australian Drug Trends Series No. 5. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

de Graaff, B. & Bruno, R. (2009). *Tasmanian Drug Trends 2008: Findings from the Illicit Drug Reporting System (IDRS).* NDARC Australian Drug Trends Series No. 23. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

de Graaff, B. & Bruno, R. (2010) *Tasmanian Drug Trends 2009: Findings from the Illicit Drug Reporting System (IDRS)* NDARC, Australian Drug Trends Series No. 41. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Dwyer, R. & Rumbold, G. (2000). *Victorian Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 89. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Fetherston, J. & Lenton, S. (2006). *West Australian Drug Trends 2005: Findings from the Illicit Drug Reporting System.* NDARC Technical Report No. 252. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Fraser, S., Valentine, K., Treloar, C. & Macmillan, K. (2007). *Methadone Maintenance Treatment in New South Wales and Victoria: Takeaways, diversion and other key issues.* Sydney: National Centre in HIV Social Research, University of New South Wales.

Frei, M. (2007). *Over the counter, down the hatch: complications of non-prescription opioid use*, Presented at APSAD Conference, Auckland, November 2007.

Fry, C. & Bruno, R. (2002). Recent trends in benzodiazepine use among injecting drug users in Victoria and Tasmania. *Drug and Alcohol Review*, 21, 363-7.

Fry, C., Smith, B., Bruno, R., O'Keefe, B. & Miller, P. (2007). *Benzodiazepine and Pharmaceutical Opioid Misuse and their Relationship to Crime: An examination of illicit prescription drug markets in Melbourne, Hobart and Darwin (National Report).* National Drug Law Enforcement Research Fund Monograph No. 21. Commonwealth of Australia.

Glenday, K., Li, J. & Maher, L. (2006). *Australian NSP Survey: Prevalence of HIV, HCV and injecting and sexual behaviour among IDU at Needle and Syringe Programs. National data report 2001-2005.* Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

Gotway, M.B., Marder, S.R., Hanks, D.K., Leung, J.W.T., Dawn, S.K., Gean, A.D., Reddy, G.P., Araoz, P.A. & Webb, W.R. (2002). Thoracic complications of illicit drug use: An organ system approach. *RadioGraphics*, 22, S119-35.

Hando, J. & Darke, S. (1998). *New South Wales Drug Trends 1997: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 56. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Hando, J., O'Brien, S., Darke, S., Maher, L. & Hall, W. (1997). *The Illicit Drug Reporting System Trial: Final Report.* NDARC Monograph No. 31. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Hargraves, K. & Lenton, S. (2002). *WA Drug Trends 2001: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 134. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Henry-Edwards, S., Gowing, L., White, J., Ali, R., Bell, J., Brough, R., Lintzeris, N., Ritter, A. & Quigley, A. (2003). *Clinical Guidelines and Procedures for the Use of Methadone in the Maintenance Treatment of Opioid Dependence.* Canberra: National Drug Strategy.

Intergovernmental Committee on Drugs (2007). *National Pharmacotherapy Policy for People Dependent on Opioids.* Canberra: National Drug Strategy.

International Wellbeing Group (2006). Personal Wellbeing Index: 4th Edition. Melbourne: Australian Centre on Quality of Life, Deakin University.

Iraurgi, I.C., González, S.F., Lozano R.O., Landabaso V.M. & Jiménez L.J. (2010) Estimation of cutoff for the Severity of Dependence Scale (SDS) for opiate dependence by ROC analysis. *Actas Esp Psiquiatr*, 38(5), 270-7.

Iverson, J., Topp, L. & Maher, L. (2007). *Australian NSP Survey: Prevalence of Injecting and Sexual Behaviour Among IDUs at Needle and Syringe Programs. National Data Report 2002-2006.*

Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

Iverson, J., Deacon, R. & Maher, L. (2008). *Australian NSP Survey: Prevalence of HIV, HCV and Injecting and Sexual Behaviour Among IDUs at Needle and Syringe Programs. National Data Report 2003-2007*. Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

John, U., Meyer, C., Rumpf, H., Hapke, U. & Schumann, A. (2006) Predictors of increased body mass index following cessation of smoking. *American Journal on Addictions,* 15, 192-97

Kemp, D., Gao, K., Ganocy, S., Caldes, E., Feldman, K., Chan, P., Conroy, C., Bilali, S., Findling, R. & Calabrese, J. (2009). Medical and substance use comorbidity in bipolar disorder. J*ournal of Affective Disorders*. 116(1-2): 64-9.

Law M.G., Dore, G.J., Bath, N., Thompson, S., Crofts, N., Dolan, K., Giles, W., Gow, P., Kaldor, J., Loveday, S., Powell, E., Spencer, J. & Wodak, A. (2003). Modelling hepatitis C virus incidence, prevalence and long-term sequelae in Australia, 2001. *International Journal of Epidemiology*, 3(32), 717-24.

Lefante, J., Harmon, G., Ashby, K., Barnard, D. & Webber, L. (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. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 14(3), 665-73.

Leow, K.P., Smith, M.T., Watt, J.A., Williams, B.E. & Cramond, T. (1992). Comparative oxycodone pharmacokinetics in humans after intravenous, oral, and rectal administration. *Therapeutic Drug Monitoring*, 14(6), 479-84.

Lintzeris, N., Clark, N., Winstock, A., Dunlop, A., Muhleisen, P., Gowing, L., Ali, R., Ritter, A., Bell, J., Quigly, A., Mattick, R., Monheit, B. & White, J. (2006). *National Clinical Guidelines and Procedures for the Use of Buprenorphine in the Treatment of Opioid Dependence*. Canberra: National Drug Strategy.

MacDonald, M. & Zhou, J. (2002). *Australian NSP Survey National Data Report 1995-2001.* Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

McKetin, R., Darke, S., & Godycka-Cwirko, K. (1999). *New South Wales Drug Trends 1998: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 72. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

McKetin, R., Darke, S. & Kaye, S. (2000). *New South Wales Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Technical Report No. 86. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

McKetin, R., Darke, S., Humeniuk, R., Dwyer, R., Bruno, R., Fleming, J., Kinner, S., Hargraves, K., & Rysavy, P. (2000). *Australian Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Monograph No. 43. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

McLean, S., Bruno, R., Brandon, S. & de Graaff, B (2009) Effect of filtration on morphine and particle content of injections prepared from slow-release oral morphine tablets. *Harm Reduction Journal*, 6(37).

Matthews, A. & Bruno, R. (2005). *Tasmanian Party Drug Trends 2004: Findings From the Party Drug Initiative (PDI).* NDARC Technical Report No. 225. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2006). *Tasmanian Party Drug Trends 2005: Findings From the Party Drug Initiative (PDI).* NDARC Technical Report No. 251. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2007). *Tasmanian Trends in Ecstasy and Related Drug Markets 2006: Findings from the Ecstasy and Related Drugs Reporting System.* NDARC Technical Report

No. 281. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2008). *Tasmanian Trends in Ecstasy and Related Drug 2007: Findings From the Ecstasy and Related Drugs Reporting System.* Australian Drug Trends Series No. 14. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2009). *Tasmanian Trends in Ecstasy and Related Drug 2008: Findings From the Ecstasy and Related Drugs Reporting System.* Australian Drug Trends Series No. 32. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2010). *Tasmanian Trends in Ecstasy and Related Drug 2009: Findings From the Ecstasy and Related Drugs Reporting System.* Australian Drug Trends Series No. 50. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Matthews, A. & Bruno, R. (2011). *Tasmanian Trends in Ecstasy and Related Drug 2010: Findings From the Ecstasy and Related Drugs Reporting System.* Australian Drug Trends Series No. 68. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Murray, N. (2007, unpublished). *The Effectiveness of Filters used by Injecting Drug Users.* Hobart: University of Tasmania.

National Centre in HIV Epidemiology and Clinical Research. (2009). *Australian NSP Survey National Data Report 2004-2008: Prevalence of HIV, HCV and injecting and sexual behaviour among IDUs at Needle and Syringe Programs.* Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

National Centre in HIV Epidemiology and Clinical Research. (2010). *Australian NSP Survey National Data Report 2005-2009.* Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

Nielsen, S., & Cameron, J. (2009). *Over the counter pain relievers … hidden harms? Results of a web based survey,* Paper presented at the Australian Professional Society on Alcohol and Other Drugs (APSAD) Conference. Darwin, November 2009.

O'Brien, S., Degenhardt, L., Roxburgh, A., Black, E., Bruno, R., Campbell, G., de Graaff, B., Fetherston, J., Jenkinson, R., Kinner, S., Moon, C., White & N. (2007). *Australian Drug Trends 2006: Findings From the Illicit Drug Reporting System (IDRS).* NDARC Monograph No. 60. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Pereira, J., Lawlor, P., Vigano, A., Dorgan, M. & Bruera, E. (2001). Equianalgesic dose ratios for opioids: A critical review and proposals for long-term dosing. *Journal of Pain and Symptom Management*, 22(2), 672-87.

Pickering, R., Grant, B., Chou, P. & Compton, W. (2007). Are overweight, obesity, and extreme obesity associated with psychopathology? Results from the national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry.* 68: 998-1009.

Rajs, J., Petersson, A., Thiblin, I., Olsson-Mortlock, C., Frederiksson, A. & Eksborg, S. (2004) Nutritional status of deceased illicit drug addicts in Stockholm, Sweden -A longitudinal medicolegal study. *Journal of Forensic Sciences* 49: 320-329.

Reinert, D.F. & Allen, J.P. (2002). The Alcohol Use Disorders Identification Test (AUDIT): A review of recent research. *Alcoholism: Clinical and Experimental Research,* 26 (2), 272-79.

Ritter, A. & di Natale, R. (2005). The relationship between take-away methadone policies and methadone diversion. *Drug and Alcohol Review*, 24, 347-52.

Roberts, W.C. (2002). Pulmonary talc granulomas, pulmonary fibrosis, and pulmonary hypertension resulting from intravenous injection of talc-containing drugs intended for oral use. *BUMC Proceedings*, 15, 260-61.

Roxburgh, A. & Burns, L. (2009). Drug-induced deaths in Australia, 2006 Edition. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Roxburgh, A. & Burns, L. (in press). Drug-induced deaths in Australia, 2007 Edition. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Roxburgh, A. & Degenhardt, L. (2007). *Drug-related hospital stays in Australia 1993-2006*.

Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Roxburgh, A. & Burns, L. (2009). *Drug related hospital stays in Australia 1993 to 2008*. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Roxburgh, A. & Burns, L. (2010). *Drug-induced deaths in Australia, 2008 Edition*. Sydney, National Drug and Alcohol Research Centre, UNSW.
Rumbold, G. & Fry, C. (1998). *Victorian Drug Trends 1997: Findings From the Illicit Drug Reporting System (IDRS)*. NDARC Technical Report No. 59. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Saunders, J.B., Aasland, O.G., Babor, T.F., de la Fuente, J.R. & Grant, M. (1993). Development of the Alcohol Use Disorders Screening Test (AUDIT). WHO collaborative project on early detection of persons with harmful alcohol consumption. II. *Addiction 88,* 791-804.
SPSS Inc. (2009). SPSS for Windows, Release 17.0.2, Standard Version.
Stafford, J. & Burns, L. (2010). *Australian Drug Trends 2009: Findings from the Illicit Drug Reporting System (IDRS)*. Australian Drug Trends Series No. 37. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Stafford, J. & Burns, L. (2011). *Australian Drug Trends 2010: Findings from the Illicit Drug Reporting System (IDRS)*. Australian Drug Trends Series No. 55. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Stafford, J., Sindicich, N., Burns, L., Cassar, J., Cogger, S., de Graaff, B., George, J., Moon, C., Phillips, B., Quinn, B. & White, N. (2009) Australian Drug Trends 2008: Findings from the Illicit Drug Reporting System (IDRS). *Australian Drug Trends Series*. Sydney, National Drug and Alcohol Research Centre, University of New South Wales.
Stafford, J., Degenhardt, L., Black, E., Bruno, R., Buckingham, K., Fetherston, J., Jenkinson, R., Kinner, S., Newman, J. & Weekly, J. (2006). *Australian Drug Trends: Findings from the Illicit Drug Reporting System, 2005*. NDARC Monograph Report No. 59. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Stafford, J., Degenhardt, L., Black, E., Bruno, R., Buckingham, K., Fetherston, J., Jenkinson, R., Kinner, S., Moon, C., Ward, J., & Weekley, J. (2005). *Australian Drug Trends 2004: Findings From the Illicit Drug Reporting System (IDRS)*. NDARC Monograph No. 55. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Thein, H., White, B., Shourie, S. & Maher, L. (2005). *Prevalence of HIV, HCV and injecting and sexual behaviour among IDU at Needle and Syringe Programs: Australian NSP survey national data report 2000-2004*. Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.
Topp, L. & Mattick, R. (1997) Choosing a cut-off on the severity of dependence scale (SDS) for amphetamine users *Addiction;* 92(7) 839-45
Topp, L. & Churchill, A. (2002). *Australia's Dynamic Methamphetamine Markets*. Drug Trends Bulletin, June, 2002. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Topp, L., Darke, S., Bruno, R., Fry, C., Hargreaves, K., Humeniuk, R., McAllister, R., O'Reilly, B. & Williams, P. (2001). *Australian Drug Trends 2000: Findings From the Illicit Drug Reporting System (IDRS)*. NDARC Monograph No. 47. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Topp, L., Hando, J. & Darke, S. (2001). *Procedure Manual for the 2001 Illicit Drug Reporting System (IDRS)*. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Topp, L., Kaye, S., Bruno, R., Longo, M., Williams, P., O'Reilly, B., Fry, C., Rose, G. & Darke, S. (2002). *Australian Drug Trends 2001: Findings From the Illicit Drug Reporting System (IDRS)*. NDARC Monograph No. 48. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
Treloar, C., Abelson, J., Cao, W., Brener, L., Kippax, S., Schultz, L., Schultz, M. & Bath, N.

(2004). *Barriers and Incentives to Treatment of Illicit Drug Users*. National Drug Strategy Monograph Series No. 53. Canberra: Commonwealth of Australia.

Treloar, C., Fraser, S. & Valentine, K. (2007). Valuing methadone take-away doses: The contribution of service user perspectives to policy and practice. *Drugs: Education, Prevention & Policy*, 14, 61-74.

Uchiyama, N., Kikura-Hanajiri, R., Ogata, J. & Goda, Y. (2010). Chemical Analysis of Synthetic Cannabinoids as Designer Drugs in Herbal Products. *Forensic Science International*, 198 (1), 31-38.

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

Wannamethee, S., Goya S., Shaper, A. & Gerald A.G. (2003). Alcohol, body weight, and weight gain in middle-aged men. *The American journal of clinical nutrition*, 77(5), 1312-17.

Warner-Smith, M., Lynskey, M., Darke, S., & Hall, W. (2000). *Heroin overdose: Prevalence, correlates, consequences and interventions*. NDARC Monograph No. 46. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.

Winstock, A. & Bell, J. (2006). Clinical Guidelines: Assessing suitability for unsupervised medication doses in the treatment of opioid dependency. Australasian Chapter of Addiction Medicine: Sydney.

Winstock, A.R., Lea, T. & Sheridan, J. (2008*)* Prevalence of diversion and injection of methadone and buprenorphine among clients receiving opioid treatment at community pharmacies in New South Wales, Australia. *International Journal of Drug Policy*, 19(6), 450-58.

World Health Organisation (2005) Promoting mental health; Concepts, emerging evidence, practice. *A report of the WHO, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne by Herman, Saxena, and Moodie (eds)*

Zerell, U., Ahrens, B. & Gerz, P. (2005). Documentation of a heroin manufacturing process in Afghanistan. *Bulletin on Narcotics*, 57, 11-31.

Zimlichman, E., Kochba, I., Mimouni, F., Shochat, T., Grotto, I., Kreiss, Y. & Mandel, D. (2005). Smoking habits and obesity in young adults. *Addiction* 100, 1,021-25.