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TASMANIAN DRUG TRENDS 2006
Findings from the Illicit Drug Reporting System (IDRS)

NDARC Technical Report No. 273

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ABBREVIATIONS

ABCI	Australian Bureau of Criminal Intelligence
ACC	Australian Crime Commission
ADIS	Alcohol and Drug Information Service
AFP	Australian Federal Police
AIHW	Australian Institute of Health and Welfare
ASSAD	Australian School Students Alcohol and Drugs survey
BBVI	Blood-borne viral infections
COAG	Council of Australian Governments
COTSA	Clients of treatment service agencies
DACAS	Drug and Alcohol Clinical Advisory Service
DHHS	Department of Health and Human Services
EDRS	Ecstasy and related Drug Reporting System (previously the Party Drug Initiative)
HIV	Human immunodeficiency virus
IDDI	Illicit Drug Diversion Initiative
IDRS	Illicit Drug Reporting System
IDU	Injecting drug user
KE	Key expert(s) (previously referred to as key informant)
KE	Key Expert Study (previously referred to as Key Informant Study)
LSD	*d*-lysergic acid
MDA	3,4-methylenedioxyamphetamine
MDEA	3,4-methylenedioxyethamphetamine
MDMA	3,4-methylenedioxymethamphetamine
MMT	Methadone Maintenance Therapy
N	(or n) Number of participants
NAP	Needle Availability Program
NDARC	National Drug and Alcohol Research Centre, University of New South Wales
NDLERF	National Drug Law Enforcement Research Fund
NDSHS	National Drug Strategy Household Survey
NMDS	National Minimum Data Set (for Alcohol and Drug Treatment Services)
NSP	Needle and Syringe Program
PDI	Party Drug Initiative (now Ecstasy and Related Drug Reporting System)
PBS	Pharmaceutical Benefits Scheme
SD	Standard deviation
SIS	State Intelligence Services, Tasmania Police
SPSS	Statistical Package for the Social Sciences
SSRI	Specific Serotonin Reuptake Inhibitor
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 was commissioned by the Commonwealth Department of Health and Family Services (now the Australian Government Department of Health and Ageing) 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 interviews with professionals working in drug-related fields, and an examination of existing indicators. For the 2000-2004 IDRS, funding was provided by the National Drug Law Enforcement Research Fund 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 into 2006 has been provided by the Australian Government Department of Health and Ageing.

Injecting drug user (IDU) 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 (KE) survey

Thirty-one 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 Needle Availability Program staff, drug treatment workers, health workers, youth and outreach workers, and staff from police and justice-related fields. Of these individuals, 6 reported on groups that predominantly used opioids, 13 on cannabis, 16 on groups primarily using methamphetamine (4 key experts commented on two distinct drug-using groups).

Other indicators

In order to complement and validate the key expert 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 Availability 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 very similar to those interviewed in previous Hobart IDRS studies. Participants were predominantly male (65%), and had an average age of thirty years. On average, participants had completed 10 years of education, and two-thirds (71%) were currently unemployed. One-third of participants had a previous prison history. Over half of the participants were involved in some sort of drug treatment at the time of interview.

The majority of participants (56%) were injecting a few times per week, but not every day, with 37% injecting at least once per day. Opiates were the predominant drug of choice among the cohort (69%), similar to previous Tasmanian IDRS studies, except in 2005, in which only 54% reported an opiate as their drug of choice. Similarly, opiates were reported by 65% of the current cohort as the drug most injected in the preceding month, a rate higher than that reported in 2005 (51%), but similar to that among previous years' samples.

Patterns of drug use among the IDU sample

The major trends identified in the 2006 Tasmanian IDRS report relate to indications of emerging changes in patterns of pharmaceutical opiate use amongst local IDU, along with the continuing trend toward coincident opioid and benzodiazepine (particularly alprazolam) use. Shifts within the local methamphetamine market have also been identified. Summaries of major trends for each drug class are reported below by drug type.

Table A: Price, availability, purity and prevalence of use of heroin, methamphetamine, cannabis, methadone and morphine

	Heroin	Methamphetamine		Cannabis		Morphine	Methadone
		Paste	Crystal	Bush	Hydro		
Price							
1 mg	-	-	-	-	-	$0.7, stable/↑	$1, stable
0.1 gram	-	$50, stable	$50, stable	-	-	$70, stable/↑	$80, stable
Gram	-	$300, stable	$300, stable/↑	$15, stable	$25, stable	-	-
Ounce	-	-	-	$170,↓	$250, stable/↓	-	-
Availability	Very difficult Stable/More difficult	Easy/Very easy Stable	Easy, with some mixed reports Stable	Very easy/Easy Stable	Very easy Stable	Easy/Very easy Stable	Mixed reports (l) Difficult (t) Stable/↓ (l & t)
Purity*	Medium Decreasing/ Fluctuating	Fluctuating between Medium-High ~ /Stable	High/Medium ~/Increased	Medium Stable/~	High/ Medium Stable/↑	*Pharmaceutical*	*Pharmaceutical*
Prevalence of use	Very low, and reducing	Decreased in frequency	Slight increase	Slight decline over time		↑ number, ↑ frequency	Increasing (l & t)

Source: IDRS IDU and KE interviews, and drug use indicator data
*Note: based on IDU and key expert estimates of purity/potency; (l) = methadone syrup; (t) = Physeptone tablets.

Heroin

Very few of the IDU consumers interviewed in the 2006 Tasmanian IDRS could report on local trends in price, purity, or availability of heroin. Consistent with patterns seen in previous studies, only a small proportion of the cohort (9%) reported using the drug in the preceding six months, with this use being very infrequent (6 of the previous 180 days), despite a high preference for heroin as a drug of choice. Similarly, use of heroin among clients of the state's Needle Availability Program remained below 1% of all non-pharmacy client transactions in 2005/06.

Only one participant in the current study was able to provide information regarding price paid for recent heroin purchases. This purchase was between 2-3 'caps' (~0.05-0.15g), at a cost of $200. This is consistent with prices in earlier studies ($100 per 'cap') where greater proportions reported recent use. Consistent with trends noted in previous years, the majority of IDU considered heroin as 'difficult' or 'very difficult' to access, and that this situation had not changed in recent months. In further support of this, almost half of those reporting on availability (43%, n=3) had only used heroin sent directly to them from another jurisdiction rather than being able to access the drug locally. Consumers predominantly used rock-form heroin and considered the drug as 'medium' in subjective purity in the preceding six months.

The majority of indicators – such as a steadily declining proportion of use of heroin among clients of the state's Needle Availability Program, findings such as the low median rate of use of heroin (six days in last six months amongst those who had used the drug) and that, of the 36% of the IDU sample that reported heroin as their drug of choice, only around two-fifths (22%) had recently used heroin – indicate that the low availability of heroin in the state, identified in earlier IDRS studies, has continued in 2006.

Methamphetamine

Over the past five years of the IDRS in Hobart, higher-purity forms of methamphetamine have generally increased in availability in the state. This easy availability of high-potency forms of the drug may have made use of methamphetamine particularly attractive among IDU, with a substantial majority all of those surveyed in the current study using some 'form' of the drug in the six months prior to interview (83%), despite less than one-third (28%) nominating it as their drug of choice.

The market prices locally for all three presentations of methamphetamine appear to have remained relatively stable since those reported in the 2005 IDRS study, particularly in relation to 'point' (approximately 0.1g) amounts of the drug, at $50 for any form. Modal purchase prices for larger amounts of powder and 'base/paste' methamphetamine remained stable since 2004 at $300 per gram. However, there were some indications of a decrease in price for gram purchases of crystal methamphetamine, falling from a median of $400 in 2004 to $340 in the 2005 and to $300 in the current survey. Consumers predominantly regarded the prices of each presentation of the drug as remaining stable in recent months.

IDU reports on subjective purity of powder methamphetamine were 'low' to 'medium' and participants reported fluctuating purity in recent months. 'Base' was considered by consumers to fluctuate between 'medium' to 'high' subjective purity, with potency fluctuating in recent months. Consumers considered crystalline methamphetamine used locally as 'high' in subjective purity, with this fluctuating to increasing in purity in recent months.

Consumers interviewed regarded powder and 'base/paste' methamphetamine as 'easy' to 'very easy' to access, with availability stable in recent months. This was not the same for crystal methamphetamine: while most who had used crystal methamphetamine also reported it as 'easy' or 'very easy' to access in recent months, one-quarter of participants considered it as 'very difficult' or 'difficult' to access, and most had not noted any recent change in availability for this form.

Previous years have seen major upheavals in methamphetamine markets in Hobart. Between 2001 and 2005 there have been steady increases in the use of methamphetamine both among the IDRS IDU cohort (85% using the drug in the preceding six months in 2001, 95% in 2005) and among clients of the state's Needle Availability Program (30% reporting it as the 'drug most often injected' in 2000/01, 59% in 2004/05). Within these markets, shifts have also occurred: among IDRS IDU cohorts, use of the powder form has been steadily increasing (39% in 2002; 76% in 2005), and the predominantly used form, base/paste methamphetamine, was briefly overshot by a marked increase in local availability of crystal methamphetamine in 2003. In subsequent years, crystal methamphetamine availability returned to lower levels than for the other two forms of the drug. Trends in 2006 represent subtle changes both for the methamphetamine market overall (for the IDU demographic) and within it: there are possible indications of a *decline* in use of methamphetamine among IDU both amongst the IDRS IDU cohort (95% in 2005, 83% in 2006) and clients of the state's Needle Availability Program (59% in 2004/05, 56% in 2005/06). Amongst IDU consumers who report recent use of methamphetamine, reductions in the proportion reporting use of the most common powder and base/paste forms (falling from 78% to 62% recently using powder and 81% to 63% recently using base/paste between 2005 and

2006 respectively), and a shift to half-gram rather than 'points' as the most common purchase amounts, are suggestive of decreased or unreliable purity of the product available to this demographic. While, in contrast, use of crystal methamphetamine appears to have slightly increased amongst IDRS IDU cohorts (52% in 2005, 64% in 2006), this remains infrequent (approximately monthly on average) and not commonly the methamphetamine form most used amongst this group.

Consumers anecdotally noted a change in the local drug culture developing, with methamphetamine being used at greater frequency by existing users, and the drug increasingly used among different – not necessarily IDU – demographic groups: younger teenage groups, equally used by males and females, as well as a wider range of socio-economic groups (a finding supported by the 2006 Tasmanian EDRS study (Matthews & Bruno, 2007). Service providers also anecdotally noted the impact of increasing polydrug use and methamphetamine use on clients seeking their services, and reported concern about the multiple health and social problems experienced by this client group within Tasmania.

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 amongst clients of the state's Needle Availability Program virtually non-existent (less than 0.1% of non-pharmacy equipment transactions). Only a very small proportion of the IDRS IDU participants reported recent use of the drug (12%), which was predominately in powder form. By the very few consumers that could comment on trends in availability, cocaine was considered 'very difficult' to access, a situation that was considered stable in the preceding six month period. The cocaine that is used by Tasmanian IDU appears generally to be purchased locally; however, one-quarter of participants who were able to comment reported that they purchased cocaine from other Australian jurisdictions. There have been no seizures of cocaine made by Tasmania police between 2001 and 2005. These patterns of low levels of availability and use in these cohorts appear to have remained reasonably stable over the past few years. However, there has been an increase in the level of use of the drug in different local consumer populations (Matthews & Bruno, 2007) which may provide early indications of emerging changes in local markets for the drug.

Cannabis

Among the IDU consumers surveyed, cannabis use continued to be almost ubiquitous, with 88% using the drug in the preceding six months, and the majority of these individuals using the drug daily.

Consumers reported purchasing a median of 1.7g of outdoor-cultivated cannabis or a median amount of 1g of indoor-cultivated cannabis in a traditional $25 'deal' of the drug.

When accessing outdoor-cultivated cannabis, consumers typically purchased in quarter-ounce or ounce amounts. While the price of a quarter-ounce purchase had remained stable between 2005 and 2006 (median $60), the median price for an ounce of outdoor-cultivated cannabis decreased from $200 in 2005 to $170 in 2006. The majority of consumers reported no change in price, whilst a minority reported prices decreasing in the preceding six months.

Prices for indoor-cultivated cannabis were higher than for outdoor-cultivated cannabis, at a median of $90 per quarter-ounce and $250 per ounce. In comparison to prices identified in 2005, modal purchase prices for ounce purchases had declined by $50. Consumer reports reflect general stability in prices paid for the most commonly purchased amount: quarter-ounces.

Consumers overwhelmingly reported that both indoor- and outdoor-cultivated cannabis was 'easy' or 'very easy' to obtain in 2006, with this situation remaining stable for both forms of cannabis. However, there were indications of somewhat increased availability (a greater proportion of consumers reporting either form as 'very easy' to access) in comparison to the trends identified in the 2005 IDRS survey, following indications of relatively decreased availability between 2003 and 2004.

Similar to previous years, consumers described the subjective potency of outdoor-cultivated cannabis as 'medium', with this level generally considered stable to fluctuating in the preceding six months. Indoor-cultivated cannabis was regarded as 'high' to 'medium' in subjective potency by consumers, with this level regarded as stable or fluctuating to increased potency in recent months. Those cannabis-consuming IDU interviewed generally reported using both indoor- and outdoor-cultivated cannabis in the preceding six months, although indoor-cultivated cannabis was the form most commonly smoked. 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, both from the National Drug Strategy Household Survey (suggesting that use of cannabis in the previous year in local samples has declined from 15.8% in 1998, and 11.9% in 2001 to 10.9% of those aged 14 and over in 2004), and from a slowly decreasing rate of use in Hobart IDRS IDU samples, particularly in regard to the proportion of daily cannabis smokers.

Other opioids

Morphine

Morphine was reported to cost a median of $80 per 100mg, or $50 per 60mg (MS Contin), an increase of $10 for 100mg tablets from prices reported in 2005, with prices considered by respondents as being stable to increasing in recent months. Morphine was considered 'easy' to 'very easy' to obtain by consumers, and reported as remaining stable or increasing in availability in recent months. Two-thirds of the sample (62%) had used morphine in recent months. MS Contin remains the predominant preparation used by this group, followed by Kapanol and Ordine (liquid morphine). Recent IDRS studies have shown a decreasing median frequency of use and proportion of consumers reporting recent morphine use; however, in 2006, this trend has been reversed, with 62% of participants reporting recent use (58% in 2005) and a median frequency of use of 21 days (11 days in 2005) in the preceding six months. Similar trends are also apparent in data from the state's Needle Availability Program. However, the measures of morphine use in the 2006 IDRS IDU cohort remain markedly lower than those from earlier local IDRS studies (for example, in 2000, 77% had recently used the drug, with a median frequency of 52 days).

Methadone syrup

Diverted methadone syrup was reported to cost a median of approximately $1.00 per milligram in 2006, a price higher than that reported by 2005 participants ($0.80 per mg), but the same as prices reported during 2001 through 2004. The majority of participants who commented reported prices to be stable in recent months. Most commonly, participants reported that methadone syrup was 'easily' accessed, with over half reporting stable availability of the drug in the preceding six months (although a minority reported decreased availability). Methadone syrup is most frequently purchased from friends or acquaintances, and this is generally carried out in an agreed-upon public location. *Predominantly, those participants reporting purchasing diverted methadone syrup were themselves receiving methadone maintenance treatment.* There have been increasing reports of consumers injecting combinations of alprazolam and methadone syrup in the past four 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 consumers and key experts noted as concerns in regard to this trend.

Physeptone
Diverted Physeptone tablets of methadone were regarded as costing a mode of $10 per 10mg (as has been reported in the past six years of the IDRS), with prices regarded by consumers considered stable or increasing 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. The proportion of the consumer sample reporting recent Physeptone use rose slightly in 2006 to 49%, after a decline in the three preceding years (64% in 2003, to 52% in 2004 and 41% in 2005).

Oxycodone
Oxycodone use among local IDU samples appears to have increased in recent years, with one-third of the current cohort reporting use of the drug, predominantly OxyContin tablets, in the preceding six months. Despite their higher relative potency than morphine tablets, these drugs are sold locally at lower comparative prices ($0.63 per milligram for 40mg and 80mg oxycodone tablets). According to consumer reports, median prices for both 40mg and 80mg tablets have increased since 2005 (by $5 to $25 40mg tablets; and by $10 to $50 for 80mg tablets). Consumers reported that prices were stable to increasing over the preceding six months. Availability reports were mixed, with two-fifths of those who commented reporting 'easy' access, and one-third reporting access as 'difficult', a situation regarded as stable by most participants. While the drug remains somewhat difficult to access illicitly, the rapidly increasing rate of prescription of oxycodone, and its perceived similarity amongst consumers to morphine render it likely that oxycodone use may expand within the local IDU market. Given the high relative potency of oxycodone and its possible synergistic effects with other opiates, 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 by IDU, as the vast majority report obtaining them 'illicitly', i.e. not on a prescription in their name.

Benzodiazepines

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 higher in comparison to that identified in other Australian jurisdictions. As noted in the 2003 to 2006 studies, it is also clear that alprazolam (Xanax in particular) appears 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. Between the 2003 and 2006 studies, the proportion of the IDU samples reporting recent injection of alprazolam had more than doubled (from 11% among the 2003 IDU cohort to 27% in 2006). This is a particular concern given the serious psychological and physical harms associated with benzodiazepine injection. Additionally, the level of use and availability of benzodiazepines generally remains high within local IDU, particularly among primary users of opiates, 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.

Associated harms

Self-reported rates of sharing of needles or syringes among clients of non-pharmacy Needle Availability Program outlets have steadily declined over time from 2.6% of all transactions in 1995/96 to 0.3% in 2005/06. However, all IDRS studies in Hobart have suggested that 3-10% of these cohorts share used needles or syringes at least once in a month. Additionally, there are

indications of increasing sharing rates in the past two IDRS surveys (using the proxy measure of whether consumers had 'lent' their used needles to another consumer in the preceding month, reported by 13% of the 2006 participants). Similar to the improving trends for sharing of needles and syringes, self-reported rates of sharing of other injection equipment (such as water, tourniquets and mixing containers) has steadily decreased among clients of non-pharmacy Needle Availability Program outlets (5.5% in 1996/97 to 0.6% in 2005/06). In contrast, one in four of IDU consumers interviewed in the current study had shared injecting equipment such as tourniquets, spoons or water in the month prior to interview.

Alarmingly, almost *half* of the consumers reported re-using injecting equipment from a shared sharps disposal bin, and one in four did not use bleach to clean this equipment. Almost half of the consumers interviewed reported re-using their *own* injection equipment in the month prior to interview (a reduction from two-thirds of the cohort reporting this in 2005), with the majority of these participants re-using on one occasion in this time. 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. The equipment most frequently re-used included 20ml barrels, 1ml barrels and winged infusion sets ('butterflies'). This was typically reported as being due to NAP outlets being inaccessible (either due to distance or equipment being required outside of business hours).

A substantial proportion of IDU surveyed experienced injection-related health problems. Scarring and bruising, difficulties finding veins to inject into (indicative of vascular damage) and experience of 'dirty hits' (feeling physically unwell soon after injection, often associated with the injection of contaminants or impurities) were the most common injection-related problems experienced by the current IDRS IDU cohort. Multiple key experts noted recent increases in experiences of bacterial infections associated with injecting drug use in recent months, likely related to injection of non-sterile solutions or re-use of injection equipment.

Around two-thirds of the consumers sampled that had driven a car in the past six months had done so within an hour of using non-prescription drugs on at least one occasion. Methamphetamine, methadone and cannabis were most commonly involved. This level of self-reported drug driving has remained stable when compared with that among the 2005 IDRS study participants, although the proportion reporting driving while affected by cannabis has declined slightly in this time.

More than one-third of the IDRS IDU participants reported presenting to a health professional for a mental health issue in the preceding six months. This rate of presentations is substantially greater than that seen in the general population. In comparison to reports in earlier local IDRS IDU surveys, there has been a steadily increasing rate of individuals presenting for depression and anxiety-related issues. Despite increases in the use of high-potency methamphetamines, rates of psychotic-type syndromes (schizophrenia, paranoia) have remained stable in recent IDRS IDU surveys, albeit at a higher level than seen in general community cohorts.

Implications

The findings of the Tasmanian 2006 IDRS suggest the following areas for further investigation and possible consideration in policy:

1. Interventions to improve injection practices and injection-related health

The detailed face-to-face interviews in the current study identified a high level of extremely risky injection practices amongst the consumer cohort that have not been identified in other data sources (such as NAP data or the NSP study). For example, one in ten participants had given a used needle to another individual in the month prior to interview, and four in ten had themselves

re-used injecting equipment from shared disposal bins without appropriately cleaning this equipment. Given the increasing identification of infections and endocarditis, both among the current IDU sample and by key experts interviewed in the current study – all of which are associated with the introduction of bacteria into the bloodstream (which is possible through the use of non-sterile injecting equipment) – this is clearly an emerging issue which demands urgent intervention.

The high level of re-use and sharing of injection equipment requires the attention of the Needle Availability Program, as a priority, to identify whether systemic barriers exist 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 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.

2. Monitoring and application of region-specific drug trend information

As Tasmanian illicit drug use culture has been consistently shown to substantially differ from other jurisdictions (with regard to, for example, 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 minimisation information campaigns need to be tailored to the particular needs and types of substances used within the state.

It would be beneficial 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 available 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. An initial study in 2003 has provided evidence suggesting that there are clear distinctions between the drug markets in these regions (Bruno, 2004b [unreleased]). As such, it may not be appropriate to infer similarity between drug trends and emergent issues identified in Hobart-based studies to these regions.

3. Development of specialist training and interventions for methamphetamine

As availability of the higher potency forms of methamphetamine appears to be relatively stable, clear and practical harm-reduction information for use of these forms of the drug should be accessed and distributed to consumers and health intervention workers. It is important to note also that there are indications that these drugs are increasingly being used by populations other than regular injecting drug users, such as primary ecstasy-using groups, that may not be accessing traditional health/health information services (Matthews & Bruno, 2005, 2006, 2007). Additionally, since increased levels of use of such high-potency methamphetamine may increase the level of experience of the negative effects of excessive methamphetamine use, development and implementation of practical strategies and training for dealing with such affected individuals should be considered for frontline health intervention workers and emergency services workers. Similarly, investigation into the requirement for specialist treatment programs and/or services for primary consumers of these drugs is warranted.

4. 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 within 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 use of biological

filters; and/or at the policy level, requiring use of sterile water for dilution of methadone doses or switching to Biodone syrup, as this preparation does not contain the agent sorbitol, which can cause irritation and harm to the venous system.

5. 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. 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 Needle Availability Program staff and peer groups, are necessary.

For example, despite clear evidence that injection of tablets are associated with the development of granulomas in internal organs (Roberts, 2002; Gotway et al., 2002) there has been *no* research into the effectiveness of commercially available pill or biological filters on reducing the harms associated with intravenous use of these drugs. As an interim harm-reduction measure, however, given the existing evidence in support of the potential benefit offered by such filters in regard to the use of other drugs (Scott, 2005) it would be recommended that pill filters become more widely available, at a cost that is not unaffordable, and their use promoted by frontline workers, to local IDU consumers.

6. 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 (Piereira, Lawlor, Vigano, Dorgan & Bruera, 2001). Moreover, oxycodone reaching systemic circulation after injection is more than twice that after oral or rectal administration (Leow, Smith, Watt, Williams & Cramond, 1992). While conducting interviews for the current study, it was apparent that many consumers 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 that 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 avoid granulomas (Roberts, 2002). Frontline workers need to be aware of these issues and to implement harm-reduction interventions with potential illicit consumers of this drug.

In other jurisdictions, diverted use (both oral and injecting) of buprenorphine (Subutex) and buprenorphine-naloxone (Suboxone) has been reported by substantial proportions of IDRS IDU cohorts (O'Brien et al, 2007). At the time of this report, Suboxone treatment is not yet available in the state; however, Subutex treatment is currently being provided to a relatively small number of people. In light of the harms associated with injecting this drug (vascular damage, infections and overdose) identified in other jurisdictions and internationally, continued monitoring is recommended as these treatments are expanded across the state.

Thirdly, research examining misuse of pharmaceutical products in populations other than IDU is warranted, as this has been a demographic identified in both key expert interviews in the current study and in associated local research (Fry, Smith, Bruno, O'Keefe & Miller, 2004; Bruno, 2004c) but not accessed within the methodology of the IDRS, and this population has, to date, been largely invisible in research or other data collections.

7. 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 is clearly being 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, and a targeted campaign to increase awareness of the potential harms of this combination, as well as provision of accurate, non-judgemental harm reduction information, would be timely and likely to lead to improved health outcomes for consumers.

8. Increased attention to substance dependence – mental health comorbid issues

While self-reported rates of experience of mental health issues are likely to under-represent the true extent of these issues, around two-fifths of the IDU sample reported recently attending a health professional for mental health concerns, a level substantially greater than that seen in the general population. As such, the increasing systemic focus in the state toward development and implementation of interventions for such co-morbid populations is clearly warranted and continued enhancement of partnerships between the mental health and alcohol and other drug sectors is crucial to meet the needs of this group.

9. Expanded access to dental health services for IDU

Further focus needs to be placed on the dental health of injecting drug users, as anecdotal reports indicate numerous severe dental health problems experienced by this group, both amongst long-term methadone patients and among consumers of methamphetamine. For many of these individuals, accessing dental health services is problematic, partly due to long waiting lists to access public dental health treatment, and also the prohibitive cost of private dental care. Provision of regular, dedicated session times at public dental services for injecting drug users, or development of co-ordinated relationships between dental services and the holistic health services currently accessed by IDU, may be appropriate treatment options to service the needs of this demographic group.

10. 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 (two-thirds of those with access to a vehicle). This has remained unchanged in comparison to levels identified in the 2005 study, 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 unchanged, there were declines in reports of driving under the influence of cannabis, the drug most focused on in media reports of this issue. 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 could be used to tailor campaigns to this particularly risky demographic.

1.0 INTRODUCTION

In 1998, the National Drug and Alcohol Research Centre was commissioned by the Commonwealth Department of Health and Family Services (now the Australian Government Department of Health and Ageing) to begin a national trial of the Illicit Drug Reporting System (IDRS), following a successful pilot study of the methods in New South Wales in 1996 (Hando, O'Brien, Darke, Maher & Hall, 1997) and a multi-state trial of the methodology in New South Wales (Hando & Darke, 1998), South Australia (Cormack, Faulkner, Foster-Jones & Greaves, 1998) and Victoria (Rumbold & Fry, 1998) the following year.

The intention of the IDRS is to provide a co-ordinated 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 individuals who have regular first-hand contact with groups of people who use illicit drugs ('key experts'), 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, 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 key expert interviews and examination of secondary data sources only. The National Drug Law Enforcement Research Fund has provided these states with additional funding to expand data collection to the full IDRS methodology for 2000 through to the current year.

The 2006 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 2005 (Bruno & McLean 2000, 2001, 2002, 2003; 2004; Bruno, 2005) and state comparisons (McKetin et al., 2000; Topp et al., 2001; Topp et al., 2002; Breen et al., 2003; Breen et al., 2004; Stafford et al., 2005; and O'Brien et al. 2006) are available as technical reports from the National Drug and Alcohol Research Centre, University of New South Wales[1].

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.

[1] 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/ndarc.nsf/website/IDRS

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 key expert study of professionals working in the illicit drug (or related) field 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 injecting drug users are a good 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. Key expert 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 key expert surveys (McKetin, Darke & Kaye, 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 trends. Findings from the 2006 Tasmanian IDRS are also compared with findings from the previous Tasmanian studies (Bruno & McLean, 2000, 2001, 2002, 2003, 2004; Bruno, 2005) to determine any changes in drug trends over time.

2.1 Survey of injecting drug users (IDU)

The IDU survey was conducted during July and August 2006, and consisted of face-to-face interviews with 100 people who regularly inject 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 Availability Program (NAP) 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, NAPs, or, where invited by the participant, private homes. 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 participating 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 et al., 1999; Topp, Hando & Darke, 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 drug trends. 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 University of Tasmania institutional Ethics Committees granted ethical approval for the survey. Participants were given an information sheet describing the interview content prior to commencement (subsequent to screening), allowing them to make a more 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 30 and 45 minutes (averaging 47 minutes, and ranging from 30 to 70 minutes), and participants were reimbursed $30 for their time and out-of-pocket expenses.

Data analysis was conducted using SPSS for windows, release 14.0.2 (SPSS Inc., 2006).

2.2 Survey of key experts (KE)

Thirty-one key experts who were working with illicit drug users in the greater Hobart area participated in face-to-face interviews between late July and early October 2006 (46% were males). Thirteen (42%) participants were recruited from the pool of key experts that had taken part in the 2005 IDRS (Bruno, 2006), while 8 (26%) had also participated in the 2004 IDRS (Bruno, 2005), 9 (29%) had contributed in 2003, 8 (26%) in 2002, 3 (10%) in 2001, 4 (13%) in 2000 and 3 (10%) in 1999 (Bruno & McLean 2004, 2003, 2002, 2001, 2000). All other participants in the current study were identified and recruited either as replacements for the 2005 IDRS participants drawn from the same agencies or on the basis of referrals from the Tasmanian IDRS steering committee or professionals in the field.

Key experts included youth workers (n=3), members of the department of justice (police n=2, prison and remand health workers n=3), emergency health workers (ambulance officers n=2, emergency department clinical staff n=1), and mental health professionals (n=3), with the remainder working specifically in the drug and alcohol field, comprising counsellors and outreach workers (n=6), needle and syringe outlet workers (n=2), medical practitioners prescribing methadone or specialising in alcohol and other drug treatment (n=3), and other health professionals working in a variety of more general roles in the drug and alcohol field, including assessment, nursing, education, harm reduction, detoxification and advocacy (n=6).

Several key experts were interviewed for their expert opinions on specific issues (for example, drug-related violence) or on other particular areas (such as advocacy or dealing and production of illicit drugs). The remaining key experts 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 6 months and/or contact with 10 or more illicit drug users in the last 6 months. These 23 individuals had a median of 5 days per week contact with consumers in the preceding six months (mode 5 days per week, range 0.5-7), with all but one reporting contact with more than 10 consumers in this period (with four-fifths seeing more than 20 such people in the preceding six months, and half seeing 50 or more in this time). Although several key experts came from generic services, many worked specifically with special populations, including youth and injecting drug users.

Key experts were asked to specify the main illicit drug used by the drug users they had most contact with in the past 6 months. The majority of key experts reported on groups that predominantly used methamphetamine/psychostimulants (n=16), with thirteen reporting on primary cannabis consumers, two on groups where methadone was the main drug consumed and one where morphine was the predominant drug used. Two key experts commented on groups who regularly consumed multiple types of opiates (morphine or methadone, dependant on availability).

This breakdown of the primary drug used by the groups that key experts were most familiar with has changed somewhat over the course of the IDRS in Tasmania, despite the makeup of the key experts remaining relatively stable: in the 1999 and 2000 surveys, there was a relatively even proportion of key experts referring to groups primarily using methamphetamines and of those predominantly using opioids; in the 2001 and 2002 surveys, the majority of key experts reported on primary users of opioids; while from 2003 to the present study, methamphetamine has more commonly been the drug that key experts predominantly were aware of in the consumer groups they were working with. However, such distinctions do not themselves necessarily indicate a

substantial change in the illicit-drug using patterns of the individuals discussed in the key expert survey, as most participants in all years were referring to predominantly poly-substance using populations.

The interview schedule was a structured instrument that included sections on drug use patterns, drug availability, criminal behaviour and health issues. Interviews took between 30 and 90 minutes to administer (median = 38 minutes). Notes were taken during the interview and subsequently transcribed in full. Open-ended responses were analysed using a word processor, sorting for recurring themes across respondents. Single reports from key experts 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 SPSS for Windows, release 14.0.2 (SPSS Inc., 2006).

2.3 Other indicators

To complement and validate data collected from the key expert 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 (several key services are in the process of adopting computerised or more systematic information storage and retrieval systems), 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 as follows:

Needle Availability Program data
The Needle Availability Program 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 34,452 occasions of service in the 2005/06 financial year. It should be noted that data are not necessarily collected systematically for all data fields – for example, while there are 36,667 recordings for age of client, there are 30,780 recorded for the substance used (84% of the recorded cases[2]). Additionally, there is 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.

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

[2] 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 principle drug used, while in 2001/02, the relevant rate was 78%, rising to 87.5% in 2002/03, 90.7% in 2003/04 and declined to 84% in 2005/06.

blood-borne viral infections such as hepatitis B and C). The data provided here represent the last drug reported to be injected by survey respondents in Tasmania each year from 1995 to 2005 (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: Buddle, Zhou, & MacDonald 2003; Thein, Maher & Dore, 2004; Thein, White, Shourie & Maher, 2005; Glenday, Li & Maher, 2006).

The 1998, 2001 and 2004 National Drug Strategy Household Surveys

This survey 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, and 1,208 in 2004 who were over 14 years of age, could speak English, and who lived in private dwellings (Australian Institute of Health and Welfare, 1999, 2002, 2005). The survey covered the following illicit drugs: 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.

Police and Justice Department data

Tasmania Police State Intelligence Services, the Australian Crime Commission (ACC, previously the Australian Bureau of Criminal Intelligence, ABCI), and the state Justice Department have provided information on drug seizures, charges, and costs. Data on the purity of drugs seized are also provided through the ACC; however, drugs are only analysed by Tasmania Police Forensic Services in seizures where the person involved denies that the seizure in question contains illicit substances. Data for the 2005/06 financial year was not available at the time of publication.

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). In the 2005/06 financial year, the Justice Department utilised both standard urine screen tests and the insta-testing system for the presence of drugs. A total of 376 screens for drugs were carried out during the 2005/06 financial year.

Blood-borne viral infections surveillance data

Blood-borne viral infections, in particular HIV/AIDS and hepatitis B and C, 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 and hepatitis B and C 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 hepatitis C 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.

Tasmanian Pharmacotherapy Program data

Pharmaceutical Services in the Department of Health and Human Services maintains a database that records all methadone and buprenorphine program registrations in Tasmania. The number of annual new admissions to the program, and information regarding the number of active daily clients, are presented.

Coronial findings on illicit drug-related fatalities

Mortality data regarding illicit drug-related deaths prior to 2000 were obtained from the state coroners office. Data provided contain a summary of the toxicology analysis for each case. More recent figures in this report were provided by Australian Bureau of Statistics annual reports on fatal opioid overdoses among 15 to 44 year olds (Degenhardt, 2001, 2002, 2003; Degenhardt, Roxburgh & Black, 2004). Data in relation to illicit drug-related fatalities in Tasmania in 2006 were not available at the time of completion of this report.

Hospital morbidity data

Hospital morbidity data in relation to use of drugs have been provided by the Australian Institute of Health and Welfare for the 1999/00 to 2004/05 financial year periods. 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.

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.

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. Additionally, at that same time, a new information service, the Drug and Alcohol Clinical Advisory Service (DACAS), was established to provide health professionals assistance with the clinical management of drug and alcohol problems. Turning Point systematically records data for each call received, which comprised 2208 and 63 calls to ADIS and DACAS respectively during the 2000/01 financial year; 2129 and 94 calls to the respective services in 2001/02; with 1984 and 48 calls to the respective services in 2002/03; 1554 and 44 calls respectively during 2003/04; 1332 and 42 calls respectively during 2004/05; and 1469 calls to ADIS and 49 calls to DACAS in the 2005/06 financial year.

3.0 RESULTS

3.1 Overview of the IDU sample

A total of 100 individuals were interviewed. The demographic characteristics of the IDU sample are presented in Table 1 below. The mean age of participants in the 2006 study was 30.4 years (SD = 7.8, range 16-49). This is consistent with the mean age of the 2005 IDRS IDU cohort; however, overall, the average age of the cohort over the preceding five years has increased. Sixty-five percent of the 2006 cohort was male, consistent with the sample in 2005 (62%). Prior to 2006, the proportions of male participants had been steadily declining in the local study (71% in 2002, 65% in 2004). Female participants were significantly younger than male participants in the 2006 cohort (females 27.9 years, SD=7.4; males 31.7 years, SD=7.7: $F(1,98)=5.82$, $p=0.018$), consistent with findings from the 2005 and 2004 studies.

Table 1: Demographic characteristics of the IDU sample, 2005-2006

Characteristic	2005 N=100	2006 N=100
Age (mean years, range)	30.7 (range 15-50)	30.4 (range 16-49)
Sex (% male)	62	65
Employment (%):		
Not employed/on a pension	64	71
Full– time	5	1
Part– time/casual	13	12
Home duties	10	15
Student	8	1
Received income from sex work last month	-	5
Aboriginal and/or Torres Strait Islander (%)	11	14
Heterosexual (%)	87	91
Bisexual (%)	9	7
Gay or lesbian (%)	4	1
Other (%)	-	1
School education (mean no. years, range)	9.8 (range 5-12)	10 (range 6-12)
Tertiary education (%):		
None	69	55
Trade/technical	24	35
University/college	7	10
Currently in drug treatment^ (%)	55	57
Prison history (%)	34	31

Source: IDRS IDU interviews

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

The majority of participants described themselves as heterosexual (91%), with smaller proportions identifying as bisexual (7%) or homosexual (1%).

English was the dominant language spoken among participants (99%), and one participant reported Maori-English as the primary language spoken at home. Among those interviewed in 2006, there was a mean of 10.0 years (SD = 1.2, range 6-12) of school education, similar to that of cohorts in previous years. The majority of participants interviewed in the IDRS had not

completed any tertiary studies, and this proportion had decreased slightly between the 2005 and 2006 cohorts (69% and 55% respectively). This change reflects a higher proportion of participants in 2006 that had attained trade or technical qualifications (24% in 2005, 35% in 2006). Slightly more of the 2006 participants had completed university degrees than the previous year's participants (7% in 2004, 10% in 2006).

The majority of the 2006 sample (71%) were not currently employed, an increase from the 64% of the 2005 IDU sample. A further 15% of the cohort was involved in home duties, and 1% enrolled as a student, which is a decrease from 2005, in which 8% of the cohort was enrolled as a student at the time of interview. Twelve were working on a part–time or casual basis, and 1% reported being employed full-time. When asked about their main source of income, the majority (78%) reported this as a form of government pension, allowance or benefit, 5% reported this to be a wage, and 17% reported funds gained via criminal activity. In terms of all sources of income, 97% had received some income from a government pension, allowance, or benefit in the past month, 19% from a wage or salary, 40% from some form of criminal activity, 9% from child support and 5% from sex work.

The sample was drawn from 31 suburbs within the northern, eastern, southern, and inner city areas of Hobart, with almost half of the participants either living in close proximity to Hobart city (28%) or Glenorchy city (24%). A more detailed breakdown, on the basis of local council areas, is as follows: Hobart City (40%); Glenorchy City (31%); Clarence (14%); Brighton (1%); Kingborough (7%); Sorell (1%); Huon Valley (1%); no fixed address (5%). The majority of participants lived in their own (rented or owned) house or flat (78%), with 11% living in their family home, while 3% were living in temporary accommodation at the time of interview (such as a boarding house, hostel, hotel, caravan park), and 6% at no fixed address.

Just under one-third of the sample (31%) of participants had been imprisoned at some stage in their lives (similar to that in 2005- 34%; however, a somewhat greater proportion than the one-quarter of participants interviewed in 2003 and 2004). The proportion of males reporting a prison history was 37%, and the proportion of females was 20%, a difference that was approaching statistical significance: χ^2 $(1, _{n=100})=3.04$, $p=0.08$), unlike 2005, in which the proportions of both male and females having been in prison was equal (34% respectively).

Just over half of the sample (57%) was in some form of drug treatment at the time of interview. This is similar to the characteristics of the 2005 cohort, in which 55% of participants reported accessing some form of drug treatment; however, it is a notable decrease from the characteristics of the 2004 cohort, where 65% were involved in treatment. Just over half of the participants (51%) reported current involvement in methadone maintenance treatment, which is an increase from 2005 (43%).

The demographic characteristics of the Tasmanian 2006 IDU sample are largely similar to the previous Tasmanian IDU samples (Bruno, 2005; Bruno & McLean 2004, 2003, 2002, 2001). There have been substantial overlaps in those participating in the IDRS studies over time: of the 100 participants in the 2006 study, more than half (59%) had previously participated in another IDRS study. Of this group, 40 participated in the 2005 study, 35 in 2004, 18 in 2003, 10 in 2002 and 4 in 2001. This is consistent with previous IDRS samples: in 2005, more than half (52%) had previously participated in some IDRS study, 33 participated in the 2004 study, 32 in 2003, and 17 in 2002.

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 2005 and 2006 local IDU cohorts, there are small but notable differences in current employment (64% vs. 71% unemployed respectively), and in completion of tertiary education (24% vs. 35% had completed trade or technical degrees respectively). While these

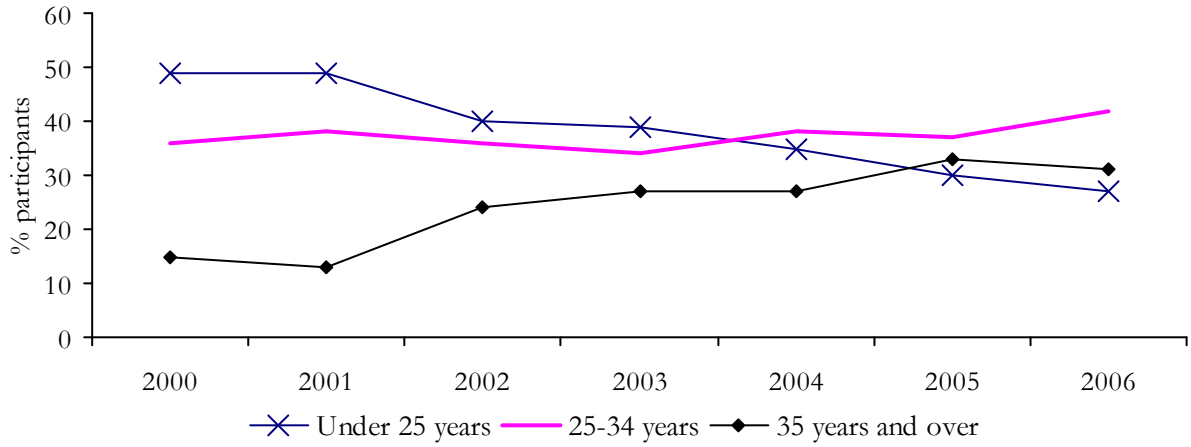
differences are notable, they may have little impact on the drug use data between the two consumer samples. However, between 2005 and 2006, there was a slightly higher proportion of the IDU cohort reporting involvement in drug treatment (55% vs. 61%), and, in particular, more of the sample was involved in maintenance pharmacotherapies (47% vs. 54%). This is likely to have an impact on the patterns of substance use reported amongst the IDU participants, and reference to this difference, along with other notable discrepancies between the 2006 IDU and previous IDU samples, will be discussed in subsequent sections of this report.

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 has steadily increased between 2002 and 2006 (mean age 28 years in 2002, 30 years in 2006: Figure 1). According to the 2005/06 Tasmanian Needle Availability Program (NAP) data, there has been a marked increase in the proportion of clients older than 35 accessing NAP outlets in recent years, with steady declines in those under 25 (NAP: Figure 2). In 2005/06, more than one-third (34.6%) of non-pharmacy NAP clients were aged 35 or over, whereas this group comprised only 13.7% of clients in 2000/01. Interestingly, an increasing age of IDU has also been seen in other jurisdictions conducting the IDRS where there is less participant overlap between samples (Stafford et al., 2006).

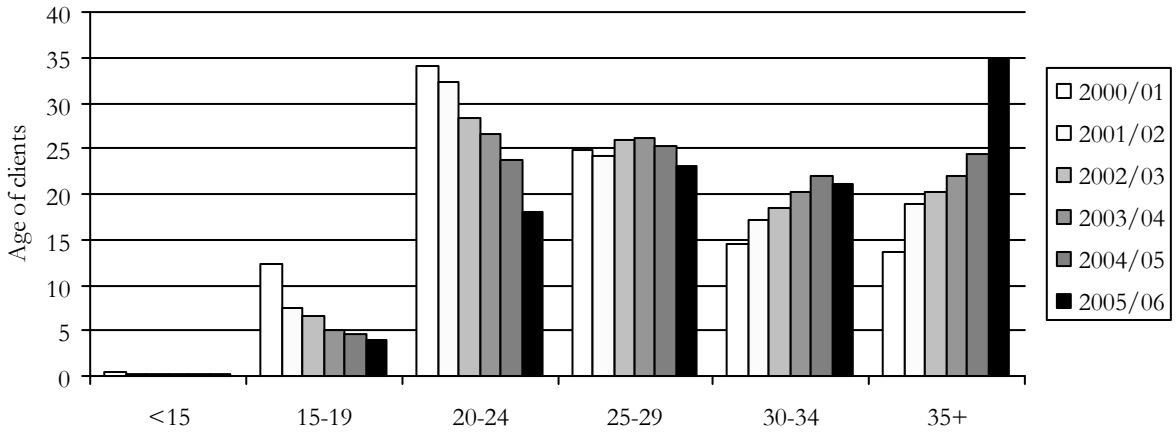
Within the IDRS IDU cohort, the proportion of male participants has remained relatively stable (65%) in comparison to steady declines in the proportion of male participants since 2001 (75% of the 2001 respondents were male compared with 62% in 2005). Similar patterns are seen amongst clients of the Needle Availability Program in Tasmania, where the proportion of male clients has fallen from 77% in 2000/01 to 70% in 2005/06 (NAP: Figure 3).

Figure 1: Age distribution of IDU in the Tasmania (Hobart) IDRS samples, 2000-2006



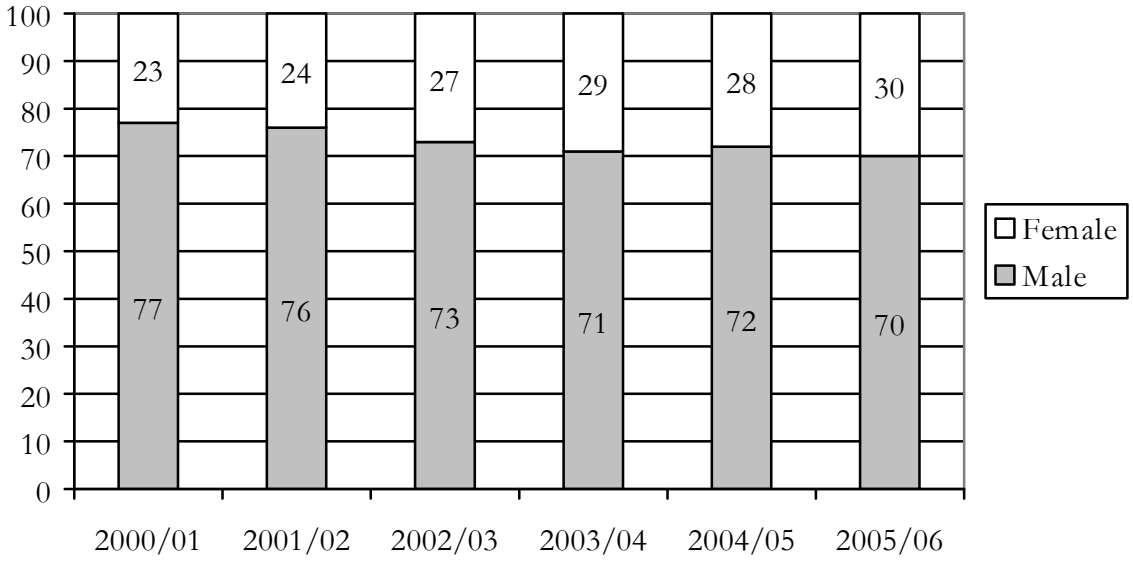
Source: IDRS IDU interviews

Figure 2: Age of clients of non-pharmacy Needle Availability Program outlets in Tasmania, 2000/01-2005/06



Source: Tasmanian Needle Availability Program

Figure 3: Sex of clients of non-pharmacy Needle Availability Program outlets in Tasmania, 2000/01-2005/06



Source: Tasmanian Needle Availability Program

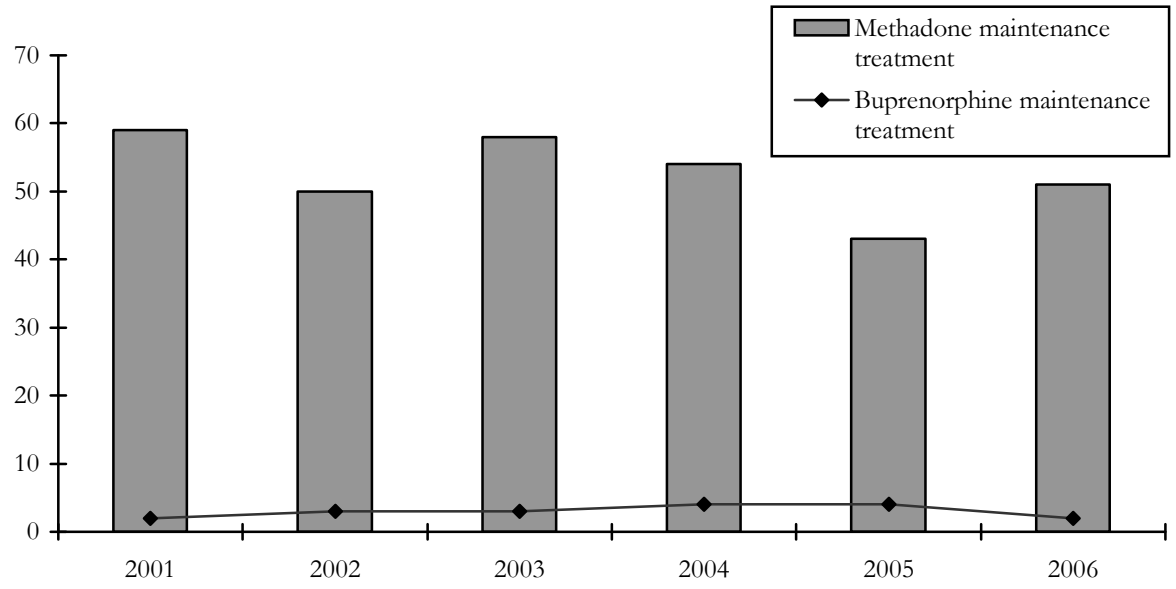
3.2 Current and previous drug treatment

Over half of the participants (57%) reported being engaged in some form of drug treatment at the time of their interview. This is consistent with the levels in the 2005 cohort, where 55% of the cohort reported involvement in treatment. In 2004 and 2003, 65% of both cohorts reported engagement in some type of treatment at the time of their interview. The marked decline in 2005 largely related to a smaller number of that cohort being involved in methadone maintenance treatment (43% in 2005 and 54% in 2004). In 2006, the proportion of the cohort reporting

current engagement in methadone maintenance treatment had returned to levels similar to that in previous cohorts (Figure 4). For the 2006 cohort, mean duration of time in methadone maintenance treatment was 65 months (SD=47, range 1-180). Two individuals reported engagement in buprenorphine maintenance treatment at the time of their interview. Mean duration of time in treatment was 30 months (SD=8, range 24-36). No participant reported accessing Suboxone treatment (buprenorphine-naloxone), as the state's Suboxone policy is being finalised at the time of writing this report.

Four of the participants reported current access of drug counselling services at the time of the interview, mean duration of time 26 months (SD=47, range 2-96). Twenty participants had reported accessing drug counselling services in the six month preceding the interview. Of the group reporting current access of methadone maintenance treatment (n=51), 15 had received drug counselling in the preceding six months. Five of the participants reported accessing detoxification services in the preceding six months. None of the participants reported having accessed a therapeutic community, narcotics anonymous or naltrexone treatment in the six months preceding the interview.

Figure 4: Proportion of the IDU sample accessing methadone or buprenorphine maintenance treatments at the time of interview, 2001-2006



Source: IDRS IDU interviews

Table 2: Proportion of participants reporting treatments other than opioid replacement pharmacotherapy in past six months, 2001-2006

Treatment type	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %
AOD counselling	11	19	18	25	17	20
Detoxification	7	7	5	3	0	0
Therapeutic community or rehab	0	0	2	1	0	0
Naltrexone	0	0	0	1	0	5
Narcotics Anonymous	0	0	0	0	0	0
Other	3	2	4	2	2	2

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

3.3 Drug use history and current drug use

The mean reported age at first injection was 18.2 years (SD=4.5), ranging from 11 to 35 years. This was similar to that identified in the 2005 cohort: mean age 18.7 years (SD 5.1, range 11-36). Females were significantly younger at time of first injection, with a mean age of 16.8 years (SD=3.4, range 11-25) and for males it was 18.9 years (SD=4.9, range 12-35), $F(1,98)=4.79$, $p=0.031$. Participants were asked about length of their drug injecting career (total time since first injection of a drug). The mean injecting drug using career for the 2006 cohort was 12.1 years (SD=7, range <1-30 years). There was no difference in the duration of injection career between males and females in the current cohort (12.8 years, SD=7.2, range <1-30; 11.0 years, SD=6.8, range <1-29).

Sixty-one percent of the cohort reported methamphetamines as the first drug injected, 18% reported morphine, 12% heroin, 3% methadone and 3% benzodiazepines. There was a significant relationship between duration of injection career and the drug that participants had first injected: χ^2 $(6,_{n=100})=15.50$, $p=0.02$ (Table 3), whereby those that had first injected more than 10 years prior to interview were more likely to start with heroin, whereby newer initiators were more likely to start injecting a pharmaceutical opioid. However, methamphetamine remained the most common drug of first injection regardless of the duration of injection. These trends in drug first injected are likely to fluctuate with availability of particular drug types in the local market.

Table 3: Drug use among newer and older inductees into injecting drug use

Characteristic	Recent initiators to injecting (≤5 years) N=18	Moderate injecting career (6-10 years) N=31	Longer injecting career (>10 years) N=51)
Age first injected	19.9 (SD=7)	17.5 (SD=4)	17.9 (SD=3.7)
Duration of injecting career	3.5 (SD=1.5)	8.5 (SD=1.2)	17.5 (SD=5.6)
First drug injected (%)			
Methamphetamine	56	48	71
Heroin	-	10	18
Morphine	33	26	8
Methadone	6	7	-

Source: IDRS IDU interviews

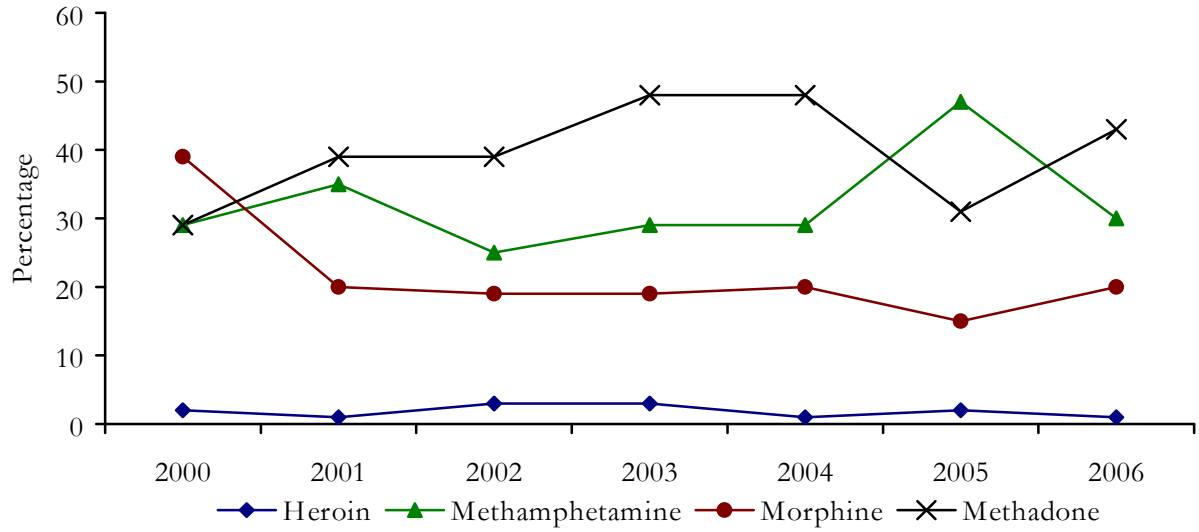
Table 4: Injection history, drug preferences and polydrug use of IDU participants, 2005-2006

Variable	2005 N=100	2006 N=100
Age first injection (years)	18.7 (range 11-36)	18.2 (range 11-35)
First drug injected (%)		
Heroin	11	12
Methamphetamines	62	61
Methadone	2	3
Morphine	18	18
Benzodiazepines	1	3
Cocaine	0	0
Drug of choice (%)		
Heroin	32	36
Cocaine	2	0
Methamphetamine (any form)	34	28
Speed	15	9
Base	14	8
Crystal methamphetamine (ice)	5	11
Methadone	7	15
Morphine	14	13
Benzodiazepines	2	1
Cannabis	4	0
Drug injected most often in last month (%)		
Heroin	2	1
Cocaine	0	0
Methamphetamine (any form)	47	29
Speed	19	7
Base	24	14
Crystal methamphetamine (ice)	4	8
Methadone	31	43
Morphine	15	21
Benzodiazepines	1	2
Most recent drug injected (%)		
Heroin	0	1
Cocaine	0	0
Methamphetamine (any form)	39	31
Speed	16	8
Base	18	13
Crystal (ice)	5	10
Methadone	32	39
Buprenorphine	0	2
Morphine	18	23
Benzodiazepines	3	4
Frequency of injecting in last month (%)		
Weekly or less	8	7
More than weekly, but less than daily	62	56
Once per day	12	20
2-3 times a day	16	12
>3 times a day	2	5
Polydrug use		
Mean number of drug classes ever used* (range)	6.7 (5-7)	6.9 (5-7)
Mean number of drug classes used* in last 6 months (range)	5.6 (3-7)	5.6 (2-7)
Mean number of drug classes ever injected^ (range)	2.7 (1-5)	3.2 (1-5)
Mean number of drug classes injected^ in last 6 months (range)	2.2 (1-4)	2.3 (1-4)

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. Note ^ refers to 5 categories only (omitted tobacco and cannabis)

Over one-third (36%) of the 2006 IDU IDRS cohort reported that heroin was their drug of choice, and 28% preferred methamphetamines. Overall preference for any form of opiate, including heroin, methadone and morphine, was higher in 2006 (64%) than in 2005 (54%). IDRS IDU cohorts prior to 2005 were predominately opiate– preferring (two-thirds or more), and as such, the preferences in the 2006 cohort are more consistent with those of the earlier cohorts. Consistent with the high preference for opioids among the participants in 2006, 64% reported an opioid as the drug they had most often injected in the preceding month. Despite heroin being the drug of choice of 36% of the cohort, methadone was the most commonly injected opiate drug (43%), followed by morphine (21%). Only one participant reported heroin being the drug most injected in the last month. Twenty-nine percent of the cohort reported methamphetamines as the drug most injected in the last month (primarily base/paste 14%; or crystalline 8%). This is a marked reduction from the 2005 cohort, of which 47% reported methamphetamine as the drug they had most often injected in the last month. However, as can be seen in Figure 5, the high level of use of methamphetamine in the 2005 cohorts represents an unusual pattern among respondents in the local IDRS surveys, with the reported pattern of drug use in the 2006 cohort more consistent with those in earlier studies. The changes between the 2005 and 2006 cohort may represent availability of drugs or drug preferences.

Figure 5: Drug injected most last month, 2000-2006



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 4). Most reported injecting more than weekly (93%), 20% reported injecting once per day, and 17% reported injecting more than once per day. The proportion of IDRS IDU respondents reporting daily injection has steadily increased in recent years (2003- 17%, 2004- 27%, 2005-32%, 2006- 37%).

Participants were asked how much money they had spent on illicit drugs on the day prior to interview. These responses are summarised in Table 5. This shows that more than half of the cohort (55%) spent money on illicit drugs the day prior to the interview, and that this was most commonly between $50 and $99 (17%). The average amount of money spent amongst the sample was $116 (SD= $403, range $0-3000, median $20). Amongst the group that did spend money on illicit drugs on the day prior to the interview, the average expenditure was $212 (SD=

$527, range $10-3000, median $60). Since 2004, the proportion of participants spending any money on illicit drugs on the day prior to the interview has increased (2004- 40%, 2005- 45%, 2006- 55%), and those that had spent money had, on average, spent more (2004- $40, 2005- $92, 2006- $212), and, similarly, the overall average was higher in 2006 (2004- $32, 2005- $42 and 2006- $116).

Table 5: Amount spent on illicit drugs on day prior to interview

Amount spent on day prior to interview	2004 N=100 %	2005 N=100 %	2006 N=100 %
Nothing	60	60	45
Less than $20	3	3	4
$20-49	19	19	12
$50-99	10	10	17
$100-199	2	2	11
$200-399	5	5	8
$400 or more	1	1	3

Source: IDRS IDU interviews

Respondents reported on their drug use on the day prior to their interview. Ninety-three percent reported using a drug on the previous day, (in contrast to the 55% reporting having spent money on drugs on that day). Cannabis was the most commonly used drug on the day prior to interview, with 60% respondents reporting such use. Use of methadone (46%, although used by only 3 people not currently enrolled in methadone maintenance treatment), benzodiazepines (39%), morphine (22%) and methamphetamines (14%) were also commonly reported on the day prior to the interview. In comparison to the 2005 IDRS cohort, there were more people reporting use of methadone (41% in 2005 vs. 46% in 2006) and morphine (13% in 2005 vs. 22% in 2006) on the day prior to the interview, and less people reporting use of methamphetamines (22% in 2005 and 14% in 2006).

Table 6: Drugs taken on the day prior to interview among the IDU sample

Drug*	2005 %	2006 %
Cannabis	57	60
Methadone	41	46
Benzodiazepines	38	39
Morphine	13	22
Methamphetamine: powder	9	5
Methamphetamine: base/paste	10	5
Methamphetamine: crystal	3	4
Pharmaceutical stimulants	2	0
Heroin	1	0
Cocaine	0	0
Alcohol	20	16
Antidepressant	9	11
Buprenorphine	3	1
Other opiates	3	3
Ecstasy	1	1
Did not take any drugs	7	7

Source: IDRS IDU interviews

* Note: Could list more than one drug

Participants were also asked about their usual place of injection and where they had last injected. These responses are summarised in Table 7, indicating that the majority of the cohort tend to inject in private homes (78% usually and 70% last time). In comparison to the 2005 cohort, however, a greater proportion report injection in public spaces, most commonly in cars (2006- 11% usually and 16% last time; 2005- 3% usually and 7% last time).

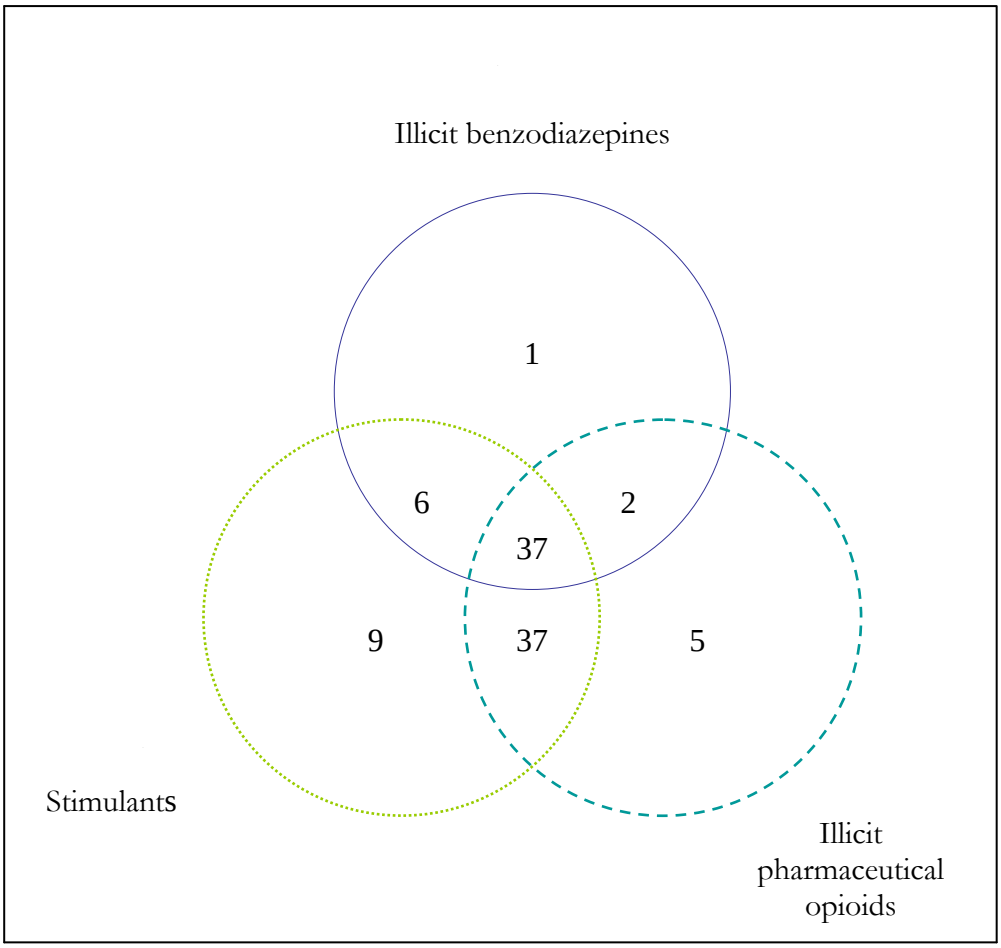
Table 7: Location in which respondents usually injected in the month prior to interview, and location of last injection

Location	Usual		Last	
	2005 N=100 %	2006 N=100 %	2005 N=100 %	2006 N=100 %
Private home	90	78	83	70
Public toilet	5	8	8	10
Car	3	11	7	16
Street/park or beach	2	2	2	2

Source: IDRS IDU interviews

Drug use histories of the 2006 IDRS IDU respondents are summarised in Table 8 below. There was a substantial level of polydrug use among this group, as almost all individuals had used methadone, morphine, methamphetamine, benzodiazepines, alcohol, cannabis and tobacco at some stage in their lives. Of the 7 possible drug classes examined (opiates, stimulants, hallucinogens, cannabis, benzodiazepines, tobacco and alcohol), participants had used a median of 7 (mean = 6.9, SD = 4.0, range 5-7) drug classes in their lives, and 6 (mean = 5.6, SD = 1.1, range 2-7) in the preceding six months. A median of 3 drug classes had been injected over their lifetimes (mean = 3.2, SD = 0.9, range 1-5), and 2 (mean = 2.3, SD = 0.9, range 1-4) in the preceding six months. These figures are highly similar to those in the 2005 cohort (Table 4). Figure 6 below illustrates polydrug use over the preceding six months, specifically for illicit benzodiazepines, stimulants and illicit pharmaceutical opioids. More that one- third (37%) of the participants had used stimulants, illicit pharmaceutical opioids *and* illicit benzodiazepines in the preceding six months, with a further third (37%) using both stimulants and illicit pharmaceutical opioids in this time. Given that only 9% of the current cohort solely reported using stimulant drugs in the six months prior to interview, and just 8% only depressant drugs in this time, 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 6: Polydrug use in the preceding six months amongst the current IDU cohort, 2006



Source- IDRS IDU interviews

Table 8: Polydrug use history of the IDU sample, 2006

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	62	61	9	6	21	3	15	1	13	0	9		6
Homebake heroin	18	16	1	1	1	0	1	0	2	0	1		1
Any heroin (inc. homebake)	64	63	10		21	3	15	1	14	0	10		
Methadone (prescribed)	66	60	45	60					63	49	49	180	180
Methadone (not prescribed)	78	75	44	24					25	11	46		24
Physeptone (prescribed)	18	18	3	180	0	0	0	0	12	1	4	14	97
Physeptone (not prescribed)	83	79	45	6	0	0	0	0	20	7	48		6
Any methadone (inc Physeptone)	91	90	73	72					74	57	75		180
Buprenorphine (prescribed)	12	6	2	46	0	0	1	1	11	3	4	180	46
Buprenorphine (not prescribed) *Any Buprenorphine (exc buprenorphine-naloxone)*	11	9	5	5	0	0	0	0	3	1	6		4
Buprenorphine-naloxone (prescribed)	0	0	0	0	0	0	0	0	0	0	0	0	0
Buprenorphine-naloxone (not prescribed)	0	0	0	0	0	0	0	0	0	0	0		0
Any Buprenorphine	21	13	6	4	0	0	1	1	14	4	9		4
Morphine (prescribed)	23	20	3	180	0	0	0	0	15	2	4		91
Morphine (not prescribed)	94	94	58	21	0	0	1	0	38	6	58		21
Any Morphine	97	97	61	24	0	0	1	0	44	8	62		21
Oxycodone (prescribed)	11	8	1	120	0	0	0	0	5	2	2		67
Oxycodone (not prescribed)	65	61	26	6	0	0	0	0	13	5	30		6
Any Oxycodone	70	61	26	6	0	0	0	0	17	6	69		7
Other opioids (not elsewhere classified)	49	16	4	9	11	2	2	0	42	14	16		7

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. # Category includes speed powder, base, ice/crystal and amphetamine liquid (oxblood). Does not include pharmaceutical stimulants

Table 8: Polydrug use history of the IDU sample, 2006 (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	92	91	54	6	13	3	39	7	32	5	54		6
Base/point/wax	88	87	55	12	3	1	6	1	8	3	55		12
Ice/shabu/crystal	88	84	54	7	29	13	6	2	6	2	56		9
Amphetamine liquid	16	16	4	3					1	0	4		3
Any form methamphetamine#	100	100	83	24	36	16	43	9	41	9	83		24
Pharmaceutical stimulants (prescribed)	4	1	0	0	0	0	0	0	4	0	0		0
Pharmaceutical stimulants (not prescribed)	79	73	36		1	0	3	0	46	12	40		2
Any form pharmaceutical stimulants	80	73	36	2	1	0	3	0	49	12	40		3
Cocaine	61	33	6	3	9	1	42	8	8	0	12		3
Hallucinogens	79	17	2	2	1	0	0	0	78	17	17		3
Ecstasy	79	47	16	2	1	0	17	7	73	34	42		4
Benzodiazepines	94	57	35	12	5	1	4	2	91	80	83		96
Alcohol	100	12	0	0					99	67	67		12
Cannabis	100										88		180
Antidepressant	59	2	0	0					59	31	31		180
Inhalants	42										3		1
Tobacco	99										97		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.

4.0 HEROIN

The trend toward decreasing heroin use among the Tasmanian IDU IDRS cohorts has continued in 2006, with only 9% of the cohort reporting having used this drug in the preceding six months, and only 6% able to comment on price, purity and availability of heroin. Of the key experts reporting on groups that predominately used opiates or were polydrug users, (n=6), only one reported contact with heroin users. Among the 2006 IDU sample, 62% reported they had tried heroin at some stage of their lives, and all but one had injected it (61%). Of the 9 participants who reported heroin use in the preceding six months, all had injected it, 3 people had also smoked heroin, and 1 person had snorted the drug.

The demographic characteristics of the 2006 IDU cohort group that had used heroin in the past six months were similar to that of other IDU (see Section 3.1) in terms of sex, cultural and educational background, sexual preference, drug treatment status, prison history, income sources, age at first injection and frequency of injection. However, those that had recently used heroin were more likely to be older, with mean age of recent heroin users being 37.9 years (SD=5.6, range 27-46) and those that had not recently used heroin was 29.6 (SD=7.9, range 16-49), $F(1,98)=10.09$, $p=0.002$. Consistent with this, recent heroin users were found to have had longer injecting careers, with a mean of 19.1 years (SD=7, range 10-30) compared with 11.5 years reported by those that had not recently used the drug (SD=6.7, range 0-30), $F(1,98)=10.358$, $p=0.002$. The recent heroin using group were also less likely to be unemployed than the rest of the cohort (56% vs. 73%, $\chi^2(4_{n=100})=11.503$, $p=0.021$). Not surprisingly, recent heroin users were more likely to report heroin as their drug of choice than non recent users (89% vs. 32%; $\chi^2(1_{n=100})=11.599$, $p=0.001$).

Of those IDU that were interviewed who had reported heroin use in the preceding six months (n=9), 89% regarded heroin as their drug of choice, and 11% reported buprenorphine. Just one participant reported that heroin was the drug they had injected most often in the preceding month, despite 36% 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, 75% reported lack of availability as the main reason that heroin was not the main drug they had used in the preceding month, 6% reported either price or health effects, and 3% reported either purity or choice as the main reason.

4.1 Price

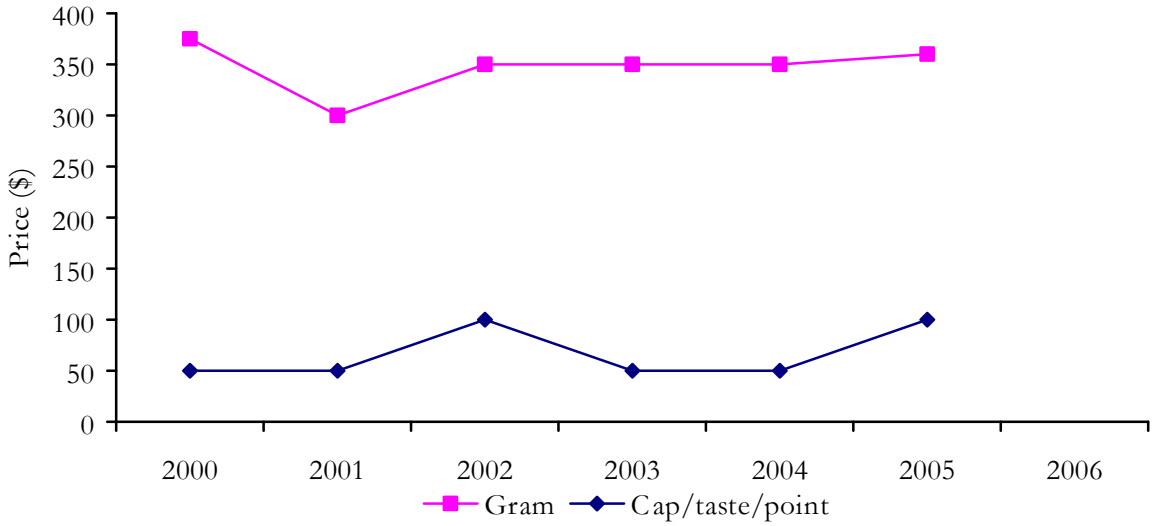
IDU who could comment on the price of heroin generally referred to purchasing it in units of 'points' (referring to 0.1g), 'packets', 'caps' or 'tastes', the latter two appearing to be a generic descriptor for a varying amount of the drug, generally between 0.05-0.15g. Only one participant was able to provide information regarding price paid for recent heroin purchases. This purchase was between 2-3 caps, at a cost of $200. In previous years, when IDRS IDU cohorts reported higher proportions of heroin use, information regarding price was more common (see Table 9). In 2005, four participants commented on buying a cap of heroin, reporting a modal price of $100 (median $100, range $50-100). Three participants commented on purchasing a gram of heroin, reporting a median price of $360 (range $250-450). Figure 7 shows some variability in prices for heroin since 2000, however, the numbers of participants reporting on this has generally been too small to make inferences about purchase prices of local heroin. None of the key experts could confidently comment on purchase prices of heroin.

Table 9: Modal price of heroin purchased by IDU, 2000-2006 IDRS

Descriptor	2000 IDRS		2001 IDRS		2002 IDRS		2003 IDRS		2004 IDRS		2005 IDRS		2006 IDRS	
	$	n	$	n	$	n	$	n	$	n	$	n	$	n
Cap, taste, point (~0.05-0.15g)	$50	*1*	$50	*15*	$100	*12*	$50	*7*	$50	*6*	$100	*4*	-	*0*
'points'/'2 tastes' (~0.2g)	$100	*2*	$100	*8*	$92.5*	*2*	$100	*1*	$50	*1*	-	*0*	$200**	*1*
1/4 gram (0.25g)	$50	*1*	$100	*1*	$135*	*4*	$100	*1*	$100	*1*	-	*0*	-	*0*
half-weight (0.5g)	-	*0*	$170	*1*	$250	*1*	-	*0*	$370*	*2*	-	*0*	-	*0*
Gram (1.0g)	$375*	*2*	$300	*2*	$350	*1*	$350	*2*	$350	*4*	$360*	*3*	-	*0*

Source: IDRS IDU interviews
* where multiple modes existed, median price was substituted
** refers to 2-3 points

Figure 7: Modal prices of heroin estimated from IDU purchases, 2000-2006



Source: IDRS IDU interviews
NB: Survey items relating to quarter- and half- grams were first included in 1998

4.2 Availability

Of the six IDU participants that were able to comment on trends in the availability of heroin, 33% (n=2) considered it very difficult for them to obtain heroin, 17% (n=1) reported it was easy, and the remainder (50%, n=3) stated they did not know. This is somewhat similar to availability reports by the 2005 IDU cohort, with around one-third of both groups of participants who could comment reporting heroin availability as very difficult (38% in 2005 and 33% in 2006). Similar proportions reported heroin availability to be easy (13% in 2005 and 17% in 2006). None of the key experts could confidently comment on the current availability of heroin.

Table 10: Participants' reports of heroin availability in the past six months, 2005-2006

	2005 (N=100)	2006 (N=100)
Current availability		
Did not respond* (%)	84	94
Did respond (%)	16	6
Of those who responded:		
Very easy (%)	13	-
Easy (%)	13	17
Difficult (%)	6	-
Very difficult (%)	38	33
Don't know^	31	50
Availability change over the last six months		
Did not respond* (%)	84	94
Did respond (%)	16	6
Of those who responded:		
More difficult (%)	13	17
Stable (%)	38	17
Easier (%)	6	-
Fluctuates (%)	6	-
Don't know^ (%)	38	67

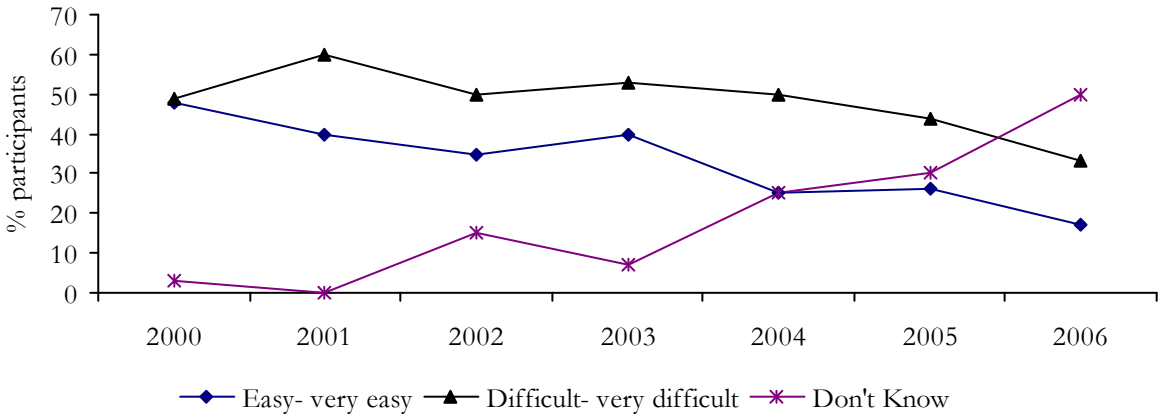
Source: IDRS IDU interviews

* 'Did not respond' refers to participants who did not feel confident enough in their knowledge of the heroin market to respond to survey items. ^ 'Don't know' refers to participants who were able to respond to survey items on price and/or purity of heroin but had not had enough contact with users/dealers to respond to items concerning availability.

Of the six participants who were able to comment on heroin, only two were able to comment on changes in availability over the six months preceding the interview. One participant reported that heroin was more difficult to access, and the other participant reported that availability had remained stable (and very difficult to access) in this time. Examining trends in reported heroin availability over time in the local IDRS study (Figure 8), since 2001, 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. Of note, the proportion of cohorts that had

used heroin but were not able to comment on the level of availability of the drug has markedly increased in recent years, which likely reflects patterns of access to heroin on single, opportunistic occasions.

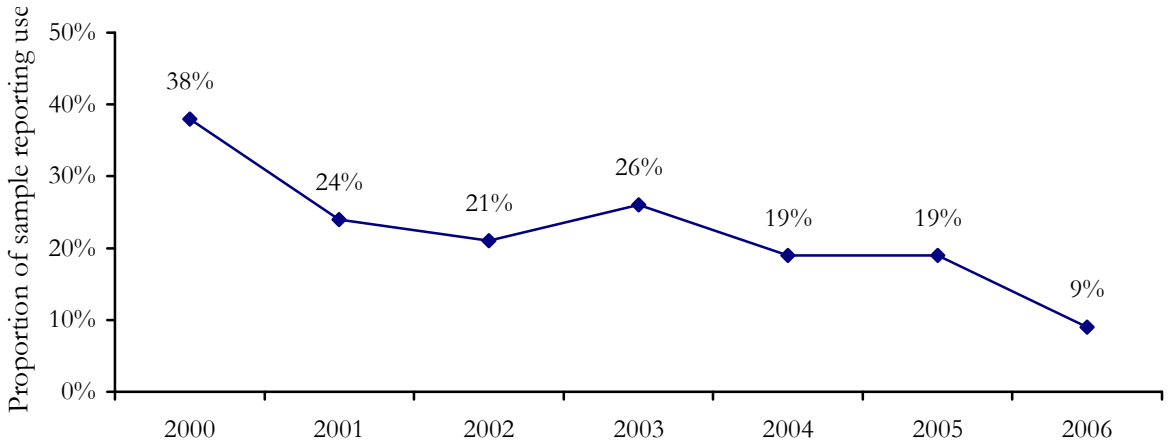
Figure 8: Participant reports of current heroin availability, of those who commented 2000-2006



Source: IDRS IDU interviews

In another indication of a reducing heroin market, only 9% of the 2006 IDU sample reported recent use of heroin, with a median frequency of use of only six days in the preceding six months. This represents a continuation of the declining trend of heroin use amongst the IDRS IDU cohorts since 2000, with six- monthly use falling from 38% in 2000, to 19% in 2004 and 2005 (Figure 9). This trend has occurred despite more than one-third of the cohort each year reporting heroin as their drug of choice. Frequency of use in the preceding six months amongst those using heroin has remained relatively stable and low over the study period; median days of use in 2006 was six, and in 2005 median use was 7 days, which equates to approximately monthly use. This low level of use in a regularly injecting group, in which 36% report heroin as their drug of choice, indicates heroin supply in Tasmania is poor. As noted above, among those who reported heroin as their drug of choice, 75% (n=27) had not used heroin, most often due to lack of availability of the drug to them.

Figure 9: Proportion of IDU participants reporting recent use of heroin, 2000-2006



Source: IDRS IDU interviews

Participants were asked to comment on their source person from whom they access heroin. Of the six participants who could answer, 50% (n=3) reported it was sent to them directly from a provider in mainland Australia. The one key expert who commented primarily on opiate users who had used heroin recently, reported that this heroin was generally sent down from the mainland directly to an individual consumer. Among the remaining heroin consumers, two had accessed the drugs through friends and two from known dealers. Participants were also asked to comment on locations where heroin was scored in the preceding six months. Of the six participants who were able to answer this, half (n=3) had it sent directly to them from the mainland; with the remainder accessing it from a friend's home (n=2), a dealer's home (n=1) or at an agreed public location (n=1).

In 2004/05, a single seizure of a drug believed to be heroin (0.2g) was reported by Tasmania Police; prior to this no seizures were made in the 2001/02, 2002/03 or 2003/04 financial years. One seizure was reported in 2000, of 3 grams. Police seizure data for 2005/06 was not available to the authors at time of printing.

When reviewing this information, it appears that the historical pattern of limited availability of heroin locally has continued, and possibly declined further in the preceding six to twelve months. While some better-connected IDU may have reasonably stable access to the drug, the availability of heroin in the state remains low, as indicated by the low level of recent use of the drug by the IDU sample.

4.3 Purity

Following trends seen in previous years, most IDU that could comment on purity of heroin they had used (n=6) considered it as medium (50%, n=3) in purity, although equal proportions considered it as high, low or fluctuating in purity (17%, n=1 respectively: Table 11). No key experts could comment on the purity of heroin used by the groups that they were familiar with. In previous surveys, IDU have commented that this low 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.

Of the nine participants in the IDU sample that reported heroin use in the preceding six months, seven commented on the form of heroin they predominantly used. The majority of use was of rock heroin (71%, n=5), and 28% (n=2) predominantly used powder form. Of those who used heroin in powder form predominantly, one participant reported purchasing this locally, with another having it sent directly to them from a provider in mainland Australia. Of the five participants who reported predominant use of rock heroin, only four people commented on whether they purchased heroin locally or from mainland Australia, with equal proportions purchasing this locally or having it sent directly to them from another jurisdiction.

In previous IDRS surveys, key experts and IDU have noted that, in general, heroin sold as 'rock' was actually powder, compressed to look like true 'rock' form heroin. Similar reports were made by key experts in Victorian IDRS studies (e.g. Dwyer & Rumbold, 2000). As noted in previous IDRS reports, these two forms may reflect two very different qualities of heroin available. Anecdotal reports from several previous IDU and KE suggest that the powder form heroin available in the state is heavily 'cut' and very low in purity, with the purity of rock form heroin being slightly higher. In previous years, those that had most often used powder form heroin most commonly reported the purity of heroin as low, with those most often using rock form heroin commonly reporting purity as medium. However, this pattern did not hold in the current dataset, although the small sample size of participants that had used heroin recently renders it difficult to easily identify any particular trends in the data.

There was limited information provided by participants in regard to trends in the purity of heroin over the preceding six months (Table 11). Of the six participants who commented, one participant (17%) reported decreasing purity, a second participant (17%) reported fluctuating purity, and two-thirds (n=4) stated they did not know about changes in purity over the preceding six months, which is likely a reflection of infrequent use of the drug. No key expert could confidently comment on trends in purity of heroin. Examining subjective reports of purity of heroin in the Tasmanian IDU cohorts over time (Figure 10), it is clear that, while these reports have somewhat fluctuated 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 10).

As there was only a single seizure of heroin made by Tasmania Police in 2004/05, and purity data for 2005/06 are not available at the time of printing, no objective purity data are available for comparison to these subjective reports. There are two pieces of objective purity data available for heroin seized within Tasmania. The first relates to a single seizure of less than two grams, made by the Australian Federal Police and analysed during the first quarter of 2000, which returned a measurement of 74.6% purity. The second relates to eight seizures of less than two grams, made by Tasmania Police and analysed during the third quarter of 2002, which returned a median measurement of 70.4% purity (range 69.6-71.0%). It should be noted that there may be a delay of days to several months between the date of the seizure and the date of receipt of the samples in the laboratory, and as such it is not clear which financial year these analyses refer to.

Table 11: Participants' perceptions of heroin purity in the past six months, 2005-2006

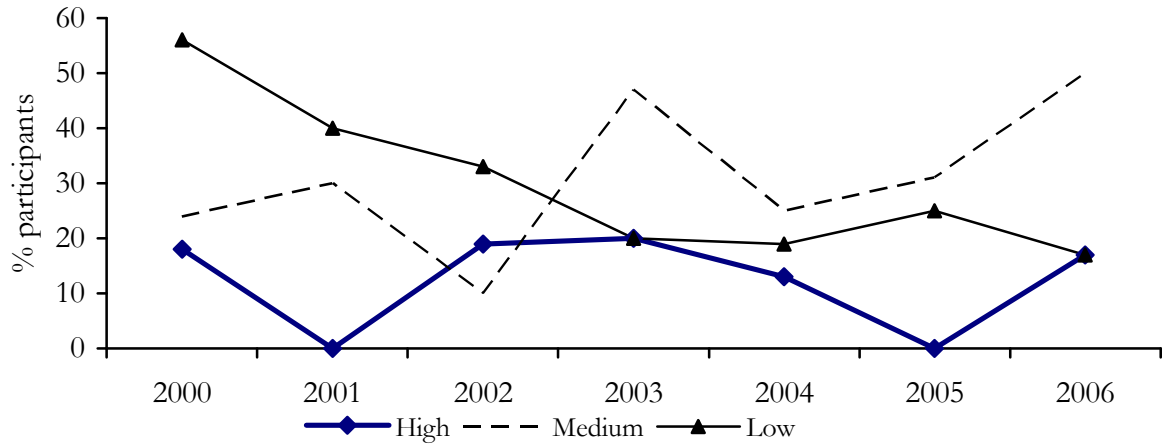
	2005 (N=100)	2006 (N=100)
Current purity		
Did not respond* (%)	84	94
Did respond (%)	16	6
Of those who responded:		
High (%)	-	17
Medium (%)	31	50
Low (%)	25	17
Fluctuates (%)	19	17
Don't know^ (%)	25	-
Purity change over the last six months		
Did not respond* (%)	84	94
Did respond (%)	16	6
Of those who responded:		
Increasing (%)	6	-
Stable (%)	13	-
Decreasing (%)	19	17
Fluctuating (%)	19	17
Don't know^ (%)	44	67

Source: IDRS IDU interviews

* 'Did not respond' refers to participants who did not feel confident enough in their knowledge of the heroin market to respond to survey items

^ 'Don't know' refers to participants who were able to respond to survey items on price and/or availability of heroin, but had not had enough contact with users/dealers, or had not used a sufficient number of times to feel confident responding to items concerning purity

Figure 10: Proportion of IDU participants reporting current heroin purity as high, medium or low, of those who could respond, 2000-2006



Source: IDRS IDU interviews

4.4 Use

4.4.1 Prevalence of heroin use

The 1998 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 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. While the small numbers involved mean that meaningful inferences are difficult to draw, the figures from the 2001 survey (Australian Institute of Health and Welfare, 2002) are very similar, with 0.3% (n=4) of Tasmanians sampled reporting using heroin in the year prior to interview. In the 2004 National Drug Strategy Household Survey, it was estimated (from the sample of 1,208 participants) that less than 0.1% of Tasmanians had used heroin in the year prior to interview, compared with 0.2% of the national sample (Australian Institute of Health and Welfare, 2005).

4.4.2 Heroin use among IDU participants

Reported use of heroin as the main drug injected by non-pharmacy Needle Availability Program outlet clients had shown a steady decrease between 1999/00 and 2001/02, decreasing from 4.3% to just 0.7% of clients in this time (Table 12). However, while still remaining relatively low, particularly given the attractiveness of heroin among IDU, the figures for 2002/03 represented a clear increase over the preceding financial year, with 446 clients (1.5%) reporting heroin as the drug that they most often injected, which remained stable in 2003/04 (1.1%, n=384). In the past two financial years, the level of reported use of heroin amongst non-pharmacy NAP clients has been much lower, at 0.5% in 2004/05 (n=222) and 0.6% (n=200) in 2005/06.

While there are acute limitations of the data collected from Needle Availability Program outlets (see Section 1.4), this general trend toward declines in heroin use seen amongst NAP statistics in recent years is consistent with the similar decline in proportion of the local IDRS IDU cohort reporting recent use of heroin since 2004. It is important to note, however, that NAP data may underestimate the extent of heroin use, as different NAP 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. As indicated previously, although 9% of the IDU sample had used heroin in the past six months, just one reported it as the drug they most often injected. Additionally, there was a very high level of polydrug use amongst those who reported recent use of heroin (detailed below).

Table 12: Percentage of heroin reported as 'drug most often injected' by Tasmanian non-pharmacy Needle Availability Program outlets, 1997-2006

Year	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2006/06
Number of clients reporting heroin	390	257	457	405	143	446	384	222	200
Percent of total clients reporting heroin	5.7%	2.9%	4.3%	2.8%	0.7%	1.5%	1.1%	0.5%	0.6%

Source: Sexual Health, Department of Health and Human Services

The Australian Needle and Syringe Program Survey (National Centre in HIV Epidemiology and Clinical Research on behalf of the Collaboration of Australian Needle and Syringe Programs) has reported heroin as the last drug injected of 10% or less of their Tasmanian participants for their 1996, 1997, 1998 and 1999 surveys, falling to less than 5% or less since 2002 (Table 13). These

figures estimate the level of use of heroin as much higher than that seen in the NAP client data, although underscore the point that heroin use is not common amongst Tasmanian IDU.

Table 13: Australian Needle and Syringe Program (NSP) Survey: Prevalence of heroin within 'last drug injected', 1999-2005

	1999		2000		2001		2002		2003		2004		2005	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Heroin	2*	8	0	0	5	10	5†	3	1	1	0	0	6	4
Total sample size	25		23		51		151		118		107		137	

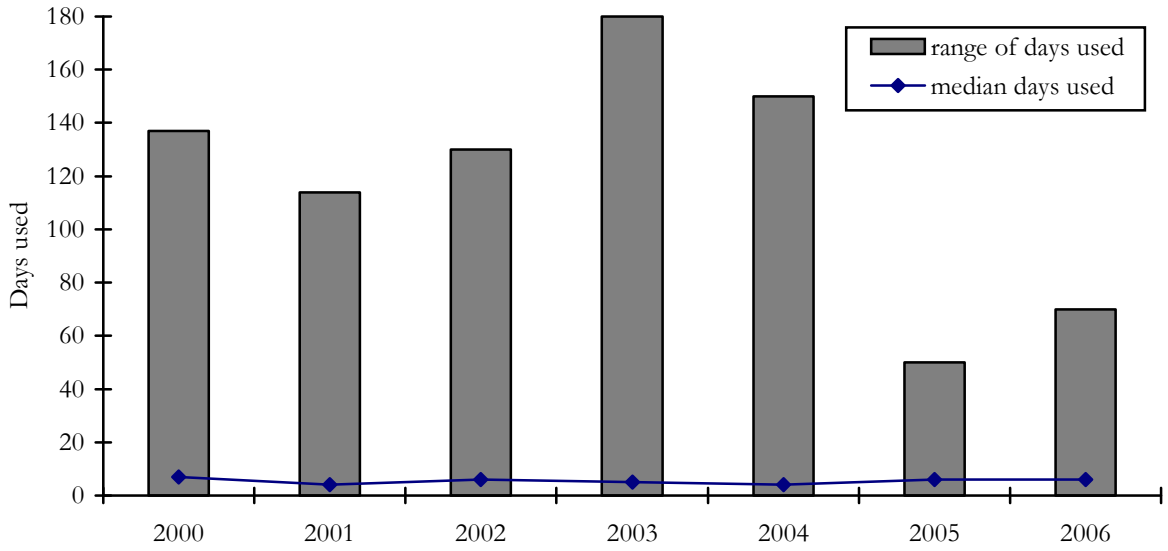
Source: Thein, Maher and Dore (2004); Thein, White, Shourie & Maher (2005); Glenday, Li & Maher (2006)
*Note: these two cases reporting heroin injection actually reported their last drug injected as heroin and morphine combined; † of these 5 individuals, one reported their last drug injected as a mixture of heroin and cocaine

4.4.2 Current patterns of heroin use

Nine percent of the IDU sample reported using heroin in the six months prior to interview. The median number of days that heroin was used in the past six months by this group was 6 (SD=22.6, range 1-70: Figure 11 below). All participants reporting heroin use in this time had injected the drug (median number of days injected 6, (SD=16.8, range 1-50). Three of this group had also swallowed heroin, and one participant reported snorting heroin in the six months prior to interview. Six respondents reported only injecting heroin, 2 participants reported injecting and smoking heroin, and one participant reported injecting, smoking and snorting heroin in the preceding six months.

Examining trends in the frequency of use of heroin amongst the local IDRS IDU samples over time, while the median frequency of use overall has remained low in this period (remaining approximately once monthly across all samples), there has been a wide range of use amongst the cohorts, with some participants able to access heroin very regularly (Figure 11). However, in keeping with the decline in the proportion of the IDRS IDU cohorts reporting recent use of heroin since 2003 (Figure 9 above), there has been a reduction in the range of days that heroin had been used among recent cohorts.

Figure 11: Median days and range of heroin use in the past six months, 2000-2006



Source: IDRS IDU interviews

There was a very high level of polydrug use amongst those who had used heroin in the past six months (Table 14), predominantly of other benzodiazepines, cannabis and alcohol, along with methamphetamines, primarily speed powder and crystal methamphetamine, and morphine and methadone. This finding is in keeping with reports from key experts that, because of fluctuating availability, primary users of opioids have to be flexible in their patterns of use, turning to other opioids, methamphetamines or benzodiazepines if their opioid drug of choice is unavailable.

Table 14: Patterns of drug use reported by those IDU who had used heroin in the past six months (n=9)

	% of those who had used heroin in last 6 months reporting use	Median days use for those using the drug
Methadone syrup (illicit)	33 (3)	22 (range 2-30)
Physeptone (illicit)	44 (4)	3 (range 1-48)
Morphine (illicit)	56 (5)	2 (range 1-18)
Oxycodone (illicit)	33 (3)	8 (range 1-18)
Other opioids	3 (33)	8 (range 1-100)
Benzodiazepines	100 (9)	180 (range 18-180)
Cannabis	89 (8)	180 (range 6-180)
Methamphetamine		
powder	67 (6)	18 (range 4-180)
base/paste	22 (2)	10 (range 8-12)
ice/crystal	67 (6)	12 (range 4-180)
Alcohol	78 (7)	18 (range 3-120)

Source: IDRS IDU interviews

4.5 Heroin related harms

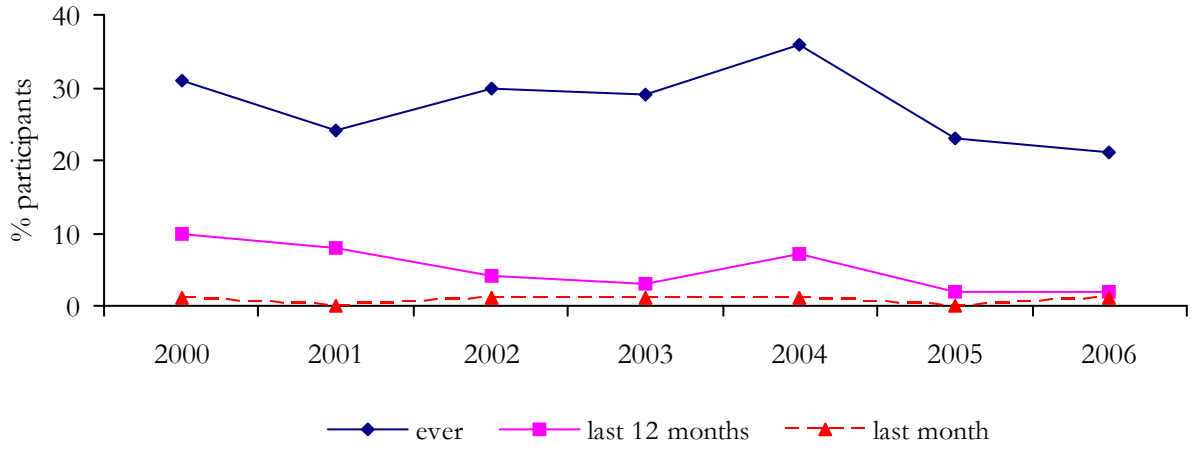
4.5.1 Law enforcement

Tasmania Police State Intelligence Services reported no arrests involving offences relating to heroin between 2000/01 and the 2003/04 financial year[3]. In the 2004/05 financial year there was a single arrest[4] in the north of the state (relating to the seizure of the 0.2g of a drug believed to be heroin in the first quarter of 2005). Data for the 2005/06 financial year was not available at the time of publication. Due to the small numbers (n=5 in 1999/00) and lack of specificity of reporting of opioid-related arrests in previous years[5], the identification of trends from such data is difficult, other than to provide further support for indications from other data sourced of a limited availability and use of the drug locally.

4.5.2 Health

Given that pharmaceutical opioids such as morphine and methadone tend to be the predominant opioids used by the local IDU population, a more detailed discussion of health-related harms (such as treatment and overdose) is located in a separate section of this report (Section 11.1 and Section 11.2 respectively). However, two IDU participants reported experiencing a non-fatal heroin overdose in the year prior to interview, and a further two participants noted witnessing a heroin overdose in Hobart in the preceding twelve months. Examining trends in experience of heroin overdose in the IDRS IDU cohorts over time (Figure 12), it is clear that both lifetime and recent experience of heroin overdose has been declining over time, consistent with the decline in use of this drug in subsequent cohorts.

Figure 12: Proportion of IDU participants who had ever overdosed, overdosed in the past 12 months, and the past month, 2000-2006



Source: IDRS IDU interviews. Note: The one participant who reported a heroin overdose in 2006 reported concomitant use of crystal methamphetamine

[3] ACC report 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.
[4] ACC report 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.
[5] 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.

4.6 Trends in heroin use

The majority of indicators- and findings such as the low median rate of use of heroin (6 days in last 6 months amongst those who had used the drug) and, of the 36% of the IDU sample that reported heroin as their drug of choice, only 9% had recently used heroin- indicate that the low availability of heroin in the state identified in earlier IDRS studies has continued in 2006.

The Australian Crime Commission 2003/04 *Illicit Drug Data Report* (2005) notes that Burma (Myanmar) was the primary source of heroin for the Australian market, although the most common embarkation points for heroin trafficked to Australia in 2003/04 were from Cambodia, Thailand, Hong Kong, China, Singapore, Malaysia, India, Pakistan and the United Kingdom. Opium cultivation in the South-East Asian 'Golden Triangle' region (Burma, Laos, Thailand) as well as in Pakistan has declined between 2003 and 2004 according to the United Nations *World Drug Report* (UNDOC, 2005), and this marks a continuation of a trend toward declining opium cultivation in the Golden Triangle region beginning in 2001. However, in contrast, opium cultivation in the 'Golden Crescent' (Afghanistan) region has expanded rapidly in this time, from an estimated 74,722 hectares in 2002 to 132,500 hectares in 2004 (UNDOC, 2005), and the Australian Crime Commission (2005) notes the potential for Afghan heroin to expand into Australian markets should higher quality heroin be produced in that country (ACC, 2005). As such, with the high use of opioids and stable strong preference for heroin amongst the IDU sampled by the IDRS both locally and nationally (Stafford et al., 2006), future trends in use of the drug continue to merit close attention, particularly as heroin markets nationally regain equilibrium.

4.7 Summary of heroin trends

Table 15: Summary of heroin trends

Availability	• Heroin is generally difficult for consumers to access • IDU and other data suggest that heroin has remained poorly available or become more difficult to access in the past 6-12 months
Purity and form	• Both 'rock' and powder heroin used, but 'rock' is predominant • No objective purity data are available for locally-purchased heroin; however, consumer estimates suggest 'medium' purity • Heroin purchased both locally and sent directly to consumers from providers in mainland Australia
Use	• Used by 9% of the IDU sample in past six months, but low rate of use (median = 6 days) despite high preference as drug of choice (36%) • Those that use heroin also have high levels of polydrug use, including benzodiazepines, cannabis, other opioids, methamphetamines and alcohol. • Multiple indicators (IDRS, NSP) suggest that local use of heroin has decreased slightly in recent months from an already low level amongst local regular IDU • Findings of the 2004 National Drug Strategy Household Survey indicate that less than 0.1% of Tasmanians had used heroin in the previous year

5.0 METHAMPHETAMINE

In the initial years of the IDRS studies, reports have used the overarching term 'amphetamines' to refer to both amphetamine and methylamphetamine (methamphetamine[6]). 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 2003/04 financial year[7], of the 4182 (non-phenethylamine) amphetamine-type seizures analysed for purity in Australia, 94.5% were methamphetamine rather than amphetamine (ACC, 2005).

As methamphetamine markets across the country have expanded over the past few years, it has become apparent that there is a diversity of forms, or presentations, of methamphetamine sold in the Australian illicit drug market. 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[8] 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 2005 IDRS survey commonly reported that methamphetamine powder was often 'claggy', a little 'wet' in appearance and sometimes contained small crystals amongst the powder, ranging from clear to white, pink or brown in colour. In the 2006 survey, one respondent echoed these reports, suggesting that powder methamphetamine was often 'wet' in appearance.

The two other 'forms' of methamphetamine are traditionally higher in potency (due to being more difficult to 'cut') and have been increasing in availability across all Australian jurisdictions in the past few years (Topp et al., 2002). The first, referred to in some jurisdictions as 'base' or 'paste', is commonly a gluggy, waxy, oily, 'wet' powder. Although it does not seem to have a particular moniker in Tasmania, it is usually sold in units of 'points' (0.1 grams) in comparison to

[6] Methamphetamine is an abbreviation of the name methylamphetamine, and, as such, both terms are interchangeable.
[7] Data for the 2005/06 financial year was not available at time of publication
[8] Powder form methamphetamine is also referred to in national and other jurisdiction IDRS reports as 'speed'.

powder methamphetamine, which is traditionally sold in gram units at similar prices. 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 2005 study, participants that had recently purchased this form of the drug locally commonly described it as 'milky', 'sticky', 'waxy' and 'wet' in appearance, with specific examples of it as 'clear, jelly-like', 'brown- like soggy brown sugar' or 'golden syrup', or 'pinky- like wet fairy floss'. In 2006, one respondent reported that this form of the drug appeared 'clear'.

The final form of methamphetamine examined in the current study is often referred to as 'ice' or 'crystal meth(amphetamine)'. This 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, 2003). It commonly appears as clear, ice-like crystals, and, as such, is difficult to 'cut' (dilute), resulting in a relatively high-purity/potency product. Consumers in 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).

Eighty-four percent of the respondents on the IDU survey were able to confidently comment on at least some aspects of the price, purity and availability of some form of methamphetamine (one participant could comment, but had not used any form in the preceding six months). For the 2006 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 form of these 'groups'. IDU reported making these distinctions on the basis of physical form, purchase cost, and potency of subjective simulant effect. Twenty-one of the 100 consumers interviewed were able to report distinct trends for all three 'forms' of methamphetamine, 26 reported trends on two 'forms', while 37 reported on trends in regard to a single form. In 2005, more participants were able to comment of methamphetamines (97%), of which 35% could report on all three forms, 37% reported trends on two forms, and 25% reported on trends of one form only. Fifty-one of the IDU participants in 2006 reported trends on methamphetamine powder, 52 reported on 'base/paste', and 49 on crystalline methamphetamine. In 2005, 79 participants reported on methamphetamine powder, 81 reported on base/paste, and 44 on crystalline methamphetamine.

Eighty-seven percent of the IDU sample had used methamphetamine or pharmaceutical stimulants (83% had used methamphetamine, with a further 4% only reporting use of illicit pharmaceutical stimulants) at some time in the six months prior to interview (in the 2005 survey, 97% of the sample had used any stimulant, and 95% used some form of methamphetamine in the six months prior to interview). Demographic characteristics were similar with the rest of the cohort (see Section 3.1), in terms of age, sex, employment status, ATSI background, sexual preferences, educational background, prison history, injection frequency and age of first injection.

However, participants that had used methamphetamine in the preceding six months were less likely to report accessing a treatment service at the time of interview (18% vs. 48%, $\chi^2(3_{n=100}) = 22.378$, $p<0.001$) than those participants who did not report recent use of methamphetamines. Recent methamphetamine users were also more likely to report methamphetamines as their drug of choice (33% vs. 7%: $\chi^2(1_{n=100}) = 4.164$, $p=0.034$), and tended to report shorter injecting careers than the rest of the cohort (11.4yrs vs. 16.4yrs, $F(1,98)=7.746$, $p=0.006$).

Fifteen key experts reported on groups that primarily used methamphetamine, while a further nine reported on groups best characterised as polydrug consumers. Key experts included drug treatment workers (n=3), prison health workers (n=3), emergency medicine specialists (ambulance or emergency ward practitioners: n=3), Needle Availability Program workers (n=2), law enforcement professionals (n=2), one youth worker and one policy officer.

Key experts 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 key experts worked (for example, some services specialised in work with homeless clients or in particular regional areas, while some key experts worked in public or private health services). The majority of key experts described consumers that were uniformly from English-speaking backgrounds. Aboriginal people made up the minority of consumer groups that key experts reported on (in relation to methamphetamines), except in a prison setting, in which it was estimated that a higher proportion may be Aboriginal. The methamphetamine-consuming groups described ranged between 14-64 years in age, with most in their late teens to early thirties. The consumers described by key experts were predominately male, although gender ratio estimates ranged from 50-100% male.

Education history of the methamphetamine consumers described by key experts ranged across the spectrum from low levels to university graduates; however, given the demographic bias of many of the services key experts worked in, the majority of consumers described had achieved a year 10 education or less. Similarly, key experts were familiar with consumers that were predominantly unemployed, although this again was quite variable, with minorities of these groups described being in employment or studying. Prison history of these consumers ranged from nil to 100% (those in prison settings), but were most commonly estimated at around half of these consumers, again largely reflective of the target demographics of the key expert's services.

5.1 Price

As discussed above, and indicated in previous Tasmanian IDRS reports, it is clear that there are three main 'forms' of non-pharmaceutical methamphetamine available in Hobart, each with separate pricing schedules (which become more apparent at larger purchase amounts), which will be discussed separately. However, across all forms of the drug, the majority (64%) of IDU that were able to comment on availability considered that this had remained stable in the preceding six months.

Table 16: Participants' reports of price trends of methamphetamines in the past six months, 2006

	2006 IDRS N=100		
	Powder	**Base/Paste**	**Crystal**
Price Trend			
Did not respond (%)	49	50	51
Did respond (%)	51	50	49
Of those who responded:			
Increasing (%)	8	8	12
Stable (%)	67	64	65
Decreasing (%)	10	2	4
Fluctuating (%)	2	4	4
Don't know (%)	14	22	14

Source: IDRS IDU interviews

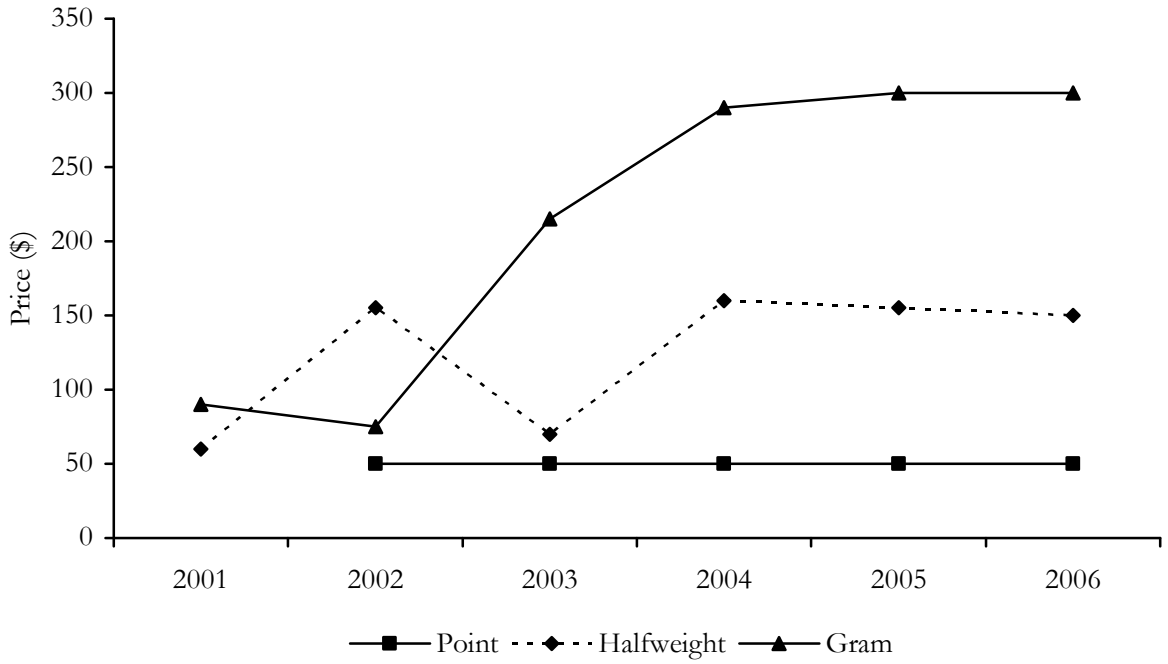
Methamphetamine Powder

IDU reported the median market price of powder methamphetamine as $50 per 0.1 of a gram (an amount typically referred to as a 'point': modal price estimate $50, range $30-80, n=41), and $275 per gram (no single mode, range $150-400, n=4). These were consistent with the prices that IDU reported paying for the drug in the preceding six months: median prices of $50 per 'point' (mode $50, range $30-50, n=20) and $300 per gram (modal price estimate $300, range $250-300, n=8: Table 17). These are strongly consistent with the prices reported in the 2005 survey (Table 17).

Only one key expert could comment on the cost of powder methamphetamine, reporting a cost of $40-70 per 'point'. The clear majority of 67% of those consumers that were able to comment[9] (n=34) and one key expert reported stable prices for methamphetamine powder in the preceding six months, with only small minorities reporting perceived recent increases (8%, n=4), or decreases (10%, n=5) of this form.

Examining trends in reported purchase prices for powder methamphetamine, modal reported prices for 'point', half-gram and gram purchases remained stable between 2005 and 2006. The price range for the most common purchase quantity, half-grams, has dropped ($100-200 in 2005 to $80-200 in 2006). Similarly, the reported price range for gram purchases dropped from $250-350 in 2005 to $250-$300 in 2006 (Figure 13 and Table 17).

Figure 13: Median prices of powder methamphetamine estimated from IDU purchases, 2001-2006



Source: IDRS IDU interviews.

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

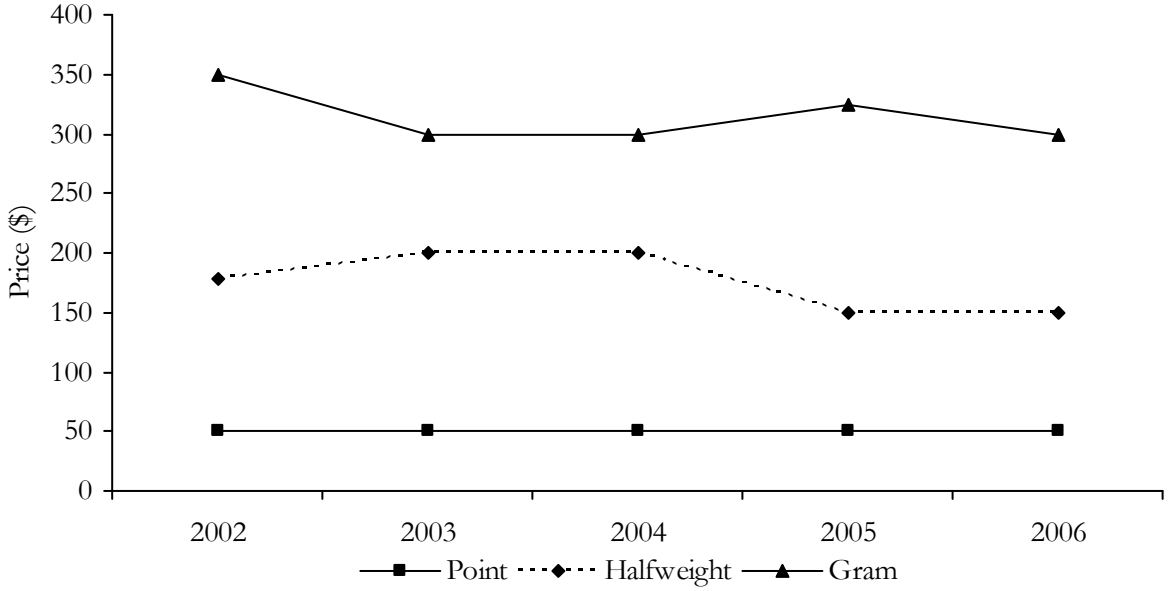
Base/paste methamphetamine

IDU reported the median market price of 'base/paste' methamphetamine as costing $50 per 'point' (0.1g: modal price estimate $50, range $50-90, n=43), and $288 per gram (no single mode, range $250-300, n=4). These price estimates are reasonably similar to the median prices that consumers reported as actually paying for their last 'point' of 'base/paste' methamphetamine (median, mode = $50, range $20-70, n=23) and last gram (median $300, mode $300, range $250-300, n=11: Table 17).

Similar to trends for powder methamphetamine, 64% of consumers (n=32) able to comment felt that prices for 'base/paste' methamphetamine had remained stable in the preceding six months, with only small minorities reporting a perception of increased (8%, n=4) or decreased (2%, n=1) prices for this form.

Examining trends in reported purchase prices for 'base/paste' methamphetamine, prices reported in 2006 appear stable when compared to those reported in 2005, although there are some slight indications of price trending downward for 'point' and gram purchases ('point' purchases ranging between $30-80 in 2005, and $20-70 in 2006; half-gram purchases ranging from $150-400 in 2005, and falling to $140-200 in 2006: Figure 14 and Table 17).

Figure 14: Median prices of base/paste methamphetamine estimated from IDU purchases, 2002-2006



Source: IDRS IDU interviews

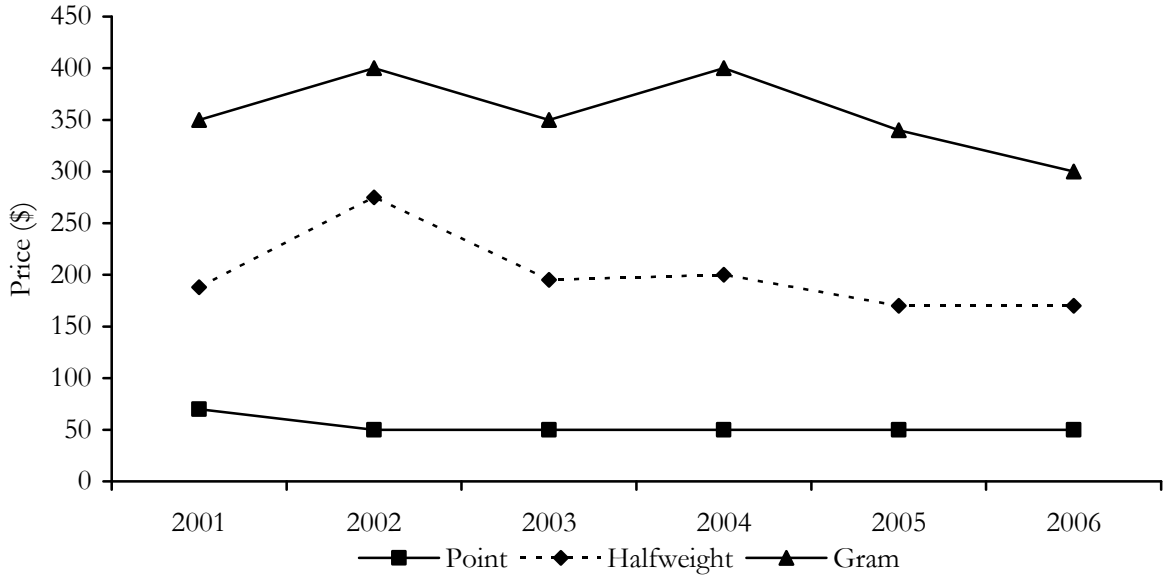
Crystal Methamphetamine

The median market price reported by consumers for the higher-purity crystalline methamphetamine/'ice' was, again, $50 per 'point' (0.1g: modal price estimate $50, range $40-100, n=34), which corresponded closely with the price that consumers reported as actually paying for their last 'point' (median, mode = $50, range $40-80, n=13: Table 17). Similarly, the price estimates for market price (median $300, no single mode, range $200-350, n=3) and actual purchases in the preceding six months corresponded closely, with a median and modal purchase price of $300, range $300-480, n=7: Table 17. Only one key expert could comment on the cost of crystal methamphetamine to the consumers that they were familiar with, reporting a cost of $60-65 per 'point'.

In terms of price changes in the preceding six months, 65% (n=32) of consumers able to report trends for crystalline methamphetamine considered that prices had remained stable in this time, with only small minorities considering that prices had increased (12%, n=6) or decreased (4%, n=2) in this time.

Comparing purchase prices reported in the 2005 and 2006 IDRS studies, there are mixed trends for crystal methamphetamine purchases. Price ranges for small amounts have trended downward since the 2005 study ($50-80 per 'point' in 2005 and $40-80 in 2006), and modal purchase price for gram purchases have dropped from $340 in 2005 to $300 in 2006. The upper-bound of the purchase price range, however, appears to have increased for both half-gram and gram purchases since 2005 (half-grams rising from $120-275 to $120-300 in 2006, grams rising from $240-400 in 2005 to $300-480 in 2006: Table 17 and Figure 15). However, with the exception of half-gram purchases, reasonably small numbers of participants reported on crystal methamphetamine purchases, so trends for this form should be interpreted judiciously.

Figure 15: Median prices of crystal methamphetamine/ice estimated from IDU purchases, 2001-2006



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

Pharmaceutical Stimulants

Only a single consumer could confidently report on the typical market price for 5mg dexamphetamine tablets, suggesting that this ranged between $5 and $10. The median and modal price that consumers reported as most recently paying for 5mg dexamphetamine tablets was $5 (range $2-10, n=17). No reports of market price for methylphenidate preparations were given, however recent median and modal purchase prices for 10mg methylphenidate preparations (Attenta and Ritalin) was also $5 (range $2-30, n=12: Table 17).

Forty-six percent of consumers (n=13) able to report on price changes for pharmaceutical stimulants perceived no changes in the preceding six months. However, a notable minority of consumers perceived increases in the price of pharmaceutical stimulants (18% of those able to comment, n=5). Only small proportions of participants perceived recent decreases in the price of pharmaceutical stimulants (4%, n=1).

General Trends

Tasmania Police area drug bureaux gather regular information regarding current prices of illicit drugs through informant reports and covert drug purchases. 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 Australian Crime Commission). Data for the 2005/06 financial year was not available at the time of publication. During the 2004/05 financial year, Tasmania Police reported prices as being $50 per 'point' (0.1g) of methamphetamine, $400-500 per two grams, and $5000 per ounce (Table 18). Although the 2005/06 data was not available at the time of publication, when reviewing price trends over a longer time period, there is evidence to support IDU suggestions that the price of methamphetamine has remained stable. It should be noted that the prices reported in Table 18 for the 2003/04 financial year are 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 17: Most common amounts and prices of methamphetamine purchased by IDU, 2000-2006

Descriptor*	2000 Survey Modal Price *(range in parentheses)*	n	2001 Survey Modal Price *(range in parentheses)*	n	2002 Survey Modal Price *(range in parentheses)*	n	2003 Survey Modal Price *(range in parentheses)*	n	2004 Survey Modal Price *(range in parentheses)*	n	2005 Survey Modal Price *(range in parentheses)*	n	2006 Survey Modal Price (range in parentheses)	n
Crystal methamphetamine														
'point' or packet (0.1 g)	#	#	#	#	$50 *($20-120)*	*12*	$50 *($20-70)*	*49*	$50 *($30-80)*	*34*	$50 *($50-80)*	*24*	$50 *($40-80)*	*13*
half-gram (0.5 g)	#	#	#	#	$275 *($200-275)*	*3*	$195† *($190-300)*	*4*	$200 *($180-250)*	*6*	$150 *($120-275)*	*13*	$150 *($120-300)*	*25*
gram (1.0 g)	#	#	#	#	$400	*1*	$350† *($150-500)*	*8*	$400* *($280-500)*	*7*	$340* *($250-400)*	*6*	$300 *($300-480)*	*7*
Methamphetamine base/paste#														
'point' or packet (0.1 g)	$50 *($40-100)*	*52*	$50 *($50-80)*	*34*	$50 *($25-80)*	*66*	$50 *($50-80)*	*24*	$50 *($35-80)*	*45*	$50 *($30-80)*	*56*	$50 *($20-70)*	*23*
half-gram (0.5 g)	$250 *($150-250)*	*3*	$150 *($50-400)*	*18*	$200 *($80-400)*	*32*	$200 *($150-400)*	*8*	$200 *($100-250)*	*21*	$150 *($150-400)*	*38*	$150 *($140-200)*	*25*
gram (1.0 g)	$350 *($280-400)*	*8*	$400 *($80-450)*	*17*	$400	*29*	$300† *($200-400)*	*6*	$300 *($200-350)*	*7*	$300 *($150-400)*	*18*	$300 *($250-300)*	*11*
Methamphetamine powder														
'point' or packet (0.1 g)	-	-	$50 *($40-80)*	*15*	$50 *($50-60)*	*12*	$50 *($40-80)*	*27*	$50 *($40-50)*	*34*	$50 *($30-50)*	*54*	$50 *($30-50)*	*20*
half-gram (0.5 g)	$50	*3*	$50 *($50-60)*	*4*	$50 *($50-800)*	*10*	$70† *($50-200)*	*4*	$160* *($30-250)*	*16*	$150 *($100-200)*	*36*	$150 *($80-200)*	*26*
gram (0.8 g)	$80 *($50-100)*	*6*	$50 *($50-100)*	*5*	$80 *($50-450)*	*18*	$215† *($80-400)*	*8*	$300 *($50-350)*	*10*	$300* *($250-350)*	*15*	$300 *($250-300)*	*8*
Pharmaceutical stimulants														
dexamphetamine tablet (5 mg)	-	-	$5 *($1-10)*	*29*	$2 *($2-5)*	*5*	$5 *($1-10)*	*40*	$5 *($0-15)*	*52*	$4* *($0.6-9)*	*28*	$5 *($2-10)*	*17*
methylphenidate tablet (10 mg)	-	-	$5 *($2-10)*	*14*	-	-	$5 *($1-10)*	*23*	$5 *($0-10)*	*12*	$5 *($2-15)*	*16*	$5 *($2-30)*	*12*

Source: IDRS IDU interviews *Note: Common quantities and weight range for each purchase unit in parentheses, †Median price was substituted where no single mode was reported. #Note: Prior to 2002, higher purity methamphetamine was not separated into 'crystal' and 'base/paste' forms; as base/paste methamphetamine was the predominant form of higher purity methamphetamine available on the market during these years, prices have been allocated to this form; however, due caution should be made when inferring price changes based on these data.

Table 18: Methamphetamine prices in Tasmania reported by the Tasmania Police Drug Bureau, 1997-2006

	Point (~0.1g)	Street gram (0.6-0.8g)	Full gram (1.0g)	Ounce (28 gms)
July-Sept 1997	*price not reported*	$50	$100-120	$1200-1400
Oct-Dec 1997	*price not reported*	$50	$100-120	$1400-1600
Jan-Mar 1998	*price not reported*	$50	$70-100	$1400-1600
April-June 1998	*price not reported*	$50	$70	$1400-1600
July-Sept 1998	*price not reported*	*price not reported*	*price not reported*	*price not reported*
Oct-Dec 1998	*price not reported*	$50	$70-80	$1200-1400
Jan-Mar 1999	*price not reported*	$50	$70-80	$1200-1400
April-June 1999	*price not reported*	$50	$70-80	$1200-1400
July-Sept 1999	$50	*price not reported*	*price not reported*	*price not reported*
Oct-Dec 1999	$50	$50	$70-80	$1200-1400
Jan-Mar 2000	$40-50	$40-50	$70-80	$1200-1400
April-June 2000	$40-50	$40-50	$70-80	$1200-1400
July-Sept 2000	$40-50	$40-50	$70-80	$1200-1400
Oct-Dec 2000	*price not reported*	$40-50	$70-80	$1200-1400
Jan-Mar 2001	$40-50	$40-50	$70-80	$1200-1400
April-June 2001	$40-50	$40-50	$70-80	$1200-1400
July-Sept 2001	$40-50	$40-50	$70-80	$1200-1400
Oct-Dec 2001	$40-50	$40-50	$70-80	$1200-1400
Jan-Mar 2002	$40-70	$40-50	$70-80	$1200-1400
April-June 2002	$40-70	$40-50	$70-80	$1200-1400
July-Sept 2002	$50-60	*price not reported*	*price not reported*	*price not reported*
Oct-Dec 2002	$50-60	*price not reported*	*price not reported*	$3500-5000
Jan-Mar 2003	$50	$100-300	$200-300	$5000
April-June 2003	$50	$150	$400	$5000-6000
July-Sept 2003	$50-70*	$100-300	$300-600*	$3000-10000*
Oct-Dec 2003	$50-70*	$100-300	$300-600*	$3000-10000*
Jan-Mar 2004	$50-70*	$100-300	$300-600*	$3000-10000*
April-June 2004	$50-70*	$100-300	$300-600*	$3000-10000*
July-Sept 2004	$50†	*price not reported*	*price not reported*	$5000
Oct-Dec 2004	$50†	*price not reported*	*price not reported*	$5000
Jan-Mar 2005	$50†	*price not reported*	*price not reported*	$5000
April-June 2005	$50†	*price not reported*	*price not reported*	$5000
July-Sept 2005	**	**	**	**
Oct-Dec 2005	**	**	**	**
Jan-Mar 2006	**	**	**	**
April-June 2006	**	**	**	**

Source: Australian Crime Commission; Tasmania Police State Intelligence Services **Note: Data for 2005/06 financial year not available at time of publication. *Note: These prices are those reported by Tasmania Police State Intelligence Services. For this period, the Australian Crime Commission reported the following prices: $50-60 per 0.1g; $200-400 per 1.0g; $3500-6000 per ounce; †Note: In the 2004/05 report, financial year prices only were reported, but are displayed in the above table in quarters for consistency with previous years. Additionally, in the 2004/05 financial year period, the Australian Crime Commission reported the following prices not included in the table: $400-500 per 2 grams; $800 per 3.5 grams; $1600 per 7 grams.

Table 19: Tasmania Police data for methamphetamine: July 2000-June 2005

	Jul-Dec 2000	Jan-Jun 2001	Jul-Dec 2001	Jan-Jun 2002	Jul-Dec 2002	Jan-Jun 2003	Jul-Dec 2003	Jan-Jun 2004	Jul-Dec 2004	Jan-Jun 2005
Methamphetamine powder seized (g)*										
South	1113	330	469	1077	882	457	96	495	489	1472
North	17	86	70	1	196	27	23	44	36	114
West	1073	411	822	602	144	316	469	55	9	163
Total	2203g	827g	1361g	1680g	1222g	800g	588g	594g	534g	1749g
% within southern region	*51%*	*40%*	*34%*	*64%*	*72%*	*57%*	*16%*	*83%*	*92%*	*84%*
Methamphetamine tablets seized										
South	2	0	1	1	24	21	146	0	0	8
North	4	17	0	0	13	11	43	3	12	206
West	0	0	0	42	1	0	0	0	0	35
Total	6	17	1	43	38	32	189	3	12	249
% within southern region	*33%*	*0%*	*100%*	*2%*	*63%*	*66%*	*77%*	*100%*	*0%*	*3%*
Price in southern district										
Taste	$40-50	$40-50	$40-50	$40-70	n/r	n/r	$50-70	$50-70	$50	$50
Gram	$70-80	$70-80	$70-80	$70-80	n/r	n/r	$300-600	$300-600	n/r	n/r

Source: Tasmania Police State Intelligence Services * This row includes powder seized and verified as containing methamphetamine, and unknown powder seized, believed to be methamphetamine; n/r: information was not available for inclusion in the current report.

5.2 Availability

Across all 'forms' of methamphetamine, most KE and IDU reporting on availability considered that the drug was 'easy' or 'very easy' to obtain (IDU: 'very easy' 33%, 'easy' 55%; KE: 'very easy' 75% (n=7); 'easy' 25% (n=2)), and that availability had remained stable (IDU: 69%; KE: 64% (n=7)) or had increased (IDU: 14%, KE: 18% (n=2)) in the preceding six months. Trends for each 'form' of the drug are discussed separately below.

Methamphetamine Powder

Almost all IDU sampled who could comment on the availability of powder form methamphetamine thought that it was 'easy' or 'very easy' to obtain (92%, n=47: 'easy' 49%, 'very easy' 43%). The clear majority also reported that the availability of powder methamphetamine had remained stable in the preceding six months (71%, n=36), with small numbers considering that it had either increased in availability (14%, n=7), decreased (4%, n=2), or availability had fluctuated (10%, n=5) in this time. While only one key expert could report on availability of methamphetamine powder, this report was consistent with those of the consumers,

who regarded it as 'very easily' accessed in the preceding six months and considered availability to be stable in this time.

Base/Paste Methamphetamine

In regards to 'base/paste' methamphetamine, remarkably similar trends were reported, with 91% (n=47) reporting it was 'easy' (31%, n=16) or 'very easy' (60%, n=31) to obtain. Just 6% (n=3) regarded it as 'difficult' to access base/paste methamphetamine in recent months. Again, most regarded this level of availability as remaining stable in the six months prior to interview (67%, n=35). Small numbers of participants reported that availability had increased (12%, n=6), decreased (4%, n=2) or had fluctuated (8%, n=4). No key experts commented specifically on this form of methamphetamine.

Crystalline Methamphetamine

Forty-nine percent of participants were able to comment on availability of crystalline methamphetamine (n=49). Use of this form of the drug among regular IDU consumers surveyed in the IDRS has changed substantially in the past four surveys, with crystal methamphetamine being very uncommonly accessed by consumers in 2002, and the majority of those reporting on availability considered it as 'difficult' or 'very difficult' for them to access (Figure 16 below). However, in 2003, there were clear indications that the availability of this form of the drug had increased substantially, with a marked increase in the proportion of those sampled reporting recent use (rising from 20% of the IDU cohort in 2002 to 68% in 2003: Figure 21), and with 86% of those responding suggesting that it was 'easy' (35%) or 'very easy' (51%) for them to access this form at that time. However, in 2004, it appeared that this trend had somewhat reversed: the proportion of consumers reporting recent use had declined markedly (68% of the sample in 2003, 52% in 2004) and only 18% perceived that it was 'very easy' for them to access crystal methamphetamine in the preceding six months, with 44% reporting that it was 'easy' for them to access this form. This change may have been associated with several arrests made by Tasmania Police of individuals involved in a primary supply chain for the drug into the state in December 2003. The 2005 study reported that availability of crystalline methamphetamine had remained similar or possibly somewhat further declined, with 50% of the cohort reporting recent use in the months preceding the study, and reduced proportions reported the drug as either 'easy' (32%) or 'very easy' (11%) to access. In 2006, a small increase in the number of participants reporting recent crystal methamphetamine use was observed (50% in 2005 and 56% in 2006). Availability reports had also increased, with 73% reporting that the drug was 'easy' (51%, n=25) or 'very easy' (22%, n=11) to access in the preceding six months, compared with 43% in the 2005 study.

Most of those consumers reporting on availability of crystal methamphetamine suggested that there had been no recent changes in availability (63% of those reporting, n=31), with substantial minorities reporting increasing (14%, n=7) or decreasing (10%, n=5) availability in the six months prior to interview. Of the key experts who were able to report on availability trends for crystal methamphetamine, it was reported as 'easy' or 'very easy' for consumers to access (n=1 respectively), with mixed reports regarding availability trends over the preceding six months, 25% (n=1) each reporting the trend to be stable, easier to access, more difficult to access or fluctuating.

Pharmaceutical Stimulants

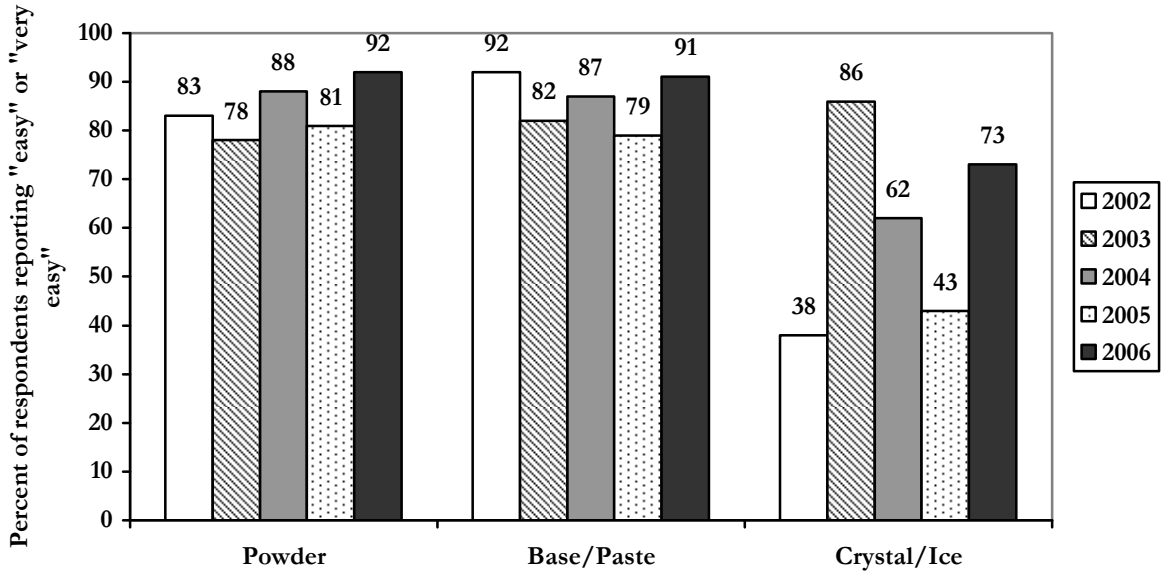
Consumers had mixed reports on the level of availability of pharmaceutical stimulants (dexamphetamine, methylphenidate), with just over half of those who commented (53%, n=15) considering these as 'easy' (32%, n=19) or 'very easy' (21%, n=6) to access in the preceding six

months, and 29% (n=8) considering them as 'difficult' to access (28% of the 2006 cohort who were able to answer this section of the survey reported they "don't know" about availability).

General Trends

As can be seen in Figure 16 below, IDU consumer reports of increasing availability of powder methamphetamine in 2006 has occurred. Since 2002, some fluctuations in the reported ease of availability has occurred, however, this form of the drug has remained easily accessible across all the studies. Availability of 'base/paste' methamphetamine also appears to have fluctuated across the past five surveys, although has remained easily accessed by consumers throughout this period. Availability reports for crystalline methamphetamine have been more variable, having increased in the most recent study to 73% of consumers reporting access to be 'easy' or 'very easy', from just 43% in 2005, a decrease from 2004, in which 62% reported 'easy' or 'very easy' access. Despite these changes, similar levels of recent use were recorded for the past three years.

Figure 16: IDU reports of ease of availability of different methamphetamine forms: 2002-2006



Source: IDRS IDU interviews

Table 20: Participants' reports of methamphetamine availability in the past six months, 2005-2006

	Powder		Base		Ice	
	2005 (N=100)	2006 (N=100)	2005 (N=100)	2006 (N=100)	2005 (N=100)	2006 (N=100)
Current availability						
Did not respond* (%)	21	49	20	48	56	51
Did respond (%)	79	51	80	52	44	49
Of those who responded:						
Very easy (%)	39	43	38	31	11	22
Easy (%)	42	49	41	60	32	51
Difficult (%)	8	8	15	6	25	20
Very difficult (%)	1	-	-	2	11	4
Don't know^ (%)	10	-	6	2	21	2
Availability change over the last six months						
Did not respond* (%)	21	49	20	48	56	51
Did respond (%)	79	51	80	52	44	49
Of those who responded:						
More difficult (%)	6	4	16	4	11	10
Stable (%)	53	71	56	67	32	63
Easier (%)	23	14	16	12	18	14
Fluctuates (%)	3	10	1	8	5	6
Don't know^ (%)	15	2	10	10	34	6

Source: IDRS IDU interviews

* 'Did not respond' refers to participants who did not feel confident enough in their knowledge of the market to respond to survey items

^ 'Don't know' refers to participants who were able to respond to survey items on price and/or purity, but had not had enough contact with users/dealers to respond to items concerning availability

There does not appear to be a substantial street-based methamphetamine scene, with the majority of IDU usually purchasing the drug (over all forms) through known dealers (61%, n=93), friends (28%, n=43) and acquaintances (13%, n=20: Table 21). This marks a shift from 2005, in which 35% of the IDU cohort reported accessing methamphetamines through mobile dealers, whereas in 2006, just 1% of participants reported this (n=1)[10]. Participants were also asked to report on the source venue for purchases of methamphetamines; 43% (n=66) reported purchasing any form at an agreed public location; 33% from a dealer's home (n=51), 21% from a friend's home (n=32) and 18% from home delivery (n=27: Table 22).

Participants reported that methamphetamine powder was most commonly purchased in the preceding six months through known dealers (66%) and friends (24%), with a minority purchasing from acquaintances (14%). Venues most commonly reported to be used for the purchase of methamphetamine powder were agreed public locations (45%), a dealer's home (35%), home delivery (22%) and from friends' homes (20%). Small minorities reported purchasing from a street market (4%), mobile dealer and acquaintances' homes (2% respectively). Similar pathways to access were reported for 'base/paste' methamphetamine, with 65% of those consumers that had recently purchased the drug reporting most commonly purchasing from a known dealer (65%), and less frequently from friends (28%). Sixteen percent reported purchasing base/paste methamphetamine through acquaintances, and smaller minorities purchased from a street dealer or received it as a gift from friends (4% respectively). Source venues most commonly reported were from a dealer's home (39%), friend's home (21%), and home delivery (17%).

Crystal methamphetamine was again most commonly purchased through known dealers (55%) and friends (35%), with smaller minorities purchasing from acquaintances (10%), workmates or as a gift from friends (2% respectively). Source venues for purchase of crystal methamphetamine were most commonly reported to be an agreed public location (41%), a dealer's home (27%), and a friend's home (22%). Smaller minorities reported recent purchases within their own homes, in the form of home delivery (14%), or in a car (8%), street market (4%) and in an acquaintance's home (2%).

Table 21: People from whom methamphetamines were purchased in the preceding six months, 2006

Source person	Powder n=50 %*	Base/Paste n=51 %*	Crystal n=49 %*
Friends	24	28	35
Known dealers	66	65	55
Acquaintances	14	16	10
Sent directly from other Australian jurisdictions	-	-	4

Source: IDRS IDU interviews. * Multiple responses allowed

[10] It should be noted that there have been additional options added to this question in the 2006 survey which may have contributed to this change.

Table 22: Locations where methamphetamines were scored in the preceding six months, 2006

Source venue	Powder n=51 %*	Base/Paste n=52 %*	Crystal n=49 %*
Friend's home	20	21	22
Dealer's home	35	39	27
Agreed public location	45	-	41
Home delivery	22	17	14
Mobile dealer	2	-	-
Street Market	4	-	4

Source: IDRS IDU interviews * Multiple responses allowed

5.3 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 form methamphetamine, the largest proportion of consumers that were able to comment considered this as 'low' in subjective purity in the preceding six months (33%, n=17). However, there was quite a range of opinions, with large proportions considering this form as 'medium' in subjective purity (28%, n=14) or that purity had fluctuated in the preceding six months (31%, n=16), with a smaller proportion of respondents considering this drug form to have been 'high' in subjective purity in this time (6%, n=3). There were also very mixed reports in regard to the stability of the purity level of this form of the drug in the preceding six months, with just under one-third of those responding suggesting that purity fluctuated (31%, n=61). Sixteen percent of participants reported that purity had decreased (n=8), and smaller proportions reported that powder methamphetamine had either increased in purity or remained stable (8%, n=4 respectively). One key expert was able to report on the purity level of the powder methamphetamine available to the consumers they were familiar with, suggesting that this fluctuated in subjective purity and that this was the ongoing situation in the preceding six months.

While there was again some mix of opinions when consumers were asked to nominate the subjective purity level of 'base/paste' methamphetamine, the majority of those confident in commenting perceived this as 'fluctuating' (31%, n=16), 'medium' (29%, n=15) or 'high' (25%, n=13) in the preceding six months, with only a small proportion suggesting that this form was 'low' in purity (12%, n=6) in recent months. The largest proportion of consumers that were able to comment, perceived this level of purity as fluctuating in the preceding six months (53%, n=27), with one-fifth reporting stable purity levels (20%, n=10), 8% (n=4) reporting decreasing purity levels and 6% (n=3) reporting increasing purity levels. No key experts were able to comment on purity of 'base/paste' methamphetamine.

Reported purity trends for crystalline methamphetamine also varied greatly, with this form of the drug predominantly regarded as 'high' in subjective purity in the preceding six months by consumers (51%, n=25), with smaller proportions considering it to be fluctuating (25%, n=12), 'medium' (20%, n=10) or 'low' (2%, n=1) in this time. The largest proportion of those consumers able to comment felt that the subjective purity level of crystal methamphetamine had fluctuated in the preceding six months (43%, n=21), with one-quarter perceiving an increased purity in this time (25%, n=12), and 18% (n=9) reporting stable purity. A small minority suggested that purity had decreased (4%, n=2) recently. The one key expert able to confidently

comment on purity felt that the crystalline methamphetamine used by the consumers they were familiar with was 'high' in subjective purity, and this had remained stable in recent months.
Figure 17 displays the proportion of those reporting on purity levels of the different 'forms' of methamphetamine in the past five years of the Tasmanian IDRS studies. This figure suggests that there has been little change in overall reports of subjective purity for powder form methamphetamine in this time, the most noticeable change being a minor decrease in perceived levels of 'high' purity in 2006. 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 has been decreasing since then to 25% in 2006. Consumer reports on subjective purity of crystal methamphetamine have varied in recent surveys, with the vast majority considering this form as 'high' in purity in 2003 (75%), the year when local availability of the drug was at its highest, and the proportion of consumers considering this form of the drug as high in subjective purity dropped to 49% in 2004, a year when availability had markedly reduced as well (see Section 5.2). 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. In 2006, reported availability had increased, however, only half of the participants who commented reported that purity was 'high' (51%, n=25).

Data for purity of methamphetamine received at police analytical laboratories have been provided for the 1997/98 to 2004/05 financial years (Tables 23 and 24). All amphetamine-type stimulants seized in Tasmania and tested for purity during 2003/04 and 2004/05 were methamphetamine rather than amphetamine. Drugs seized by Tasmania Police are only tested for composition and purity if the alleged offender pleads not guilty to the associated charge. Hence, purity data for drug seizures in the state are minimal. This very restricted sample size renders it difficult to make inferences about trends in purity of methamphetamine. However, the data do seem to suggest that the level of purity of consumer-type amounts of methamphetamine seized in Tasmania had remained relatively stable over the period 1997/98 to 2000/01. The apparent sharp 'jump' in purity of analysed methamphetamine samples between 2000/01 and 2001/02 related to samples analysed in the October-December 2001 and January-March 2002 period (Table 24). This increase in purity may have simply reflected the analysis of a more representative sampling of methamphetamine seizures (afforded by the greater sample size) rather than being indicative of changes in market purity, particularly given the decline in both number and purity of analysed seizures in subsequent months (Table 24). Overall purity data in 2004/05 represent an increase in purity (32.3%) when compared to those analysed in the previous year (16.9%: Table 23), and are in line with IDU reports of 'medium' purity levels overall for the two most commonly used forms of the drug. 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 previously years, been higher in purity than seizures of larger amounts (purity range of 2-81% for seizures of 2 grams or less, and 4-22% for larger seizures analysed in 2003/04). While, again, it is difficult to make inferences from such a small number of analysed seizures, it is notable that the purity range of analysed seizures, which has been steadily increasing in recent years (0.5-50% in 2000/01; 0.1-70.6% in 2001/02; 1.9-78.5% in 2002/03; 2.4-80.5% in 2003/04), had declined in 2004/05 (18.5-35.5%). The particularly high-purity seizures in previous years are unusual by national standards (ACC, 2005) and may reflect the selection of particularly unusual seizures of the drug for analysis by police[11].

[11]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.

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 organised motorcycle groups or particular criminal groups, via post, or domestic sea or air terminals.

Law enforcement professionals interviewed in the 2005 study suggested that methamphetamine importation into the state had remained at a similar level in recent years; however, according to reports from law enforcement professionals in both 2005 and 2006, there have been indications in recent years that local production of methamphetamine may be increasing. This is also supported by data regarding interceptions of illegal methamphetamine production laboratories (also called 'clan' 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, and one in 2003/04. Law enforcement key experts participating in the current study reported an ongoing increase in such laboratory detections over the past two to three years. The methamphetamine produced in these 'laboratories' is based on pharmaceutical pseudoephedrine (a situation unchanged from previous years), and pharmacy-grade reagents (iodine in particular) are often used in the production of the drug. This pseudoephedrine is accessed from individuals purchasing a small number of boxes of the drug (a common component of cold-relief medication) from a large number of pharmacies.

In both the 2003 and 2004 studies, law-enforcement key experts reported that there is 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. Certainly, given that the majority of pharmaceutical products containing pseudoephedrine are combination drugs, the refinement process required to produce the highly pure crystalline form of methamphetamine would be exceptionally complex and require a detailed understanding of organic chemistry, a skill level which is not required for the production of powder or base/paste methamphetamine.

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 23: Purity of seizures of methamphetamine made by Tasmania Police received for laboratory testing, 1997/98-2005/06

	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
≤2g									
n	*4*	*31*	*9*	*10*	*20*	*30*	*9*	*10*	*
avg % purity	5 %	5 %	7.4 %	10.4%	26.6%	12.7%	25.6%	32.3%	*
>2g									*
n	*2*	*8*	*11*	*14*	*28*	*13*	*14*	-	*
avg % purity	7 %	21 %	6.6 %	3.6 %	19.2%	11.2%	9.8%	-	*
Total									*
n	*6*	*39*	*20*	*24*	*48*	*43*	*23*	*10*	*
avg % purity	**6 %**	**8 %**	**7 %**	**6.4 %**	**22.2%**	**12.2%**	**16.9%**	**32.3%**	*
Range in % purity	3-8%	2-59%	2-26%	0.5-50%	0.1-70.6%	1.9-78.5%	2.4-80.5%	18.5-35.5%	*

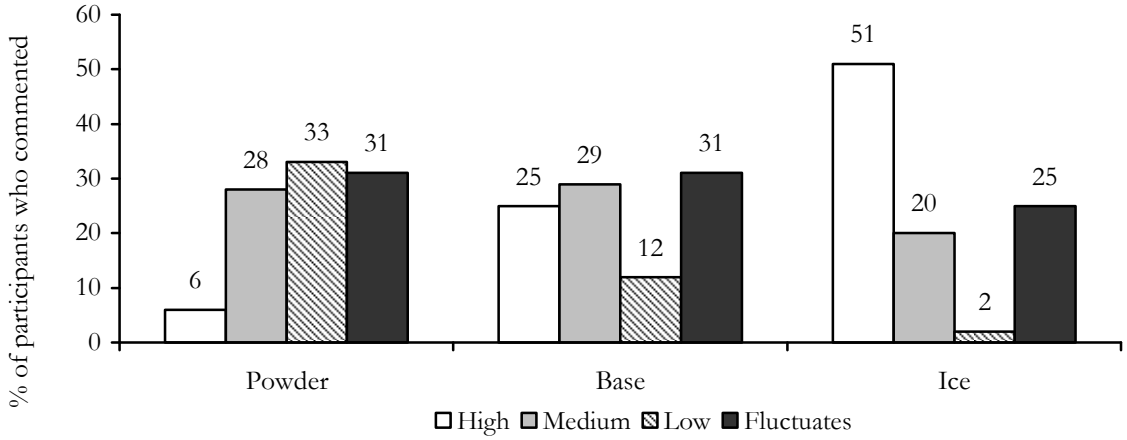
Source: Australian Bureau of Criminal Intelligence; Australian Crime Commission; Tasmania Police State Intelligence Services. *Note: 2005/06 data not available at the time of publication. No seizures made by the Australian Federal Police in the state were analysed between 1997/98 and 2004/05. All analysed seizures of amphetamines in this period revealed methamphetamine rather than amphetamine.

Table 24: Purity of Tasmanian seizures of methamphetamine made by Tasmania Police received for laboratory testing, by quarter, January 2001-June 2006

	Jan-Mar 2001	Apr-Jun 2001	Jul-Sep 2001	Oct-Dec 2001	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	Jul-Sep 2005	Oct-Dec 2005	Jan-Mar 2006	Apr-Jun 2006
≤2g																						
n	*9*	*1*	*1*	*6*	*12*	*1*	*3*	*4*	*4*	*19*	*2*	*2*	*4*	*1*	*10*	-	-	-	*	*	*	*
median % purity	3.2%	5.2%	9.0%	31.1%	26.0%	6.7%	6.4%	5.9%	13.1%	13.1%	40.0%	28.4%	50.6%	16.9%	32.3%	-	-	-	*	*	*	*
>2g																			*	*	*	*
n	*12*	*2*	*6*	*7*	*13*	*2*	*1*	*4*	*7*	*1*	*8*	*1*	*5*	-	-	-	-	-	*	*	*	*
median % purity	3.8%	3.1%	5.5%	30.1%	20.0%	18.5%	6.3%	10.4%	12.8%	7.6%	17.4%	15.4%	4.1%	-	-	-	-	-	*	*	*	*
Total																			*	*	*	*
n	*21*	*3*	*7*	*13*	*25*	*3*	*4*	*8*	*11*	*20*	*10*	*3*	*9*	*1*	*10*	-	-	-	*	*	*	*
avg % purity	3.4%	4.3%	6.8%	30.1%	24.9%	6.7%	6.4%	10.4%	12.8%	13.0%	17.4%	25.6%	4.1%	16.9%	32.3%	-	-	-	*	*	*	*

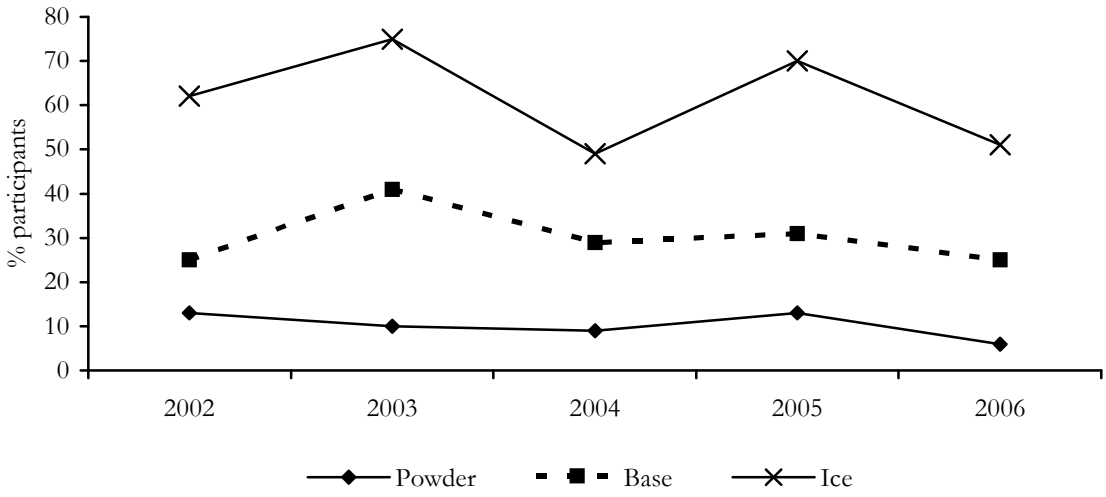
Source: Australian Bureau of Criminal Intelligence; Australian Crime Commission; Tasmania Police State Intelligence Services. Note: * = 2005/06 data not available at the time of publication; - = no seizures in this period. No seizures made by the Australian Federal Police in Tasmania were submitted Oct/Dec 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 interim between the date of seizure by police and the date of receipt at the laboratory may vary between one day and several months.

Figure 17: Participant perceptions of methamphetamine purity (speed powder, base and ice), among those who commented, 2006



Source: IDRS IDU interviews

Figure 18: Proportion of participants reporting speed powder, base and ice purity as 'high', among those who commented 2002-2006



Source: IDRS IDU interviews

NB: Data on all three forms commenced in 2002.

5.4 Use

5.4.1 Prevalence of methamphetamine use

The most recent survey of methamphetamine use within the general community of Tasmania was undertaken within the 2004 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2005), which sampled 1208 Tasmanian residents aged 14 and over. These results indicated that 1.8% (n~22) had used the drug in the 12 months prior to interview. This is lower than the rate nationally (3.2%) in the 2004 survey, and similar to the findings of the 2001 survey, where 2.1% of those sampled in Tasmania (from a sample of 1,349) reported use of the drug in the preceding year. 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 proportion of those sampled in the 1998 survey (Australian Institute of Health and Welfare, 1999; sample size = 1,031) reporting use of the drug in the year prior to interview was very similar, at 1.6%. These very slight differences in the 'prevalence' of methamphetamine use across these studies (1.6% of those aged 14 and above in 1998; 2.1% in 2001 and 1.8% in 2005) are within the standard statistical error range for these studies and as such are unlikely to be reflective of meaningful changes in the extent of the use of these drugs in the population.

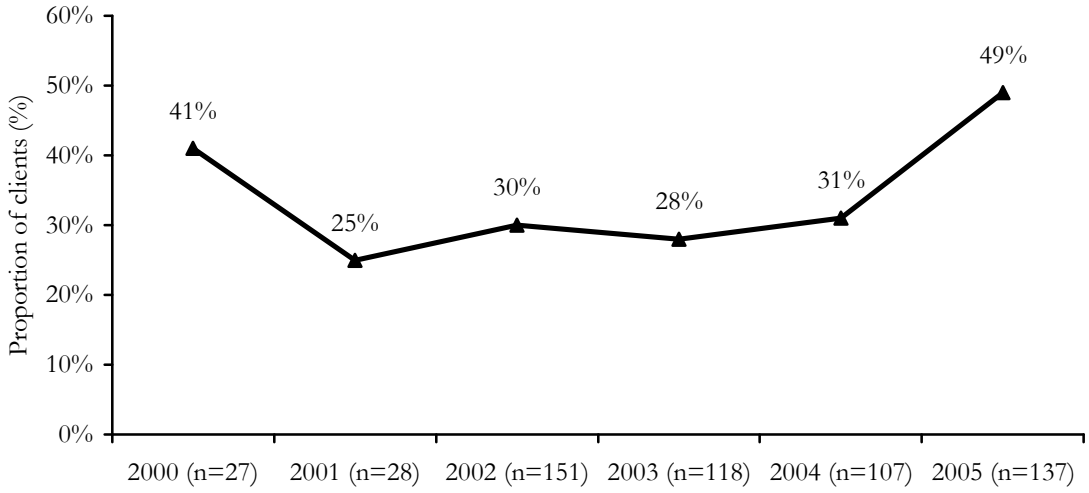
5.4.2 Methamphetamine use in particular populations

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 2005/06 (only single cases were identified in 2004/05 and 2005/06, being less than 1% in 2004/05 and less than 2% in 2005/06 of all positive urine screens in this period). These figures may underestimate the level of use amongst this group, however, due to the relatively rapid elimination of this drug from the body.

5.4.3 Methamphetamine use among IDU participants

The Australian Needle and Syringe Program Survey (Thein, Maher & Dore, 2004; Thein, White, Shourie & Maher, 2005; Glenday, Li & Maher, 2006: National Centre in HIV Epidemiology and Clinical Research on behalf of the Collaboration of Australian Needle and Syringe Programs) take an annual one-week survey of individuals presenting to Needle Availability Program outlets. Those that participate in the survey are asked, among other things, the last drug they injected. In the 1997 and 1998 surveys, methamphetamine was the last drug injected of around 30% of the Tasmanian participants (Figure 19). In subsequent years, the proportion reporting recent methamphetamine use varied substantially: 20% in 1999, rising to 41% in 2000, and falling again to 25% in 2001. Between 2002 and 2004, the proportion of people reporting methamphetamine as the last drug injected returned to similar levels seen in 1997 and 1998 (30% in 2002, 28% in 2003 and 31% in 2004). In 2005, consistent with trends seen in the IDRS IDU cohort and among clients of the state's Needle Availability Program, the proportion of survey participants reporting methamphetamines as the last drug injected increased to 49% of the cohort. However, given that the pre-2002 studies only sampled small numbers of clients (23, 51, 25, 27, 28 clients respectively for the 1997-2001 studies, and 151, 118, 107 and 137 clients respectively in the 2002, 2003, 2004 and 2005 surveys), such small sample sizes render it difficult to make any reliable inferences regarding trends in use.

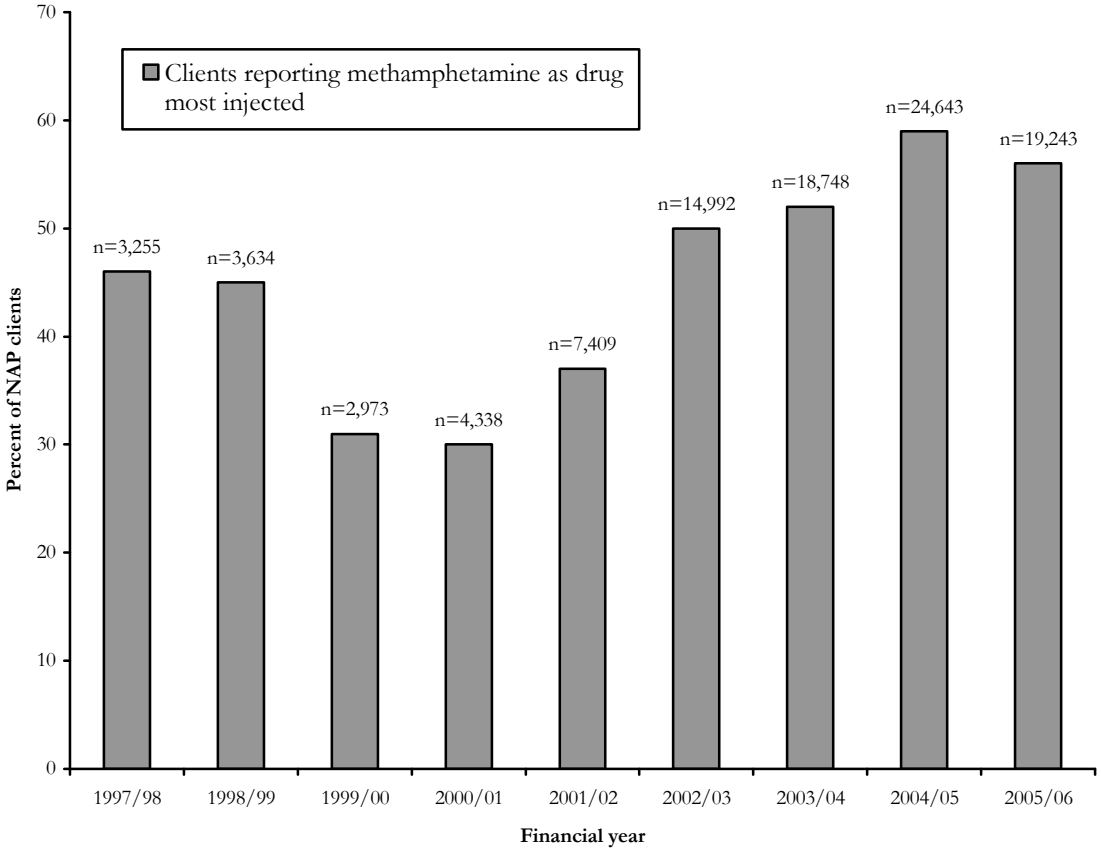
Figure 19: Australian Needle and Syringe Program Survey: Prevalence of methamphetamines as 'last drug injected', 2000-2005



Source: Thein, Maher & Dore (2004); Thein, White, Shourie & Maher (2005); Glenday, Li & Maher (2006)

Since 1997, clients of non-pharmacy Needle Availability Program outlets have been asked which drug they mostly inject. While methamphetamine has been the most commonly reported single drug used for the past 5 years, the proportion of NAP clients reporting methamphetamine as the drug they most commonly use was in steady decline from 56% in 1996/97 to 30% in 2000/01 (Figure 20). However, this trend was reversed between the 2001/02 and 2004/05 financial years, with proportions increasing from 37% in 2001/02, 50% in 2002/03, 52% in 2003/04, and 59% in 2004/05. In 2005/06, a small decrease was reported, with 56% of participants reporting methamphetamines. 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 NAP clients, predominantly those larger, inner-city outlets, which are biased toward regular, opiate consumers- in recent years, this figure has risen to around 90% of non-pharmacy clients. As such, recent data may be somewhat more representative and the apparent recent increase in proportions of NAP clients reporting methamphetamine use in the past four financial years, in contrast to trends over preceding years, may simply reflect this more consistent level of reporting across NAP outlets. Secondly, a recent study has estimated that approximately 15% of all injection equipment distributed on a monthly basis is distributed through pharmacy-based outlets (Bruno, 2004, unpublished), where no client data are collected. This proportion may have increased over 2006, as the only 24-hour NAP program in Hobart closed in February 2006, which recorded on average more than 1,200 transactions per month. No increases in transactions recorded by other non-pharmacy NAP have been observed since this closure; therefore, it is possible that many of these transactions are now occurring in pharmacy-based outlets. However, given that the clear bulk of injection equipment distributed through pharmacy outlets (1mL barrels) is appropriate for methamphetamine injection (and not for pharmaceutical opiates, 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 20 is likely to be an underestimation of the true proportion of methamphetamine injection amongst Tasmanian IDU.

Figure 20: Proportion of Tasmanian non-pharmacy Needle Availability Program clients reporting methamphetamine as 'drug most often injected', 1997/98-2005/06

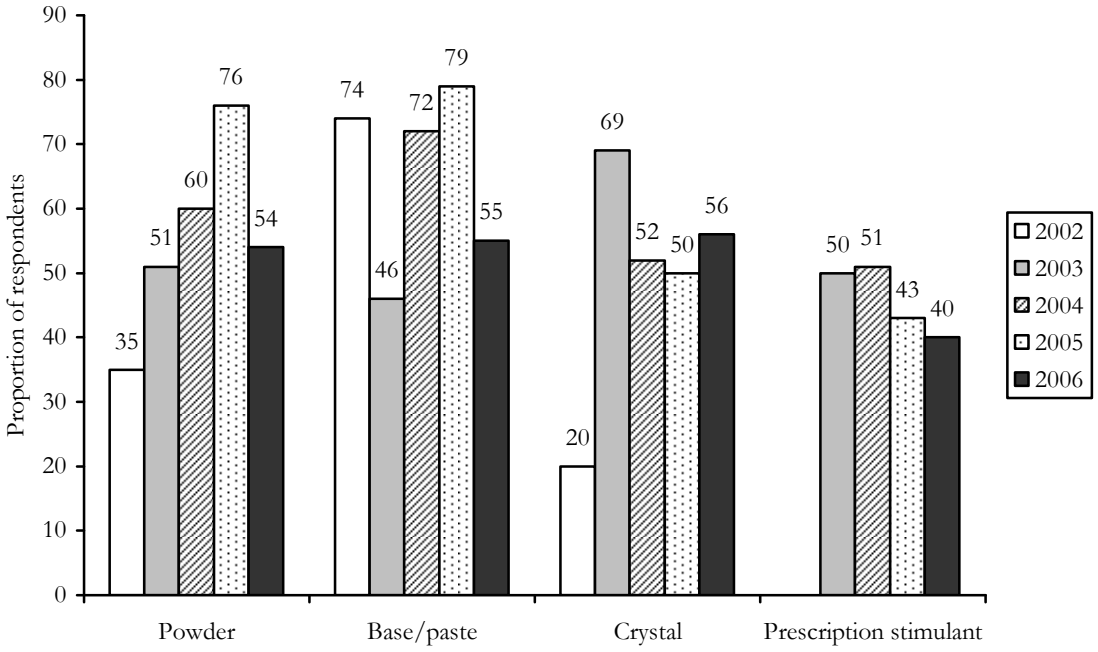


Source: Sexual Health, Department of Health and Human Services. *Note: These figures include some estimated data for a number of services, based on average monthly client transactions, where data were missing.

5.4.4 Current patterns of methamphetamine use

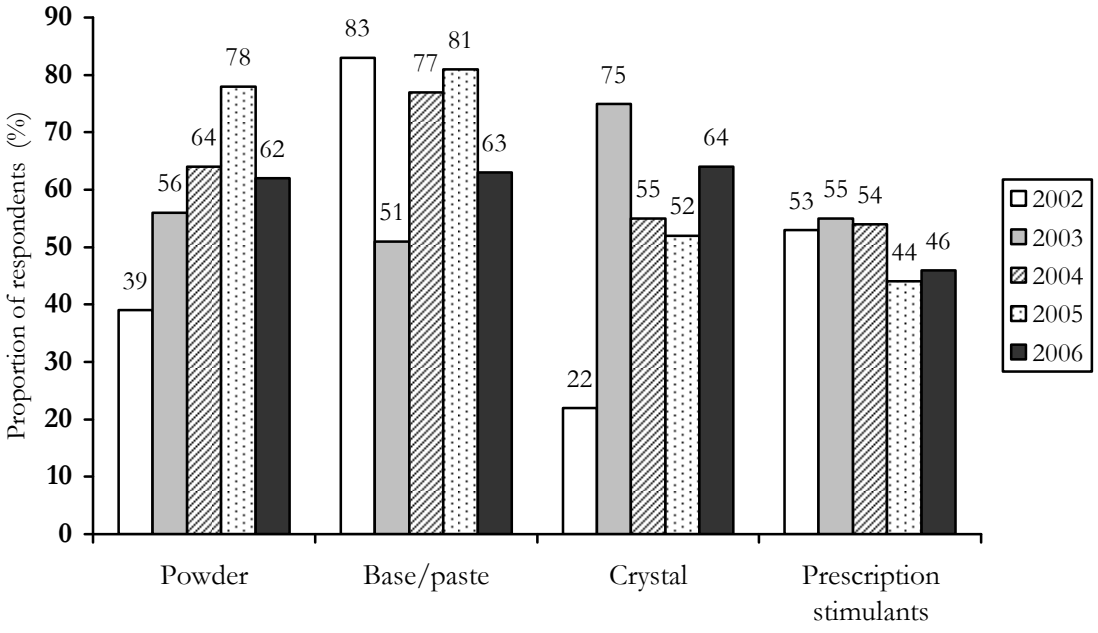
IDU reports of the forms of methamphetamine they had used in the previous six months clearly show that a wide range of forms and potencies of the drug are available to the local consumer community. Sixty-two percent of those recently using any form of methamphetamine or pharmaceutical stimulant reported using powder form methamphetamine (n=54), and 63% (n=55) had recently used 'base/paste' methamphetamine, with 64% (n=56) reporting recently using crystalline methamphetamine. Similar to preceding surveys, use of liquid form methamphetamine (often known as 'ox blood') was rare in the previous six months (5%, n=4). None of the participants in the current study reported recent *licit* use of pharmaceutical stimulants (i.e. use prescribed by legitimate prescription), but use of illicitly accessed tablets was seen in a minority of participants (46% of those using any form of methamphetamine or pharmaceutical stimulant in the past six months, n=40), with such use of dexamphetamine (n=19) more common than methylphenidate (n=12; with 7 people reporting recent use of both pharmaceutical preparations).

Figure 21: Proportion of IDU reporting methamphetamine and pharmaceutical stimulant use in the past six months, 2002-2006



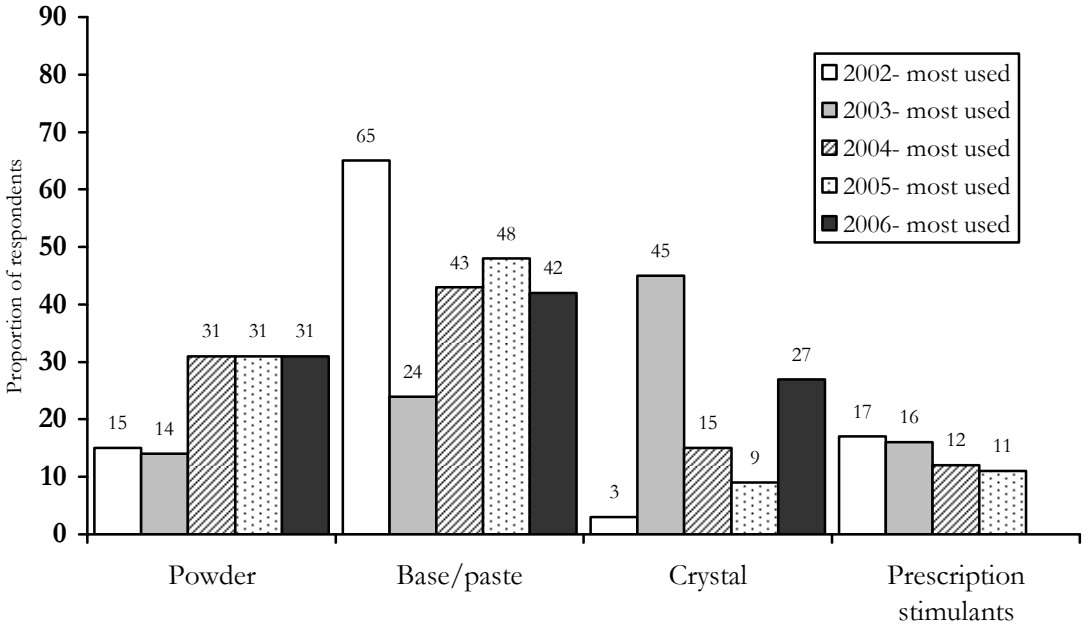
Source: IDRS IDU interviews
NB: Pharmaceutical stimulants include use of licit and illicit prescription amphetamines: this item asked from 2003 onwards.

Figure 22: Use of various forms of methamphetamine and prescription stimulants among IDRS IDU participants who reported recent use of a form of amphetamine, 2002-2006



Source: IDRS IDU interviews

Figure 23: Forms of methamphetamine and prescription stimulants most often used among IDRS IDU participants that had used stimulants, 2002-2006



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

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 2006 studies (Figures 22 and 23) display the changing face of the local methamphetamine market in this time. There are two 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 this form of the drug was quite rare, consumed by just 22% of methamphetamine-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 methamphetamine 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 methamphetamine consumers in 2004, 52% in 2005) and the proportion reporting this as the form they had predominantly used in the preceding six months (15% in 2004, 9% in 2005) were substantially lower, representing a decline from the level of availability and use of crystalline methamphetamine since the 2003 survey. The findings of the 2006 survey suggest slight increases in the use of crystalline methamphetamine, with an increase in both the proportion of the amphetamine-using cohort reporting recent use of this form (52% in 2005, 64% in 2006) and an increase in the proportion reporting crystalline methamphetamine as the form they had used most often (9% in 2005, 27% in 2006). However, these figures are both lower than the similar indicators identified in the 2003 study.

Use of the 'base/paste' form of methamphetamine has been the opposite of that for the use of crystalline methamphetamine: in 2002, this was the form recently used by the majority of the IDU cohort (83% of those recently using methamphetamine), and was similarly the form of the drug most often used by the majority of consumers (65% of those recently using methamphetamine). 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 methamphetamine consumers reporting recent use of this form (77% in 2004 and 81% in 2005), and 'base/paste' returning as the form most commonly reported as being predominantly used by consumers (43% in 2004, 48% in 2005). In 2006, a decrease in the number of participants reporting recent base/paste was recorded (63%), and the proportion reporting this form as most used also declined (42%), but it remains the predominant form of methamphetamine used by this cohort.

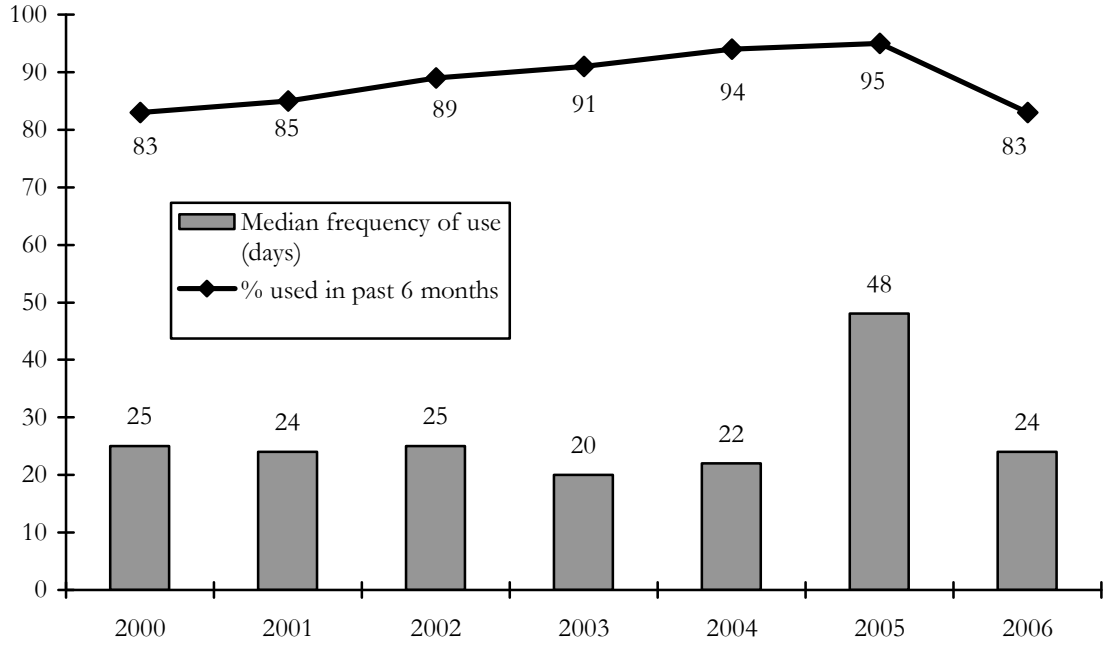
The other major change in the 'forms' of methamphetamine used by the IDRS IDU participants in recent years concerns the use of powder form methamphetamine. Until 2006, the use of this form had been steadily increasing from 39% of those recently using methamphetamine in the 2002 study, to 56% in 2003, 64% in 2004 and 78% in 2005. In 2006, this trend has been reversed, with only 59% of the cohort reporting recent use, returning to similar levels as those observed in 2003. Despite this, the proportion of recent methamphetamine consumers reporting powder as the form they had predominantly used in the six months prior to interview has remained stable since 2004 (31% in 2004, 2005 and 2006).

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 four of those participants that had recently used pharmaceutical stimulants had not used some form of methamphetamine in 2006), these pharmaceuticals form an important part of the overall picture of stimulant use amongst these IDU cohorts. The use of these prescription stimulants had remained relatively stable across the 2002 to 2004 IDRS studies, being used in the preceding six months by 53%, 55% and 54% of recent methamphetamine/pharmaceutical stimulant consumers interviewed in each study respectively. This level of recent use had dropped in 2005 to 44% of recent methamphetamine/pharmaceutical stimulant consumers, remaining stable in 2006 (46%). Consistent with this, similar proportions of both cohorts reported pharmaceutical stimulants as the form of amphetamine most used (12% in 2005; 11% in 2006)

Eighty-three percent of the IDU sample reported using some form of methamphetamine in the six months prior to interview (a further four 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 approximately once per week on average), ranging between 1 and 180 days in this time. In 2005, median frequency of use was 48 days with a range of 1-180. Prior to 2006, there had been a slow increase in the proportion of IDU participants reporting recent use of methamphetamine (83% in 2000, 85% in 2001, 89% in 2002, 91% in 2003, 94% in 2004, 95% in 2005 and 83% in 2006), although the median frequency of use of the drug in the preceding six months has remained relatively stable, except for 2005, in which median frequency of use doubled (25 days in the preceding six months in the 2000 cohort, 24 days in the 2001 sample, 25 days in 2002, 20 days in 2003, 22 days in 2004, 48 days in 2005 and 24 days of the preceding six months in the 2006 cohort). The consistently high proportions of the IDU cohort reporting recent use of methamphetamines has occurred despite similar proportions of the IDU cohorts in each study reporting an opiate as their drug of choice (two-thirds or more in each sample, except in 2005, in which 53% reported an opiate). In 2005, in which the IDU cohort reported an increase in median frequency of use of methamphetamines, the proportion who reported methamphetamines as their drug of

choice increased from 19% in 2004 to 34% in 2005, and decreased again to 28% in 2006. This may explain the doubling in median frequency of use of methamphetamines which was observed in the 2005 IDU cohort, and the return to levels seen in previous cohorts (25 days in 2000, 24 days in 2001, 25 days in 2002, 20 days in 2003, 22 days in 2004, 48 days in 2005 and 24 days in the 2006 cohort).

Figure 24: Prevalence and frequency of use of methamphetamines in the preceding six months, 2000-2006



Source: IDRS IDU interviews

All of the IDU participants interviewed had used some form of methamphetamine at some stage in their lives, and, as noted above, 86% of the current cohort had used some methamphetamine or pharmaceutical stimulant in the preceding six months. Despite this, less than one-third of the sample (28%) indicated that methamphetamine was their drug of choice. Of these consumers, the majority (72%, n=20) reported methamphetamine or pharmaceutical stimulants as the drug they had injected most often in the month prior to interview. Of the eight IDU that had not used their drug of choice most often in the previous months, 14% (n=4) had instead most commonly used methadone (all were receiving methadone maintenance therapy), 11% had most often injected morphine (n=3) and 4% benzodiazepines (n=1). Participants were asked to report on reasons for the discrepancy between their drug of choice and the drug most often injected; of those most often injecting methadone, two participants reported price, one reported availability, and a fourth participant reported it was a deliberate choice to use methadone instead. Two participants who reported morphine and one who reported benzodiazepines as the drug most injected reported 'peer influence' as the reason.

For those consumer participants that had reported methamphetamine as the drug they had most often injected in the preceding month (n=29), the drug class was used for a median of 84 days in the preceding six months (SD= 60.58, range 6-180), a median frequency of more than three days per week in this time. Two participants reported prescription stimulants as the drug most injected in the preceding month, with median days of use 75 (SD= 21.2,

range 60-90). Of the 68 consumers that had most frequently used another illicit drug (all were primary consumers of opioids or benzodiazepines), 52 had used methamphetamine in the preceding six months, at a median frequency of 12 days in the preceding six months (range 1-180 days), which equates approximately to use once per fortnight.

Examining the frequency of use of methamphetamine in more detail, 83% of the current cohort had used methamphetamine, at a median frequency of 24 days, which is approximately once per week. As shown in Table 25 below, half of these consumers reported using some form of the drug weekly or less often (51%), with many reporting more than weekly (but not daily) use (40%), but just 10% using the drug daily. Across all three 'forms' of methamphetamine, the majority reported using weekly or less (78% of those using powder, 69% of those using base, and 70% of those using crystal methamphetamine). Among those using the more potent forms of methamphetamine ('base' and crystal), a greater proportion of consumers had used more than weekly (30% of those using base and 31% of those using crystal methamphetamine) than those using powder (22%).

Table 25: Patterns of methamphetamine use in the last six months, by type, 2006

	Among the entire sample		**Among those who had used**		
Form used	% who had not used	% who had used	% used weekly or less^ (n)	% used more than weekly, but less than daily (n)	% used daily (n)
Powder	46	54	78 (42)	15 (8)	7 (4)
Base	45	55	69 (38)	25 (14)	5 (3)
Ice	44	56	70 (39)	27 (15)	4 (2)
Any form methamphetamine*	17	83	51 (42)	40 (33)	10 (8)

Source: IDRS IDU interviews

* Also includes liquid methamphetamine

^ Excludes those who had not used

Taken together, it is clear that a moderate level of methamphetamine use is common amongst IDU consumers that predominantly inject other drugs. This was supported by comments from key experts 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 cannabis, key experts tended to describe small proportions of such groups who also used methamphetamine recreationally (although four of the thirteen key experts reporting on groups of primarily cannabis-consuming individuals were not aware of the other drugs used by such individuals), with use of powder form methamphetamine more common in such groups than use of crystal methamphetamine. When reporting on groups of individuals that primarily used some sort of opiate, key experts often considered that a notable proportion of these groups also used methamphetamine (although, 40% (n=3) of key experts reporting on primary opiate consumers were not aware of the other

drugs these individuals used). One key expert commenting on primary opiate users noted that there had been little change in polydrug use recently, stating it is reasonably common and that "*what people use is very much a question of what is available at the time*". Key experts commenting on primary cannabis users reported that many of the consumers they had contact with were polydrug users, with alcohol and methamphetamines the most common drugs reported to be used by primary cannabis users. One key expert, who worked in the drug treatment field, noted that this trend toward polydrug use is increasing.

While many key experts were unfamiliar with the range of drugs used by the primary methamphetamine-consuming groups they were working with, there were some general usage patterns noted. Firstly, primary methamphetamine consumers described by key experts were generally noted to also use cannabis, with binge alcohol use also common. Key experts reported mixed patterns of benzodiazepine use amongst the methamphetamine consumers they were familiar with, with some reporting regular use, and one key expert reporting benzodiazepine use just to assist with 'come-down' effects. One consumer supported this latter view, reporting more that people are using benzodiazepines to manage 'come-downs'. Another key expert reported that if primary methamphetamine users are unable to access a form of amphetamine, "*they will use morphine or benzos*". Two key experts noted that a range of benzodiazepines may be used by these consumers, including alprazolam, temazepam or diazepam, typically orally. Key experts also noted some ecstasy or hallucinogen use amongst the primary methamphetamine-using groups they were familiar with, although such use was generally reported as infrequent and that use of these drugs was rarely part of the picture of drugs causing concern to those consumers presenting for problems with substance use. In contrast to the reported common level of methamphetamine/opioid polydrug use amongst primary *opioid* consumers, one-third of the 15 key experts reporting on primary *methamphetamine* consumers reported that just half or less of these groups also used opioids. Use of inhalants was very uncommon among the primary methamphetamine consumers described by key experts.

5.5 Methamphetamine related harms

5.5.1 Law enforcement

Arrest data for methamphetamine-related offences indicate a marked increase in the number of arrests between 1998/99 and 2000/01, with this upward trend sustained into 2001/02 (Table 26). 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 methamphetamines, although there was a concomitant, albeit less marked, increase in the number of supply-type arrests in this period. The 2002/03 financial year saw a decline in the number of arrests, with this reduction relating to a decline in the number of arrests for consumer-type offences rather than that of providers. In the 2003/04 financial year there was a continued reduction in the numbers of methamphetamine-related arrests, with both consumer and provider arrest rates affected; however, arrest rates increased in the 2004/05 financial year for both offence types. Data for the 2005/06 financial year was not available at the time of publication. While there have been some slight variations in the number of arrests in recent years, it is clearly apparent that there has been a marked and sustained increase in arrests in relation to methamphetamine in recent years, with arrest rates for both consumer and provider offences being substantially greater than those seen prior to 2000/01.

In general, key experts noted increases in reports of violent crimes, including aggravated burglary and assault, during the preceding six months by the primary methamphetamine-consuming groups that they were familiar with. One key expert noted that property crimes

such as burglaries have been occurring at similar rates, however, these activities are becoming more violent. A key expert who works in law enforcement reported a *"small, but not significant"* increase in property crimes, along with an increase in violent crimes amongst methamphetamine users. However, a second law enforcement key expert reported no changes in rates of property crime amongst this group. According to one key expert who works in a custodial setting, there has been an increase in *"unplanned, brutal violent crimes"* that are resulting in longer prison sentences. One IDU consumer commented that users are *"*(more) *dependent on finances"* and that *"more crimes are committed to pay for this"*. A key expert who works in law enforcement also noted increased numbers of people dealing methamphetamines. One key expert, working with young people and their families, also noted an increase in consumers being affected by Family Violence Orders (FVO), due to a recent change in legislation regarding mandatory reporting requirements.

Table 26: Consumer and provider arrests for methamphetamine and related substances, 1996/97- 2005/06

	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
Consumers										
Female	3	5	0	4	9	18	8	10	9	*
Male	15	9	4	14	51	53	34	21	34	*
Unknown	0	1	2	2	0	0	0	0	0	*
Total	18	15	6	20	60	71	42	31	43	*
Providers										
Female	0	0	0	0	1	6	2	1	3	*
Male	2	0	1	7	9	12	17	7	23	*
Unknown	0	0	0	1	0	0	0	0	0	*
Total	2	0	1	8	10	18	19	8	26	*
Total arrests	20	15	7	28	70	89	66	39	69	*

Source: Australian Crime Commission (previously the Australian Bureau of Criminal Intelligence) and State Intelligence Services, Tasmania Police

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: Data for 2005/06 was not available at the time of publication.

5.5.2 Health

Several key experts commented on injecting practices and resulting impacts on health among methamphetamine consumers in recent months. One key expert noted an improvement in safe injecting practices, whereas another key expert noted that knowledge of safe techniques was lacking. This key expert reported an increase in cases of subacute bacterial endocarditis (infection of the valves of the heart), having consulted with six people experiencing this in the preceding twelve months. These infections were regarded by clients as being associated with methamphetamine injection. While it is possible that these experiences can be attributed to methamphetamine it is also possible that these could be caused by re-use of non-sterile injecting equipment, and, as is discussed in Section 11.4 below, a substantial proportion of the current cohort reported re-use of their injecting

equipment in the preceding six months. Regardless of the cause, however, such reports of increased occurrence of these types of health effects amongst local consumers merits attention in future studies and by frontline workers.

Key experts also commented on the impact of use of methamphetamine- particularly crystal methamphetamine on mental health. A key expert who works in a mental health setting reported an increase in psychotic symptoms amongst a small group reporting crystal methamphetamine use, along with increased levels of agitation and anxiety. Another key expert, working in the health field (in a custodial setting), reported anecdotally noting an increase in people presenting with paranoid-type symptoms in early 2006, which they had attributed to a *"bad batch of ice going around"*. An emergency services officer (ambulance) noted attending call-outs to people who were experiencing mental health problems as a result of methamphetamine use, but did not think this had increased recently. One key expert commented on general health problems, noting increased frequency of use, or increased durations of methamphetamine binges, producing secondary consequences in some consumers, with insufficient sleep and nutritional problems exacerbating pre-existing mental health problems. This key expert reported that this situation is being seen more frequently.

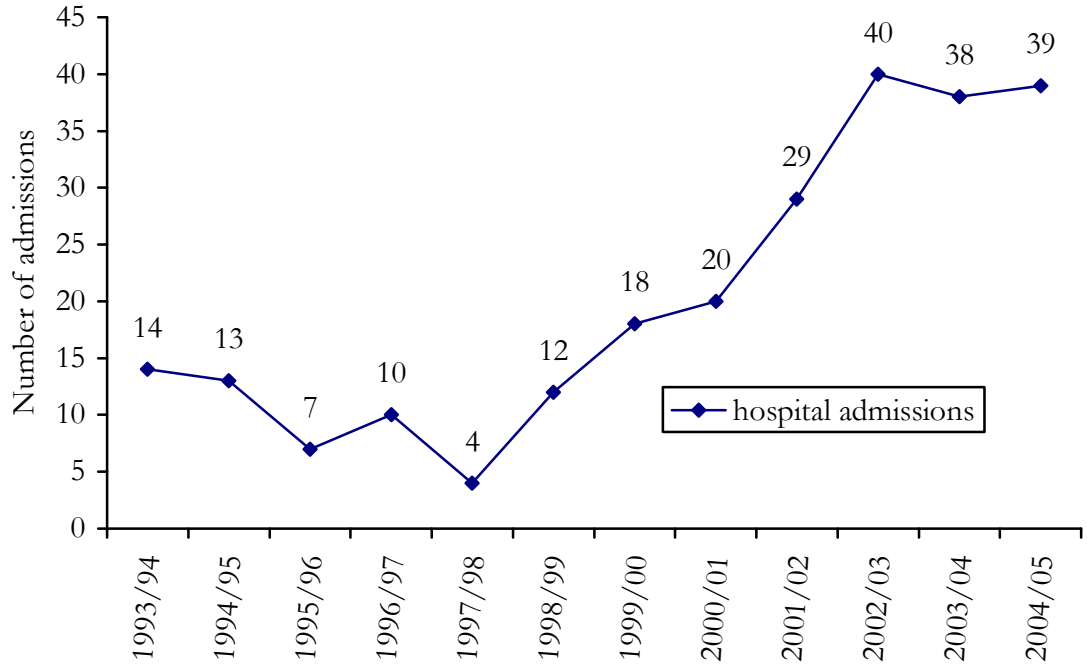
Three key experts commented on increasing dental health problems amongst this consumer group: one key expert, who works with young people, reported that "*60-70% of amphetamine users are experiencing significant dental problems"* and that they were "*watching the teeth of 20 to 30 year olds fall out"*. Key experts reported that consumers found it very difficult to access dental services, due to long waiting lists for public dental care.

As noted in previous sections, methamphetamine appears relatively easily available to local IDU populations, and there are some indications of an increasing level of use generally. While key experts did not note any marked change in the number of people presenting to services for methamphetamine-related issues, in previous years this has been reported as a slowly emerging trend in the state. Data from the Alcohol and Other Drug Treatment Services National Minimum Data Set suggest little change in the number or proportion of treatment episodes where methamphetamine was the principal drug of concern (9.5%, n=161 in 2001/02; 7.9%, n=180 in 2002/03; 8.5%, n=136 in 2003/04; and 9.8%, n=134 in 2004/05).

Hospital morbidity data in relation to use of drugs has been provided by the Australian Institute of Health and Welfare for the 1993/04 to 2004/05 financial year periods (Roxburgh & Degenhardt, 2006). These data relate to Tasmanian public hospital admissions, for individuals aged between 15 and 54 years, where methamphetamine use was recorded as the 'principal diagnosis'; namely, where the effect of methamphetamine 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). (Figure 25) These were figures 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. Tasmanian public hospital admissions where methamphetamine use was noted as the principal diagnosis are presented in Figure 25 below. It is clear that, following a relatively stable period between 1993/94 and 1998/99, where there were less than 15 such cases per annum, the number of admissions where methamphetamine use was the principal diagnosis steadily increased between 1999/00 and 2002/03, approximately doubling during this period, with rates appearing to stabilise between 2002/03 and 2004/05.

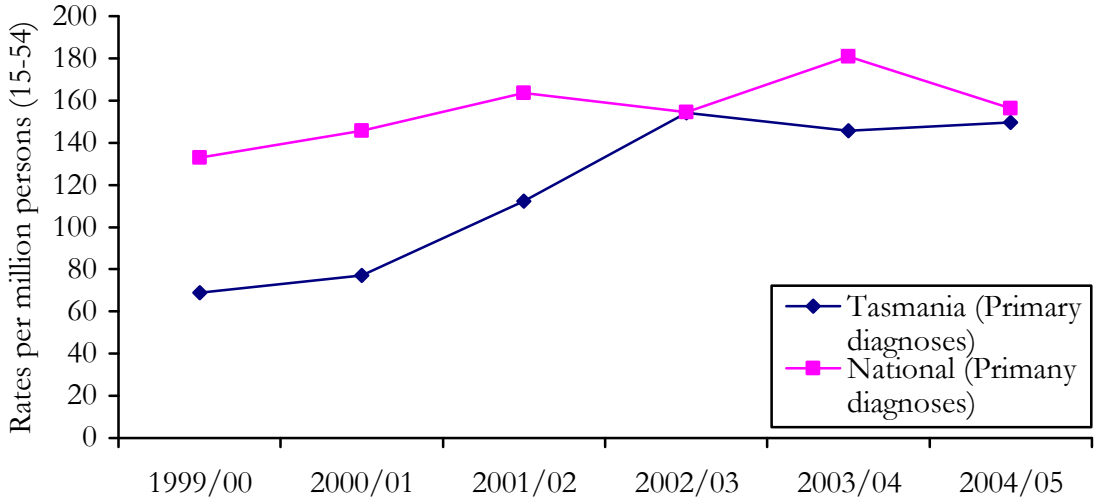
When the population-adjusted rates of Tasmanian admissions are compared with those nationally (Figure 26), two trends are notable: firstly, that national admission rates were generally increasing between 1999/00 and 2003/04, with Tasmanian admission rates following this pattern to 2002/03. Local population-adjusted 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). Since this time, local population-adjusted rates have been similar to the national figures. Secondly, Tasmanian admission rates have remained relatively stable since 2002/03.

Figure 25: Public hospital admissions amongst persons aged 15-54 in Tasmania where methamphetamine use was noted as the primary factor contributing to admission, 1993/04-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

Figure 26: 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, 1999/00-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

5.6 Trends in methamphetamine use

In 2003, a markedly increased availability of crystal methamphetamine, or 'ice', provided a major shift in the local methamphetamine market, at least amongst the demographic sampled in the Tasmanian IDRS. In 2004 a shift in crystal methamphetamine availability - this time in the opposite direction- again caused a major shift in the local market. Tasmania Police reported that two key arrests made late in December 2003 disrupted the local supply chain for crystal methamphetamine in the state, and a clear decline in the use and availability of this form in the drug was apparent in the 2004 IDRS cohort. However, in 2004 and 2005, the use of methamphetamine among both the IDRS IDU (95% of the cohort) and clients of the state's Needle Availability Program (59% of all transactions) steadily increased. Trends in 2006 represent subtle changes in the methamphetamine market: with a possible decline in use amongst both cohorts- amongst the IDRS IDU respondents (95% recently using the drug in the 2005 study, 83% in 2006) and clients of the state's Needle Availability Program (59% of all transactions in 2005 were for methamphetamine, 56% in 2006); and possible shifts in the use of particular 'forms' of the drug.

In terms of recent shifts in the demographics of those using methamphetamines, nine consumers reported 'younger' people, commonly described as ranging between 14-16 years of age, using methamphetamines at an increased rate. This trend has also been reported in previous years; most notably in 2005, when 22% of consumers reported an increase in 'younger' users. In previous years, consumers noted increases in the proportion of females using methamphetamines- in the current study, consumers predominately noted males and females using in equal proportions. This marks a shift from the traditional predominance of males in substance-consuming demographic groups. Also similar to previous studies, consumers noted a broadening of the socio-economic groups using methamphetamines (described as *"better dressed"* people, and *"posher sorts with jobs"*), and one consumer reporting use to be considered by some people as *"almost a fashion item"*. Eight consumers reported an

overall increase in people using methamphetamines. This is somewhat lower than consumer reports in the 2005 IDRS, in which one-third of the sample (n=34) reported an increase in the number of people they were aware of that were using methamphetamine in recent months.

While marked changes in the level of polydrug use were not apparent in the current cohort, several key experts noted that there had been a slowly evolving trend toward increased polydrug use amongst the consumers they were working with (with this issue noted by Needle Availability Program staff, drug treatment workers, health workers in custodial settings, a youth worker and an emergency health professional, and generally conceptualised by these individuals as a pattern of mixed opiate, methamphetamine, benzodiazepine, cannabis and/or alcohol consumption). As has been noted in previous sections, key experts considered this increased level of methamphetamine use within a general context of polydrug use as exacerbating pre-existing problems some of these consumers have (for example, the decreased sleep and nutrition problems associated with methamphetamine use exacerbating behavioural or psychiatric issues).

5.7 Summary of methamphetamine trends

Table 27: Summary of trends in methamphetamine use

	Methamphetamine 'powder'	'Base/paste' methamphetamine	Crystalline methamphetamine
Price (mode) *'point'/packet (~0.1g)* *gram*	• $50, stable • $300, stable	• $50, stable • $300, stable	• $50, stable • $300, stable to decreasing
Availability	• Very easy/easy to obtain • Availability stable	• Very easy/easy to obtain • Availability stable	• Easy/very easy to obtain, but not as easy as other forms of methamphetamine • Availability stable overall
Purity	• IDU reports of low-medium, fluctuating toward decreasing purity	• IDU reports of medium to high purity, quality fluctuating	• IDU reports of high purity, quality fluctuating between high and medium levels
Use	• Use has decreased in the current study, after steadily increasing in IDRS IDU samples over time.	• Use has decreased from levels recorded in the past two IDRS studies, with two-thirds of the cohort reporting recent use.	• Use has increased slightly to three-fifths of the sample recently using this form, the first increase noted since 2003. However, use has not returned to the levels seen in 2003.

Other trends:

- Plateau or possible decrease in the use of methamphetamine, both in the IDRS studies and among clients of the state's Needle Availability Program, after increasing levels of use in preceding years, although such a change is not captured in the National Drug Strategy Household Survey prevalence measures. There has been a marked decrease in the median frequency of methamphetamine use in the 2006 IDRS consumer cohort in comparison to 2005, returning to levels seen in previous local IDRS studies.
- A decrease in the use of both powder and base/paste methamphetamine was found in the current study, while use of crystal methamphetamine has increased slightly since 2005.
- Suggestions of a changing local drug consumer culture emerging, with an increase in polydrug use and use of methamphetamine expanding into different demographic groups (an increase in younger teenage users and 'higher socioeconomic status type' of consumers – a continuation of trends noted in the past three IDRS studies).
- Impact of use of higher-potency methamphetamines is being experienced at the level of service providers, with extended methamphetamine 'binges' negatively impacting on the health of some consumers, exacerbating existing health problems; and the limited treatment options for methamphetamine consumers has been noted as a concern for many in this area.

6.0 COCAINE

Similar to the patterns in the previous Tasmanian IDRS surveys, only a very small number of IDU (n=6) could comment on any aspect of price, purity or availability of cocaine. However, 61% of the sample indicated that they had tried cocaine at some stage in their lives, with 12 respondents reporting that they had used cocaine in the six months prior to interview (3 had injected, 6 had snorted, 2 had both injected and snorted, and 1 consumer had both injected and smoked cocaine in this time). The median frequency of use of cocaine by these 12 participants was three days in the preceding six months (range 1-11 times). Eight of the participants used powder cocaine exclusively, and four participants exclusively used crystalline cocaine. Due to the extremely small number of respondents who were able to provide information on cocaine, the information provided in this section should be interpreted with caution. No participants reported that cocaine was their drug of choice, and similarly, no participants reported cocaine as the drug most injected in the month preceding the interview.

6.1 Price

Only two of the current IDU consumer sample could provide information on the price of cocaine. One participant reported the market price for a gram of cocaine as $300. A second participant reported having bought a half-gram of cocaine in the preceding six months, and having paid $300 for this quantity. This purchase price for a half gram is somewhat higher than that reported in other jurisdictions, for example, the 2006 Victorian IDRS study reported a purchase price of $200 for a half-gram purchase of cocaine (Jenkinson & Quinn, 2007). Only two of these IDU participants could comment on trends in cocaine prices over time, perceiving prices as remaining stable over the preceding six months. None of the key experts interviewed could comment on current prices or price changes of cocaine in the preceding six months.

Tasmania Police had been unable to report prices of cocaine from either informant reports or covert bust operations between 1995/96 and 1999/00; however, in 2001 Southern Drug Investigation Services estimated the price of cocaine as $250 per gram, on the basis of an informant report, and the price reported by Tasmania Police remained stable during the remainder of the 2001/02 financial year. Price information for cocaine has not been provided to the Australian Crime Commission between 2002/03 and 2004/05, reflecting the lack of a local market of the drug.

6.2 Availability

Of the three IDU participants that could comment on the local availability of cocaine in the preceding six months, one reported that it was 'difficult' for them to access, with the remainder describing it as 'very difficult' (n=2) for them to access the drug in the preceding six months. All three participants suggested that there had been no change in this level of availability in the six months prior to interview. No key experts could comment on the availability of cocaine to the individuals they had contact with.

Of the six IDU participants reporting on cocaine trends, reports on the source person and venue varied: two participants were given cocaine as a gift from friends, two participants bought cocaine from friends, one of these also purchased through a known dealer, another participant purchased through an acquaintance, and one person had cocaine sent to them from another Australian jurisdiction. Of these four participants who did buy cocaine, two

purchased at a friend's home, one from an agreed public location, and another person purchased the drug at both an agreed public location and a friend's home

While there had been no seizures of cocaine made by Tasmania Police between 1995/96 and 1999/00, two seizures totalling 29g were made in 2000/01, both by Western Drug Intelligence Services in November 2000. One seizure of cocaine was made from a person intercepted upon arrival into the state, who was also in possession of a number of tablets of ecstasy. The other seizure resulted from a search of the home of a member of an organised motorcycle gang. There were no seizures of cocaine made by Tasmania Police between 2001/02 and 2004/05.

Just three of the thirty-one key experts reported hearing about use of cocaine among the groups of consumers that they were familiar with. A drug treatment worker who commented on a primarily cannabis-using group, reported *"a few"* participants had recently used cocaine. Two key experts who worked in law enforcement commented that more seizures of small quantities had occurred in the preceding six months, and that police had received more information recently pertaining to cocaine. The combination of few IDU reporting recent cocaine use (n=12, median frequency of use was three days, range 1-11) along with only one key expert reporting that 'a few' familiar consumers reported recent use of cocaine, together suggest that there is a very low availability of cocaine in Tasmania, at least among the demographic sampled in this survey.

6.3 Purity

The five IDU that had purchased and used cocaine locally reported that it was 'high' (n=1), 'medium' (n=3) or 'low' (n=1) in purity, and that this level of purity had remained either stable (n=1) or had decreased (n=1) in the preceding six months[12]. 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 44.0% purity.

Eight of the participants reported that the cocaine that they used in the preceding six months was in powder form, and four participants reported they had used crystalline cocaine. Reports by IDU in previous IDRS studies indicated that the powder cocaine they had used had been compressed into a 'rock'-like clump.

6.4 Use

According to the findings of the 1998 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 1999), 2.3% of surveyed Tasmanian residents (n=29) reported ever trying cocaine, while only 0.1% (n=3) had used it in the 12 months prior to interview. Findings of the 2001 survey (Australian Institute of Health and Welfare, 2002) were very similar, with 0.2% of those sampled reporting using the drug in the preceding year. In the 2004 National Drug Strategy Household Survey, it was similarly estimated (from the sample of 1,208 participants) that approximately 0.2% of Tasmanians had used cocaine in the year prior to interview, compared with 1.0% of Australians nationally (Australian Institute of Health and Welfare, 2005). This is consistent with the stable, low level of use of cocaine amongst local consumers interviewed in the IDRS study.

[12] The remaining three participants did not feel that they could confidently comment on changes in purity of cocaine as they had not used the drug on sufficient occasions in the preceding six months.

6.4.1 Cocaine use among IDU participants

Only 15 clients of non-pharmacy Needle Availability Program clients in 2004/05 indicated that cocaine was the drug they most often injected. This figure has remained very small over the past nine financial years (Table 28), relating to around 10-30 clients each year. However, it is important to note that, despite there being some discrepancy between NAP 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 twelve recently using the drug.

Table 28: Percentage of Tasmanian non-pharmacy Needle Availability Program clients reporting cocaine as the 'drug most often injected', 1997/98-2005/06

Year	1997 /98	1998 /99	1999 /00	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06
Number of clients reporting cocaine	12	28	19	13	20	36	29	16	15
Percent of total clients reporting cocaine	0.2%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%	>0.1%	>0.1%

Source: Sexual Health, Department of Health and Human Services

None of the Tasmanian participants in any of the 1995, 1996, 1997, 1998 or 1999 Australian Needle and Syringe Program Surveys (Thein, Maher & Dore, 2004; Thein, White, Shourie & Maher, 2005: National Centre in HIV Epidemiology and Clinical Research on behalf of the Collaboration of Australian Needle and Syringe Programs) has 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. None of the 2003 participants (from a sample of 118), 2004 participants (from a sample of 107) nor the 2005 participants (from a sample of 137) reported last injecting cocaine (Thein, White, Shourie & Maher, 2006). It is important to note that the samples prior to the 2001 study (which sampled 151 clients) are extremely small (6, 18, 23, 51, 25, 27, and 28 for the 1995 to 2000 annual studies respectively). As such, these are of very limited power for the detection of low frequency occurrences such as the injection of cocaine.

6.4.2 Current patterns of cocaine use

Of the twelve IDU that reported using cocaine in the preceding six months, the median frequency of use was just three days in the last six months (range 1-11 days). Among the six consumers that reported recently injecting cocaine, the median frequency of injection was three days in the preceding six months (range 1-4 days). Of this group, 3 participants also snorted cocaine. Six participants exclusively snorted cocaine, with a median frequency of use 6 days (range 2-11).

Just one of the thirty-one key experts reported hearing about use of cocaine among their client group, in a primary cannabis using group, stating only *"a few"* of this client group had used cocaine recently.

6.5 Cocaine related harms

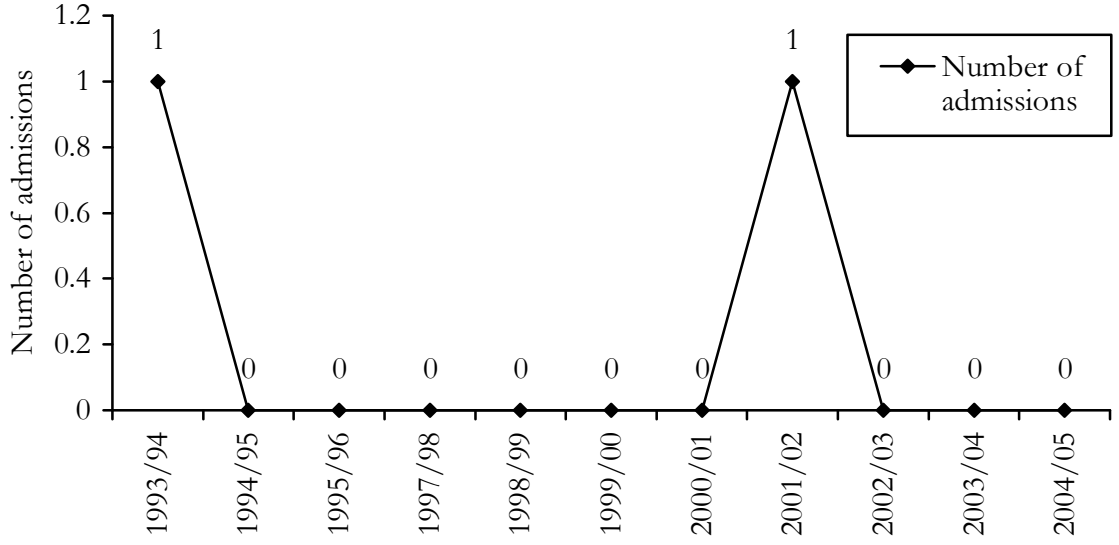
6.5.1 Law enforcement

There have been no arrests made by Tasmania Police in relation to cocaine in the 2003/04 or 2004/05 financial years (Australian Crime Commission, 2005; and State Intelligence Services, Tasmania. Data for 2005/06 financial year was not available at the time of publication).

6.5.2 Health

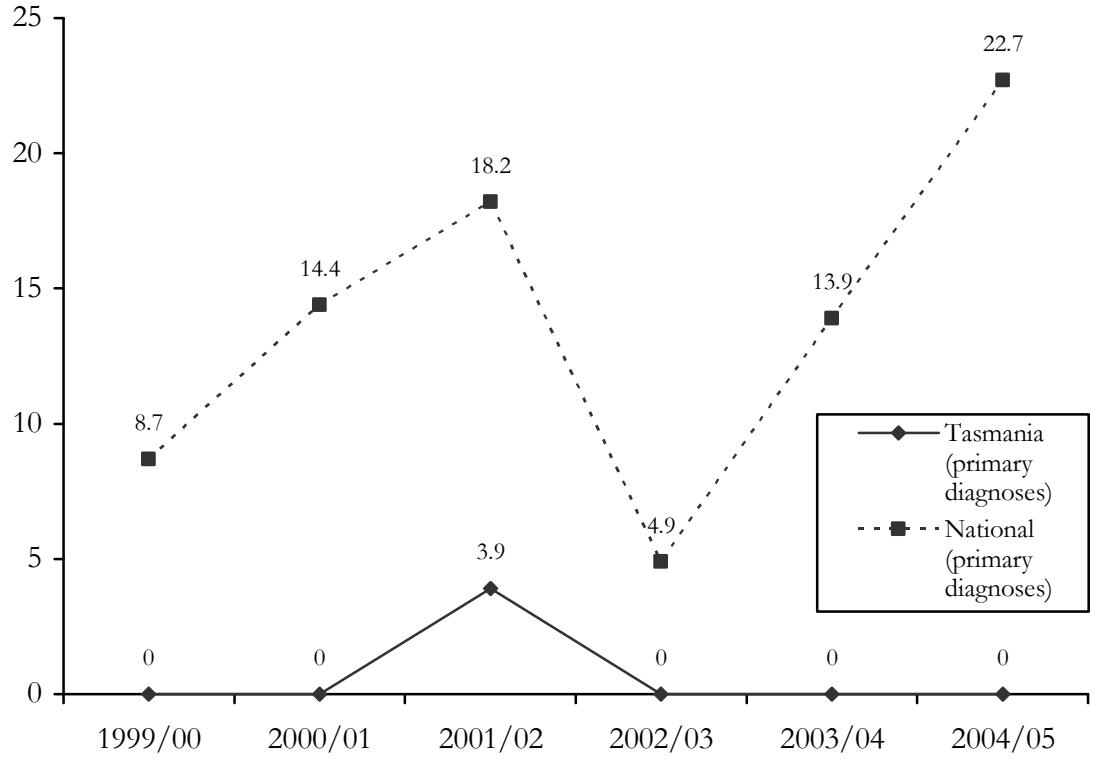
Hospital morbidity data in relation to use of drugs have been provided by the Australian Institute of Health and Welfare for the 1993/04 to 2004/05 financial year periods (Roxburgh & Degenhardt, 2006). These data relate to Tasmanian public hospital admissions, for individuals aged between 15 and 54 years, where cocaine use was recorded as the 'principal diagnosis'; namely, where the effect of cocaine 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.

Figure 27: Public hospital admissions among persons aged 15-54 where cocaine use was noted as the primary factor contributing to admission in Tasmania, 1993/04-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

Figure 28: 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, 1999/00-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

Consistent with the apparent low levels of availability and use of cocaine locally, cocaine-related hospital admissions (Figure 27) are virtually non-existent, with only two instances where cocaine was related to the principal diagnosis during the twelve years between 1993/94 and 2004/05. As such, when the local rates of cocaine-related public hospital admissions amongst those aged between 15 and 54 years are compared to the national Australian rate (Figure 28), these are substantially lower, with the total local admissions where cocaine was noted as contributing to the diagnosis remaining 21% or less than that of the national rate between 1999/00 and 2004/05.

6.6 Trends in cocaine use

Examining the extent of use of cocaine among the Tasmanian IDRS IDU participants over the past six years (Table 29) suggests that the level of use of cocaine in this demographic appears to have remained largely similar during this time: generally used by only a minority of participants in the preceding six months (4%-12%), and, in the main, used very infrequently (median frequency of less than monthly use in the preceding six months).

Table 29: Patterns of cocaine use among Tasmanian IDRS IDU participants, 2000-2006

Year	2000	2001	2002	2003	2004	2005	2006
Proportion of sample reporting use of cocaine in the preceding six months	6%	8%	12%	9%	4%	8%	12%
Median days cocaine use in last six months (range in parentheses)	4 (1-40)	5 (1-20)	2 (1-12)	4 (1-74)	2 (1-3)	5 (1-24)	3 (1-11)
Proportion of IDU sample reporting ever using cocaine	39%	39%	47%	52%	48%	46%	61%

Source: IDRS IDU interviews

Reports amongst the regular consumers of ecstasy interviewed for the 2006 Tasmanian Ecstasy and related Drug Reporting System (EDRS: Matthews & Bruno, 2007) showed a notable increase in the proportion reporting recently using cocaine – increasing from 7% of the 100 consumers interviewed in 2003, to 10% in 2004, 20% in 2005 and 33% in 2006. However, similar to the IDRS injecting drug consumer cohort, the use of cocaine amongst the EDRS participants was infrequent, with a median frequency of just two days in the preceding six months (range 1-6 days).

6.7 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. The cocaine that is used by Tasmanian IDU appears to be often directly imported by consumers from dealers in mainland states. These patterns seem to have remained reasonably stable over the past few years. However, it is noteworthy that around two-thirds of the Tasmanian IDU sample in 2006, and around half the cohort in the preceding two years, have reported lifetime use of cocaine, an increase from patterns seen in the 2000 and 2001 surveys, and there are anecdotal suggestions of changing availability of the drug locally, and indications of use among different populations of Tasmanian drug consumers (Bruno & McLean, 2004; Matthews & Bruno, 2007). As such, trends in cocaine markets in the state merit continued examination.

7.0 CANNABIS

Among the IDU respondents, cannabis was the most commonly used illicit drug, with all participants using it at some time in their lives, and 88% using in the six months prior to interview. IDRS IDU participants were asked to comment separately on trends around 'bush' (outdoor-grown) cannabis, indoor/hydroponically-grown cannabis and hashish. Sixty-nine participants could comment confidently on aspects of price, potency, or availability of indoor/hydroponically-grown cannabis, 53 on trends for bush/outdoor cannabis, and 41 reporting on trends for both 'types'. One participant was able to comment on both indoor/hydroponically-grown cannabis and hashish, and four participants commented on all three forms of cannabis. Almost all key experts 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.

Thirteen key experts reported on groups that were primary users of cannabis. These key experts included four drug treatment workers, three mental health professionals, 2 youth workers, and one general health worker, a health promotion officer, an education officer and a prison health worker. Key experts were familiar with cannabis users from all suburbs of Hobart and surrounding areas. The cannabis users that key experts were familiar with ranged in age from teenagers to people in their sixties, with the majority being in their late teens to early thirties. The groups of cannabis users described by key experts ranged from around 25% to 100% male, although in general they were slightly male predominant. In keeping with the general demographic profile of Hobart, the cannabis consumers discussed by key experts 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 80% unemployed to almost all employed or studying at the time of the interview; however, the majority of key experts reported large proportions of consumer groups to be unemployed (likely reflecting the nature of their positions in largely public services). Key experts generally reported that around 10% of the consumers they had contact with had a previous prison history.

7.1 Price

The modal market price reported by the IDU for indoor/hydroponically-grown cannabis was $25 per gram (n=4, median = $25, range $20-25), and $300 per ounce (n=11, median $300, range $200-400). These were slightly higher than the modal market prices reported for bush/outdoor cannabis, at $12.50 per gram (n=4, median = $13.75, range $12.50-20) and $250 per ounce (n=7, median= $250 range= $125-250). Key experts reported similar prices of $25 for 1-2 grams of indoor or outdoor cannabis (n=6); and $80-110 per quarter-ounce of indoor-cultivated cannabis (n=1). One key expert noted an increase in availability of 'tenner' ($10) purchases of cannabis, weighing approximately 0.5g. While there was good agreement that these were the 'market prices' for cannabis, most IDU did not report paying these prices for the last amounts of cannabis they purchased.

For their last purchase of bush/outdoor-grown cannabis, a $25 'deal' was reported to contain 1.5-7.0g (mode 2.0g, n=8) of cannabis, with 7.0g (all respondents gave this quantity, n=8) in a $50 'deal'[13]. The modal last purchase price for a quarter-ounce of outdoor cannabis was $50 (median $60, range $25-100, n=28), and the median last purchase price for an ounce was $170 (no single mode, range $90-250, n=19). The most

[13] This amount is likely to be skewed by a substantial number of IDU purchasing quarter-ounce amounts for $50.

common amount of outdoor cannabis purchased by the IDU interviewed was quarter-ounce (n=28), and ounce (n=19) amounts. In the preceding three years of IDRS interviews, quarter-ounce amounts have consistently been the most commonly purchased quantities by the consumers interviewed, however, in this time there has also been a trend for smaller numbers of participants to report on purchasing $25 'deals', and larger numbers to report on purchasing ounce quantities (Table 31).

In general, purchase costs for indoor/hydroponically-cultivated cannabis were slightly higher than the reported costs for bush/outdoor cannabis. 'Deals' costing $25 contained 1.0-2.0g (median 1.0g, no single mode, n=12), of indoor-cultivated cannabis, with $50 'deals' containing 3.0g (n=2). The more commonly-purchased quarter-ounce amounts of hydroponically-cultivated cannabis were reported to be a modal last purchase price of $90 (median = $90, range $60-120, n=43), $40 more than the comparable figure for outdoor cannabis. Median last purchase price for an ounce of hydroponically-cultivated cannabis was $80 more than that for outdoor cannabis, at $250 (median = $250, range $200-450, n=21). The modal prices of cannabis reported by IDU in the past years of the local IDRS studies are summarised in Table 32 below. Similar to the reports for purchases of outdoor-cultivated cannabis, quarter-ounce and ounce amounts were the most commonly purchased quantities (by n=43 and 21 respectively in the preceding six months), although, in comparison to outdoor-cultivated cannabis, a greater number of consumers reported purchasing $25 'deals' of indoor (Table 32).

The majority of IDU (64% overall, 79% in relation to outdoor cannabis and 54% in relation to hydroponic cannabis: n=41 and 54 respectively[14]) and key experts (83%, n=5) reported that the price of cannabis had not changed in the last six months. A noteworthy minority reported increasing prices for indoor-cultivated cannabis (15%, n=10) in this time, and 10% reported decreasing prices for indoor-cultivated and outdoor-cultivated cannabis (n=7, n=5 respectively)

Despite the majority of IDU respondents reporting a stable price trend for outdoor cannabis, the median price for one ounce of outdoor cannabis had dropped from $200 in 2005 to $170 in 2006 (there was no single modal price in 2006). Likewise for indoor cultivated cannabis, the majority of IDU respondents reported a stable price trend; however, the modal price in 2006 for one ounce was $50 less than in 2005 ($250 in 2006 and $300 in 2005). The modal prices for quarter-ounce purchases remained unchanged for both indoor-cultivated ($90 in 2005 and 2006) and outdoor-cultivated cannabis ($50 in 2005 and 2006: Tables 31 & 32).

[14] Of the 81 IDU participants reporting on price, purity or availability trends for either 'type' of cannabis, 28 could not comment on trends in relation to 'outdoor'-cultivated cannabis, and 12 could not comment on trends in relation to 'indoor'-cultivated cannabis.

Table 30: Modal prices of cannabis (all 'types') purchased by IDU in Hobart, 2000-2002 IDRS (range in parentheses)

	2000 IDRS			2001 IDRS			2002 IDRS		
Unit	**Modal amount (grams)**	**Modal price**	**n**	**Modal amount (grams)**	**Modal price**	**n**	**Modal amount (grams)**	**Modal price**	**n**
$10 deal	-	-	-	-	-	-	1.0 g *(0.5-7.0 g)*	$10	5
$25 deal	1.0 g *(1.0-2.5 g)*	$25	37	1.5 g *(1.0-2.5 g)*	$25	39	1.0 g *(0.8-7.0 g)*	$25	18
$50 deal	2.0 g *(2.0-7.0 g)*	$50	13	3.0g * *(2.0-7 g)*	$50	22	7.0 g† *(2.0-28.0 g)*	$50	23
Quarter ounce	7 g	$90 *($50-120)*	55	7 g	$80 *($40-150)*	71	7 g	$80 *($10-120)*	70
Half ounce	14 g	$150 *($100-250)*	17	14 g	$150 *($70-180)*	30	14 g	$150 *($40-225)*	56
Ounce	28 g	$280* *($100-350)*	16	28 g	$250 *($100-400)*	50	28 g	$250 *($50-390)*	62

Source: IDRS IDU interviews * Median substituted, as no single mode exists; †This amount is likely to be skewed by a substantial number of IDU purchasing quarter-ounce amounts for $50. The most common amount of cannabis purchased other than the reported mode was 3.5 g, which is more consistent with IDU reports of the amount commonly received if asking specifically for a $50 'deal'.

Table 31: Modal prices of 'bush'/outdoor-cultivated cannabis purchased by IDU in Hobart, 2003-2006 IDRS (range in parentheses)

	2003 IDRS			2004 IDRS			2005 IDRS			2006 IDRS		
Unit	**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	1.0 g *(1.0-3.0 g)*	$10	4	1.0g (0.5-1.0g)	$10	3	1.0 g* *(1.0 g)*	$10	2	1.0g	$10	2
$25 deal	2.0 g *(1.0-7.0 g)*	$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	7.0 g† *(3.5-14.0 g)*	$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 g	$60* *($25-90)*	29	7g	$60* *($35-85)*	30	7 g	$50 *($50-90)*	24	7.0g	$50 *($25-100)*	28
Half ounce	14 g	$80* *($50-130)*	7	14g	$100 *($70-120)*	6	14 g	$120 *($100-200)*	5	14g	$130* *($120-140)*	3
Ounce	28 g	$150* *(100-200)*	20	28g	*$200 ($100-260)*	21	28 g	$200 *($25-350)*	24	28g	$170* ($90-250)	19

Source: IDRS IDU interviews * Median substituted, as no single mode exists; †This amount is likely to be skewed by a substantial number of IDU purchasing quarter-ounce amounts for $50.

Table 32: Modal prices of hydroponic/indoor-cultivated cannabis purchased by IDU in Hobart, 2003-2006 IDRS (range in parentheses)

	2003 IDRS			2004 IDRS			2005 IDRS			2006 IDRS		
Unit	**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	0.6 g* *(0.5-1.0 g)*	$10	3	0.5g *(0.3-0.5g)*	$10	4	0.9 g* *(0.7-1.0 g)*	$10	2	1.0g *(1.0-2.0g)*	$10	4
$25 deal	1.0 g *(1.0-2.0 g)*	$25	46	1.0g *(1.0-2.0g)*	$25	37	1.0 g *(1.0-2.0 g)*	$25	22	1.0g *(1.0-2.0g)*	$25	12
$50 deal	3.5 g *(2.0-7.0 g)*	$50	16	3.0g *(2.5-3.5g)*	$50	6	3.0 g *(2.0-3.5g)*	$50	4	3g	$50	2
Quarter ounce	7 g	$80 *($50-250)*	47	7g	*$80 ($60-100)*	48	7 g	$90 *($70-100)*	37	7g	$90 *($60-120)*	43
Half ounce	14 g	$150 *($140-250)*	16	14g	*$150 ($100-180)*	10	14 g	$150 *($100-200)*	9	14g	$160 *($120-200)*	6
Ounce	28 g	$300 *($200-350)*	27	28g	*$250 ($150-350)*	27	28 g	$300 *($220-350)*	26	28g	$250 *($200-450)*	21

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

Table 33: Cannabis prices in Tasmania reported to the Australian Crime Commission, 1998-2005

	Deal (1 gm approx)			1/4 Bag (7 gms)		1/2 Bag (14 gms)		1 Ounce (28 gms)	
	Leaf	Head	Hydro*	Head	Hydro*	Head	Hydro*	Head	Hydro*
Jan-Mar 1998	$10	$25	$50	$80	$100-120	$160	$200-250	$400	$450
April-June 1998	$10	$25	$50	$80	$100-120	$160	$200-250	$250-350	$350-450
Oct-Dec 1998	$10	$20-25	$25	$80-90	$90-110	$160-180	$180-230	$300-350	$350-450
Jan-June 1999	$10	$20-25	$25	$80-90	$90-110	$160-180	$180-230	$300-350	$350-450
Oct-Dec 1999	$5-10	$20-25	$25	$80-90	$90-110	$160-180	$180-230	$300	$350-400
Jan-June 2000	$5	$25	$25	$80-90	$90-110	$150-160	$170-220	$300	$300-400
July-Sept 2000	$5	$25	$25	$80-90	$90-110	$150-160	$170-220	$300	$300-400
Oct-Dec 2000	$5	$25	$25	$80-90	$90-110	$150-160	$170-220	$300	$300-350
Jan-Mar 2001	$5	$25	$25	$80-90	$90-110	$150-160	$170-220	$300	$300-350
April-June 2001	$5	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
July-Sept 2001	$5	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
Oct-Dec 2001	$5	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
Jan-Mar 2002	$5	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
April-June 2002	$5	$20-25	$25	$80-90	$90-110	$150-160	$170-220	$200-300	$300-350
July-Sept 2002	n/r	$20-25	$25	$80	$90	$150	$160	$250-300	$300
Oct-Dec 2002	n/r	$20-25	$25	$90	$90-100	$150	$160	$300	$300
Jan-Mar 2003	n/r	$20-25	$25	$65-75	$100	$125	$180	$250-300	$300
April-June 2003	n/r	$20-25	$25	$65-75	$85-90	$125	$150	$250	$300
July-Sept 2003	n/r	$25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
Oct-Dec 2003	n/r	$25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
Jan-Mar 2004	n/r	$25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
April-June 2004	n/r	$25	$25	$65-90	$85-100	$125-150	$150-180	$250-300	$300
July-Sept 2004	n/r	$20-25	$25	$70-100	$80-100	$100	$150-200	$150-300	$300-350
Oct-Dec† 2004	n/r	$20-25	$25	$70-100	$80-100	$100	$150-200	$150-300	$300-350
Jan-Mar† 2005	n/r	$20-25	$25	$70-100	$80-100	$100	$150-200	$150-300	$300-350
April-June† 2005	n/r	$20-25	$25	$70-100	$80-100	$100	$150-200	$150-300	$300-350

Source: Australian Crime Commission (previously the Australian Bureau of Criminal Intelligence), Tasmania Police State Intelligence Services. Note: Data for 2005/06 not available at time of publication. *Note: Reporting criteria were expanded in April 1997 to provide separate data for (outdoor) cannabis head and hydroponically-grown cannabis or "skunk". Thus, definitions of what constitutes cannabis "leaf" and "head" may have changed during this time period. †Note: in the 2004/05 ACC report, financial year prices only were reported, but are displayed in the above table in quarters for consistency with previous years.

Tasmania Police provide quarterly figures on the price of covert drug purchases. According to prices reported to the ABCI (now the ACC), in 2004/05 one gram of cannabis cost $20-25, one quarter-ounce $70-100 and one ounce cost $150-300 (outdoor) and $300-350 (indoor/hydroponic). While price data for the 2005/06 financial year are not available at the time of printing, the figures for 2004/05 are similar, but in general slightly higher than the modal purchase prices that IDU nominated in the current study (Table 33).

Tasmania Police report the price of one gram 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. Two IDU participants in the 2004 IDRS study reported purchasing a gram of cannabis hash, reporting prices of $25 and $40 respectively; with one also purchasing a 'cap' of hash oil for $40. None of the consumers interviewed for the 2005 IDRS reported purchasing cannabis hash or hash oil in the six months prior to interview. In the current study, 3 participants reported purchasing one gram of cannabis hash/resin, at a median price of $50 (range $20-75), and one participant reported purchasing a 'cap' of hash oil for $50.

7.2 Availability

Across both indoor- and outdoor-cultivated cannabis, the majority of the IDU sample who reported recent use perceived that cannabis was 'very easy' (62%, n=76) or at least 'easy' (32%, n=39) to obtain, and that the availability of cannabis had remained stable (66%, n=80), decreased (11%, n=13) or increased (9%, n=11) in the preceding six months. Key experts echoed these reports, with 70% (n=7) of those able to comment reporting that cannabis was 'very easily' accessed (with the remainder indicating that it was 'easy' for consumers to access, n=3), and that this level of availability had remained stable (89%, n=8) in the six months prior to interview (with a third key expert reporting increasing availability of cannabis in this time). Trends in availability and routes of access will be discussed separately for each type of cannabis below.

Table 34: Participants' reports of cannabis availability in the past six months, 2005-2006

Current availability	Hydro		Bush	
	2005 (N=100)	2006 (N=100)	2005 (N=100)	2006 (N=100)
Did not respond* (%)	12	31	12	47
Did respond (%)	88	69	88	53
Of those who responded:				
Very easy (%)	60	68	48	55
Easy (%)	23	25	24	42
Difficult (%)	3	1	1	2
Very difficult (%)	-	-	-	-
Don't know^ (%)	14	6	27	2
Availability change over the last six months				
Did not respond* (%)	12	31	12	48
Did respond (%)	88	69	88	52
Of those who responded:				
More difficult (%)	5	10	6	12
Stable (%)	65	67	57	65
Easier (%)	11	7	8	12
Fluctuates (%)	3	9	2	6
Don't know^ (%)	16	7	27	6

Source: IDRS IDU interviews

* 'Did not respond' refers to participants who did not feel confident enough in their knowledge of the market to respond to survey items

^ 'Don't know' refers to participants who were able to respond to survey items on price and/or purity, but had not had enough contact with users/dealers to respond to items concerning availability

In regard to outdoor or 'bush' cannabis, the majority of the IDU commenting believed this to be 'very easy' (55%, n=29), or at least 'easy' (42%, n=22), to access in the preceding six months, and that this situation had remained stable in this time (65%, n=34). Relatively equal and small numbers of participants reported increased or decreased (12%, n=6 respectively), or fluctuating (6%, n=3) availability of outdoor-cultivated cannabis in the preceding six months (Table 34). Most IDU reported usually purchasing this type of cannabis from friends (53%, n=28) or from a dealer's home (49%, n=26: Table 35). Small minorities purchased from acquaintances (13%, n=7) or from a street dealer (2%, n=1). Venues in which these purchases were made were primarily reported to be a dealer's home or friend's home (40%, n=21 respectively), an agreed public location (25%, n=13) or home delivery (19%, n=10: Table 36). Smaller minorities reported home delivery (11%, n=6) and a street market (11%, n=4).

More than two-thirds of the IDU reporting on availability of hydroponic/indoor-cultivated cannabis (68%, n=47) regarded it as 'very easy' to access in the preceding six months, with the majority of the remainder (25%, n=17) reporting that it was 'easy' for them to access the drug (1%, n=1 suggested that it was difficult to access) in this time (Table 34). More than two-thirds of these respondents (67%, n=46) believed that availability of this type of cannabis had remained stable in the preceding six months, with 10% (n=7) reporting that availability had decreased, 7% reporting it had increased (n=5) and 9% (n=6) reporting that availability had fluctuated over the preceding six months. As per trends reported for outdoor-cultivated cannabis, hydroponically-cultivated cannabis was reported as usually being purchased from friends (51%, n=35) or from a known dealer (46%, n=32), with very small proportions of participants reporting purchasing from an acquaintance (12%, n=8) or from a street dealer (3%, n=2: Table 35). Participants also commented on the venue in which they purchased hydroponic cannabis, of which the majority purchased at a dealer's home (39%, n=27: Table 36). Twenty per cent of respondents (n=14) reported purchasing at an agreed public location, 15% (n=10) had the cannabis home delivered, and 12% (n=8) reported purchasing at an acquaintance's home. Unlike the bush cannabis market, in which 40% (n=21) of respondents reported purchasing at a friend's home, only 12% (n=8) of the hydroponic cannabis purchasing group reported this.

Table 35: People from whom cannabis was purchased in the preceding six months, 2006

	Hydroponic cannabis N=69	Bush/outdoor cannabis N=53
Friends	51% (35)	53% (28)
Known dealers	46% (32)	49% (26)
Acquaintance	12% (8)	13% (7)
Street dealer	3% (2)	2% (1)

Source: IDRS IDU interviews. Note: multiple responses allowed

Table 36: Locations where cannabis was scored in the preceding six months, 2006

	Hydroponic cannabis N=69	Bush/outdoor cannabis N=53
Dealer's home	39% (27)	40% (21)
Agreed public location	20% (14)	25% (13)
Home delivery	15% (10)	19% (10)
Friend's home	12% (8)	40% (21)
Acquaintance's home	12% (8)	11% (6)
Street market	7% (5)	8% (4)

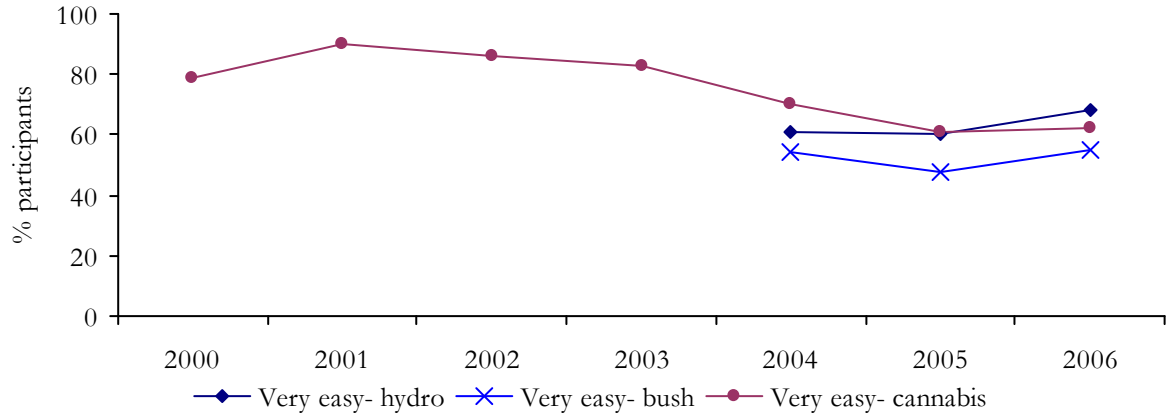
Source: IDRS IDU interviews. Note: multiple responses allowed

As depicted in Figure 29 below, since 2001 there has been a slow and slight decline in the proportion of IDRS IDU respondents who have considered cannabis (any form) as 'very easy' to access. The proportion of respondents reporting a 'very easy' availability of indoor-cultivated cannabis remained stable between the 2004 and 2005 studies and slightly increased in 2006 (Figure 29). In contrast, the proportion of respondents reporting 'very easy' availability of outdoor-cultivated cannabis declined somewhat between 2004 and 2005, and returned to a comparable level to 2004 in the current study.

Examining cannabis seizures made by Tasmania Police[15], it is difficult to determine their relationship with consumer reports of market availability, as the police seizure data suggest a substantial increase in the weight of seizures of cannabis leaf or head 'vegetable matter' between 2003/04 and 2004/05, with a concomitant substantial decrease in the number of cannabis plants or seedlings seized. As such, this change in seizures is likely to be primarily reflective of changes in the coding practices adopted by Tasmania Police, and it is difficult to determine the extent of any change in seizure patterns that may have occurred in this time.

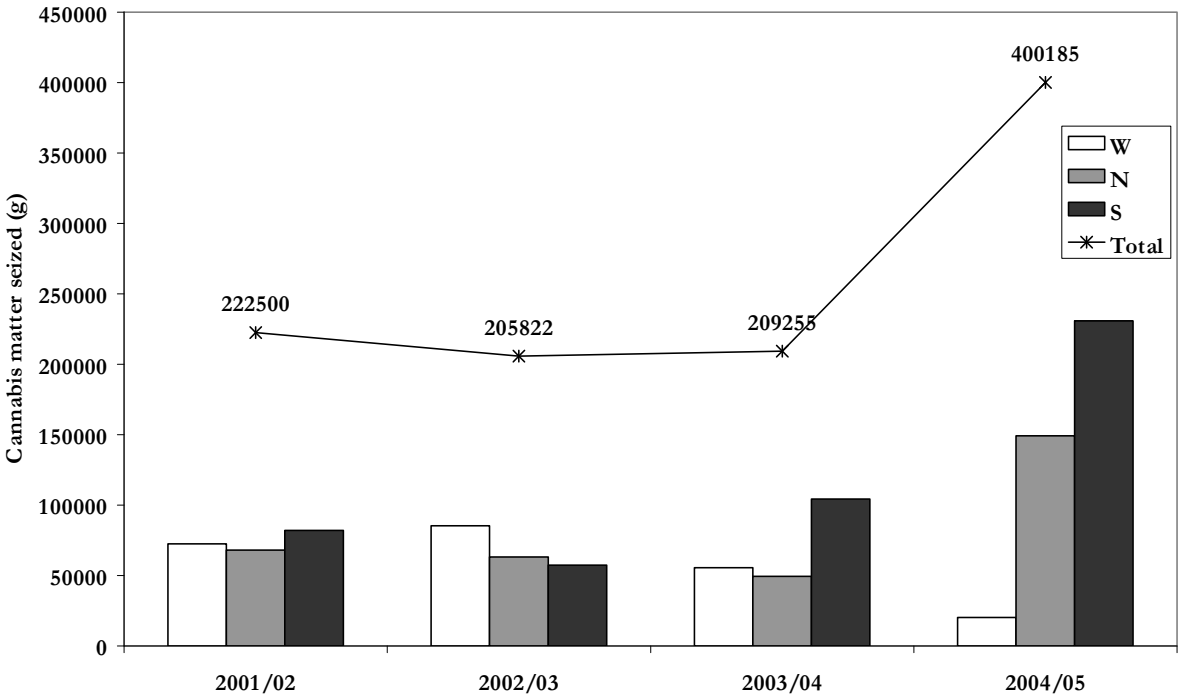
[15] Data reported in this paragraph has been provided by Tasmania Police State Intelligence Services. Data reported in the Australian Crime Commission annual report does not specify whether cannabis seized related to head/leaf or whole plant, and also reports that Tasmania Police made 1,854 seizures of cannabis, at a total weight of 449,341g in the 2004/05 financial year.

Figure 29: Participant reports of current cannabis availability, among those who recently used cannabis, 2000-2006



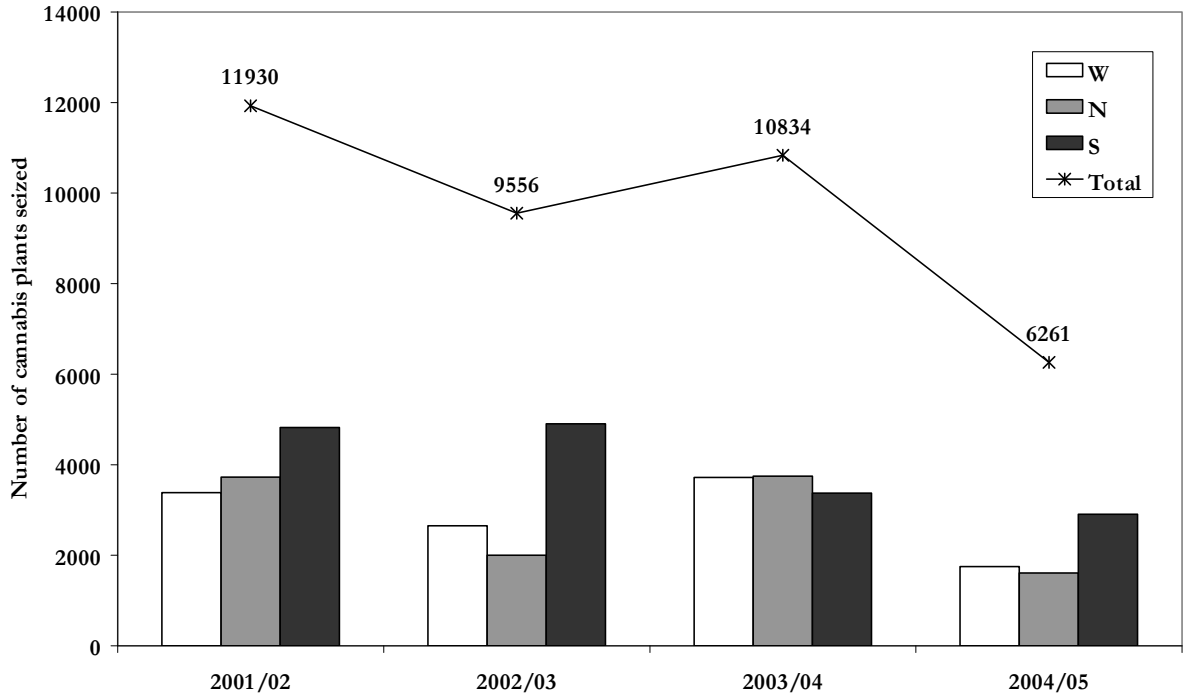
Source: IDRS IDU interviews
NB: A distinction between hydroponic and bush cannabis was introduced in 2004. Prior to this time, survey items referred to any form of cannabis.

Figure 30: Seizures of cannabis (leaf and head) by Tasmania Police district Drug Bureau, 2001-2005



Source: Tasmania Police State Intelligence Services

Figure 31: Seizures of cannabis plants (and seedlings) by Tasmania Police district Drug Bureau, 2001-2005



Source: Tasmania Police State Intelligence Services

7.3 Potency

The cannabis used in the past six months by those participating in the IDU survey was marijuana head (the flowering top sections of the female plant), with most cannabis-using IDU (n=88) reporting some use of both hydroponically/indoor-grown (87% of those using cannabis, n=68) and outdoor crops (or 'bush buds', 73%, n=57). Most reported a preference for hydroponically-grown head, which was borne out by the finding that 64% (n=50) reported this as the type of cannabis that they had most often used in the last six months, in comparison to 36% (n=28) reporting predominant use of outdoor crops. This pattern is remarkably similar to reports in the 2005 and 2004 IDRS studies, where indoor/hydroponically-cultivated cannabis was the type most commonly used by two-thirds (68% in 2005 and 69% in 2004) of recent cannabis-consuming IDU, with one-third (32% in 2005 and 31% in 2004) reporting predominantly using outdoor cannabis. Of note was that, in the 2003 survey, a larger proportion of cannabis consumers (81%) reported predominantly consuming indoor/hydroponically-cultivated cannabis, a trend perhaps consistent with the consumer reports of relative ease of availability of these two 'forms' of cannabis locally (see Figure 29 above). Key expert reports on the 'type' of cannabis consumed by the groups of consumers that they were familiar with were consistent with reports from the IDU cohort – use of both of the 'forms' although a preference for hydroponically- cultivated cannabis. Thirteen percent of the IDU sample had used hash, and 6% had used hash oil in the preceding six months.

In 2001, Tasmania Police reported an increasing trend toward hydroponic, or indoor[16], cultivation of cannabis, and supporting evidence for this trend was available in terms of an increasing proportion of Indian Hemp plant seizures being of indoor crops between 1999/00 and 2001/02 (from 16% in 1999/00 to 41% in 2001/02[17]). However, Tasmania Police officers interviewed in 2005 noted some indications that the preference among both consumers and producers may be shifting back toward outdoor-cultivated cannabis. In the current study, law enforcement officers reported that indoor-cultivated cannabis was the predominant form used (n=3), with one report that this may be due, in part, to outdoor-cultivated cannabis being out of season at the time of the interview.

Most key experts (n=7) reporting use of cannabis among their groups stated that the predominant methods of cannabis use were smoking through 'buckets' or 'bongs' (water pipes), although two reported 'joints' (cannabis cigarettes) and pipes as the predominant methods of use amongst the consumers they were familiar with.

The potency of cannabis across both modes of cultivation was generally rated as 'high' (34%, n=42) or 'medium' (48%, n=58) by the IDU sample, with most respondents indicating that this potency had remained stable (43%, n=53) in the preceding six month period. Notable minorities reported increasing (20%, n=24) or fluctuating (27%, n=33) potency of cannabis in this time. Just four key experts could comment on cannabis potency, with two of these reporting this as 'high' and remaining stable in the preceding six months, one key expert reported potency to be medium, and a fourth key expert reported that potency remained stable over the preceding six months. These reports from both consumers and key experts are similar to those provided in the 2004 and 2005 IDRS studies.

Potency of outdoor or 'bush' cultivated cannabis was regarded by IDU as generally being 'medium' (70%, n=37), with smaller proportions reporting 'low' (15%, n=8), 'high' (6%, n=3) or fluctuating (8%, n=4) purity in the preceding six months. This level of potency was regarded as having remained stable (51%, n=27), or as having fluctuated (25%, n=13) in the preceding six months, although a small number of IDU felt that purity had increased (13%, n=67) and a similar number that purity had decreased (8%, n=4) in this period.

Hydroponically-cultivated cannabis, however, was generally reported by IDU as being 'high' (57%, n=39) or 'medium' (30%, n=21) in purity, with a minority reporting that purity had fluctuated in the preceding six months (9%, n=6). Potency was predominantly regarded as remaining stable in the preceding six months (38%, n=36), although substantial minorities reported recent increases (25%, n=17) or fluctuations (29%, n=20) in purity.

Seizures of cannabis by Tasmania Police are not analysed for potency, and as such no empirical data are available to examine trends in potency.

[16] 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.
[17] Cannabis seizures after 2001/02 were not divided according to cultivation type due to inconsistencies in recording on exhibit sheets.

7.4 Use

7.4.1 Prevalence of cannabis use

The 1998 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 1999), which sampled 1,031 Tasmanian residents, indicated that 37.5% had ever used cannabis, while 15.8% had used the drug in the 12 months prior to interview. These patterns were stable for both urban and rural survey participants. Of those urban respondents who had ever used cannabis, 6% reported using daily, 8% weekly, 11% monthly or every few months, and 13% used cannabis less often, with 56% not using during the 12 months prior to interview. Of those currently using cannabis, 55% obtained it from friends or acquaintances. Ten percent of participants further indicated that cannabis was their favourite drug (from a selection which also included tobacco and alcohol). Following a similar trend to the rest of the country, around 22% of Tasmanian participants indicated that they had been offered cannabis in this period.

Findings of the 2001 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2002) indicated a decline in the proportion of participants reporting recent use of cannabis, with 11.9% of the 1,349 participants sampled reporting use of the drug in the year prior to interview, down from 15.8% in the 1998 survey. Prevalence of cannabis use in the 12 month period prior to survey was estimated to be 22.1% in people aged between 14-24 (24.3% in males, 19.8% in females), 22.9% in 25-39 year olds (29.8% in males, 16.7% in females), and 3.4% in those aged 40 and above (4.3% males, 2.6% females).

In the 2004 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2005), the estimated prevalence of cannabis use in the year prior to interview was 10.9% of Tasmanians aged 14 and over, based on a sample of 1,208 participants. This marked a continued decline in the prevalence of recent use of the drug in the Tasmanian samples, falling from 15.8% in 1988 and 11.9% in 2001.

7.4.2 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, 120 in 2002/03 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. In 2005/06, the proportion of positive urine tests returned to levels seen previous to 2004/05, with 76% of all tests returning positive for cannabis.

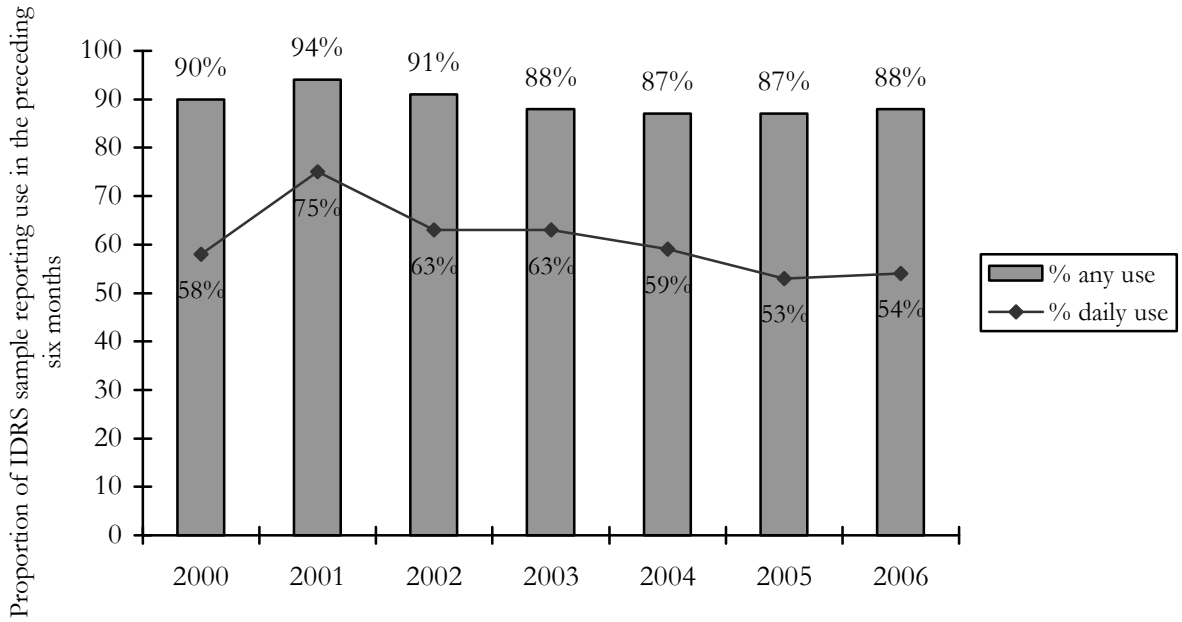
7.4.3 Current patterns of cannabis use

The primary cannabis consumers that key experts were familiar with tended to mainly engage in cannabis use along with some binge consumption of alcohol and methamphetamines. Minorities of these primary cannabis-consuming groups tended to be polydrug consumers, with methamphetamine, benzodiazepines (primarily alprazolam and diazepam), and to a lesser extent, ecstasy and hallucinogens, the drugs most commonly used. Use of these other drugs was sporadic among such demographic groups.

7.4.1 Cannabis use among IDU participants

Most key experts, referring to primary consumers of opiates or methamphetamine, reported or suspected some level of cannabis use within the populations they had contact with. While no IDU participants in the current study reported cannabis as their drug of choice, 88% of the entire sample reported some use of cannabis in the preceding six months. Among those that had recently used cannabis, the median frequency of use in the past six months was 180 days (range 1-180), which equates to daily use of the drug. The majority of cannabis users described by key experts also smoked cannabis daily. Examining recent cannabis use in the six Tasmanian IDRS IDU cohorts (2000-2006: Figure 32), there appears to have been a slow, and slight, decline in the proportions reporting use of the drug across these samples, with a plateau occurring amongst the 2006 cohort. Of note, in particular, is that while the median frequency of cannabis use in the six months prior to interview has remained at 180 days in each of the 2000-2005 consumer cohorts, the *proportion* of the samples reporting daily use has slowly declined over time (Figure 32).

Figure 32: Proportion of Tasmanian IDRS IDU cohorts reporting use of cannabis in the six months prior to interview, 2000-2006



Source: IDRS IDU interviews

7.5 Cannabis related harms

7.5.1 Law enforcement

Key informants generally reported cannabis using groups to be involved in no crimes or *"minor"* crimes. When asked about changes in the level of criminal activity among the cannabis users that key experts had contact with, the majority indicated that there had been no notable change in the past six months, in relation to property crimes, dealing of drugs or fraud. Two key experts (a drug treatment worker and youth worker) reported increases in burglaries amongst cannabis users they were familiar with, and another key expert reported an increase in assaults. One key expert (a drug treatment worker) reported more young people involved in selling small quantities of cannabis, i.e. $25 'deals'. One drug treatment worker reported an increase in the number of people being diverted into treatment by police. Police diversion into treatment was the most common source of referral (after self-referral) into drug treatment in 2004/05 (NMDS-TAS).

Details of cannabis-related consumer and provider arrests are in Section 11.10 (data for 2005/06 was not available at the time of publication). Since the implementation of the Cannabis Cautioning Program (which evolved into the Illicit Drug Diversion Initiative), cautions and arrests relating to cannabis increased steadily from 736 in 1998/99 to 1,830 in 2002/03. While this trend reversed in 2003/04, declining to 1,638 cases, in 2004/05 the number of cautions and arrests relating to cannabis increased again to 2,006 cases. The bulk of these cases (92% in 2003/04 and 86% in 2004/05) related to consumer-type offences.

7.5.2 Health

Those key experts in counselling roles working with individuals for cannabis use noted that a minority of those clients were experiencing mental health problems, most commonly depression or anxiety (although these are the most common presenting issues for counselling in a general sense), along with small minorities with both diagnosed and self-reported psychotic illnesses. Three key experts had noted an increase in cannabis users self-referring to treatment due to concerns about their mental health, and for inpatient detoxification. One key expert who worked in a mental health setting reported that admissions into tertiary level mental health care amongst cannabis users was often a result of the exacerbation of a mental illness due to cannabis use. One ambulance officer reported responding to a greater number of cases associated with mental health problems in the preceding six months, particularly in terms of more paranoid behaviours, which they perceived as often linked to cannabis use.

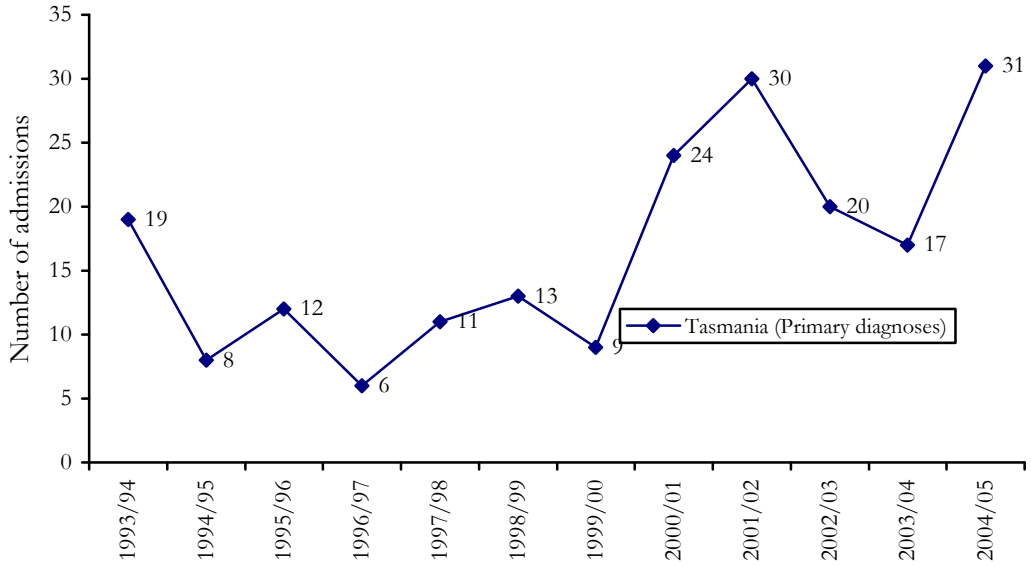
In terms of other aspects of health amongst the cannabis-consuming clients that key experts were involved with, one key expert commented on general health concerns, including poor nutrition and sleep patterns, and another key expert commented on noticing an increase in health problems related to pulmonary (lung) health amongst the consumers that they had recently worked with.

Hospital morbidity data in relation to use of drugs have been provided by the Australian Institute of Health and Welfare for the 1993/04 to 2004/05 financial year periods. These data relate to Tasmanian public hospital admissions, for individuals aged between 15 and 54 years, where cannabis use was recorded as the 'principal diagnosis'; namely, where the effect of cannabis 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.

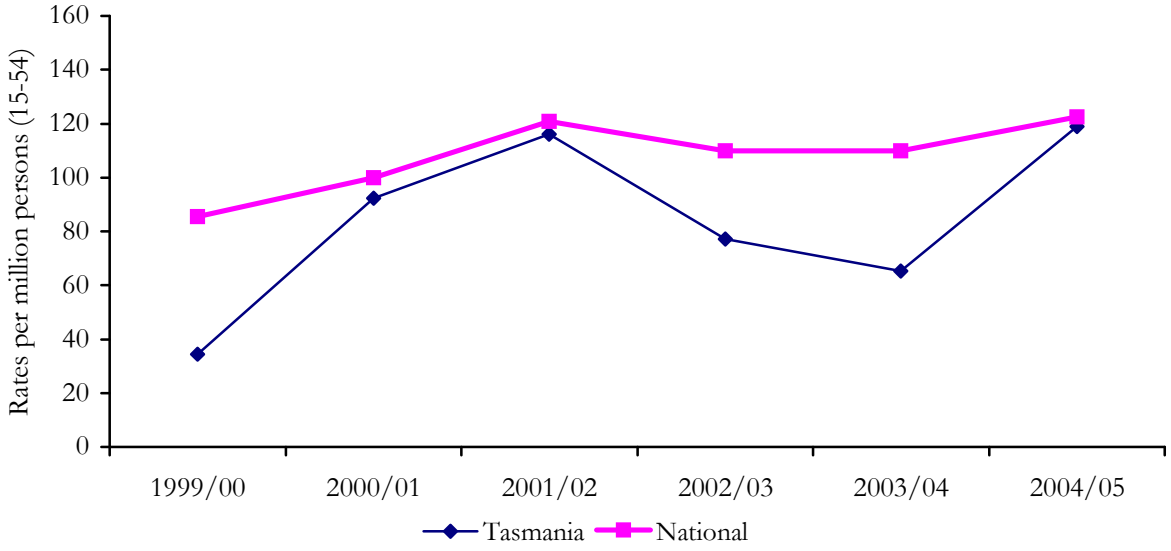
Tasmanian public hospital admissions where cannabis use was noted as the principal diagnosis are presented in Figure 33 below. Examining these figures, it appears that the number of cases per annum has increased in recent years: between 1993/04 and 1999/00 there were around 11 cases per annum (6-19) but this has doubled to an average of 24 cases per annum between 2000/01 and 2004/05 (range 24-31). When the population-adjusted rates of Tasmanian admissions are compared with those nationally (Figure 34), it is clear that Tasmanian admission rates in 2004/05 are comparable with those nationally, with the rate around 97% of the national average, at 119 admissions per million population. This marks a return to nationally-consistent admission rates after lower levels of admissions in Tasmania during 2002/03 and 2004/05, where local admission rates were 70% and 59% of the national average respectively.

Figure 33: Public hospital admissions amongst persons aged 15-54 in Tasmania where cannabis use was noted as the primary factor contributing to admission, 1993/94-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

Figure 34: 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, 1999/00-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

7.6 Trends in cannabis use

Six key experts 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"*. Two key experts (an emergency health professional and a health worker in a custodial setting) noted an increase in primary cannabis consumers experiencing psychotic-type syndromes (paranoia) in the preceding six months. Three key experts noted an increase in people requesting treatment for primary cannabis (mis)use: two of these key experts (a general health worker and a drug treatment worker) noted an increase in people reporting concerns about the impacts of cannabis on their mental health. According to one key expert, this increase may be related to recent media coverage regarding detrimental effects of cannabis use on mental health. Possibly related to this, one consumer noted a decrease in the number of people using cannabis over the preceding six months, primarily amongst people in their late 20s to early 30s, and generally noticing fewer regular cannabis users. Reports from consumers in the current cohort support this observation to some extent, with the number of participants reporting daily use steadily declining from 75% in 2001 to 54% in 2006.

Several key experts noted widespread polydrug use amongst primary cannabis consumers, two experts noting recent increases in use of amphetamines, alcohol and benzodiazepines. One key expert noted *"polydrug use is now almost uniform"*.

7.7 Summary of cannabis trends

Table 37: Summary of cannabis trends

	Outdoor / 'bush'	Indoor / hydroponic
Price ***Gram*** ***Quarter-ounce*** ***Ounce***	• $15 (median), decreased since 2005 survey • $50 (modal), stable since 2005 survey • $170 (median), decrease of $30 since 2005 survey	• $25 (modal), stable since 2005 survey • $90 (modal), stable since 2005 survey • $250 (modal), decrease of $50 since 2005 survey
Availability	Both indoor- and outdoor-cultivated cannabis: • Easy-very easy to obtain • Availability stable in recent months, but slightly increased in comparison to the 2005 survey.	
Potency	• Medium-low (based on IDU estimates) • Potency level stable or fluctuating	• High-medium (based on IDU estimates) • Potency level stable to increasing, and fluctuating
Use	• Most widely used illicit drug • Indications of decreasing prevalence of use of cannabis in recent years in the state (NDSHS), and slowly decreasing prevalence in IDRS IDU samples (particularly in regard to proportion of daily cannabis smokers) • High level of daily use among IDU sample and groups discussed by key experts • Hydroponically-grown head preferred by users • Predominantly smoked using 'buckets' and 'bongs' (water pipes)	
Other trends	• Hospital presentations where cannabis is regarded as the primary cause have increased in 2004/05, after a decline between 2002/03 and 2003/04, and is now similar to the national rate. • Key experts report increased self-referral for treatment to counselling and detoxification services; consumers showing increased concern about effects of cannabis on their mental health	

8.0 OPIOIDS

In total, five key experts reported on groups of opioid consumers they were familiar with. Two key experts reported on groups of people who were primary consumers of methadone (one person was a drug treatment worker and the other worked in a Needle Availability Program), and another key expert (employed in a custodial setting), reported on predominant morphine users. A further two key experts reported on groups of people who were primarily users of opioids; populations that were using both diverted pharmaceutical morphine and methadone; either at equal frequency, or using one preferentially, but also regularly using the other depending on availability (one key expert was a drug treatment worker and the other worked in a Needle Availability Program). These patterns were consistent with key expert reports on such populations in previous local IDRS studies.

Similar trends were noted among the IDU sample, as 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, 81% (n=50) also reported use of some form of methadone (either tablets or syrup, licit or illicitly accessed: Table 38), with almost half recently using oxycodone. Additionally, of those who had used morphine in the six months prior to interview, 36% reported methadone as the drug they most often injected in the past month (34% reporting this as being morphine: Table 39). Because of this substantial level of overlap, trends for these drugs are discussed together here.

Table 38: Use of other drugs by those reporting use of morphine in the past six months (n=62)

Drug	% of morphine users reporting use	Median days used by those who had used the drug (range in parentheses)
Heroin	10	4 (1-15)
Methadone (any)	81	144 (1-180)
Prescribed syrup	44	180 (7-180)
Illicit syrup	55	23 (2-96)
Illicit Physeptone	57	6 (1-120)
Oxycodone (illicit)	42	8 (1-180)
Other opioids	13	4 (1-12)
Homebake	2	1
Benzodiazepines	82	90 (2-180)
Cannabis	89	180 (1-180)
Methamphetamine *(any)*	84	34 (1-180)
Powder	63	6 (1-180)
Base/paste	60	12 (1-180)
Crystal	57	6 (1-180)
Ecstasy	45	4 (1-53)
Alcohol	73	24 (1-180)

Source: IDRS IDU interviews

Table 39: Drug of choice and drug most often injected among those reporting use of morphine in the past six months (n=62)

	Drug of choice %	Drug most often injected %
Heroin	31	-
Methadone	15	36
Morphine	21	34
Methamphetamine	27	24
Benzodiazepine	2	2

Source: IDRS IDU interviews

Key experts were familiar with users of opioids from all Hobart suburbs, but they were often from inner-city suburbs, or lower socio-economic areas, possibly reflecting the nature of the services that the key experts worked in (largely government-run health services). The majority of key experts described opioid users from a predominantly English-speaking background, ranging in age between mid-teens and mid-60s; however, in general, the groups that key experts were referring to were in their 20s. While key experts reported on groups being between 50% and 90% male, the majority of those interviewed were familiar with groups with an equal gender balance, similar to reports from the 2005 IDRS study. This is a change from previous studies, where, in 2003, such consumer groups were regarded as a median of three-quarters male and in 2004 the groups were three-fifths male predominant. The majority of the opioid users described by key experts in the current study had completed 9 to 10 years of schooling and were predominantly currently unemployed.

Of the IDU sample, 97% reported they had tried morphine at some stage in their lives, and all of these had injected morphine. Twenty-three percent had ever used licit morphine (morphine directly prescribed to them): of these 87% had ever injected it. Ninety-four percent of participants had ever used illicit morphine, and all of these had injected it at some stage. Sixty-two percent of IDU participants reported use of morphine in the preceding six months. Of this group, 94% (n=58) had used illicit morphine, and 6% (n=4) used licit morphine. There was no crossover between these groups in terms of their mode of access to morphine (licit or illicit). All participants who had used illicitly-accessed morphine had injected this in the preceding six months, while 10% (n=6) had also used the drug orally in this time. Amongst the small number of individuals that had used licit (prescribed) morphine (n=4), three (75%) had injected, and two (50%) had administered the drug orally.

Similar patterns of use were found for both licit and illicitly accessed Physeptone tablets of methadone, with 86% of the sample ever using either form of Physeptone, and all but five of these participants having injected the drug. Eighty-three percent of participants reported ever having used illicit Physeptone and 18% had received prescribed (licit) Physeptone (all of whom had injected the drug). In the preceding six months, half of the cohort (50%) had used Physeptone: of these, 96% (n=48) had accessed the drug via illicit means, and 8% (n=4) had received prescriptions for the drug. Of the participants reporting recent use of illicit Physeptone, 94% (n=45) had injected and 15% (n=7) had recently swallowed the drug. Of those four participants that had been prescribed Physeptone in the preceding six months, three (75%) had injected and one (25%) had only used the drug orally.

Use of illicitly accessed methadone syrup was similarly common in this cohort, with 78% of the sample ever using illicit syrup, and all but three of these participants injecting it at some stage in their lives. Just under half of the sample (46%) used illicit methadone syrup in the preceding six

months, with all but two reporting recent injection (44% of the sample), and a smaller proportion swallowing syrup (11%) in this time. As would be expected given that half of the cohort (51%) were involved in methadone maintenance treatment in the six months prior to interview[18], two-thirds (66%) of the sample had been prescribed (licit) methadone syrup at some stage of their lives, although it is noteworthy that almost all had injected prescribed-syrup (60% of the cohort), which is not consistent with a supervised methadone maintenance program – according to policy and the method that the drug is currently distributed in the program. Fifty-one percent of the sample had used methadone as part of a maintenance program in the preceding six months, and almost all had recently injected the medication (all but five of these participants).

More than two-thirds of IDU consumers sampled (70%) had ever used oxycodone tablets, with most of this group having injected oxycodone at some stage (90%, n=63), with one-third (31%) of the current cohort reporting using oxycodone in the preceding six months, and 84% of this group (n=26) reporting recent injection, and 19% (n=6) swallowing the drug in this time. Only a small proportion (11%) of the current participants had ever received prescriptions for oxycodone, with only two accessing the drug legitimately in the preceding six months (one respondent injecting, and one swallowing the drug in this time).

The demographics of the group that had used morphine (n=62) in the past six months was similar to that of other IDU (see Section 3.1) in terms of sex, cultural and educational background, treatment and employment status, prison history, relationship status, sexual preference, sources of income and age of first injection. However, they were significantly younger (mean=28.4, SD=6.9; and mean=33.6, SD=7.9 years old respectively: $F(1,98)=11.497$, $p=0.001$) and similarly reported significantly shorter injecting careers (mean=10.9 years, SD=6.5; and mean=14.0 years, SD=7.5 respectively: $F(1,98)= 5.07$, $p=0.027$) than those that had not recently used the drug. A key expert employed in the law enforcement field supported this finding, stating that many familiar morphine users tended to be 'young people'. Current morphine users were also more likely to report morphine as their drug of choice (21% vs. 0%: $\chi^2(1_{n=100}) =9.158$, $p=0.001$), and were more likely to report injecting (any drug) daily or more frequently (50% vs. 16%: $\chi^2(1_{n=100}) = 11.829$, $p=0.001$).

The demographics of those that had used any form of methadone by either licit or illicit means in the past six months (n=75) was similar to that of other IDU (see Section 3.1) in terms of sex, age, cultural and educational background, employment and relationship status, sexual preference, prison history, sources of income, drug of choice, frequency of injection, age of first injection, first drug injected and duration of injection career. However, those that had recently used methadone were significantly more likely to report an opiate as the drug most injected in the month prior to the interview (76% vs. 36%: $\chi^2(1_{n=100})=13.369$, $p<0.001$, and, as would be expected, were more likely to be currently engaged in a form of treatment (71% vs. 16%, $\chi^2(3_{n=100})= 36.031$, $p<0.001$), largely reflecting methadone maintenance involvement.

The demographics of the group that had used oxycodone (n=31) in the past six months was similar to that of other IDU (see Section 3.1) in terms of sex, cultural and educational background, employment status, income source, prison history, drug of choice, age of first injection, first drug injected and duration of injection career. However, those that had recently used oxycodone were significantly more likely to be daily injectors (61% vs. 26%: $\chi^2(1_{n=100})=11.372$, $p=0.001$) than those that had not recently used the drug, and were significantly

[18] Of these 51 participants, one had exited methadone maintenance at the time of interview. A further three participants were receiving maintenance doses of Physeptone tablets.

younger than the rest of the cohort (28 years, SD=7.8 vs. 31 years, SD=7.5: F(1,98)=4.118, p=0.045).
Sixty-two participants in the IDU sample could comment on aspects of price, purity and availability of morphine, with 56 respondents providing information on illicit methadone syrup, 39 commenting on illicit Physeptone tablet trends and 26 on some aspect of market trends for oxycodone.

8.1 Price

8.1.1 Morphine

IDU reported the median market price of morphine as around $0.75 per milligram, a lower price than reported in previous IDRS reports ($0.90 in 2005; $0.88 in 2004), and key experts reported a slightly higher price of $0.90 per milligram (n=2). The modal price that users paid for their most recent purchase of the drug was generally lower than this figure (Table 40), with consumers reporting a modal purchase price of $50 per 60mg (range $20-60, n=14), and $80 (range $50-120, n=16) for 100mg MS Contin tablets. Modal prices for Kapanol were similar at $35 (range $10-80, n=31) for 50mg and $70 (range $20-120, n=34) for 100mg. The one key expert (a drug treatment worker) that was able to comment on prices reported $80-100 per 100mg morphine. The majority of consumers reporting on morphine prices believed that these had remained stable in the preceding six months (55%, n=34 of those able to comment). However, a notable minority of consumers (21%, n=13 of those able to comment) and one key expert noted an increase in price during this period. A small minority of IDU participants reported fluctuating price trends (10%, n=6), and no participants reported decreasing prices. Comparison of the modal prices for most recent purchases of the drug amongst the 2005 and 2006 survey respondents provides support for reports of stable to increasing prices (Table 40), with stable modal prices for five of the most commonly purchased tablet types over this time (30mg, 60mg and 100mg MS Contin tablets and 50mg and 100mg capsules of Kapanol).

8.1.2 Oxycodone

Prices for purchases of diverted oxycodone were first examined in the 2005 IDRS study[19]. Consumers reported modal purchase prices of $25 per 40mg tablet of OxyContin (range $5-40, n=14), and $50 per 80mg tablet (range $40-50, n=7). The median price of 20mg OxyContin tablets was reported to be $15 (range $10-20, n=5: Table 40). While only a small number of participants could comment on whether prices had recently changed for oxycodone (n=26), most of these consumers regarded prices as remaining stable (39%, n=10) or increasing (23%, n=6); 39% reported they purchased oxycodone, but could not comment on price changes. Comparing oxycodone prices reported among the 2006 participants with those from previous cohorts (Table 40), purchase prices are consistent with the perceptions of stable to increasing price trends, with the modal purchase price of 40mg OxyContin tablets increasing by $5 ($20 in 2005, $25 in 2006), and the median purchase price of 80mg tablets increasing by $10 ($40 in 2005 and $50 in 2006) since the 2005 study.

8.1.3 Methadone

Consistent with reports in previous local IDRS studies, consumers reported the modal market price of methadone as around $1 per milligram (Table 41). However, prices that IDU respondents reported paying for their last purchase of the drug were highly variable, and, as indicated in Table 41 below, the modal price that users paid for their most recent purchase of larger amounts of the drug (more than 80mg) was generally lower than the $1 per milligram

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

figure. Since the nature of access to the drug 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, and these were divided into purchases of less than 80mg or 80mg and above, on the basis of a clear split in the data. Among those purchases of less than 80mg, the modal price paid by IDU was $1.00 per milligram (range $0.40-2.00 per mg, n=7), while median prices for amounts 80mg and above were approximately $0.85 per milligram (range $0.30-2.00, n=36: Table 41). When purchase prices for diverted 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, in which the cohort reported $0.80 per mg of syrup (Table 41). Part of the decrease in price in 2005 may be, counter-intuitively, attributed to *decreased* illicit availability of methadone syrup: as will be discussed below, much of the access to diverted methadone syrup among the 2005 cohort was through purchases by clients on the methadone program from friends that were also on the program, with little access of methadone syrup by those not involved in such treatment. As such, the decreased reported price in the 2005 study may reflect a decrease in the number of purchases from people that were not 'friends' of the provider, who are typically charged higher rates than 'friends' – hence reducing the overall reported price.

Prices for diverted Physeptone tablets of methadone appear to have remained stable across the past six years of the Tasmanian IDRS study, at $10 per 10mg tablet (Table 41). However, while 44% (n=17) of those who commented reported stable prices, a substantial proportion reported increasing prices (31%, n=12) in the preceding six months (small minorities reported recently decreasing: 5%, n=2; or fluctuating: 10%, n=4 prices). This is consistent with reports of decreasing availability of diverted Physeptone and decreasing frequencies of use of this drug in the current cohort (discussed below).

Table 40: Market prices of morphine and related products reported by IDU and modal price for most recent purchase of particular forms of the drug (reported price range in parentheses).

Preparation	2001 IDRS		2002 IDRS		2003 IDRS		2004 IDRS		2005 IDRS		2006 IDRS	
	Price	N	Price	*n*	Price	*n*	Price	*n*	Price	*n*	Price	*n*
Morphine $ per mg	$1	*8*	$1	*15*	$1	*14*	$1	*10*	$1	*19*	$0.75*	*9*
Morphine $ per 100 mg	$80	*5*	$75*	*3*	$75	*8*	$80	*24*	$80	*33*	$80	*9*
MS Contin												
10 mg tablet	$5 ($5-10)	*3*	$7.50 ($5-10)	*2*	$5($5-15)	*3*	$4 ($3-15)	*3*	$10 ($10)	*2*	$5 ($5-10)	*3*
30 mg tablet	$25 ($10-35)	*42*	$20 ($10-30)	*45*	$20 ($20-30)	*18*	$20 ($1-25)	*26*	$25 ($15-35)	*21*	$25 ($15-30)	*25*
60 mg tablet	$50 ($18-60)	*74*	$50 ($18-60)	*86*	$50 ($15-60)	*51*	$50 ($4-58)	*50*	$50 ($25-60)	*42*	$50 ($20-60)	*14*
100 mg tablet	$80 ($50-100)	*68*	$80 ($20-100)	*73*	$70 ($12-100)	*44*	$70 ($5-80)	*44*	$70 ($50-90)	*47*	$80 ($50-120)	*16*
Kapanol												
20 mg capsule	$10 ($5-25)	*14*	$20 ($10-20)	*14*	$15 ($10-30)	*9*	$13 ($5-20)	*9*	$13* ($5-20)	*6*	$10 ($5-20)	*11*
50 mg capsule	$40 ($25-50)	*40*	$40 ($15-50)	*43*	$35 ($12-50)	*35*	$40 ($15-50)	*35*	$35 ($15-50)	*29*	$35 ($10-80)	*31*
100 mg capsule	$80 ($50-90)	*31*	$80 ($50-100)	*36*	$70 ($17-100)	*22*	$70 ($30-80)	*20*	$70 ($30-90)	*25*	$70 (20-120)	*34*
Anamorph												
30 mg tablet	$25 ($15-30)	*26*	$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*	$5	*1*
20 mg tablet	-	-	-	-	-	-	-	-	$15 ($10-20)	*5*	$15*($10-20)	*5*
40 mg tablet	-	-	$15	*1*	$20 ($20)	*4*	$40	*1*	$20 ($15-30)	*11*	$25 ($5-40)	*14*
80 mg tablet	-	-	-	-	-	-	-	-	$40* ($30-80)	*9*	$50 (40-50)	*7*

Source: IDRS IDU interviews *Median substituted for mode, as no single mode existed.

Table 41: Market prices of methadone reported by IDU and modal price for most recent purchase of particular forms of the drug (reported price range in parentheses).

Preparation	2001 IDRS		2002 IDRS		2003 IDRS		2004 IDRS		2005 IDRS		2006 IDRS	
			Price	n	Price	n	Price	n	Price	n	Price	n
Methadone $ per mg	$1 ($0.4-1)	*49*	$1 ($0.5-1)	*49*	$1 ($0.5-1)	*29*	$1 ($0.5-1.2)	*62*	$1 ($0.5-2)	*59*	$1 ($0.3-2)	*44*
Methadone syrup (price per mg)												
Amounts less than 80 mg	$1.0 ($0.5-1)	*11*	$1.0 ($0.4-1)	*19*	$1.0 ($0.3-1)	*21*	$1.0 ($0.4-1)	*30*	$0.8 ($0.5-4)	*24*	$1.0 ($0.4-2)	*7*
Amounts greater than 80 mg	$0.55 ($0.3-1)	*15*	$0.8 ($0.4-0.9)	*24*	$0.8 ($0.5-1)	*22*	$0.8 ($0.4-1)	*42*	$0.75 ($0.4-1)	*14*	$0.85* ($0.3-2)	*36*
All purchase amounts	$1.0 ($0.3-1.0)	*26*	$1.0 ($0.4-1.0)	*43*	$1.0 ($0.3-1.0)	*43*	$1.0 ($0.4-1)	*72*	$0.8 ($0.4-1)	*38*	$1.0($0.3-2)	*43*
Physeptone												
5 mg tablet	$7*($5-10)	*3*	$5	*1*	-	-	$10	*2*	$5	*1*	$4.25* ($3.50-5)	*2*
10 mg tablet	$10 ($2-15)	*53*	$10 ($5-15)	*53*	$10 ($3-20)	*62*	$10 ($5-15)	*43*	$10 ($5-15)	*33*	$10 ($7-150)	*36*

Source: IDRS IDU interviews *Median substituted for mode, as no single mode existed.

8.2 Form

8.2.1 Morphine

Consumer respondents were asked to nominate the preparations of morphine that they had used in the preceding six months. Of the 62 participants reporting use of morphine in the preceding six months, use of diverted MS Contin (87%, n=55) and Kapanol (69%, n=43) was most common, with smaller proportions reporting recently using diverted Ordine[20] (liquid morphine: 23%, n=14), diverted MS Mono (21%, n=13), diverted Anamorph (15%, n=9) or diverted Hydromorphone (2%, n=1). Use of licitly-accessed morphine in the preceding six months was relatively scarce within the IDU sample, with just 1 individual reporting such use of MS Contin (2%) and two reporting use of Kapanol (3%) in this time. When asked to nominate which form they had used most often in the preceding six months, 69% (n=42) reported illicit MS Contin, 31% illicit Kapanol (n=19). Finally, it is clear from these figures that only a very small minority of those using morphine (5%) had accessed this from licit[21] sources in the preceding six months.

8.2.2 Oxycodone

Almost one-third (n=31) of the current IDU sample reported use of some preparation of oxycodone in the six months prior to interview, with 30 accessing diverted doses of the drug and two accessing the drug by legitimate prescription. Among those accessing the drug illicitly, OxyContin (n=24) and Endone (n=17) were most commonly used, with smaller numbers of consumers reporting recent use of diverted OxyNorm (n=2) or Proladone (n=2). When asked which form they had used most often in the preceding six months, 3% (n=1) indicated legitimately prescribed OxyContin, 65% diverted OxyContin (n=20), 23% diverted Endone (n=7) and 3% diverted OxyNorm or Proladone (n=1 respectively). These patterns of use have varied somewhat in comparison to those reported among the 2005 IDRS IDU cohort, primarily with regard to illicit Endone use, which has increased markedly.

8.2.3 Methadone

Sixty-seven 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 (70%, n=47). Of those that had used methadone syrup, 69% (n=46) had purchased diverted methadone syrup at some stage in the preceding six months (including 55% of those individuals interviewed in the current study that were receiving methadone maintenance therapy).

Use of the tablet preparation of methadone, Physeptone, was reported in a slightly smaller percentage of the sample (50% of the sample, and 63% (n=42) of those reporting recent use of methadone) in the preceding six months. Of the 50 individuals who reported use of Physeptone tablets, 48 had accessed diverted doses in the preceding six months, while 4 had received legitimate prescriptions for Physeptone. This level of recent use of Physeptone, by 50% of the IDU sample, represents an increased level of use; the first since 2003. Prior to 2006, a declining trend was observed with 42% of the cohort reporting Physeptone use in 2005, compared with 57% in 2004 and 65% in 2003.

When asked to describe the form of methadone they had predominantly used in the preceding six months, 64% (n=47) indicated licit methadone syrup, 16% (n=12) illicit methadone syrup, 16% (n=12) illicit- and 4% (n=3) licit- Physeptone tablets.

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

[21] During interviewing, 'licit means' was defined as having the drug prescribed directly to the individual, whether appropriate or otherwise. By this definition, doctor-shopping would be considered as 'licit means'.

8.2.4 Other pharmaceutical opioids and related substances

Due to recent developments of new opiate-based or strong analgesic pharmaceuticals and the known interest among the Tasmanian illicit drug market for pharmaceutical preferences for drugs, IDU were also asked about use of other pharmaceutical opiates and related substances in the preceding six months. One participant reported being prescribed Tramadol in the six months prior to interview, with 8 reporting recent illicit use of this drug. There was no overlap between those individuals that were prescribed Tramadol and those accessing it illicitly. Single participants reported recently using (without prescription) Catapres (clonidine) and pethidine, and one participant reported being prescribed pethidine in the preceding six months. Four participants reported use of codeine and paracetamol preparations (2 used Panadeine Forte and 1 used Codalgin Forte, 1 did not specify). Of those that answered regarding source of these medications, 2 reported illicit use and 1 reported licit use. Fentanyl was enquired about for all participants but none had recently used this drug.

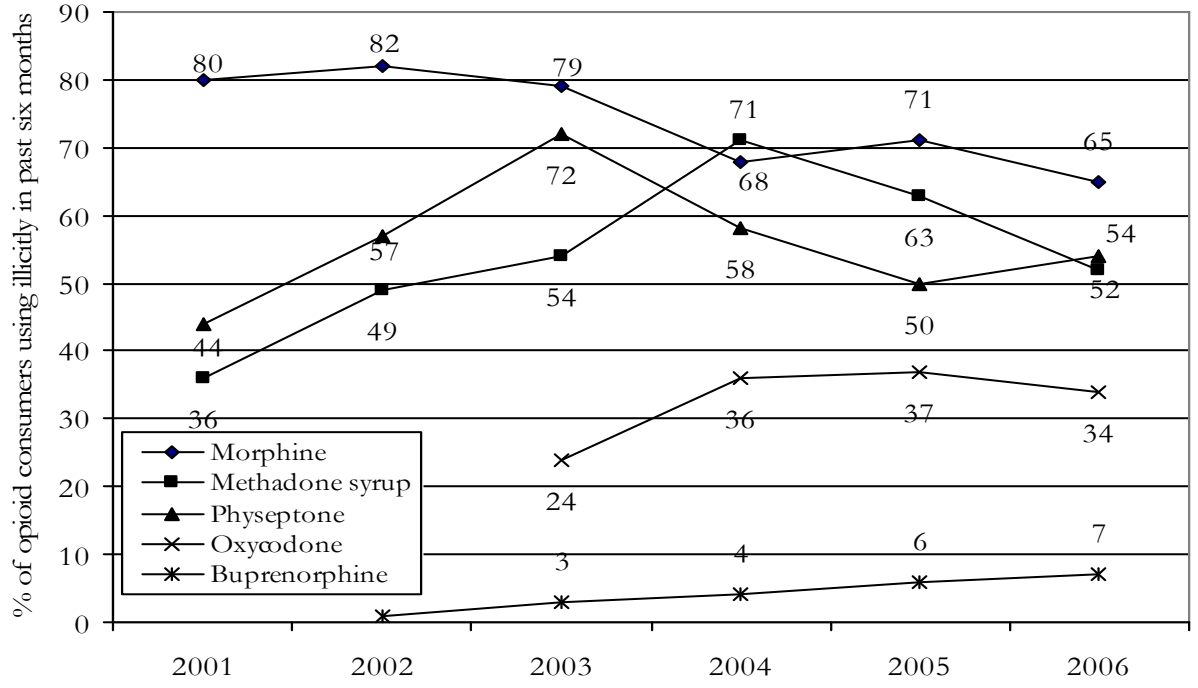
8.2.5 Use of different forms of pharmaceutical opiates across IDRS studies

Use of these different types of pharmaceutical opiates across the IDRS IDU samples is charted in Figures 35 and 36 below. It should be noted that these figures report on the proportion of the IDU participants reporting accessing these drugs illicitly (rather than direct 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 35 presents illicit use of each pharmaceutical opiate type *as a proportion of the number of pharmaceutical opiate consumers in each cohort*, while Figure 36 presents illicit use as a proportion of the entire IDRS samples each year.

Figure 35 indicates that the proportion of the sample reporting recent use of illicit morphine – which was the predominant pharmaceutical opiate used both by IDRS IDU participants and clients of the state's non-pharmacy Needle Availability Program to 2002 (see Figure 37) – has been declining relatively stably since this time. Diverted methadone (Physeptone) tablet use had steadily increased from 2000, where 32% of the sample had recently used the drug (either licitly or illicitly), rising to 64% (using diverted tablets) in 2003, with use subsequently declining in 2004 and further still in 2005 to just 41%. However, illicit use of Physeptone had increased somewhat in the current sample (48% of the current cohort (Figure 36).

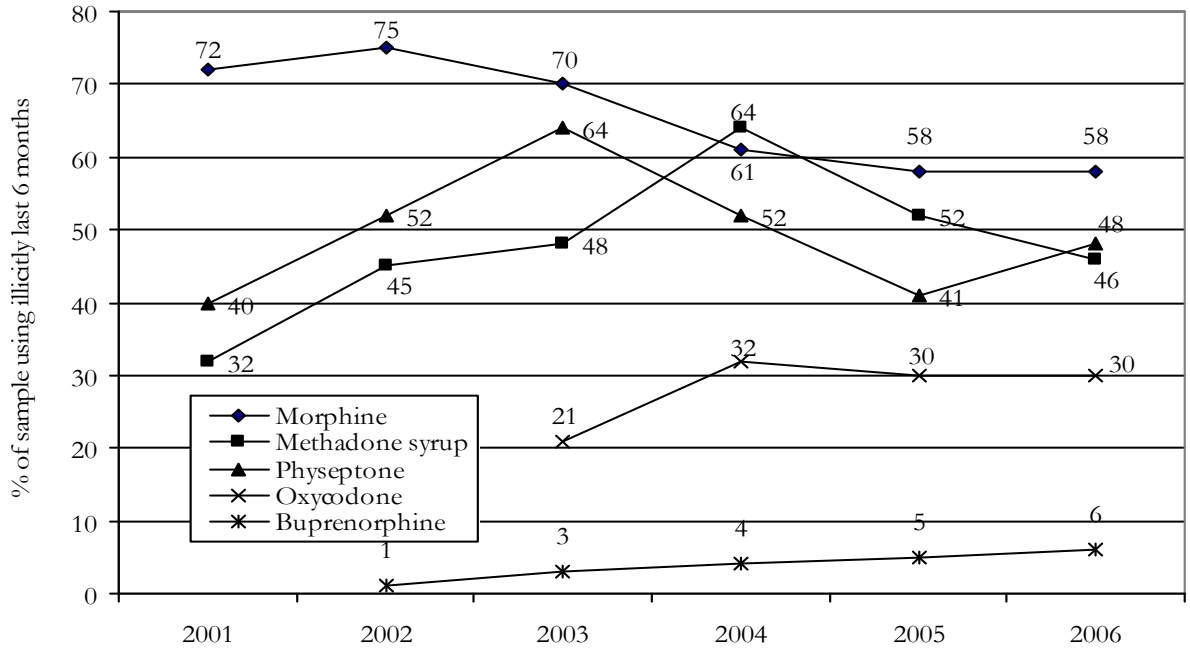
Across the early years of the IDRS study locally, the proportion reporting recent use of diverted methadone syrup increased (32% in 2001 to 64% in 2004); however, this was always commonly used amongst those already enrolled in the methadone maintenance program (in the 2002 cohort, existing methadone maintenance patients comprised more than half of all those accessing diverted syrup). Since 2004, the proportion of the IDRS IDU participants reporting recent use of diverted methadone syrup has steadily declined (falling from 64% in 2004 to 46% in 2006), although the majority of those reporting illicit purchases remain individuals who are themselves also receiving methadone maintenance treatment (55% in 2006). Use of diverted buprenorphine has remained low across the four years where the drug has been available for pharmacotherapy. Finally, there had been a notable increase in reported use of diverted oxycodone (21% in 2003, 32% in 2004 and 30% in 2005), however this has plateaued at around one-third of participants in the past two IDU cohorts.

Figure 35: Proportion of opiate consumers within the Tasmanian IDRS IDU cohorts reporting non-prescription use of different types of pharmaceutical opiate or related products in the six months prior to interview, 2001-2006.



Source: IDRS IDU interviews

Figure 36: Proportion of Tasmanian IDRS IDU cohorts reporting use of different types of pharmaceutical opiate or related products in the six months prior to interview, 2001-2006.



Source: IDRS IDU interviews

8.3 Availability

8.3.1 Morphine

The majority of the consumers interviewed who could comment on availability trends for morphine (n=62) reported that morphine was 'easy' or 'very easy' for them to obtain (71%: 45% 'easy'; 26% 'very easy'), and that the availability of morphine had remained stable (52%) in the six months prior to interview, with 15% reporting access had increased, 8% reported it had decreased and 13% reported fluctuating availability. Two key experts reported on the availability of morphine to the consumer group they were familiar with in the preceding six months, with one key expert reporting stable availability, and another reporting access had become 'easier'. Among the IDRS consumer sample, participants reported usually purchasing morphine in the past six months from a known dealer (55%, n=34), friend (40%, n=25), or from an acquaintance (24%, n=15), with smaller proportions purchasing from either a street dealer or a gift from friends (3%, n=2 respectively), or an unknown dealer (2%, n=1) . Participants were also asked to comment on the venues in which these purchases occurred: 45% (n=28) reported purchasing at an agreed public location, 34% (n=21) in a friend's home and 32% (n=20) in a dealer's home. Small minorities reported purchasing via home delivery (13%, n=8), an acquaintance's home (10%, n=6) or either a mobile dealer or street market (3%, n=2 respectively).

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. Data for 2005/06 was not available at the time of publication.

8.3.2 Oxycodone

Only a minority of the consumers interviewed in the 2006 IDRS study (26%) could confidently report on availability trends for oxycodone in the preceding six months, with almost half commenting that it was either 'easy' or 'very easy' to access (46%: 42% 'easy' and 4% 'very easy'). Thirty-five percent of those who commented reported that availability of oxycodone was difficult, in contrast to the 2005 cohort, in which almost two-thirds reported that access was difficult (61%, n=11). Almost half (42%, n=11) of the 2006 cohort who commented reported that this situation had remained stable, 19% (n=5) reported that access had become more difficult in the preceding six months, and 12% (n=3) reported fluctuating availability trends.

Participants had usually purchased oxycodone from either a friend (46%, n=12) or from a known dealer (35%, n=9), with minorities purchasing from acquaintances (15%, n=4) or receiving oxycodone as a gift from friends (12%, n=3). The majority of respondents reported purchasing oxycodone at either a friend's home (46%, n=12) or a dealer's home (23%, n=6), with minorities purchasing at an agreed public location (15%, n=4), via home delivery or at an acquaintance's home (12%, n=3 respectively) or from a street market (8%, n=2).

8.3.3 Methadone

In a continuation of trends identified in the 2004 study, the majority of participants reporting on the availability of diverted Physeptone tablets considered it as 'difficult' or 'very difficult' to access (59%, n=23; 56% 'difficult' and 3% 'very difficult'), with only a minority considering the drug as 'easy' (31%, n=12) or 'very easy' (3%, n=1) to access in the preceding six months. While 51% (n=20) noted no change in the level of availability of Physeptone recently, a substantial proportion noted that it had become more difficult (28%, n=11) to access, or that availability had

fluctuated (10%, n=4) in this time. Most IDU reported usually purchasing Physeptone through a friend (51%, n=20), with smaller numbers purchasing from an acquaintance (36%, n=14) or known dealers (23%, n=9). Venues which were most commonly cited for these transactions include agreed public locations (54%, n=21) or a friend's and acquaintance's home (18%, n=7 respectively). Small minorities reported accessing the drug via home delivery (10%, n=4), at a dealer's home (8%, n=3), in a street market (5%, n=2) or from a mobile dealer (3%, n=1).

Participants were somewhat divided in their reports of the availability of diverted methadone syrup, with 58% considering it as 'easy' or 'very easy' to access (9% 'very easy', n=5; 49% 'easy', n=27), and 24% (n=13) as 'difficult' to access. Again, as noted by IDU in previous years, the degree of availability is highly dependant on standing arrangements, with one participant 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"*. Two consumers from the current cohort reported increases in the number of people *"hanging around pharmacies looking to score (*metha)*done"*. The majority of those reporting on trends in availability of illicit syrup perceived it as remaining stable in the preceding six months (55%, n=30), however, 16% (n=9) noted that it had become more difficult to access the drug in this time, and 9% (n=5) reported fluctuating availability. One key expert was able to report on the availability of diverted methadone syrup to the clients that they were familiar with, and noted the drug was 'easily' available, and access had become easier in the preceding six months.

IDU that had used illicit methadone syrup recently, generally purchased the drug from either friends (51%, n=28) or from acquaintances (40%, n=22), with small minorities purchasing from known dealers (9%, n=5) or receiving diverted syrup from friends as a gift (4%, n=2). The venues in which these purchases tended to occur primarily included an agreed public location (51%, n=28) or at a friend's home (18%, n=10), with small minorities purchasing at an acquaintance's home (11%, n=6), via home delivery (6%, n=3), at a dealer's home or from a street market (4%, n=2 respectively) or from a mobile dealer (2%, n=1). Due to concerns among some key experts 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 100% (n=38) reporting that the drug had come from a 'take-away'[22] dose. In the 2001 IDRS, one key expert, a user group representative, and two IDU, reported a trading system amongst a group of IDU on the methadone program, where, when people picked up two or three 'take-away' doses of methadone, some people would give the doses not required for that day to friends, with the expectation of reciprocation later in the week. This system protects users from 'bingeing' and using all their take-away doses in one day, thus having to find a replacement opioid to hold them until their next methadone dose (and avoids the risk of being 'stood over' for their methadone or the risk of it being stolen). Similar 'in-kind' and pre-organised systems were described in subsequent IDRS studies. In the 2004 study, two key experts working with younger IDU reported that their clients at times used up their take-away doses within one or two days (rather than the three days they were provided for) and then had to buy or otherwise access some amounts of methadone illicitly to avoid experiencing opiate withdrawal. These patterns may be reflected in the pathways of access to illicit methadone syrup (discussed above and in Table 42), with almost all reporting accessing illicit methadone through a friend or an acquaintance, while purchases through 'known dealers' – most commonly methadone program clients approached outside a pharmacy for their take-away dose – were substantially less common.

[22] 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 42: Pathways to illicit methadone access, 2006

	Illicit methadone syrup (n=55)	Illicit Physeptone tablets (n=39)
Usual source person of illicit purchase#		
Friend	51% (28)	51% (20)
Acquaintances	40% (22)	36% (14)
Known dealers	9% (5)	23% (9)
Gift from friends	4% (2)	-
Usual source venue for illicit purchase		
Agreed public location	51% (28)	54% (21)
Friend's home	18% (10)	18% (7)
Acquaintance's home	11% (6)	18% (7)
Home delivery	6% (3)	10% (4)
Source of last illicit syrup#		
Take-away dose	100% (n=38)	n/a

Source: IDRS IDU interviews *at any time in the preceding six months; #for those reporting source

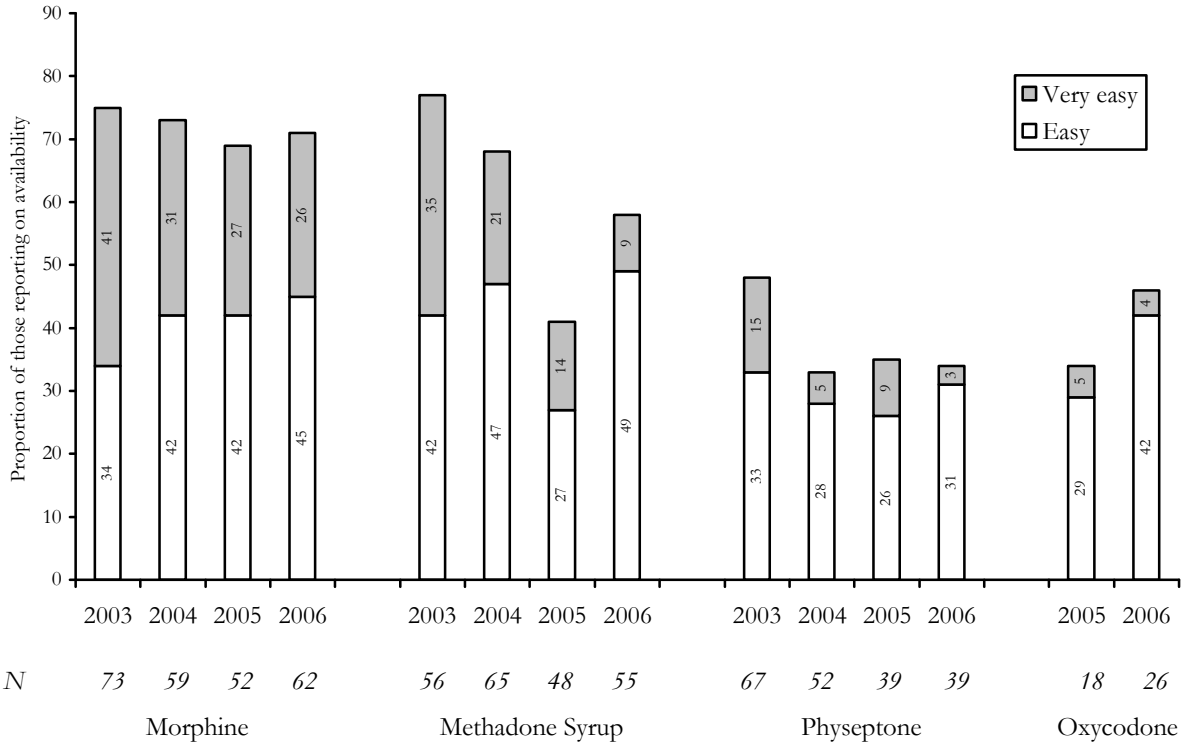
8.3.4 Trends in availability of different forms of pharmaceutical opioids across IDRS studies

When IDU reports of the availability of illicit pharmaceutical opiates are compared between the 2003 and 2006 IDRS studies (2003 was the first year in which explicit differentiation was made between methadone syrup and Physeptone tablets in regard to availability: Figure 37), several changes are notable. Firstly, in regard to morphine availability, between 2003 and 2005, decreasing proportions of respondents were reporting that availability was 'easy' or 'very easy', however in 2006 this had stabilised, with around half of those commenting perceiving it 'easy' to access, and a further quarter perceiving it as 'very easy' to access.

With regard to methadone syrup, there had been a steady decline in the proportion of consumers considering the drug as 'easily' or 'very easily' available between 2003 and 2005, however, an increase had been observed in 2006. Much of this overall change relates to a notable drop in the proportion of respondents reporting that syrup was 'very easy' to access (falling from 47% in 2003 to 9% in 2006). Availability reports for Physeptone have remained relatively stable between 2004 and 2006, with the majority of respondents reporting that it was 'difficult' or 'very difficult' to access this drug in recent months.

Finally, while data on availability of Oxycodone has only been collected since 2005, there appears to be an increase both in the number of participants able to comment on trends in availability and the proportion perceiving it as 'easy' or 'very easy' to access in the six months prior to interview.

Figure 37: IDU reports of 'easy' or 'very easy' availability of illicit pharmaceutical opiates 2003-2006.



Source: IDRS IDU interviews.

8.4 Patterns of opioid use

8.4.1 Prevalence of opioid use

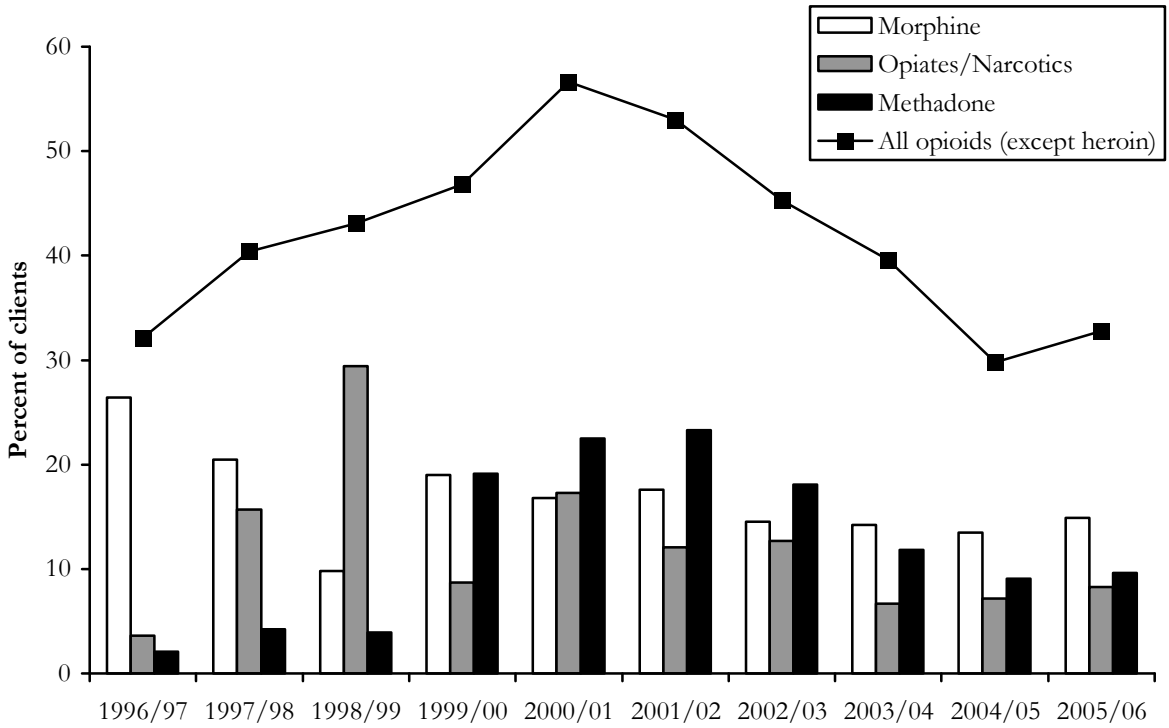
The 2004 National Drug Strategy Household Survey interviewed 1,208 Tasmanians aged 14 or above about their drug use. This study identified that 0.2% of those sampled (n~2) reported using methadone for non-medical purposes in the year prior to interview, and 0.6% (n~7) had used other opioids for non-medical purposes in this time (Australian Institute of Health and Welfare, 2005). Similar proportions were identified in the 2001 study (0.1% of the 1,349 respondents using methadone for non-maintenance purposes and 0.7% other opiates in the year prior to interview: Australian Institute of Health and Welfare, 2002). In the 1998 National Drug Household Survey (Australian Institute of Health and Welfare, 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.

8.4.2 Pharmaceutical opioid use among IDU and other groups

Data from clients of non-pharmacy Needle Availability Program outlets reporting an opioid as the drug they most often inject have been highly variable over the past eight years (Figure 38), due primarily to clients nominating the catch-all 'opiates-narcotics' category rather than indicating a specific single drug. 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 32.1% in 1996/97 to 56.6% in 2000/01, then steadily decreasing to 29.8% in 2004/05, stabilising in 2005/06 to 32.8%. This is the inverse of the trend noted for

methamphetamine use among non-pharmacy NAP clients (Section 5.4.3). 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 NAP clients, predominantly those larger, inner-city outlets, which are biased toward regular, opiate consumers – in recent years, this figure has risen to around 90% of these clients. As such, data in recent years may be more representative of patterns of use among non-pharmacy NAP outlet clients, with one caveat: during 2006, Hobart's only 24-hour NAP outlet, which primarily distributed equipment used for methamphetamine and making over 1,200 transactions per month, closed. This client load did not filter to other non-pharmacy NAP outlets in following months, and as such, the stabilisation or slight increase in the proportion of non-pharmacy NAP clients apparent in Figure 38 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 1997/98, there has been some subsequent variation, with methadone more commonly reported as the 'drug most often injected' between 2001/02 and 2002/03, and this situation reversing again in subsequent years (Figure 38). The exact nature and meaning of these changes are unclear, as responses in the broad 'opiates/narcotics' (and 'polydrug') categories in the NAP dataset are likely to mask the true level of injection of particular opioid types.

Figure 38: Percentages of Tasmanian non-pharmacy Needle Availability Program clients reporting opioids as their 'drug most often injected', 1996/97-2005/06



Source: Sexual Health, Department of Health and Human Services

The Australian Needle and Syringe Program Survey (Thein, Maher & Dore, 2004; Thein, White, Shourie & Maher, 2005; Glenday, Li & Maher 2006: National Centre in HIV Epidemiology and Clinical Research on behalf of the Collaboration of Australian Needle and Syringe Programs) has reported opioids as the last drug injected of 50% or more of their Tasmanian participants for their 1996-2004 surveys, with a small decrease in 2005 to 47% (Table 43). Given that this study prior to 2002 only utilised relatively small sample sizes (18, 23, 51, 25, 27 and 28 clients respectively between 1997 and 2001), it is difficult to infer any trends in use from these figures. However, in the four most recent studies, gathering more substantial sample sizes (n=151 in 2002; n=118 in

2003; n=107 in 2004; n=137 in 2005), rates of last injection of methadone had remained stable at around one-third of each cohort until 2004, and declined in 2005 (to one-quarter of respondents). The proportion of those reporting last injecting morphine has remained similar across recent studies, at around one-fifth of the samples.

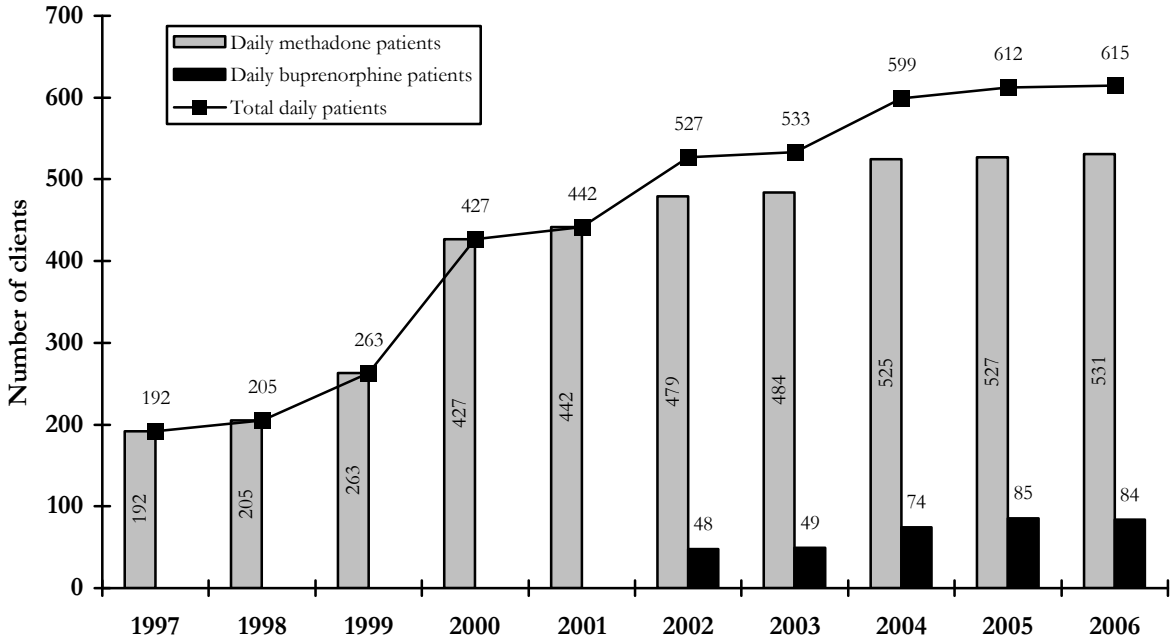
Table 43: Australian Needle and Syringe Program (NSP) Survey: Prevalence of opioids within 'last drug injected', 1999-2005

	1999		2000		2001		2002		2003		2004		2005	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Heroin	*2**	**8**	*6#*	**22**	*3†*	**11**	*5*	**3**	*1*	**1**	*0*	**0**	*6*	**4**
Methadone	*11*	**46**	*9*	**33**	*11*	**39**	*49*	**32**	*38*	**32**	*41*	**38**	*31*	**23**
Morphine	*5*	**26**	*8*	**30**	*11*	**39**	*25*	**16**	*28*	**24**	*20*	**19**	*27*	**20**
Total Sample Size	25		27		28		151		118		107		137	

Source: Thein, White, Shourie & Maher, 2006 *Note: during the 1999 and 2000 surveys, 16% (n=4), 11% (n=3) and 18% (n=5) participants respectively reported using some combination of opioids, and percentages have been adjusted accordingly to reflect this

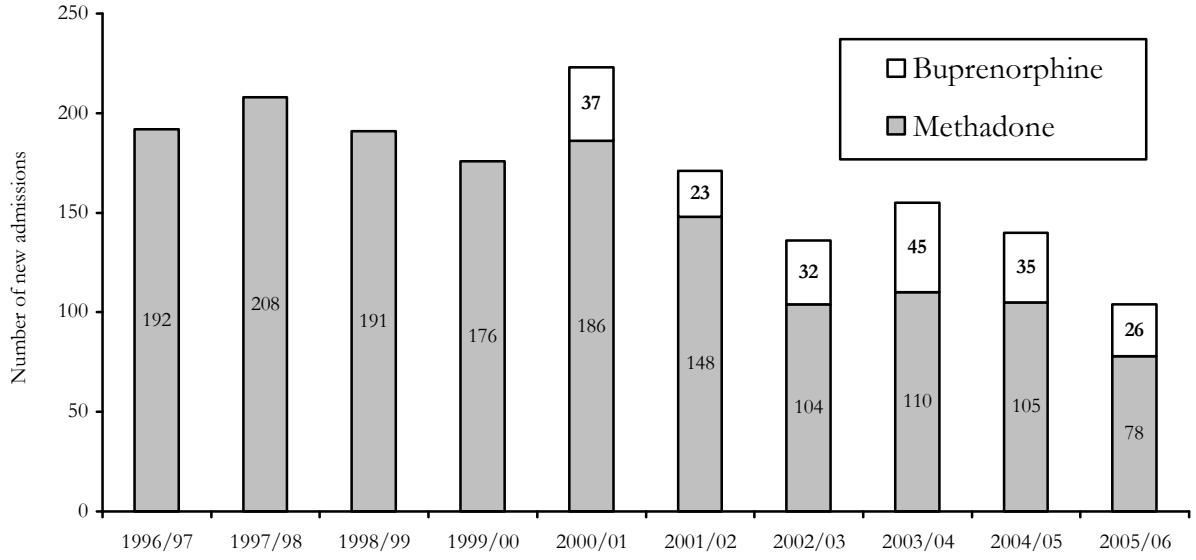
There has been a steady growth in the number of clients on Tasmania's methadone maintenance program since 1995 (Figure 39). Currently there are over 500 daily recipients of methadone, more than treble the number on the program in 1995. However, this increase in numbers is likely to primarily reflect the long-term nature of methadone maintenance therapy, as the number of new applications for the program had remained consistent between 1997-2001 (approximately 200 new applications per annum), and has been decreasing since this time, to 78 new patients in the 2005/06 financial year (Figure 40). This decline in the numbers of new methadone maintenance patients has been at least partially accounted for by new admissions to buprenorphine maintenance, which was made available as a treatment option for the first time in 2000/01. Following an initial influx of individuals that were previously receiving treatment with methadone switching to buprenorphine in the first year of availability of the drug (n=37 in 2000/01), the number of new admissions to buprenorphine maintenance had steadily increased between 2001/02 and 2003/04 (from 23 to 45: Figure 40), and steadily declined in subsequent years (35 cases in 2004/05 and 26 cases in 2005/06). As such, the number of daily buprenorphine patients has grown from 48 as of July 2002 to 84 in July 2006, bringing the total number of daily pharmacotherapy patients in the state to more than 600 as of July 2006 (Figure 39).

Figure 39: Growth of the Tasmanian pharmacotherapy programs, 1997-2006



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

Figure 40: New admissions to pharmacotherapy treatments in Tasmania, 1996/97-2005/06



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

Tasmanian prescription rates for Schedule 8 pharmaceuticals[23] since 1991 were also provided by Pharmaceutical Services (DHHS). During this time, Tasmanian consumption of morphine has been consistently 120% or more of the national average, and increasing over recent years to 141% in 2003, falling to 130% in 2005, while national use had stabilised (Figure 41). In keeping with

[23] Pharmaceuticals classed under Schedule 8 are variously classed as narcotic substances or drugs of addiction/dependence in differing jurisdictions.

these trends, the number of applications received by Tasmanian Pharmaceutical Services for approval to prescribe narcotics[24] had steadily increased, almost exponentially, in recent years, from 351 in 1989/90 to 2,644 applications in 2005/06[25], although a slight decline was noted in 2004/05 (2,499: Figure 42).

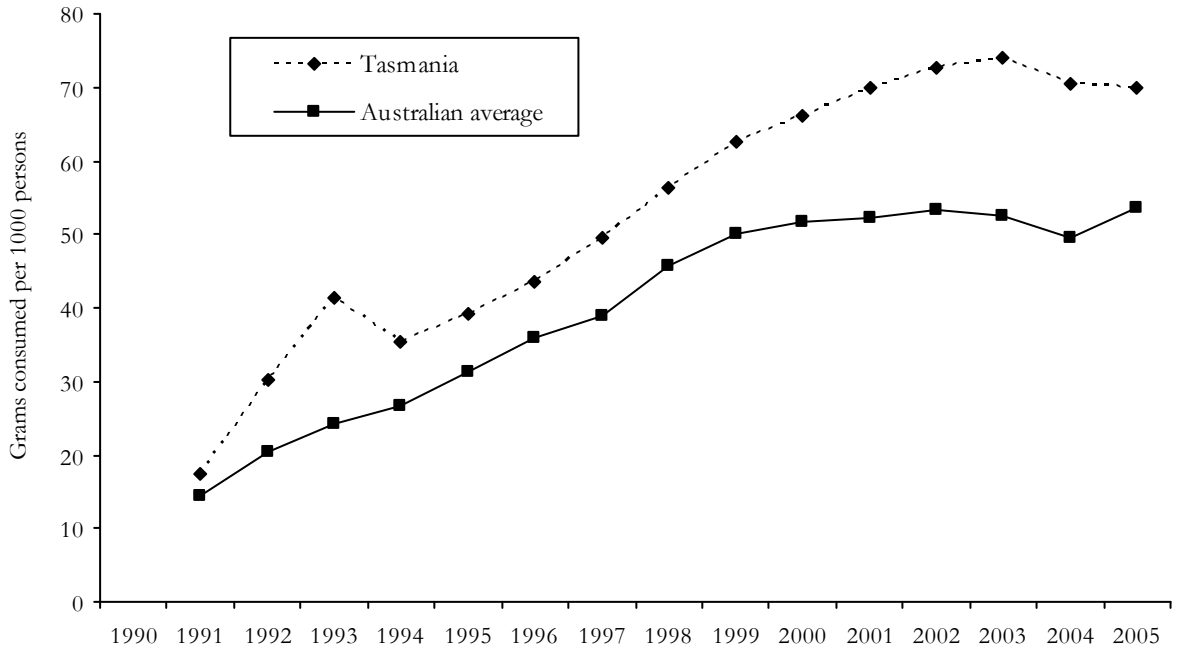
In contrast, despite the use of methadone syrup amongst a large proportion of the IDU sample in all three Tasmanian IDRS studies, local rates of consumption of methadone syrup had been continuously below that of the national average until 2002 (Figure 43). These proportions are distorted, however, by the high numbers of methadone maintenance patients in New South Wales. Noteworthy also is the sharp decline in consumption of methadone syrup nationally in 2001, largely associated with the wide introduction of buprenorphine maintenance treatment, particularly so in Victoria. With this contrast of declining use nationally and slowly increasing prescription locally, for the first time, in 2003, the Tasmanian consumption of methadone syrup passed that of the national average (112%: Figure 43). However, there was an abrupt reversal in prescription rates for methadone syrup nationally in 2004 (while the Tasmanian trend continued upward), however this was short-lived, as national rates decreased again in 2005. The Tasmanian rates also slightly decreased in 2005, so that Tasmanian population rates of consumption of methadone syrup had returned to a level slightly below that seen nationally (88% of the national average: Figure 43)

In contrast to the trend for use of methadone syrup, Tasmanian consumption of methadone 10mg tablets has been consistently above 200% that of the national average since 1992 (Figure 44) with a rapid increase in use to 2000 (where local prescription rates were 260% that of the national average). Since a stabilisation of use in 2000 and 2001, there had been a slight decline in usage of 10mg Physeptone tablets both locally and nationally in 2002 and 2003, with a subsequent increase in 2004 and 2005. In 2005, the level of Tasmanian consumption of Physeptone was 270% that 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% that of the national average, and returned to a similar rate to the national average (local rates being 106% that of the national figures) following the increase in syrup prescription rates nationally in 2004 (Figure 45).

[24] 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

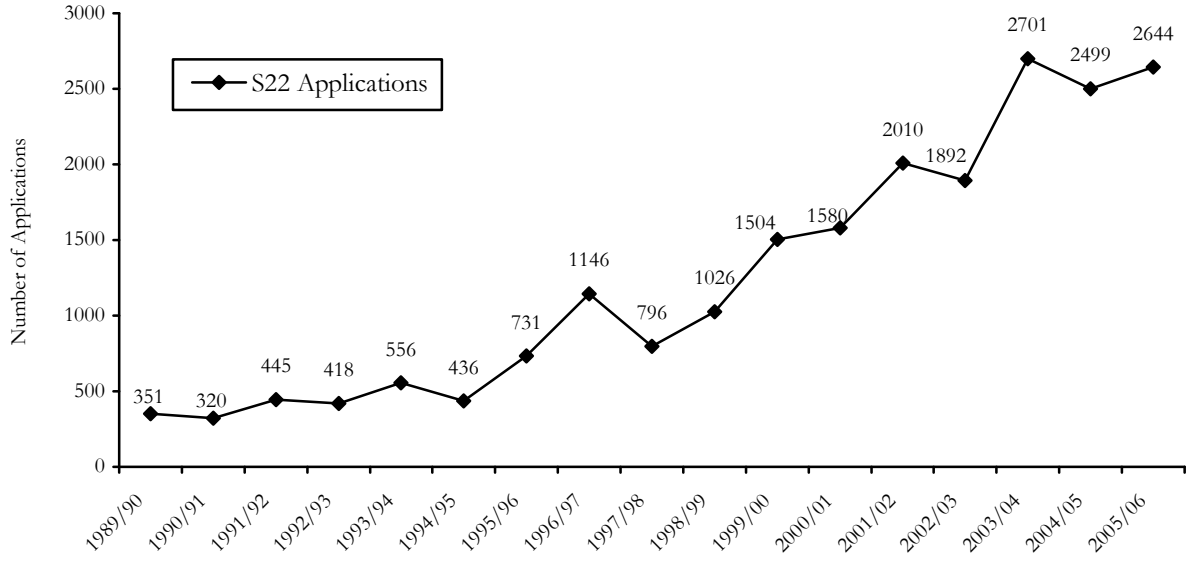
[25] It is worth noting that the level of compliance in regard to submission of applications is significantly dependent on reminders being sent to doctors, and as such these figures are unlikely to reflect the absolute number of cases requiring such a submission.

Figure 41: Consumption of morphine per 1000 persons, 1991-2005



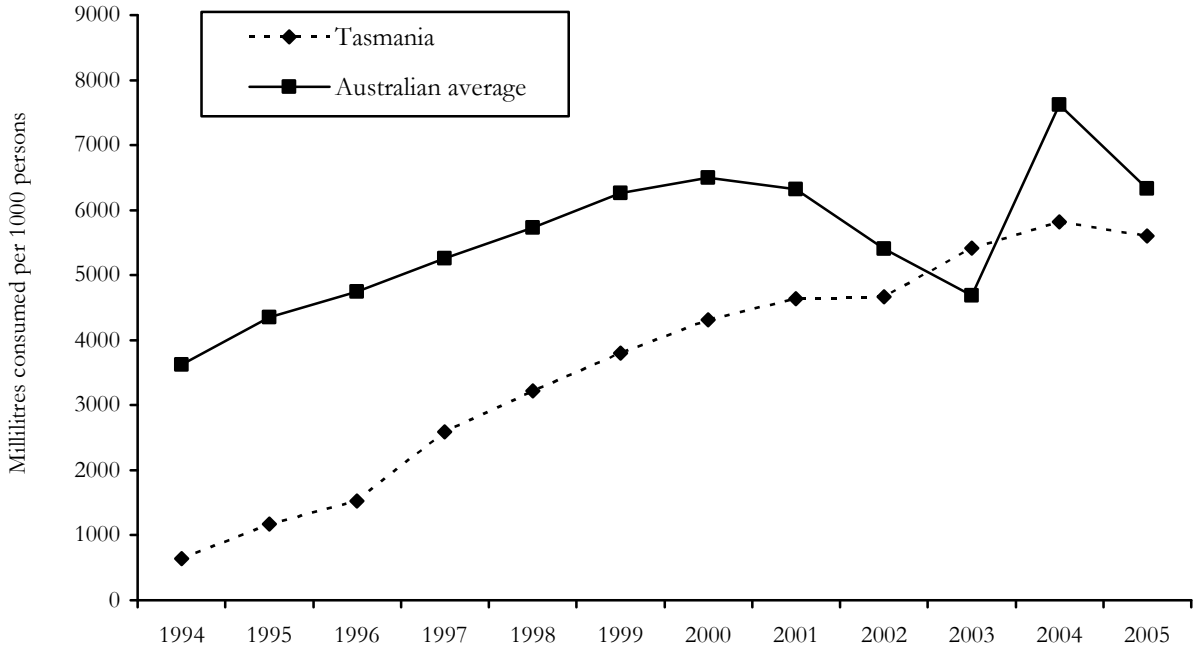
Source: Pharmaceutical Services, Department of Health and Human Services

Figure 42: S22 applications received by Pharmaceutical Services, Tasmania: 1989/90-2005/06



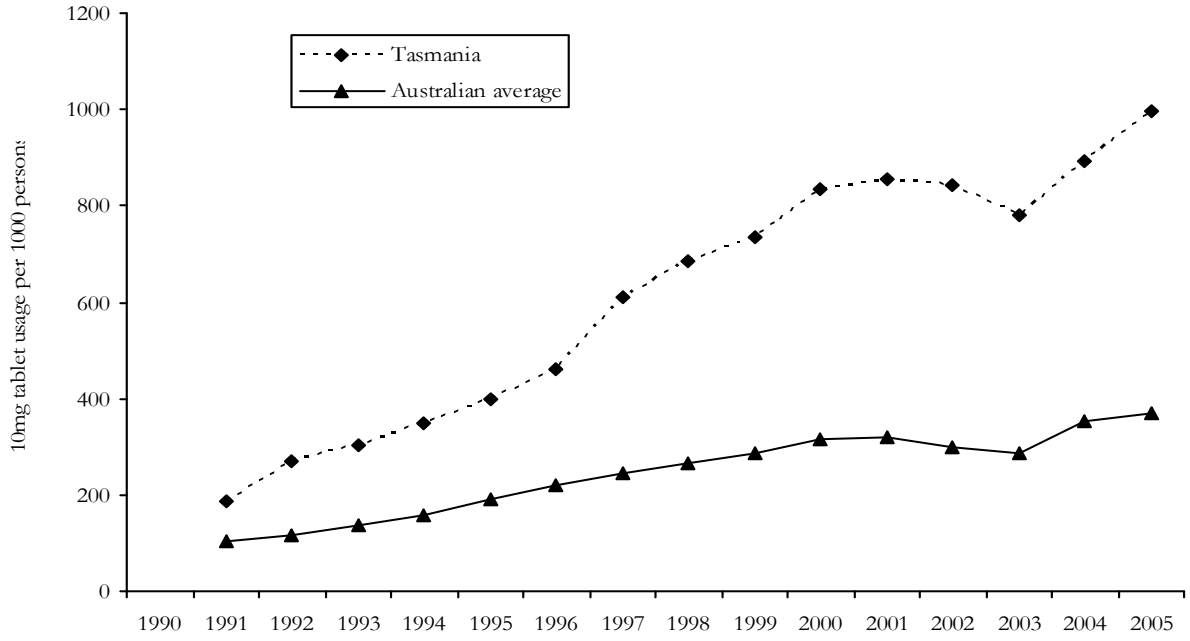
Source: Pharmaceutical Services, Department of Health and Human Services. Note: Applications are for approval to prescribe narcotics to a patient for more than two months or for a person who is drug dependent.

Figure 43: Consumption of methadone syrup per 1000 persons, 1994-2005



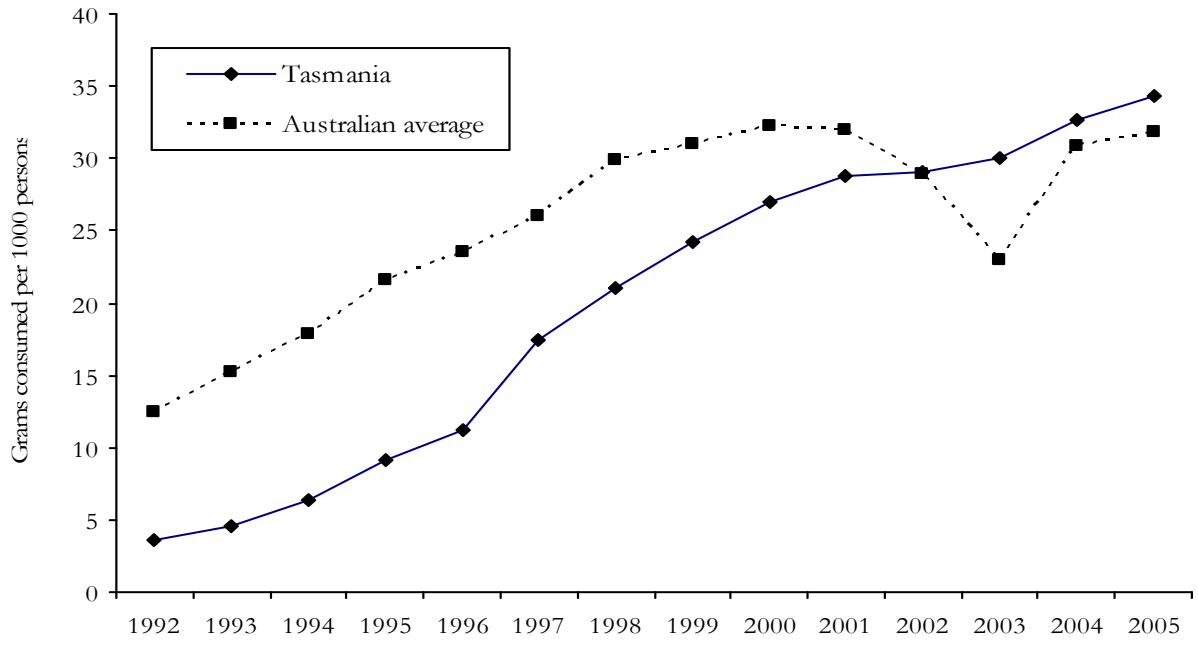
Source: Pharmaceutical Services, Department of Health and Human Services

Figure 44: Consumption of methadone 10mg tablets per 1000 persons, 1991-2005



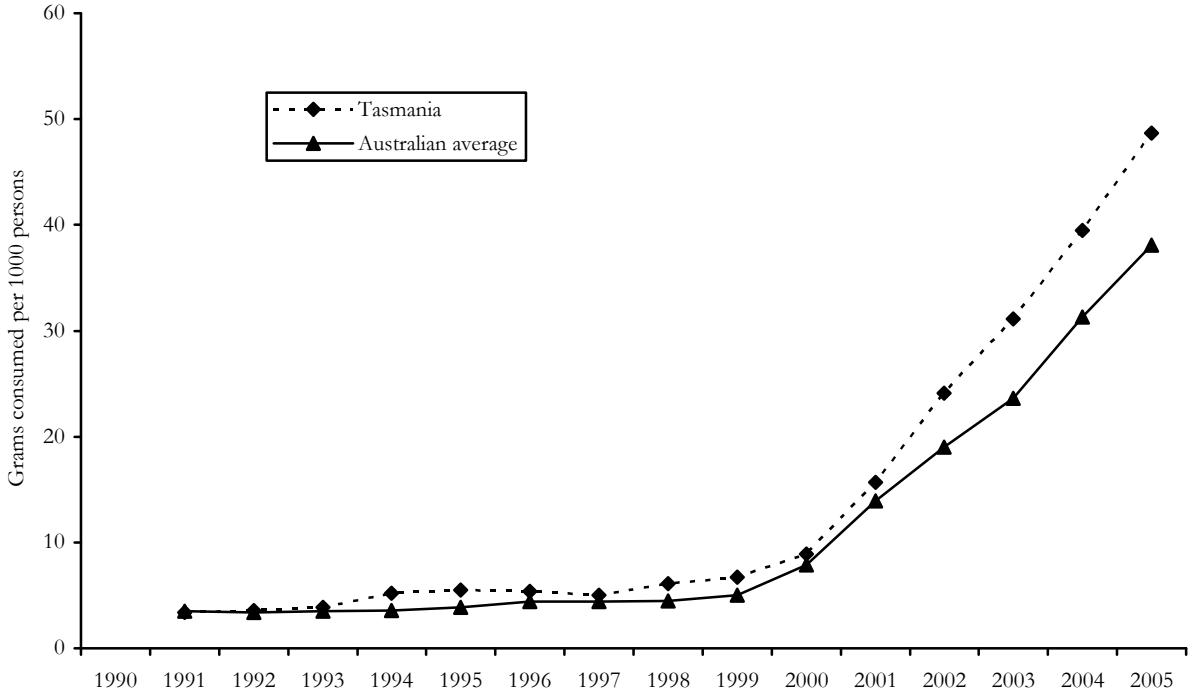
Source: Pharmaceutical Services, Department of Health and Human Services

Figure 45: Consumption of methadone per 1000 persons, 1992-2005



Source: Pharmaceutical Services, Department of Health and Human Services

Figure 46: Consumption of oxycodone per 1000 persons, 1991-2005



Source: Pharmaceutical Services, Department of Health and Human Services

Finally, prescriptions of oxycodone are detailed in Figure 46. Nationally there has been a rapid uptake in the use of this drug since 1999, with uptake in Tasmania being particularly rapid: prescription rates had more than quadrupled in the six years between 2000 and 2005. In 2005, local consumption of oxycodone was 128% of the national average.

While 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 does, however, indicate a certain willingness to prescribe tablet opioids among Tasmanian doctors. This said, these practices do not seem to apply to the injecting drug user population, as a near-negligible proportion of IDU reported accessing opioids via licit means[26] in the six months prior to interview: with the exception of methadone as part of a maintenance program, only 10 of the current IDU cohort reported accessing morphine, oxycodone or methadone tablets via licit means in this time (2 oxycodone, 4 Physeptone, 4 morphine).

8.4.3 Current patterns of opioid use

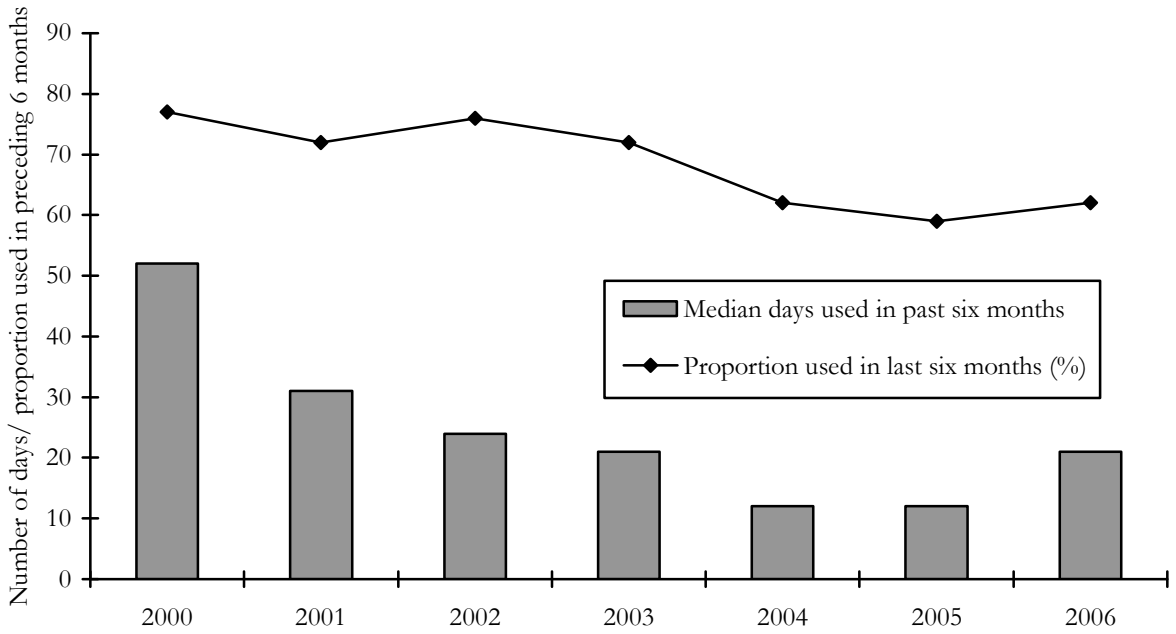
Morphine

Morphine was reported as the drug of choice of 13% of the IDU sample, with 62% of the entire sample reporting some use of morphine in the preceding six months. Of those who had used morphine, the median frequency of use in the past six months was 21 days (range 1-180), which equates to slightly less than weekly use of the drug on average. Morphine was reported as the last drug injected prior to interview for 23% of the IDU sample, and as the drug most injected for 21% in the past month.

As shown in Figure 47, these figures represent a trend toward decreasing levels of use of morphine between 2003 and 2005: prior to 2003, the proportion of the samples reporting use of morphine in the six months prior to interview had remained relatively stable (72%-77%); however, there had been a steadily declining median frequency of use of the drug amongst these participants (falling from 52 days in the preceding six months in the 2000 IDU sample to 21 days in the 2003 sample), and in 2004 there were marked declines in both the proportion reporting use of the drug (72% to 62%) and the frequency of this use (21 days in the preceding six months to 12 days). This decline occurred despite a relatively stable proportion of the IDU samples receiving methadone maintenance therapy (52% in 2001, 50% in 2002, 58% in 2003 and 54% in 2004), and the cohorts remaining predominantly opiate-preferring (with between 61% and 67% of the samples between 2001 and 2004 nominating an opiate as their drug of choice). In the 2005 cohort, the level of morphine use remained similar to that in 2004 (59% of the sample, at a median of 12 days in the preceding six months), despite the cohort including both a smaller number of people enrolled in methadone maintenance (43% at the time of interview and a further 3% at some stage in the preceding six months) and a decline in the proportion reporting an opiate as their drug of choice (54%). The demographics of the 2006 cohort were more consistent with those seen in local samples prior to 2005 in terms of opiate preference (64%) and involvement in opioid maintenance pharmacotherapies (52%), and an increased proportion of the sample reported recent morphine use (62%), with the frequency of use also increasing to 21 days in the past 180. However, as a proportion of all those participants that had recently used illicit pharmaceutical opioids (Figure 47), this represents a reduced proportion of morphine use among the 2006 study participants.

[26] 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.

Figure 47: Proportion of Tasmanian IDRS IDU cohorts reporting use of morphine, and the median frequency of this use, in the six months prior to interview, 2000-2006.



Source: IDRS IDU interviews

Oxycodone

While almost a third of the participants interviewed in the current study had used oxycodone in the six months prior to interview (31%: 30% accessing the drug illicitly, and 2% via legitimate prescription), oxycodone was not reported by any participants as their drug of choice, the drug they had most recently injected or as the drug they had injected most often in the month prior to interview. The median frequency of use of any oxycodone was 7 days in the last six months (range 1-180), with illicit use being less frequent (median = 6 days, range 1-180) than use by prescription (median 67 days, range 12-122 days). As noted above, use of oxycodone among the Tasmanian IDRS IDU cohorts has increased in the past three years, rising to one-third of participants from just anecdotal reports of use in 2002. One key expert supported this, stating that until recently, morphine was the sole opiate used amongst the consumer group they were familiar with, but in the six months preceding the interview, this had changed to include oxycodone more frequently.

Methadone

Methadone was reported as the drug of choice of 15% of the IDU sample, with 75% of the entire sample reporting some use of methadone in the preceding six months. In regard to use of methadone syrup, 49% 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 7-180). This represents a slight increase in use of prescribed methadone syrup amongst the consumers sampled in 2006, after a steady decline from 2003 to 2005- falling from 59% in 2003 to 45% in 2005 (Figure 48)[27].

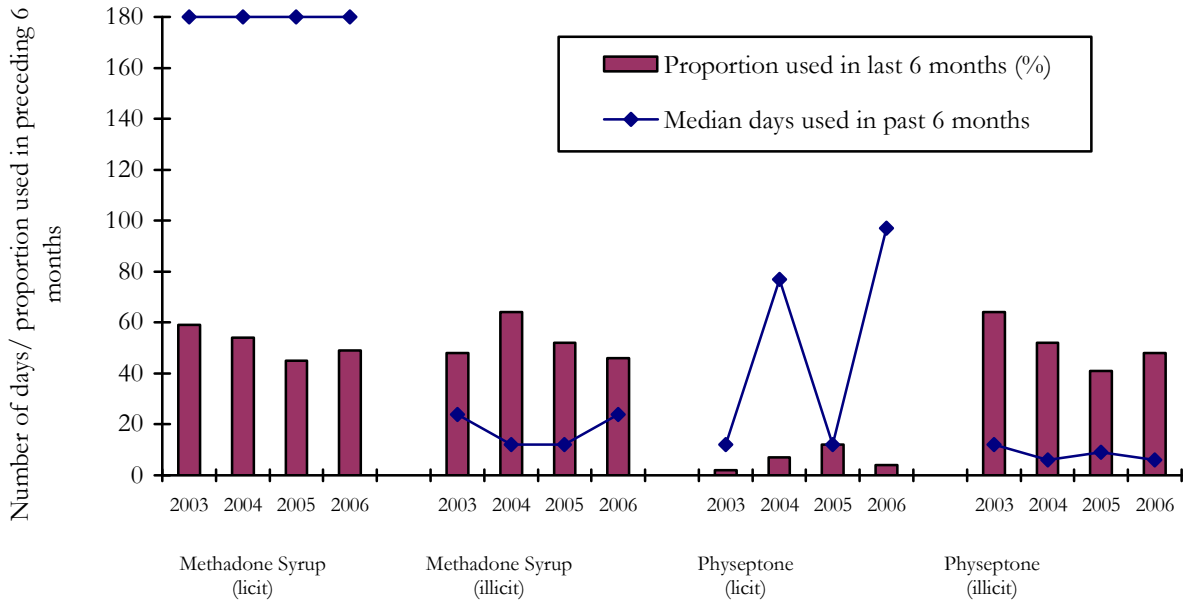
[27] Levels and frequencies of use of methadone were not broken down clearly into separate categories of licit and illicit use of tablets and syrup in the Tasmanian IDRS until 2003, so trends over longer time periods are unable to be examined.

Forty-nine percent of the 2006 IDU sample had used illicit methadone syrup in the preceding six months, at a median frequency of 24 days (range 1-120) in this time. A smaller number of participants in the 2006 cohort reported illicit use of methadone syrup in comparison to the 2005 and 2004 cohorts (52% in 2005 and 64% in 2004: Figure 48), however the median frequency of such use doubled (12 days in 2004 and 2005; 24 days in 2006).

Licit Physeptone tablets were only used by 4% of the consumer sample in the preceding six months, at a median frequency of 97 days in this time (range 1-180 days). This represents an increase in the median frequency of licit use of the drug in the IDU samples between 2005 and 2006, however, large fluctuations are seen between reports in 2003 and 2006 (12 days in 2003; 77 days in 2004; 12 in 2005; 97 days in 2006) but, given the small numbers of individuals involved, is simply likely to reflect sampling variability (whereby the number of people prescribed for on a daily basis over an extended period out-number those prescribed the drug for a short period only, which increases the overall median frequency of use). Despite reports from IDU participants of an overall decline in availability of Physeptone, use of illicitly-accessed Physeptone tablets has increased slightly in 2006 to 47% (41% in 2005), however frequency of use has remained at relatively stable low levels (6 days in 2006 (range 1-120), 12 days in 2003, 9 days in 2005).

Consistent with reports in 2004, methadone was injected in the preceding six months by almost all of the consumers interviewed reporting recent use of the drug (2006: 97%, n=65/67; 2005: 97%: n=69/71; 2004: 96%, n=82/85).

Figure 48: Proportion of Tasmanian IDRS IDU cohorts reporting use of methadone, and the median frequency of this use, in the six months prior to interview, 2003-2006.



Source: IDRS IDU interviews

Primary users of opioids described by key experts were commonly polydrug consumers, with regular use of cannabis, methamphetamine, benzodiazepines and alcohol. Several key experts commented that polydrug use amongst predominant opiate users is common, with one key expert stating *"polydrug use is now almost uniform"*. Those individuals receiving methadone maintenance therapy but continuing to use illicit drugs were reported to use methamphetamine for recreational purposes or when opioid drugs were not available, according to two key experts. While oral use of

benzodiazepines was common among these groups, key experts also reported some intravenous use of benzodiazepines, at times in combination with opioids (discussed in section 9.4.2 below).

8.5 Opioid-related harms

8.5.1 Law enforcement

In the 2001/02 financial year, 34 arrests (23 consumers, 11 providers) were made by Tasmania Police involving offences relating to opioids (including heroin and other narcotics[28]), a pattern which appears reasonably stable in comparison to 17 arrests (13 consumers, 4 providers) in 2000/01[29], 19 arrests (14 consumers, 5 providers), in 1999/00, 25 arrests (24 consumers, 1 provider) in 1998/99, 16 arrests (15 consumers, 1 provider) in 1997/98 and 28 arrests (24 consumers, 5 providers) in 1996/97. In the 2002/03 financial year, counting rules changed, so the available data are not directly comparable to previous years. Smaller numbers were subsequently reported in this category, being 9 arrests (6 consumers, 1 provider, 2 unknown) in 2002/03, 10 (all consumers) in 2003/04; and 9 arrests (8 consumers, 1 unknown) in 2004/05. Data for arrests during 2005/06 was not available at the time of publication.

One key expert noted an increase in property crimes being committed by primary-opioid users. This increase was believed to be related to a feeling of *"desperation for opiates"* amongst this group, partly due to many opioid users being unable to access pharmacotherapy programs (methadone and buprenorphine maintenance treatments). Two other key experts (one law enforcement officer, one drug treatment worker) described some degree of property crimes amongst some of their primary opioid-using groups (mainly shoplifting or petty, opportunistic theft and, to a lesser extent, burglary), but had not noted any change in the extent of such behaviour in recent months. None of the key experts noted any recent change in the extent of drug dealing by the opiate consumers they were familiar with. Fraud was seen as uncommon amongst these groups, and this was uniformly perceived by key experts as not changing amongst the groups they were referring to in recent months. In terms of violent crime, the majority of key experts noted no recent changes in violence amongst the primary opiate-using groups they were familiar with in recent months.

In terms of aggression and intimidation toward patients of the methadone maintenance program (in previous years, such consumers have reported being 'stood over' by others in an attempt to access take-away doses of methadone illicitly), there were no reports of such behaviour around pharmacies amongst this cohort. Interestingly, six consumers noted an increased police presence around pharmacies that dispensed methadone, which may partly explain the decrease in reports of such behaviours. One law enforcement officer noted no changes in the number of people diverting methadone doses, but that there are ongoing working relationships between police and pharmacists in order to minimise the occurrence of such events.

When asked about recent changes in police activity, most key experts noted no recent changes in relation to opioid users in recent months. One key expert noted that police had become more accepting of IDUs in recent years. Law enforcement key experts interviewed noted no changes in operations other than that they have been developing closer ties with pharmacies in recent years.

[28] For recording purposes, Tasmania Police class any Schedule 8 drug as 'Narcotic'. Schedule 8 drugs are 'Drugs of Addiction'.

[29] Arrest data quoted here may differ slightly from figures reported in the ABCI annual 'Australian Illicit Drug Reports', as some opioid-related data may be classified there under 'other drugs'. Data here reflects that provided by Tasmania Police State Intelligence Services.

8.5.2 Health

In regard to recent changes in the health of opioid-using groups that key experts had contact with, several issues were noted. Firstly, two key experts, both drug treatment workers, had noted several individuals being diagnosed with endocarditis in the preceding six months (likely to be from injection of non-sterile material and/or use of non-sterile equipment). One of these key experts commented on a perceived lack of knowledge of safe injecting on the part of some consumers, resulting in poor vein care and a reported increase in diagnosed cases of thrombosis. Another key expert noted cellulitis to be the most common injecting-related problem, with some consumers on *"continuous antibiotics"*, some of which are dispensed intravenously during admissions to a general hospital.

IDU participants that had injected opioids in the month prior to interview were asked if they had experienced any health problems associated with this injection (Table 44). Half the sample had injected morphine in this time, and almost two-thirds (61%) had injected some form of methadone. Of those that had recently injected morphine, half reported experiencing no harms associated with this injection. The most common problems associated with morphine injection were difficulty finding veins to inject into (32%, n=16), suggesting venous damage, prominent scarring or bruising (16%, n=8) and self-reported dependence (14%, n=7).

Somewhat similar to trends for methadone injection were reported, with over one-third of those who had injected methadone experiencing no harms associated with this injection (38%, n=23). The most commonly reported problems were difficulty finding veins to inject into (43%, n=26), self-reported dependence (26%, n=16), prominent scarring or bruising (25%, n=15), swelling of an arm (10%, n=6) or a 'dirty hit' (an injection that made the individual feel physically sick, an experience which is commonly related to injection of impurities or contaminants: 10%, n=6). Anecdotal reports from previous IDRS studies suggest that this may be due to non-sterile water being used to dilute take-away doses of methadone syrup.

Table 44: Injection-related problems experienced by recent morphine and methadone injectors

	Morphine		Methadone	
	%	n	%	n
Percent of sample injecting in the past month	50	*50*	61	*61*
Injection-related problem experienced				
No problems	50	*25*	38	*23*
Overdose	0		0	*0*
Abscesses/infections	4	*2*	5	*3*
'Dirty hit'	4	*2*	10	*6*
Prominent scarring/bruising	16	*8*	25	*15*
Thrombosis/blood clotting	6	*3*	5	*3*
Swelling of arm	6	*3*	10	*6*
Swelling of leg	4	*2*	2	*1*
Swelling of hand	2	*1*	2	*1*
Swelling of feet	2	*1*	2	*1*
Hospitalisation	0	*0*	0	*0*
Contact with ambulance	0	*0*	0	*0*
Contact with police	0	*0*	0	*0*
Dependence	14	*7*	26	*16*
Difficulty finding veins to inject into	32	*16*	43	*26*
Skin ulcers	2	*1*	0	*0*
Gangrene	0	*0*	0	*0*
Other	6	*3*	5	*3*

Source: IDRS IDU interviews

A key expert working as an ambulance officer commented on an increase in the number of people they had attended being dependent on morphine, oxycodone, or related substances. They noted that this group frequently received assistance from emergency services for overdoses and requests for more opioid drugs to combat withdrawal symptoms. One key expert who was employed in a detoxification setting, reported an increase in people requesting detoxification from opioids in the preceding six months. Of particular note was an increase in people requesting detoxification from tramadol in the preceding twelve months, which appeared to involve more severe opioid withdrawal symptoms in comparison to other opiates, and was considered to be *"highly habit-forming"*.

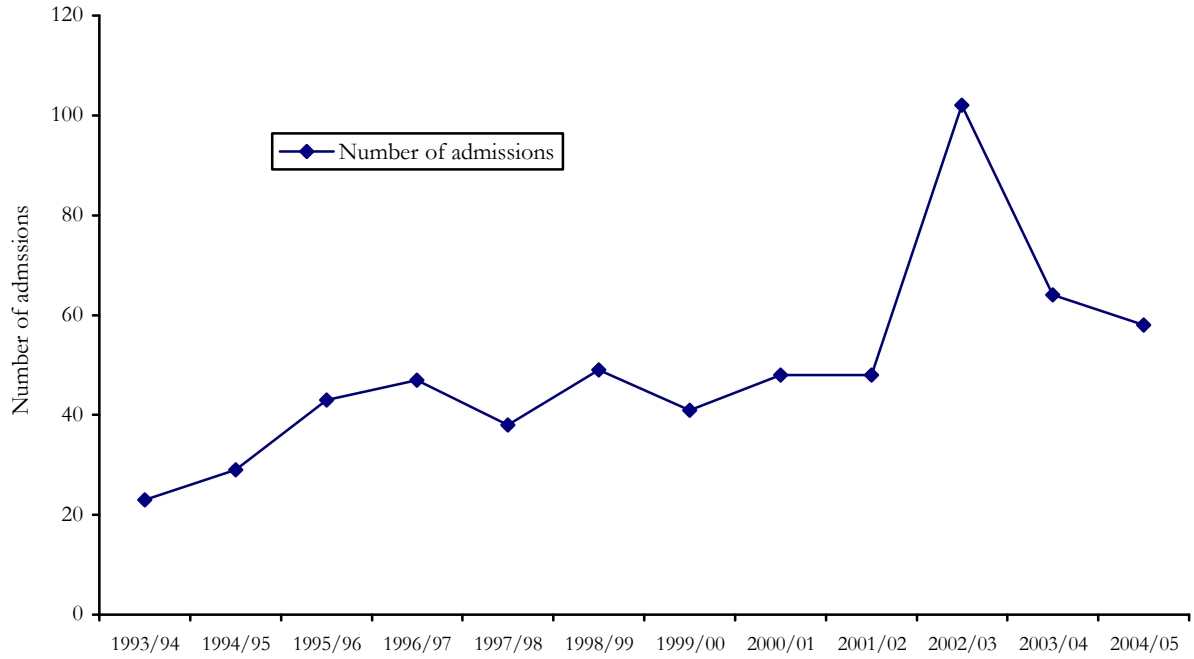
Two key experts reported marked increases in dental health problems amongst the opioid consumers they were familiar with, with one commenting that consumers in their 20s and 30s are losing teeth and suffering from dental abscesses. This is a similar change as that noted by key experts who commented on predominately methamphetamine-using consumer groups.

An increase in opiate-related overdose in recent months was noted by three key experts (key experts working in emergency health services, law enforcement and drug treatment). While there is no objective data publicly available at the time of completion of this report able to support the suggested changes in overdoses, the anecdotal reports from these key experts suggested that these were associated with use of a combination of methadone, morphine, and/or benzodiazepines, and less commonly with tricyclic antidepressants.

Hospital morbidity data in relation to use of drugs have been provided by the Australian Institute of Health and Welfare for the 1993/04 to 2004/05 financial year periods. These data relate to Tasmanian public hospital admissions, for individuals aged between 15 and 54 years, where opioid use was recorded as the 'principal diagnosis'; namely, where the effect of opioids 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.

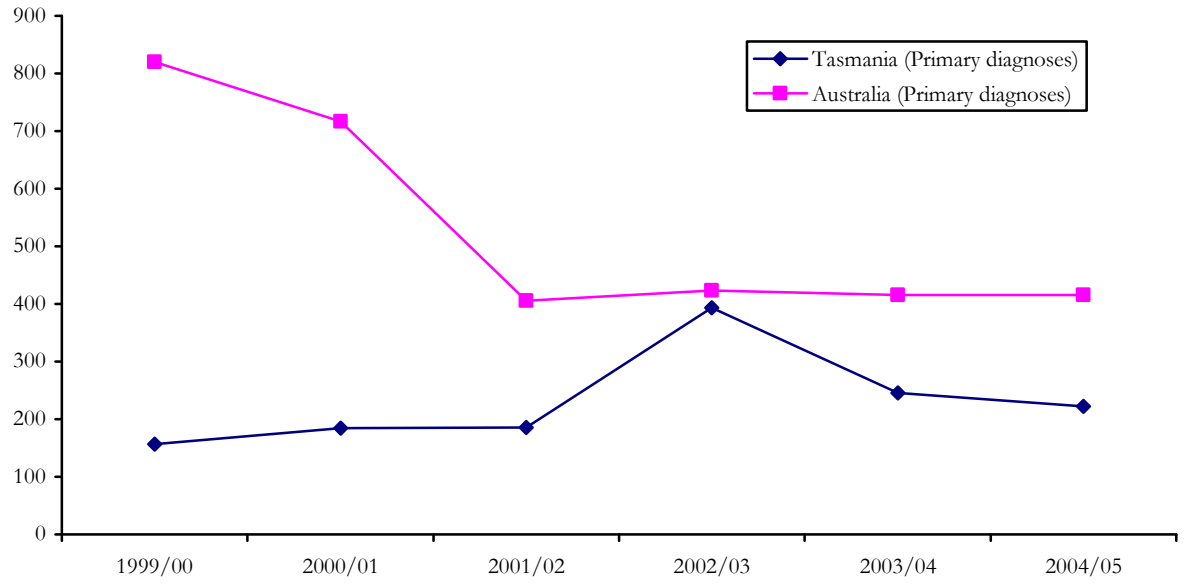
Opioid admissions are presented in Figure 49 below. Between 1995/96 and 2001/02, primary diagnoses relating to opioid use had remained relatively stable, between 40 and 50 admissions per quarter. However, when data from the state's public detoxification centre were included in these figures (July 2002), 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 and to 58 in 2004/05). As can be seen in Figure 50 below, when the Tasmanian rate of opiate-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 being included, local admission rates for such cases were substantially lower than the national rates (around one-quarter of the primary diagnoses 1999/00 and 2000/01, and one-half of the admission rate in 2001/02). In 2002/03, when detoxification patients were included, local admission rates were comparable to those nationally (395 vs. 424 admissions per million persons between the ages of 15 and 54 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 vs. 415 admissions per million persons between the ages of 15 and 54 respectively), reflecting the decrease in admissions locally in comparison to a stable level nationally.

Figure 49: Public hospital admissions amongst persons aged 15-54 in Tasmania where opioid use was noted as the primary factor contributing to admission, 1993/04-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

Figure 50: 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, 1999/00-2004/05



Source: Australian Institute of Health and Welfare (Roxburgh & Degenhardt, 2006)

8.6 Trends in patterns of opioid use

Multiple consumers independently reported an increase in the number of opiate consumers (methadone and morphine) they were aware of in recent months (n=7). In particular, an increase in the number of young consumers (in their early teens to early twenties; n=6), and of predominately male opiate consumers (noted by three consumers, however key experts reported a range of 50-90% male consumers using opiates). Two consumers reported an increase in people *"hanging around the pharmacy' looking to score (*metha*)done"*. One consumer noted that with the increasing popularity of methadone, prices for illicit syrup and tablets have recently increased.

The perception of an increase in the number of opiate consumers is in keeping with a number of trends in other datasets: reported use of opioids amongst clients of the NAP has been in steady decline between 2000/01 and 2004/05, but had stabilised in 2005/06; and slight increases in the proportion reporting opiate use are apparent in the IDRS IDU cohort, following declines among the 2005 cohort. In keeping with this, only a single consumer in the current cohort had noted people they knew shifting from primary opiate use to primary use of methamphetamines – in the past four local IDRS studies this was a trend that was noted by a great number of consumers.

Key experts reported particular concern with opiate consumers using methadone-alprazolam combinations, and more than one-fifth of consumers reported using such a combination in recent months. 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. As noted above, both consumers and key experts in the current study provided anecdotal reports of local overdose deaths associated with combinations of pharmaceutical opiates and benzodiazepines. Also, 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.

8.7 Summary

Table 45: Summary of trends in opioid use

	Morphine	Methadone
Price	• $80/100mg, stable to increasing	• $0.8/mg, stable (syrup) • $10/10mg, stable to increasing (Physeptone)
Availability	• Easy to very easy • Stable	• Mixed reports: syrup 'easy' to access (largely purchased from friends and acquaintances); 'difficult' and decreasing in availability otherwise • Diverted Physeptone access 'difficult' - stable to increasingly difficult
Form	• MS Contin and Kapanol predominant • Ordine use is increasing (after fluctuating use in previous years)	• Both Physeptone tablets and methadone syrup accessed illicitly • Fluctuating use of Physeptone tablets • Diverted syrup often accessed by people already on the program
Use	• Illicit oxycodone use increasing (21% in 2003, 30% in 2005, 31% in 2006), and sold more cheaply than morphine ($50 per 80mg) despite higher relative potency; availability reports are mixed 'easy'/'difficult' and stable/becoming increasingly difficult • Increase in use and availability of illicit Physeptone tablets of methadone this year following three years of steadily decreasing use between 2003 and 2005 • Anecdotal reports of an increase in younger people using opioids	
Other trends	• Reports of continuing use of opioids and benzodiazepines (predominantly alprazolam) simultaneously among some IDU consumers, a practice which carries an increased risk of overdose and disinhibited behaviour • Opioids accessed for illicit use by IDU are not coming from direct doctor-shopping by IDU themselves	

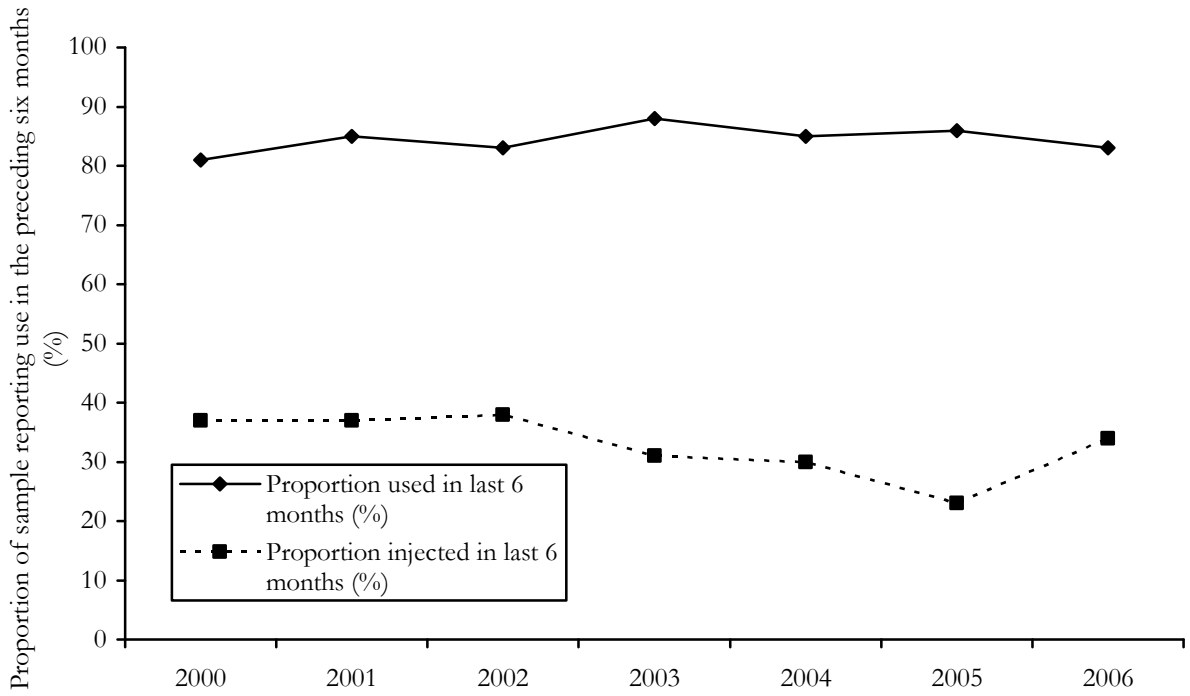
9.0 BENZODIAZEPINES

Almost all (94%) of the IDU sample had used benzodiazepines at some stage in their lives. Similarly, 91% had ever swallowed benzodiazepines, with 80% swallowing a benzodiazepine in the preceding six months. While this indicates a high level of use of these drugs amongst IDU, of particular note is the fact that 57% of the sample had ever injected benzodiazepines, with 34% injecting in the six months prior to interview. As is shown in Figure 51 below, rates of overall use have remained fairly stable (81%-88% across the 2000 to 2006 surveys), while recent injection rates in the IDRS IDU cohorts fell between 2002 and 2005 (from a stable 37-38% between 2000 and 2002 to 23% in 2005). However, these rates have increased in 2006 to 34%, returning to levels similar to those at the start of the decade. 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, 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). As discussed below, it would appear that many of the Tasmanian consumers that were engaged in benzodiazepine injection shifted their use from injection of temazepam gel capsules to injection of alprazolam tablets in response to this availability change. Between the 2004 and 2005 Tasmanian IDRS IDU samples, however, there was a continued decline in the rate of recent injection, from 30% to 23%, and rates of benzodiazepine injection in the national IDRS samples similarly declined (from 14% in 2004 to 8% in 2005: Stafford et al., 2006). In the 2006 study, this decline in both Tasmanian and national IDU reports of recent injection was reversed, with 34% of Tasmanian participants and 12% nationally reporting recent benzodiazepine injection. It is possible that the decrease seen in 2005 was related to the recruitment of a smaller proportion of opiate consumers, given that an association between opiate use and benzodiazepine injection has been noted in previous studies (Bruno, 2005; Fry & Bruno, 2002).

The demographic characteristics of those that had used benzodiazepines in the past 6 months were generally similar to those of other IDU (see Section 3.1), in terms of age, sex, cultural background, education, employment, income sources, prison history, sexual preference, age of first injection, duration of injecting career, drug of choice and frequency of injection. However, those that had recently used benzodiazepines were significantly more likely to be involved in drug treatment (66% vs. 12%, $\chi^2(3_{n=100})=20.285$, $p>0.001$), particularly methadone maintenance therapy (60% vs. 6%, $\chi^2(1_{n=100})=16.684$, $p>0.001$) than those that had not.

Those that had recently injected benzodiazepines were similar to the other IDU consumers sampled in terms of age, sex, cultural background, sexual preference, employment, access of income from sources except criminal activity, prison history, age of first injection, duration of injecting career, drug of choice and frequency of injection. Again, those that had recently injected benzodiazepines were significantly more likely to be involved in drug treatment (71% vs. 50%, $\chi^2(3_{n=100})=9.179$, $p=0.027$), particularly methadone maintenance therapy (71% vs. 41%, $\chi^2(1_{n=100})=7.91$, $p=0.004$) than those that had not. Benzodiazepine injectors were also significantly more likely to report criminal activity as a source of income in the preceding month (56% vs. 32%, $\chi^2(1_{n=100})=5.414$, $p=0.018$).

Figure 51: Proportion of IDU reporting benzodiazepine use and injection in the preceding six months, 2000-2006



Source: IDRS IDU interviews

Frequency of use of benzodiazepines was a median of 96 days in the preceding six months amongst those using the drug (range 1-180), somewhat higher than the rates in 2005 (median frequency 72 days, range 1-180) and 2004 (median frequency 50 days, range 1-180) and 2003 surveys (30 days, range 1-180). Among the 34 participants that had recently injected benzodiazepines, the median frequency of injection was 12 days in the preceding six months (range 1-180 days), similar to reports from the 2005 cohort (median days 12, range 1-120 days), but somewhat greater than the median frequency of use identified in the 2004 (median 6 days, range 1-120) or 2003 (median frequency 5 days) local cohorts.

High levels of oral benzodiazepine use in the last six months were seen among those IDU who had most often injected methadone (100%), morphine (62%) and methamphetamine (66%). Consistent with the demographic characteristics, injection of benzodiazepines was more common amongst primary users of methadone, with 42% (n=18) of those that had most commonly injected methadone recently injecting benzodiazepines, in comparison to 24% (n=5) of predominant injectors of morphine and 24% (n=7) of those most often injecting methamphetamine (Table 46).

Table 46: Patterns of use of benzodiazepines amongst primary users of other drugs in the IDU sample *(n=100, number of respondents in parentheses)*

Drug most injected in the past month	Swallowed benzodiazepines in past 6 months	Injected benzodiazepines in the past 6 months
Methadone (n=43)	100% (n=43)	42% (n=18)
Morphine (n=21)	62% (n=21)	24% (n=5)
Methamphetamine (n=29)	66% (n=29)	24% (n=7)

Source: IDRS IDU interviews

Key experts reported similar patterns of benzodiazepine use among the groups they had most contact with, reporting some use among primary users of cannabis, where use of the drug was limited and predominantly oral. Key experts commenting on predominant opiate users also noted that use of benzodiazepines was common in these groups. Of note, key experts reporting on groups of primary methamphetamine users also reported that benzodiazepine use was very common in these groups, predominantly referring to oral use, used to 'come down' from stimulant use and as a replacement drug when the drug of choice was not available. A key expert working in law enforcement commented on people using benzodiazepines- specifically alprazolam - and opiates concomitantly, resulting in fatal overdoses over the past 12 months. Consistent with this, two key experts who worked as ambulance officers reported recent contact with numerous consumers who had taken benzodiazepines in overdose situations. Several key experts reported that use of benzodiazepines had remained stable over the preceding six to twelve months amongst the consumers they were familiar with, albeit at high levels, however, one key expert reported increasing use. One key expert employed as a drug treatment worker reported decreasing use of alprazolam, as people are reporting *"bad experiences"* from its use, including gangrene of fingers and significant vein damage. Another key expert raised concerns regarding some consumers believing that as benzodiazepines are pharmaceutical drugs, they are less harmful to use. A key expert working in the drug treatment field reported that people presenting for treatment for opiate, amphetamine or cannabis dependence (who also use benzodiazepines) do not view their benzodiazepine use/dependence as problematic, and often do not report this use.

The main forms of benzodiazepines that key experts reported consumers using were alprazolam (Xanax and Kalma), diazepam (Valium) and, less commonly, temazepam and flunitrazepam (Rohypnol).

Examination of Table 47 clearly indicates that, as per trends in previous IDRS cohorts, Valium (diazepam) is the most commonly used benzodiazepine among those swallowing the drug (used by 72% of those swallowing a benzodiazepine in the preceding six months, n=60), with use of Antenex (diazepam) also common (12%, n=10). Oral use of Xanax (alprazolam) in the preceding six months has steadily increased among IDRS IDU cohorts between 2001 and 2006 (16% in 2001; 14% in 2002; 34% in 2003; 45% in 2004; 38% in 2005; and 55% of those reporting recent benzodiazepine use in 2006). Use of Serepax (oxazepam) was also common (42%, n=35), with rates of reported use in 2006 increased from previous years' reports (33% in 2004; 35% in 2005). Oral use of Temaze tablets (temazepam) remained relatively stable, with 16% (n=13) reporting recent use in the current cohort (13% in 2005; 24% in 2004). Oral use of Mogadon (nitrazepam) amongst the IDU cohort was decreasing since 2001, however in 2006, the trend has been reversed, with an increasing proportion reporting recent use (34% in 2001; 20% in 2002; 22% in 2003; 17% in 2004; 9% in 2005; and 23% in 2006).

Table 47: Benzodiazepine formulations used by IDU orally in the six months prior to interview: 2001-2006 IDRS

Benzodiazepine	Proportion using this benzodiazepine/brand orally in the preceding six# months											
	2001 IDRS (n=74)		2002 IDRS (n=80)		2003 IDRS (n=87)		2004 IDRS (n=82)		2005 IDRS (n=86)		2006 IDRS (n=83)	
	%	n	%	n	%	n	%	n	%	n	%	n
Alprax (*alprazolam)*	-		-		-		-		2	*2*	1	*1*
Kalma (*alprazolam)*	-		8	*6*	1	*1*	10	*8*	9	*8*	14	*12*
Xanax (*alprazolam)*	16	*12*	14	*11*	34	*29*	45	*37*	38	*33*	55	*46*
Lexotan *(bromazepam)*	-		3	*2*	4	*3*	1	*1*	-			
Paxam (*clonazepam)*	-		3	*2*	4	*3*	1	*1*	2	*2*		
Rivotril (*clonazepam)*	8	*6*	8	*6*	1	*1*	1	*1*	3	*3*	6	*5*
Antenex (*diazepam)*	12	*9*	19	*15*	4	*3*	22	*18*	21	*18*	12	*10*
Ducene (*diazepam)*	8	*6*	5	*4*	5	*4*	9	*7*	10	*9*	5	*4*
Valium (*diazepam)*	84	*62*	73	*58*	81	*69*	83	*68*	78	*67*	72	*60*
Valpam (*diazepam)*	-		-		1	*1*	2	*2*	2	*2*	4	*3*
Hypnodorm (*flunitrazepam)*	5	*4*	10	*8*	13	*11*	12	*10*	7	*6*	10	*8*
Rohypnol (*flunitrazepam)*	24	*18*	-		-		-		-		1	*1*
Alodorm (*nitrazepam)*	1	*1*	5	*4*	1	*1*	7	*6*	5	*4*	2	*2*
Mogadon (*nitrazepam)*	34	*25*	20	*16*	22	*19*	17	*14*	9	*8*	23	*19*
Alepam (*oxazepam)*	1	*1*	5	*4*	-		4	*3*	8	*7*	4	*3*
Murelax (*oxazepam)*	5	*4*	1	*1*	2	*2*	9	*7*	2	*2*	5	*4*
Serepax (*oxazepam)*	36	*27*	31	*25*	32	*27*	33	*27*	35	*30*	42	*35*
Euhypnos* (*temazepam)*	4	*3*	5	*4*	5	*4*	11	*9*	2	*2*	-	
Normison* (*temazepam)*	45	*33*	21	*17*	1	*1*	21	*17*	6 *(tab)*	*5*	5 (*tab*)	*4*
Temaze* (*temazepam)*	18	*13*	30	*24*	8	*7*	11	*9*	2	*2*	1	*1*
Temaze (tablets)					14	*12*	24	*20*	13	*11*	16	*13*
Temtabs (*temazepam)*	-		9	7	1	1	9	7	7	*6*	1	*1*

Source: IDRS IDU interviews. * signifies those benzodiazepines available in gel capsule formulation; # 2002 data are for the five-month period Jan-April, and June, 2002

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 (Tables 48, 49), it is clear that use of gel capsule formulations of temazepam has decreased over time (36% of the sample in 2001, falling to 4% in 2005 and none of the current participants), reflecting their removal from the market. Rates of injection of diazepam have remained relatively stable over time (6%-11% of the cohorts between 2002 and 2006). Importantly, the proportion of the IDU cohorts reporting recent injection of alprazolam has steadily increased over time (rising from 3% in 2002 to 27% in 2006), particularly since the reduced availability of temazepam gel capsules in 2002. This pattern is consistent with reports from both IDU and key experts in each of the past four IDRS studies that simultaneous injection of alprazolam with opioids had increased among some local IDU consumers. 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 depressant drugs, and moreover the extremely disinhibited behaviour that can occur following such combined use.

Table 48: Benzodiazepines used by IDU consumers intravenously in the six months prior to interview: 2001-2006 IDRS

Benzodiazepine	Proportion using this benzodiazepine/brand intravenously in the preceding six# months											
	2001 IDRS (n=38)		2002 IDRS (n=38)		2003 IDRS (n=31) †		2004 IDRS (n=30)		2005 IDRS (n=23)		2006 IDRS (n=34)	
	%	n	%	n	%	n	%	n	%	n	%	n
Alprax (*alprazolam)*	-		-		4	*1*	3	*1*	9	*2*	6	*2*
Kalma (*alprazolam)*	-		3	*1*	13	*3*	13	*4*	30	*7*	21	*7*
Xanax (*alprazolam)*	11	*4*	8	*3*	38	*9*	57	*17*	78	*18*	74	*25*
Paxam (*clonazepam)*	-		-		13	*3*	3	*1*	-		-	
Rivotril (*clonazepam)*	-		-		4	*1*	7	*2*	9	*2*	6	*2*
Antenex (*diazepam)*	-		5	*2*	-		10	*3*	13	*3*	9	*3*
Valium (*diazepam)*	8	*3*	16	*6*	13	*3*	10	*3*	22	*5*	21	*7*
Hypnodorm (*flunitrazepam)*	3	*1*	5	*2*	13	*3*	3	*1*	9	*2*	6	*2*
Rohypnol (*flunitrazepam)*	5	*2*	-		-		-		-		-	
Alepam (*oxazepam)*	-		3	*1*	-		-		9	*2*	-	
Serepax (*oxazepam)*	3	*1*	5	*2*	-		7	*2*	13	*3*	12	*4*
Euhypnos* (*temazepam)*	8	*3*	24	*9*	46	*11*	33	*10*	4	*1*	-	
Normison* (*temazepam)*	82	*31*	53	*20*	8	*2*	60	*18*	17	*4*	3 *(tab)*	*1*
Temaze* (*temazepam)*	24	*9*	47	*18*	29	*7*	43	*13*	-		9 *(tab)*	*3*
Temtabs (*temazepam)*	-		5	*2*	4	*1*	7	*2*	9	*2*	9	*3*

Source: IDRS IDU interviews * signifies those benzodiazepines available in gel capsule formulation; # 2002 data are for the five-month period Jan-April, and June, 2002; †data only collected on 24 of the 31 individuals reporting injecting use of benzodiazepines in the preceding six months: proportions are calculated relative to these 24 participants.

Table 49: Types of benzodiazepines commonly injected by IDU, 2001-2006

	2001	2002#	2003	2004	2005	2006
Temazepam gel capsules *% injecting in past six months*	36%	30%	14%	19%	4%	-
Alprazolam *% injecting in past six months*	4%	3%	11%	17%	19%	27%
Diazepam *% injecting in past six months*	3%	6%	6%	10%	8%	10%

Source: IDRS IDU interviews # 2002 data are for the five-month period Jan-April, and June, 2002

9.1 Availability and access

Key experts generally 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 diverted medications as a gift from a friend, or others bingeing on a benzodiazepine prescription then having to purchase diverted benzodiazepines to maintain their usual base level of use. When IDU were asked what their usual source of benzodiazepines was in the preceding six months, 53% of those that had used the drug reported predominantly accessing benzodiazepines via licit means (for genuine symptoms), with smaller proportions reporting accessing the majority of the benzodiazepines they had recently used through gifts from friends (19%), through purchasing from friends (18%) or through a doctor for 'faked' symptoms (3%: Table 50). When considering all modes of access to benzodiazepines in the preceding six months, legitimate access through prescription (59%), access to diverted tablets from friends as gifts (69%) or at a cost (44%) were again the most common modes of access. When compared with the modes of access to benzodiazepines reported in previous IDRS cohorts, there was a increase in the proportions accessing these drugs by swapping with 'dealers' for other drugs (17% in 2005, 37% in 2006) and accessing these drugs through friends (53% in 2005 and 69% in 2006: Table 50).

Those participants that had accessed diverted benzodiazepine tablets in the six months prior to interview were asked about their ease of access to such drugs in this time. The largest proportion of IDU participants noted that it was 'easy' or 'very easy' (43%: 13% 'very easy', n=10; 30% 'easy', n=24), and 16% reported access to be very difficult (n=13) and 5% (n=4) reported access to be very difficult (33% reported they 'didn't know'). The majority of participants reported no recent change in availability of diverted benzodiazepine tablets in recent months (54%, n=42), with relatively equal proportions noting recent decreases (22%, n=17) or increases (15%, n=12) in availability in this time, and 9% (n=7) reporting fluctuating availability. Despite a larger proportion of participants in the current cohort reporting stable availability over the preceding six months than in 2005 (45%, n=23, in 2005), a marked decline in the proportion reporting access as 'easy' or 'very easy' was observed (66% in 2005 and 43% in 2006).

Table 50: Methods of obtaining benzodiazepines in the six# months prior to interview, 2001-2006 IDRS

All modes of access	2001 IDRS (n=69) %	2002 IDRS (n=75) %	2003 IDRS (n=88)* %	2004 IDRS (n=85) %	2005 IDRS (n=86) %	2006 IDRS (n=81) %
Doctors (genuine symptoms)	57 *(n=39)*	53 *(n=40)*	n/a	59 *(n=50)*	64 *(n=55)*	59 *(n=48)*
Doctors (fake symptoms)	9 *(n=6)*	8 *(n=6)*	n/a	2 *(n=2)*	-	2 *(n=2)*
Forged prescriptions	-	-	n/a	-	-	-
Altered existing prescriptions	-	-	n/a	-	-	
Friends (gift or purchase) †	67 *(n=46)*	59 *(n=44)*	n/a	56 *(n=48)*	53 *(n=46)*	69 *(n=56)*
Friends (purchase)†	†	†	n/a	40 *(n=34)*	30 *(n=26)*	44 *(n=36)*
Family	3 *(n=2)*	8 *(n=6)*	n/a	n/a	n/a	n/a
Dealer / street (purchased)	23 *(n=16)*	28 *(n=21)*	n/a	22 *(n=19)*	9 *(n=8)*	12 *(n=10)*
Dealer / street (swap drugs)	4 *(n=3)*	12 *(n=9)*	n/a	31 *(n=26)*	17 *(n=15)*	37 *(n=30)*
Theft	n/a	n/a	n/a	2 *(n=2)*	1 *(n=1)*	-
Primary mode of access	**(n=69) %**	**(n=75) %**	**(n=88)* %**	**(n=85) %**	**(n=86) %**	**(n=80) %**
Doctors (genuine symptoms)	45 *(n=31)*	47 *(n=35)*	48 *(n=38)*	44 *(n=37)*	56 *(n=48)*	53 *(n=42)*
Doctors (fake symptoms)	9 *(n=6)*	1 *(n=1)*	1 *(n=1)*	2 *(n=2)*	-	3 *(n=2)*
Forged prescriptions	-	-	-	-	-	-
Altered existing prescriptions	-	-	-	-	-	-
Friends (gift or purchase) †	42 *(n=29)*	35 *(n=26)*	27 *(n=21)*	26 *(n=22)*	20 *(n=17)*	19 *(n=15)*
Friends (purchase)†	†	†	20 *(n=16)*	13 *(n=11)*	14 *(n=12)*	18 *(n=14)*
Family	1 *(n=1)*	3 *(n=2)*	n/a	n/a	n/a	n/a
Dealer / street (purchased)	3 *(n=2)*	13 *(n=10)*	4 *(n=3)*	5 *(n=4)*	5 *(n=4)*	4 *(n=3)*
Dealer / street (swap drugs)	-	1 *(n=1)*	n/a	7 *(n=6)*	6 *(n=5)*	5 *(n=4)*
Theft	n/a	n/a	n/a	-	-	-

Source: IDRS IDU interviews #Note: 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 clarify trends from previous years.

9.2 Price

Perhaps reflecting the multiple paths to access of benzodiazepines by IDU (for example, licit prescription, gifts, trade for other items or drugs, as well as illicit purchase), IDU provided highly varying accounts of the cost of their last purchase of diverted benzodiazepines. Most common prices reported were $5 per 2mg alprazolam (Xanax or Kalma) tablet, $1 per 5mg diazepam (Valium or Antenex) tablet, $2.50 per 1mg flunitrazepam (Hypnodorm) tablet, $5 per 5mg nitrazepam (Mogadon) tablet, $2 per 30mg oxazepam (Serepax) tablet, and $1.50-2.50 per 10mg temazepam (Temaze or Normison) tablet (Table 51). Given the small sample sizes reporting on prices of these drugs, it is difficult to ascertain whether there have been any substantial changes in price over time, although it is possible that the price of a 5mg Mogadon tablet (nitrazepam) may have increased: from between $1-2 in previous studies, to $5 in 2006.

Table 51: Modal price per tablet of last purchase of diverted benzodiazepines, 2001-2006

Benzodiazepines	2001 IDRS			2002 IDRS			2003 IDRS			2004 IDRS			2005 IDRS			2006 IDRS		
	n	Modal price	Price range	n	Modal price	Price range	n	Modal price	Price range	n	Modal price	Price range	n	Modal price	Price range	n	Modal price	Price range
Alprax (*alprazolam*) *1 mg*	-	-	-	-	-	-	-	-	-	-	-	-	*1*	$2	-	-	-	-
2 mg	-	-	-	-	-	-	*1*	$5	-	*1*	$5	-	*4*	$5	$3-5	2	$2#	$1-3
Kalma (*alprazolam*) *1 mg*	-	-	-	-	-	-	-	-	-	-	-	-	*1*	$2.50	-	1	$2.50	-
2 mg	-	-	-	*1*	$2.50	-	*1*	$5	-	*4*	$5	$1.50-5	*10*	$5	$2-10	9	$5	$4.50-8
Xanax (*alprazolam*) *1 mg*	-	-	-	-	-	-	*1*	$5	-	-	-	-	*2*	$2	$1-3	3	$3	$2-6
2 mg	*7*	$5	$2-5	*2*	$4.25#	$3.50-5	*7*	$5	$1.50-8	*6*	$2.50	$1-2.50	*28*	$5	$0.5-15	46	$5	$2-10
Rivotril (*clonazepam*)																		
2 mg	*5*	$2.50	$1-5	-	-	-	*2*	$1.50#	$0.50-2.50	*2*	$1.50#	$1-2	*1*	$2.50	-	5	$4.5#	$2-15
Antenex (*diazepam*)																		
5 mg	-	-	-	*1*	$1	-	-	-	-	*4*	$1	$1-5	*10*	$1	$0.5-2	6	$2	$0.50-2
Valium (*diazepam*)																		
5 mg	*30*	$1	$0.5-5	*14*	$1	$0.75-3	*17*	$1	$0.40-3	*19*	$1	$0.20-2	*24*	$1	$0.25-5	40	$1	$0.50-5
Hypnodorm (*flunitrazepam*)																		
1 mg	-	-	-	*1*	$2.50	-	*10*	$2.50#	$1.20-3	*6*	$2.50	$1-2.50	*7*	$3	$3-10	7	$2.50#	$2-8
2 mg	*2*	$5	-	*2*	$4.50#	$4-5	*2*	$5.00	-	-	-	-	-	-	-	-	-	-
Alodorm (*nitrazepam*)																		
5 mg	*1*	$1.25	-	-	-	-	-	-	-	*2*	$1.50	$1-2	*4*	$2	$0.5-5	-	-	-
Mogadon (*nitrazepam*)																		
5 mg	*9*	$2	$1-5	*4*	$2	$1-5	*7*	$1.25#	$0.50-3	*5*	$1	$0.5-2	*6*	$2	$1-10	17	$5	$0.50-5
Serepax (*oxazepam*) *15 mg*	*3*	$2.50#	$1-5	-	-	-	-	-	-	*1*	$0.50	-	-	-	-	2	$1.25#	$0.50-2
30 mg	*11*	$2.25#	$1-5	*4*	$1	$1-2	*4*	$1.85#	$0.80-2.50	*9*	$2	$1-5	*12*	$2	$1-5	23	$2	$0.50-5
Euhypnos(*temazepam*)*10 mg*	-	-	-	*1*	$1.50	-	*1*	$2.50	-	*3*	$2	$2-3	*1*	$2	-	-	-	-
**20 mg*	*3*	$4#	$1.25-10	*4*	$4.50#	$3-10	*7*	$4.80#	$1.50-7	*7*	$5	$2-20	*1*	$15	-	-	-	-
Normison (*temazepam*)																		
10 mg tablet	-	-	-	*4*	$3.50#	$1-5	-	1	-	*1*	$1.50	$1-2	*2*	$1.50*	$1-2	4	$2.50#	$$0.50-15
**10 mg capsule*	*30*	$2	$0.8-5	*1*	$2.50	-	*1*	$5	-	*3*	$2	$2-2.50	*1*	$7.50*	$7-8	-	-	-
**20 mg capsule*	*12*	$4#	$2-10	*12*	$3.50#	$1-10	*1*	$4	-	*9*	$5	$2-8	*1*	$10	-	-	-	-
Temaze (*temazepam*)																		
10 mg tablet	-	-	-	*2*	$2.50#	$1-4	*3*	$2.50#	$1-3	*4*	$1	$1-5	*7*	$2	$1-5	3	$1.50#	$1-2
**10 mg capsule*	*5*	$2	$1-5	*2*	$2.25#	$1-3.50	*2*	$1.15#	$1-1.25	*4*	$4.50	$2-10	*2*	$1.50*	$1-2	1	$0.50	-
**20 mg capsule*	-	-	-	*1*	$3	-	*2*	$5.50#	$5-6	*3*	$5	$5-20	-	-	-	-	-	-
Temtabs (*temazepam*)																		
10 mg	-	-	-	*1*	$1	-	-	-	-	*3*	$1	$0.5-1	*4*	$1	$0.2-2	-	-	-

Source: IDRS IDU interviews * signifies gel capsule formulation, # signifies cases where multiple modes existed – in these cases, median prices are reported

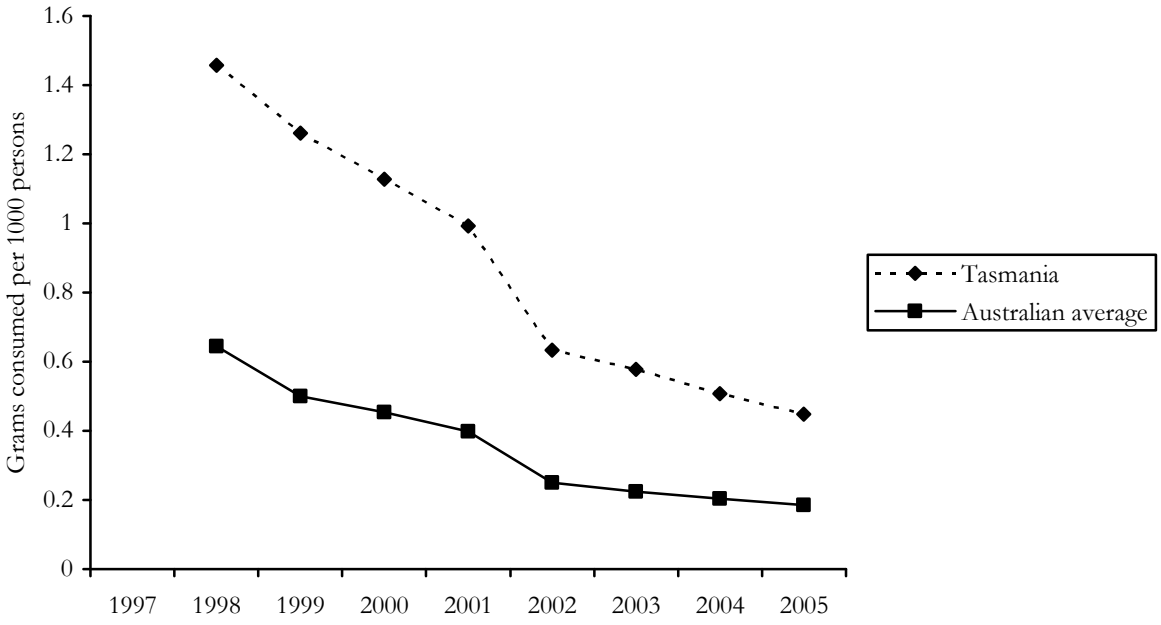
9.3 Use

9.3.1 Prevalence of benzodiazepine use

Of the Tasmanians surveyed in the 1998 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 1999), 7.9% (n=75) indicated that they had ever tried benzodiazepines for non-medical purposes, and 2.9% (n=28) reported use in the year prior to the survey. However, in the 2001 National Drug Household Survey (n=1,349: Australian Institute of Health and Welfare, 2002), only 1.0% (n=13) of respondents reported using benzodiazepines for non-medical purposes in the year prior to interview. In the 2004 survey, just 0.7% (n~8) of the 1,208 local participants sampled (Australian Institute of Health and Welfare, 2005) reported using benzodiazepines (referred to as "tranquilizers/sleeping pills" in the study) in the year prior to interview. While these are low base rates of reported benzodiazepine users, this does seem to indicate a slight reduction in the prevalence of benzodiazepine (mis)use between the 1998 and 2001/2004 studies.

Use of flunitrazepam (Hypnodorm, previously sold as Rohypnol) is a benzodiazepine that is particularly preferred by 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 use of diverted Hypnodorm tablets, albeit in small amounts. Prescription rates of flunitrazepam in Tasmania (Figure 52) 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 around 250% that of the national average between 1999 and 2005.

Figure 52: Consumption of flunitrazepam per 1000 persons, 1998-2005



Source: Pharmaceutical Services, Department of Health and Human Services

9.3.2 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. However, in 2001/02, the proportion of positive urine screens indicating use of benzodiazepines had 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). It should be noted that an increasing proportion of urine screens are conducted on suspicion of use rather than random screens (for example in 2005/06, of those identified as positive for illicit benzodiazepines, 60% of these cases were identified on suspicion and 40% from random screens), so these figures will necessarily be an overestimate of the prevalence of drug use in this context.

9.3.3 Benzodiazepine use among IDU

Reported use of benzodiazepines as the main drug injected by non-pharmacy Needle Availability Program outlet clients has undergone substantial changes in the past decade: with an increase from 0.3% to 13.5% of clients between 1998/99 and 1999/00, returning to more modest levels (3.5%) in 2000/01. This proportion remained reasonably stable at 3.8% in 2001/02, dropping again in 2002/03 to less than 1% of all client transactions, a level which has continued into 2003/04 to 2005/06 (Table 52). While there are limitations with this dataset (see Section 2.3), it would appear that the apparent rapid increase in benzodiazepine use between 1998/99 and 1999/00 stabilised at a lower level during 2000/01 and 2001/02, and the level of primary benzodiazepine use may have returned to more traditional low levels during 2002/03 and beyond. While data from the Needle Availability Program are likely to underestimate the true level of injection of benzodiazepines (as the question usually asked is 'what is the drug you usually inject?'), there is some support for these trends, as the proportion of IDRS IDU samples reporting recent injection of benzodiazepines remained stable between 2000 and 2002 (37% in 2000 and 2001, 38% in 2002), dropping slightly in 2003 to 31%, and again in 2005 (23%), and then increased in 2006 to 34%.

Table 52: Percentage of benzodiazepines reported as 'drug most often injected' by Tasmanian non-pharmacy Needle Availability Program clients, 1997-2006

Year	1997 /98	1998 /99	1999 /00	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06
Number of clients reporting benzodiazepines	18	24	1294	505	761	52	139*	36*	52
Percent of total clients reporting benzodiazepines	0.3%	0.3%	13.5%	3.5%	3.8%	0.2%	0.4%	>0.1%	0.2%

Source: Sexual Health, Department of Health and Human Services

9.4 Benzodiazepine-related harms

9.4.1 Law enforcement

Trends from Tasmania Police in regard to benzodiazepines appear to have remained relatively stable between 2000/01 and 2001/02, with seizures of 2,511 pills and 78 arrests (72 consumers, 6 providers) associated with Schedule 4 drugs in 2001/02, in comparison to 2,374 pills and 93 arrests (84 consumers, 9 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. Data for the 2005/06 financial year were not available at the time of publication.

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 the July-December 2003 period, a total of 264 benzodiazepine tablets were seized by Tasmania Police (12 tablets in the Northern District, 208 in the Southern District, and 26 tablets in the Western District), while in the January-June 2004 period a somewhat smaller number of tablets were seized, totalling 179 (26 tablets in the Northern District and 153 in the Southern District). In the 2004/05 financial year, a smaller number of tablets were seized, 200 in total (compared with the 443 in the preceding year), 96 being diazepam, 54 temazepam, 49 oxazepam and one flunitrazepam, the majority of which were seized in the Southern District (95%: with 8 tablets seized in the Western District, and 3 in the North). Data for the 2005/06 financial year were not available at the time of publication.

9.4.2 Health

Multiple key experts noted recent changes in health problems associated with benzodiazepine use among the substance-using populations they had recent contact with – with these changes relating to benzodiazepine injection in particular. Three key experts (from the emergency services and drug treatment fields) provided reports of recent overdoses, anecdotally believed to be associated with benzodiazepine use or from such use in combination with an opioid and/or alcohol. One IDU consumer reported a recent overdose after taking a combination of Xanax (alprazolam) and temazepam. One IDU consumer noted that *"*(metha)*done users are selling half the done, taking the rest and mixing with benzos to get more stoned"*, which increases the potential for overdose, as noted previously.

The other recent changes noted by key experts related to the harms associated with the injection of benzodiazepines. One key expert (in the drug treatment field) noted a high proportion of opiate-consuming clients with vein damage, including some people with permanent blockages. This key expert, along with two others, reported limited use of pill-filters, with one key expert suggesting that consumers don't use pill-filters as they were seen as cost-prohibitive[30]. One of these key experts reported that, over the preceding twelve months, consumers had experienced gangrene of the fingers and severe vein damage due to injecting both benzodiazepines and pharmaceutical opioids. One of the ambulance officers interviewed noted attending cases where consumers were experiencing problems related to injection, primarily infections. Another key expert noted several cases of cellulitis related to poor injecting technique in the preceding six months.

[30] Pill filters are available to consumers in Hobart at cost in a limited number of Needle Availability Program outlets. Other sterile injection equipment is provided through this program at no cost to the consumer (at non-pharmacy outlets).

IDU that had injected any benzodiazepine in the month prior to interview were asked if they had experienced any problems that they associated with this use (Table 53). Twenty-four participants had injected benzodiazepines in this time, with over half (58%, n=14) of these individuals reporting experiencing some injection-related harm that they attributed to benzodiazepines. The problems most commonly reported were difficulty finding veins to inject into (38%, n=9), prominent scarring or bruising (21%, n=5), both indicators of venous damage, as well as self-reported benzodiazepine dependence (21%, n=5), a 'dirty hit' (feeling physically unwell immediately following injection; 17%, n=4), swelling of arms and feet (13%, n=3 respectively), and also swelling of hands and legs (8%, n=2 and 4%, n=1 respectively), reflecting injections missing the veins, infections, or lack of rotation of injection sites. Thirteen percent of respondents (n=3) reported experiencing a thrombosis (or blood clot) related to injecting benzodiazepines.

Table 53: Injection related problems experienced by recent injectors, 2006

	Benzodiazepines	
	%	n
Proportion of sample injecting in the past month	24	24
No problems	42	10
Overdose	-	-
Abscesses/infections	4	1
'Dirty hit'	17	4
Prominent scarring/bruising	21	5
Thrombosis/blood clotting	13	3
Swelling of arm	13	3
Swelling of leg	4	1
Swelling of hand	8	2
Swelling of feet	13	3
Hospitalisation	4	1
Contact with ambulance	-	-
Contact with police	-	-
Dependence	21	5
Difficulty finding veins to inject into	38	9
Skin ulcers	-	-
Gangrene	-	-

Source: IDRS IDU interviews

9.5 Trends in patterns of benzodiazepine use

In addition to the recent changes in health of consumers associated with benzodiazepine use noted above, key experts and IDU consumers interviewed noted several recent trends in association with benzodiazepine use amongst IDU groups, with most revolving around use of Xanax (alprazolam).

Consistent with the trends identified in the IDU sample, two consumers reported that they were aware of a greater number of people using benzodiazepines intravenously in the past six months. One consumer noted that it *"seems a real trend now, that people know how to inject them* (Xanax)*"*. An increase in the number of people using Xanax (alprazolam) in particular was noted by seven consumers. Key experts commenting on primary methamphetamine users generally noted most of the clients they were familiar with reported use of benzodiazepines, and one key expert familiar with primary opiate users reported most of this client group using

benzodiazepines. The most commonly cited benzodiazepine being used amongst these groups was alprazolam, followed by diazepam and temazepam.

With the increasing interest in Xanax, some of those interviewed reported an increased pressure emerging in recent months – with one consumer noting *"Strangers are hassling to buy Xanax at the chemist, the desire is so great"*. Two key experts working in the drug treatment field noted that primary amphetamine consumers would use Xanax when their drug of choice was unavailable. Another key expert, also working in the drug treatment field, noted an increased level of use of Xanax amongst clients of methadone maintenance programs (not necessarily, however, as part of their treatment program). Interestingly, another key expert (drug treatment and general health worker) stated that because *"…Xanax is a pharmaceutical drug, people assume it is safe to use"*. It was noted by a drug treatment worker that consumers requesting treatment for drug (mis)use (other than benzodiazepine dependence/misuse) who also use benzodiazepines regularly, rarely inform staff of benzodiazepine dependence, and tend to see this drug use as of secondary importance to the primary drug of consumption. It is only when symptoms of benzodiazepine withdrawal become apparent that staff are alerted to this dependence.

Possibly, according to one drug treatment worker who sees a high volume of clients, negative attitudes toward injecting Xanax use are starting to be voiced, due to negative effects associated with injection of the drug, leading to serious complications such as gangrene in extremities. This key expert stated that people have *"seen their mates experience very negative effects"*, and that this is impacting on their drug use. Additionally, one law enforcement key expert reported an increase in overdoses of Xanax and either methadone or morphine.

Three of the consumers interviewed noted an increase in the number of people they were aware of that were using opioids and alprazolam in deliberate combination in recent months. This is consistent with reports identified in the past two IDRS studies, where it was noted that Xanax was being used in much the same way as temazepam gel capsules were by consumers prior to their removal from the market: most commonly simultaneously with methadone syrup. Twenty-six participants in the current cohort reported coincident injection of benzodiazepines and opiates in the past six months with a median frequency of 12 days out of the previous 180 (range 1-96 days). 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. Additionally, in previous studies, consumers and key experts have reported incidents of extremely disinhibited behaviour following coincident benzodiazepine and opiate use. Given such reports, these patterns of use merit careful attention in the coming months, particularly from frontline health intervention workers.

9.6 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 in comparison to that identified in other Australian jurisdictions. As noted in the 2003, 2004, 2005 and 2006 studies, it is also clear that alprazolam (Xanax in particular) appears 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. Between the 2003 and 2006 studies, the proportion of the IDU samples reporting recent injection of alprazolam had increased (11% in 2003 to 27% in 2006), and there are anecdotal reports of increased demand for alprazolam locally. This is a particular concern given the serious psychological and physical harms associated with benzodiazepine injection. Additionally, the level of use and availability of benzodiazepines generally remains high within local IDU, particularly among primary users of opiates, 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 Ecstasy and other related drugs

Key experts reported largely infrequent, oral use of 'ecstasy'[31] 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 opiate-using groups.

From the 1998 National Drug Strategy Household Survey for Tasmania (Australian Institute of Health and Welfare, 1999), 2.4% of those surveyed reported ever using ecstasy (n=28), while 0.7% (n~8) had used it in the year prior to the survey. A very similar rate (0.8%, n~10) reported use of ecstasy in the year prior to interview in the 2001 National Drug Household Survey (n=1,349: Australian Institute of Health and Welfare, 2002). In the 2004 survey, 1.6% (n~19) of the 1,208 people sampled over the age of 14 reported use of ecstasy in the previous year (Australian Institute of Health and Welfare, 2005). While this may, on the surface, 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, and, as such, it is not possible to conclude that any reliable change in prevalence of ecstasy use had occurred between the studies.

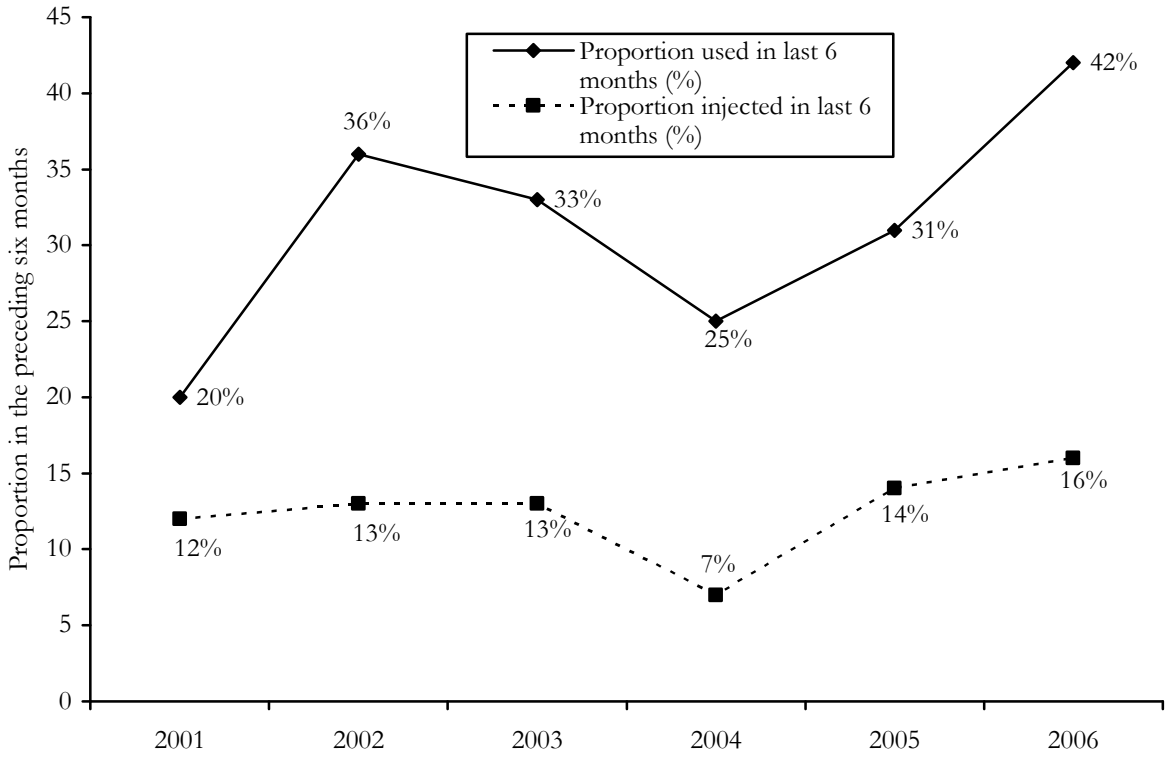
In the IDU sample, 79% had used ecstasy at some stage in their lives. Swallowing of the drug was most common, reported by 73% of the sample at some stage of their lives, and 34% in the preceding six months. Injection of ecstasy was reported by 47% of the sample at some stage in their lives, while 16% had injected the drug in the past six months, at a median frequency of once in this period. In total, 42% of the sample reported using ecstasy in the past six months, with a median frequency of use of three days (range 1-53 days) in this period. As shown in Figure 53 below, these indications of use represent a change in comparison to the levels reported in the 2005 IDRS IDU cohort. In terms of the overall proportion of the sample reporting use of ecstasy in the preceding six months, this rose between 2001 and 2002 (from 20% to 36% of the samples) and steadily declined in subsequent years, falling to 25% in the 2004 sample. In contrast to this decline, however, the proportion reporting ecstasy use in 2005 rose to return to a level similar to that in 2003 (31%), and continued to increase amongst the 2006 cohort (42%). Similarly, the proportion of the local consumer cohorts reporting recent injection remained relatively stable between 2001 and 2003 (12-13% of the respective samples), and declined to 7% of the 2004 sample, but in 2005 increased to 14%, a level similar to that of the 2003 sample. In 2006, the proportion reporting recent injecting use of ecstasy has increased again, to 16%. The median frequency of use of ecstasy amongst IDU samples is low, with this remaining between two and three days in the preceding six months in the 2001 to 2006 IDRS IDU cohorts (3 days in 2006 and 2003, 2 days in all other surveys).

The demographics of those that had used ecstasy in the past six months did not differ from those of the larger IDU sample (see Section 3.1), in terms of sex, cultural background, education, sexual preference, prison history, employment status, income source, age of first injection or frequency of injection. However, recent ecstasy consumers in the current IDU cohort were significantly younger (mean 28 vs. 32 years respectively: $F(1,98)=5.908$, $p=0.017$) than those that had not. Similarly, those that had recently used ecstasy had been injecting for a significantly shorter time than those that had not (a mean of 10 years and 14 years respectively: $F(1,98)=6.493$, $p=0.012$) and less likely to report accessing any form of treatment at the time of the interview (43% vs. 67%: $\chi^2(3_{n=100})=8.655$, $p=0.034$) than participants who did not report

[31] Intelligence reports from police in previous years suggest that much of the tablets sold as 'ecstasy' may not necessarily contain 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.

recent use of ecstasy. However, one key expert providing services under the Illicit Drug Diversion Initiative (IDDI) noted a recent increase in the number of individuals they were seeing through this program where ecstasy was their principal drug of concern.

Figure 53: Proportion of IDU reporting ecstasy use and injection in the preceding six months, 2001-2006



Source: IDRS IDU interviews

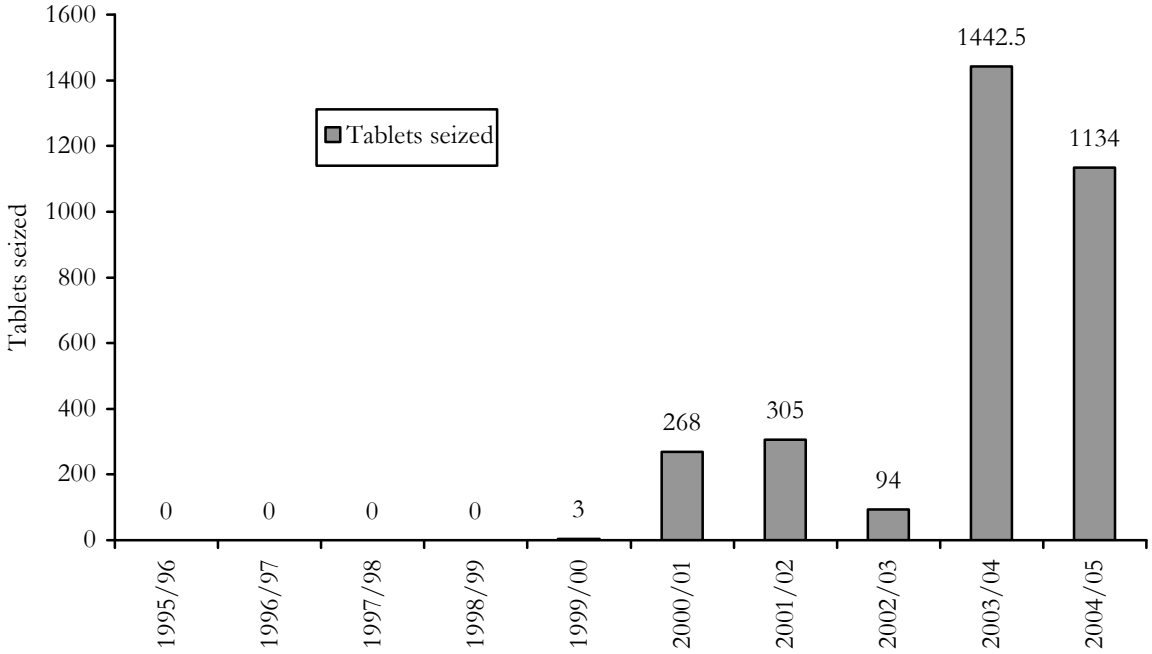
Trends in regard to price, purity and availability of ecstasy are not examined in detail within the IDRS study. However, a study conducted during a similar time-frame and methodology to the current study, using regular ecstasy users as the drug user cohort, has been conducted (Matthews & Bruno, 2007), and examines trends in ecstasy and other 'party drug' use in greater depth. This study suggests that ecstasy is 'easy' or 'very easy' to obtain by consumers in Hobart, and that this level of availability has remained stable or increased somewhat during the early months of 2006. Subjective reports from consumers of the drug suggest that the purity of ecstasy available in Hobart during the early months of 2006 was medium with some fluctuations, and that it cost, on average, $35 per tablet. These figures appear relatively stable or slightly diminished in terms of price, purity and availability, in contrast to indications of an expanding market between 2003 and 2004 (Bruno & McLean, 2004a; Matthews & Bruno, 2005), that are not apparent when examining a primary injecting-drug consumer cohort.

In support of suggestions of a slightly tightening ecstasy market in Tasmania, during 2003/04, Tasmania Police seized 1,442.5 'ecstasy' tablets, a substantial increase from seizures in previous years (94 in 2002/03, 345 in 2001/02 and 268 in 2000/01: Figure 54), but in the 2004/05 financial year the number of tablets seized had declined slightly to 1,134 tablets.

There were three samples of phenethylamines (the class of drugs that ecstasy, or MDMA, and drugs such as MDA, 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. Data for the 2004/05 financial year was not available at the time of publication. One key expert, who works as a law enforcement officer, reported an increase in information received by police with regard to ecstasy, along with a perceived increase in police activity, and a 'reasonable' amount of seizures.

Figure 54: Seizures of tablets believed to be 'ecstasy' by Tasmania Police, 1995/96-2004/05



Source: Tasmania Police State Intelligence Service

Findings of the recent dedicated study into ecstasy use in Hobart (Matthews & Bruno, 2007) clearly indicate that ecstasy remains relatively very easily available locally, and used by a broadening demographic group of individuals. This, and the information from Tasmania Police seizures, suggests that the availability of ecstasy – recent constrictions notwithstanding – has increased in Hobart during recent years, just as it has across the country. With this greater availability of the drug in Tasmania, local IDU samples have shown an increasing exposure to the drug over time. Indeed three consumers interviewed in the current IDRS IDU sample reported that they were aware of more people using ecstasy in the past six months, and that it is more frequently available. One consumer also noted that injecting use of ecstasy has become more common. However, 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, recreational event among such groups, with regular injecting drug users tending to preferentially use methamphetamines or opioids at substantially greater frequency.

10.2 Prescription stimulants (dexamphetamine, methylphenidate)

While it was very uncommon for the key experts to report any use of prescription stimulants such as methylphenidate (Ritalin, Attenta) or dexamphetamine amongst the substance using groups they had recent contact with, two-fifths (40%) of the IDU consumers interviewed had recently used these drugs. Of those who commented on the type of pharmaceutical stimulant used (25% of the sample), dexamphetamine was the more commonly reported of these two

drugs, used by 12% of the sample, with 6% using methylphenidate in the preceding six months (7% had used both drugs).

In the IDU sample, 80% had used prescription stimulants at some stage in their lives. Injection of these drugs was most common, reported by 73% of the sample at some stage of their lives, and 36% in the preceding six months, at a median frequency of 2 days in this period (range 1-90). Swallowing of prescription stimulants was reported by 49% of the sample at some stage in their lives, while 12% had swallowed these drugs in the past six months. In total, 40% of the sample reported using prescription stimulants in the past six months, with a median frequency of use of three days (range 1-90 days) in this period. While use of these drugs appears common among the IDU cohort, it appears that they are predominantly used as a second-line drug, as just 2% (n=2) of those using stimulant drugs (methamphetamine or prescription stimulants) reported methylphenidate or dexamphetamine as the stimulant they had most commonly used in the preceding six months.

This level or pharmaceutical stimulant use among the IDRS IDU cohort is somewhat lower than that reported in the 2003, 2004 and 2005 consumer samples, where 50%, 51% and 43% respectively reported recent use of pharmaceutical stimulants; and levels of frequency of use have also reduced within the current cohort (3 days in 2006; 6 days in 2005; 4 days in 2004; 5 days in 2003).

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, treatment and prison history, employment status, source of income, engagement in criminal activity, drug of choice, age of first injection or frequency of injection. Key experts 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 (30.5 years) and those that had not (30.3 years).

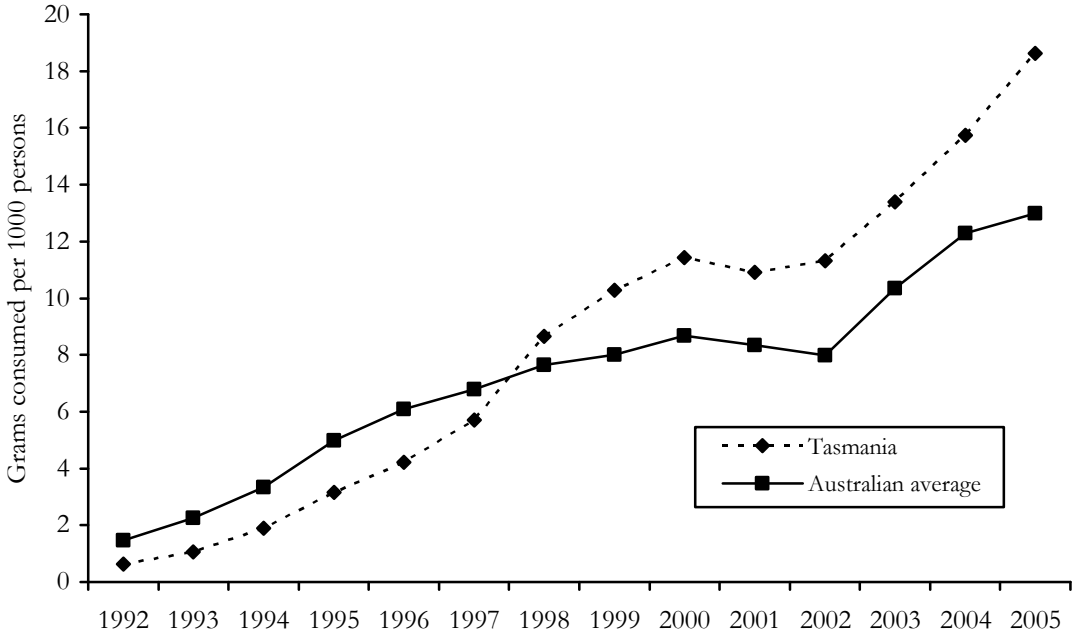
Reported modal prices for pharmaceutical stimulants were $5 per 10mg methylphenidate tablet (Ritalin, Attenta: range $2-30, n=12) and $5 per 5mg dexamphetamine tablet (range $2-10, n=17). These prices are consistent with those reported in previous local IDRS studies (Table 17: where most modal prices for each of the drug types were consistently reported at $5 per tablet in the 2001, 2003, 2004 and 2005 surveys). Most of the IDU who commented on the price of prescription stimulants indicated that these prices had remained stable (46%, n=13) in the preceding six months. However, there was some variation in these reports, with a notable minority reporting increasing prices (18%, n=5), and 4% (n=1) reporting either decreasing or fluctuating prices in this time.

There was some division among IDU reports of ease of access to prescription stimulants such as dexamphetamine or methylphenidate, with the majority indicating that these were 'easy' or 'very easy' to access in the preceding six months (53%: 32% 'easy'; 21% 'very easy'), while almost one-third considered these as 'difficult' for them to access in this time (29%, n=8). Over one-third of those participants able to report on trends in availability suggested that the availability of pharmaceutical stimulants had not changed in the past six months (39%, n=11), although a substantial number felt that it had become easier for them to access these drugs in recent months (11%, n=3), or had become more difficult (7%, n=2). When asked the sources of their prescription stimulants, IDU reported that these drugs were invariably accessed via illicit means: none of the consumers reported accessing pharmaceutical stimulants from a medical practitioner in the preceding six months. This was consistent with the reports amongst the 2004 and 2005 cohorts, where just a single consumer reported receiving a prescription for these drugs in 2004.

Tasmanian prescription rates of methylphenidate and dexamphetamine (Figures 55 and 56) 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 had been consistently below that of the Australian average until 1998, and rose to 128% that of the national average in 1999, slowly continuing to rise to 144% of the national level in 2005 even in the context of an increasing national prescription rate over this time. Tasmanian consumption rates of dexamphetamine were comparable to that of the national level between 1997 and 1999, rising to 120% 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 84% of the Australian average.

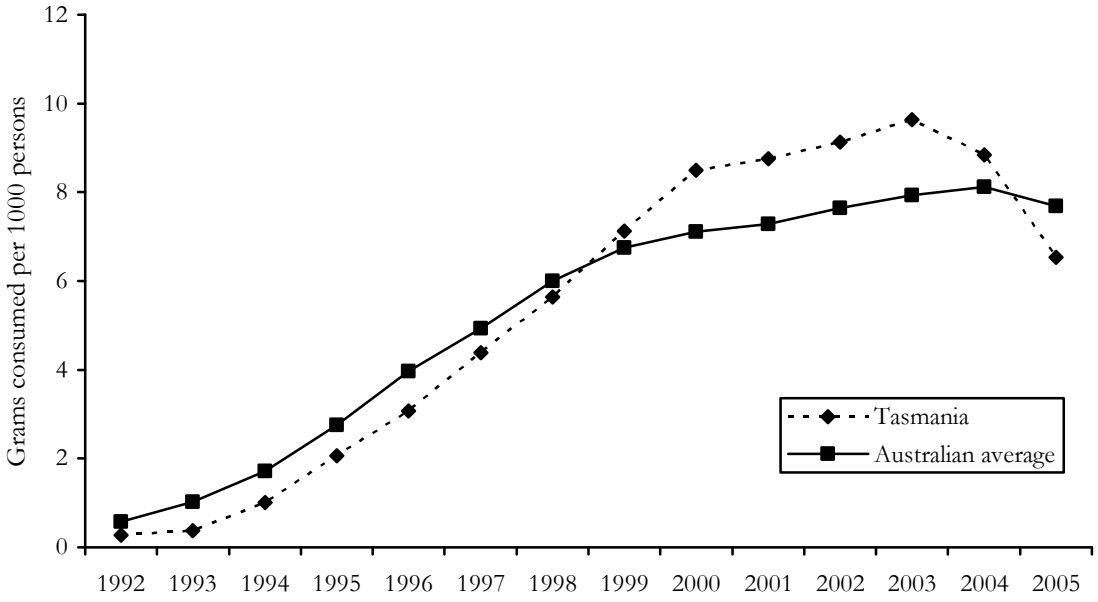
Two key experts reported minimal use of dexamphetamines, and one key expert reported both dexamphetamine and methylphenidate use increasing amongst a polydrug using group in the six months preceding the interview.

Figure 55: Consumption of methylphenidate (Ritalin) per 1000 persons, 1992-2005



Source: Pharmaceutical Services, Department of Health and Human Services

Figure 56: Consumption of dexamphetamine per 1000 persons, 1992-2005



Source: Pharmaceutical Services, Department of Health and Human Services

10.3 Inhalants

While 42% of the IDU respondents reported ever using inhalants, only 3% had used them in the six months prior to interview. The inhalants reported included butane, nitrous oxide and paint products. However, the use of these substances was extremely infrequent, with two participants reporting using them on a single occasion only in the preceding six months, with the other participant doing so on just two occasions in this time.

Most key experts were not aware of any recent use of inhalants amongst the drug users they had contact with, and those few that reported use (n=5) noted that it was rare amongst their client groups. Those key experts that could report on inhalant use were working in drug treatment services, youth work Needle Availability Programs or as a law enforcement officer. Key experts had noted infrequent use of solvents amongst the primary cannabis/psychostimulant consumers they worked with, and a law enforcement officer noted 'a few' people using amyl nitrate in the preceding six months. Others involved in outreach youth services had reported use of glue, paint or petrol amongst a small proportion of the consumers they were working with, although one noted a recent increase in use of butane in the past six months, amongst a small group of consumers in their late teens to early twenties. In previous IDRS studies, key experts reported that the substance users they were associated with were extremely negative toward use of inhalants, regarding it as a 'primary school thing'.

10.4 Hallucinogens

Seventeen percent of the IDU respondents in the current study reported use of hallucinogens in the six months prior to interview, although three-quarters (79%) had used something from this class of drugs at some stage in their lives. The current frequency of use was rare, with only a median of three days use in the past six months among those whom reported use of the drug (range 1-24 days). The majority of participants had used these drugs only once (n=7) or on three (n=5) occasions in this time. 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 (26% in 2001; 16% in 2002; 21% in 2003; 20% in 2004; 22% in

2005), and the median frequency of use remaining at just one or two days in the preceding six months across each of these samples.

Key expert reports followed a similar theme, noting irregular use, most commonly of LSD/'trips' and psychedelic mushrooms amongst a small proportion of the consumers that they had contact with, with such reports more common amongst primary cannabis or psychostimulant 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) – found higher levels of use relative to the IDRS IDU cohort (albeit also at a low frequency) among regular ecstasy users (55% of the 100 ecstasy users using psychedelic mushrooms in the six months prior to interview, and 29% using LSD in 2006; and 40% using mushrooms and 31% LSD in the 2005 study). More details about hallucinogen use in such demographic groups can be found in Matthews and Bruno (2005, 2006, 2007).

Among the 2006 IDRS IDU sample, 8 individuals reported use of LSD in the preceding six months, and 4 people noted using mushrooms in this time (one individual had used both), and one participant reported use of 2CI (2,5-dimethoxy-4-iodophenethylamine). A further participant reported using a hallucinogen but was unsure of what it was. The drug 2CI is a psychoactive that has recently emerged in Australian drug markets following some use in Europe and the United States earlier in the decade. Its effects are reported to be similar to MDMA although with more potent hallucinogenic effects, and use is more commonly reported within dance party settings. Modes of use include swallowing, snorting, shafting or injecting. The drug has been classed as a Schedule 9 drug in Australia, making it illegal to possess or use (Erowid, 2006). Four key experts were able to comment on 2CI; 2 police officers reporting recently receiving information about the drug, but have not made any seizures. Two other key experts reported that 'a few' of the clients they worked with had recently used 2CI, describing sporadic use; one of these key experts noting it was more available ten months prior to the interview. Consistent with this, an increase in use of 2CI amongst local regular ecstasy consumers interviewed in the EDRS has been noted in 2006 (Matthews & Bruno, 2007).

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.

Tasmania Police seized 5 tabs of LSD during 2001/02 (all during December, 2001), and 8 tabs during 2000/01 (all during August 2000), compared to 109 tabs during the 1999/00 financial year, all during the summer October-December 1999 quarter. During 2002/03, Tasmania Police (Western District) seized 488 tabs believed to be LSD (and sold as such by the 'dealer') but forensic tests of the seized tabs indicated negative results for any drug. During 2003/04, 31 tabs of LSD, 10.5 grams of psychedelic mushrooms (psilocybin) and 6 'tablets' defined as hallucinogenic were seized by Tasmania Police. In 2004/05, 1,289 tabs of LSD and 565 grams of psychedelic mushrooms were seized. Seizure data for 2005/06 was not available at the time of publication. These quantities seized are so variable, and the level of use of hallucinogens among the IDRS cohort so low, that it is difficult to infer any clear trends in availability for this class of drugs from these figures. One key expert in the law enforcement sector reported an increase in information being received with regard to hallucinogens in recent months, resulting in an increase in seizures.

10.5 Alkaloid poppies

In the 2006 IDU sample, 49% reported using an opioid other than morphine, methadone, oxycodone or heroin at some stage in their lives. Use of such opioids in the six months prior to interview was only reported by 16% of the sample. Of these, half (n=8) reported predominant use of some preparation of alkaloid poppies (described by the IDU as opium, opium tar or

poppy wash), with the remainder reporting use of tramadol (n=4), and Panadeine Forte or similar preparations (codeine phosphate/paracetamol: n=3), and pethidine (n=1), all of which are pharmaceutical analgesics.

Eight percent of the current cohort reported use of alkaloid poppies at some stage in the preceding six months. This level of recent use of alkaloid poppies is somewhat less than that identified within the past five local IDRS IDU cohorts (13% in 2001, 14% in 2002, 12% in 2003, 13% in 2004, and 21% in 2005, Table 54). Within the 2006 sample, median frequency of use of an alkaloid poppy preparation was three days in the preceding six months (range 1-100 days).

Tasmania Police State Intelligence Services have 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. While seizure data for 2005/06 was not available at the time of publication, during 2004/05, Tasmania Police reported seizing 626 capsules, 473 plants, and 2,530g of capsules and related matter (Table 54). This is comparable with seizures in recent years: in 2003/04, Tasmania Police seized 601 capsules, 31 poppy plants and 2g of poppy tar/resin; in 2002/03, 7 capsules, 1,473.3g of capsules, 84 poppy plants and 2g of poppy tar; in 2001/02, 382 capsules and 9.319kg of capsules; in 2000/01, 3,522 capsules; and 3,933 capsules and 50g of poppy tar seized in the 1999/00 financial year (Table 54). However, this mixture of reporting renders it difficult to clearly identify trends in seizure data.

The diversion rate of Tasmanian alkaloid poppy crops, shown in Table 54 below, had been in steady decline between 1996 and 1998. 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, in 2004/05 and 2005/06, the number of capsules stolen and the number of theft incidents recorded had declined markedly since 2003/04.

Tasmania Police key experts in previous IDRS studies report that the declines in diversion following 1999/00 are likely to be attributed both to a more pro-active approach by Tasmania Police poppy task forces and the decision by producers not to specifically identify thebaine poppy crops. This is a substantial deterrent to illicit use, as thebaine poppies are physically identical to morphine-producing crops, with the exception that thebaine acts as a central nervous system stimulant (morphine behaves in the opposite way, and is a central nervous system depressant), causing adverse strychnine-like convulsions after high doses. In support of this, in 2001, one key expert, a user group representative, noted negative experiences with thebaine-based diverted poppies amongst the IDU they were familiar with, with the individuals concerned not returning to use of poppy preparations.

Table 54: Tasmanian alkaloid poppy crop diversion rates, 1996-2006

	1996 /97	1997 /98	1998 /99	1999 /00	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06
Number of capsules stolen	42,426	30,424	66,013	62,700	7765	15,946	20,223	24,128	16,201	10,263
Cost per hectare of securing poppy crops	$45	$39	$33	$27	$28	$28	$30	$47	$44	$62
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
Number of theft incidents reported	46	38	34	39	20	27	27	39	35	13
% of IDU sample reporting use	-	-	-	34	13	14	12	13	21	8
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)
TASPOL seizures	-	-	-	*3933 capsules*; 50g tar*	*3522 capsules**	*382 capsules*; plus 9319g of capsules*	*7 capsules plus 1473.3g capsules; 84 plants; 2g tar*	*601 capsules; 18g resin; 31 plants; **	*626 capsules; 2515.4g capsules; 2.7g resin; 473 plants; 11.7g seed*	#

Source: Poppy Board, Justice Department of Tasmania, Tasmania Police State Intelligence Services # Data for 2005/06 not available at the time of publication. *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.

10.6 Other Substances

10.6.1 Homebake

Since the identification of homebake as a re-emergent issue in the 2001 West Australian IDRS (Hargraves & Lenton, 2002), the national IDRS study has included questions on the use of this preparation amongst the IDU participants. 'Homebake' is a term used to describe the end product of an illicit drug manufacturing process, typically conducted within domestic kitchens, using codeine-based pharmaceuticals to make morphine and/or heroin. The manufacturing process involves the initial extraction of codeine from these pharmaceuticals, which is converted to morphine. Subsequent reactions convert morphine to heroin in the form of a

dark paste, which requires dilution to be injected. Depending on the skill of the 'cook', the end result is usually a combination of heroin, morphine and codeine, although varying amounts of unwanted chemicals used in the manufacturing process (pyridine hydrochloride, chloroform) may also be present (Hargreaves & Lenton, 2002).

While no key experts noted any use of homebake amongst the groups they had contact with, 18% of the 2006 IDU sample reported they had used homebake at some stage in their lives. Injection of the drug was most common, reported by 16% at some stage in their lives. Lifetime use of homebake by smoking (1%), swallowing (2%), or snorting (1%) was much less common. Only one participant in the current cohort reported using homebake in the preceding six months; use was on one occasion only, and the drug was injected.

10.6.2 Buprenorphine

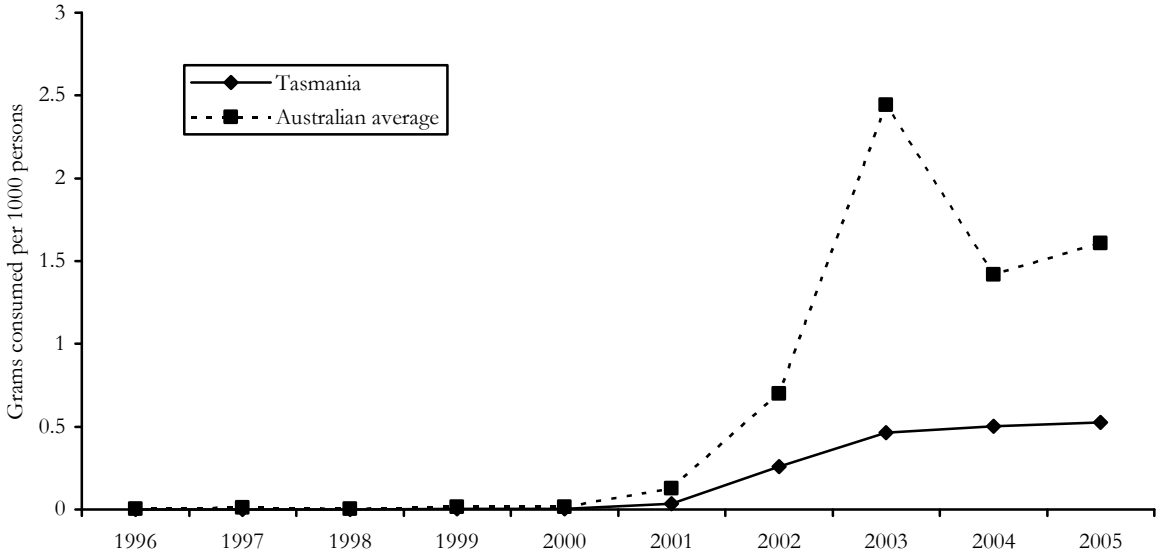
With the advent of buprenorphine as a maintenance treatment option for opioid dependence in the 2000/01 financial year, trends in buprenorphine use among regular IDU groups have been examined since the 2002 IDRS survey. In the current cohort of IDU only 21 reported ever using buprenorphine (23 in 2005; 15 in 2004), with 12 ever receiving the drug licitly, and 11 ever using diverted buprenorphine. Of those that had ever used diverted buprenorphine, only 2 had also received the drug legitimately at some stage. Three of the current IDU participants reported being prescribed buprenorphine in the six months prior to interview. Among those being prescribed the drug, three had swallowed the drug and one participant reported no oral use of prescribed buprenorphine. Two participants reported injecting prescribed buprenorphine- one injected on two days, the other participant injected on 90 days in the preceding six months (approximately every second day). Five individuals reported using diverted buprenorphine in the preceding six months (one of whom was also prescribed the drug in this time), on a median frequency of 4 days in this time (range 1-24). Of these, all had injected the drug while one had also swallowed it.

As noted in Section 8.4 above, buprenorphine first became available as a pharmacotherapy in the state in 2000/01. Following an influx of individuals that were previously receiving treatment shifting to buprenorphine in the first year of availability of the drug (n=37 in 2000/01), the number of new admissions to buprenorphine maintenance in Tasmania has stabilised in the past four financial years (n=32 in 2002/03, n=45 in 2003/04, n=35 in 2004/05 and n=26 in 2005/06). One key expert working in drug treatment commented that, in the preceding twelve months, the number of buprenorphine prescribers had declined, which may provide one possible explanation for the small decrease in new admissions into this form of treatment. Nevertheless, over the past four years the number of daily buprenorphine patients in the state has grown from 48 as of July 2002 to 84 in July 2006. Tasmanian prescription rates of buprenorphine are detailed below in Figure 57. Following the trends in buprenorphine maintenance admissions, the rate of prescription of the drug in the state has increased tenfold between 2001 and 2003 from 0.04g to 0.46g per 1000 persons. However, the prescription rates nationally have increased remarkably rapidly since 2001, largely due to the enthusiastic uptake of buprenorphine treatment in Victoria. The prescription rates of buprenorphine locally are just 33% of the national average (in contrast to that of methadone syrup, which was 88% of the national average in 2005/06).

While no key experts reported hearing of injection of illicit buprenorphine amongst the substance-using individuals they had contact with, given the high use of diverted pharmaceutical opioids among the regular IDU population locally, and the notable rates of diversion of buprenorphine in other jurisdictions (O'Brien et al., 2007), trends in use of

buprenorphine merit close attention as the drug continues to be more widely adopted as a treatment option locally in the coming years.

Figure 57: Consumption of buprenorphine per 1000 persons, 1996-2005



Source: Pharmaceutical Services, Department of Health and Human Services

10.7 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 key experts 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 were:

- Rates of use of pharmaceutical stimulants in the 2006 IDRS IDU cohort had declined somewhat, in contrast to steady increases between 2001 and 2003. These drugs were used by two-fifths of the participants in the current study, although they were generally used infrequently, and are rarely the stimulant drug most commonly used by such individuals.
- Multiple sources of information suggest that the availability of ecstasy has increased in Hobart during recent years, just as it has across the country. Two-fifths of the IDU consumers interviewed had recently used ecstasy, an increase from previous surveys, although use in this group remains infrequent. However, there are clear indications of increasing use of this drug in other demographic groups in the state (Matthews & Bruno, 2005, 2006, 2007).
- Less than one-fifth of the 2006 cohort reported recent use of hallucinogens, and frequency of use was very low. LSD and mushrooms were the predominant forms used. Reports from both consumers and key experts indicate that use of 2CI, a psychedelic phenethylamine, is increasing- a finding which was also noted among local samples of regular ecstasy consumers (Matthews & Bruno, 2007). While increasing, use of this drug was not common in this cohort of injecting drug consumers.
- Use of diverted alkaloid poppies among the IDRS IDU cohort has declined since the 2005 survey, with these preparations used by just 8% of the sample. Consistent with this, reports of thefts from poppy crops have declined in 2005/06.
- Use of diverted buprenorphine amongst the 2006 IDRS IDU cohort continues to be a rare occurrence and restricted to an extremely small minority of participants.

11.0 ASSOCIATED HARMS

11.1 Treatment

11.1.1 Tasmanian Alcohol and Other Drug Treatment Minimum Data Set

The National Minimum Data Set for Alcohol and other Drug Treatment Services (NMDS) was developed as a nationally consistent response to data collection for alcohol and other drug treatment services. Data collection began on July 1, 2000, and data from Tasmanian government and non-government agencies across the state are presented in Table 55 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 2004/05 data show 59% of those receiving services were male and a small proportion (7%) identified as being Aboriginal and/or Torres Strait Islanders. Figures for the reported principal drug of concern in 2004/05 show 31% of clients reported cannabis or alcohol respectively, followed by nicotine (16.6%), amphetamines (9.8%), morphine (5.9%) and methadone (2%). Only 9% of clients in the 2004/05 dataset had nominated an opioid as their principal drug of concern.

There are several notable changes in the NMDS figures between the 2000/01 and 2004/05 datasets. Chief amongst these is the change from alcohol being the predominant drug identified as primary drug of concern. In 2000/01, alcohol was reported as the principal drug of concern by 38.8%, and cannabis by 22.7%. In 2003/04, this situation changed, with 28.9% reporting alcohol and 37% reporting cannabis as the principle drug of concern. In the most recent dataset- 2004/05, both alcohol and cannabis were reported by 31% of clients as the principal drug of concern. The proportion of male clients has declined from 66% in 2001/02-2002/03 to 59% in 2004/05, which was somewhat lower than the national proportion (66% nationally in 2004/05). It is noteworthy that the number of cases where nicotine is the principal drug of concern has steadily increased across surveys.

Table 55: Tasmanian Alcohol and Other Drug Treatment Services Minimum Data Set, 2000/01-2004/05

Total Data Set	2000/01	2001/02	2002/03	2003/04	2004/05
n	1404	1735	2568	2357	1921
% receiving service for their own use	91% (n=1279)	97% (n=1691)	89% (n=2286)	68% (n=1603)	71% (n=1364)
For those receiving services for their own use					
Sex (% male)	65% (n=826)	66% (n=1116)	66% (n=1509)	58% (n=930)	59% (n=805)
Aboriginal and/or Torres Strait Islander	8% (n=103)	7% (n=123)	8% (n=183)	6% (n=96)	7% (n=95)
Injecting drug use history					
Current (0-3 months)	24%(n=304)	18%(n=311)	17% (n=396)	15%(n=240)	n/r
Recent (3-12 months)	5% (n=66)	5% (n=92)	4%(n=91)	n/r	n/r
Historical (>12 mths)	5% (n=66)	6% (n=100)	6%(n=141)	n/r	n/r
None	28% (n=363)	39% (n=654)	35% (n=796)	45% (n=721)	n/r
Not stated	38% (n=480)	32% (n=534)	38% (n=868)	29% (n=465)	n/r
Principal drug of concern					
Alcohol	38.8%(n=496)	36.7%(n=620)	40.8%(n=933)	28.9%(n=463)	31%(n=423)
Nicotine	2.4% (n=31)	16.6%(n=280)	18%(n=412)	12.5%(n=200)	16.6%(n=226)
Cannabis	22.7%(n=290)	24.7%(n=418)	18.6%(n=426))	37%(n=593)	31%(n=423)
Amphetamine	12.1%(n=155)	9.5% (n=161)	7.9%(n=180)	8.5%(n=136)	9.8%(n=134)
Cocaine	0.2% (n=3)	0.0% (n=0)	0%	0.1%(n=2)	0%
Other stimulants	0.9% (n=11)	0.6% (n=10)	0%	n/r	n/r
'Ecstasy' and related	0.1% (n=1)	0.3% (n=5)	0%	0.7%(n=11)	0.7%(n=10)
Heroin	2.3% (n=30)	1.1% (n=18)	0.5% (n=12)	0.8%(n=13)	0.2%(n=3)
Morphine	6.6% (n=84)	7.2% (n=121)	n/r	n/r	5.9%(n=80)
Methadone	6.0% (n=77)	0.2% (n=3)	3.5%(n=79)	3%(n=48)	2%(n=27)
Other opioids	4.1% (n=53)	1.1% (n=19)	7.6%(n=173)	n/r	0.9%(n=12)
Benzodiazepines	2.9% (n=37)	1.7% (n=29)	0.7%(n=16)	1%(n=16)	0.8%(n=11)
Other	0.8% (n=10)	0.4% (n=7)	2.4%(n=55)	7.1%(n=114)	1.1%(n=15)
Method of use					
Ingest	48%(n=615)	41%(n=691)	48%(n=1093)	n/r	39% (n=532)
Smoke	25%(n=316)	40%(n=684)	36% (n=830)	n/r	44% (n=600)
Inject	21%(n=273)	17%(n=281)	14% (n=323)	n/r	12% (n=164)
Sniff	0.2% (n=3)	0.2% (n=3)	0% (n=0)	n/r	n/r
Inhale	0.2 (n=2)	0.1% (n=1)	0.3% (n=8)	n/r	n/r
Other/Not reported	6% (n=70)	2% (n=31)	1% (n=31)	n/r	n/r

Source: Australian Institute of Health and Welfare Note: multiple presentations of the same individual excluded.

11.1.2 Alcohol and Drug Information Service Data

The Tasmanian Alcohol and Drug Information Service (ADIS), previously administered by Department of Health and Human Services staff at Hobart's detoxification service, was transferred to Turning Point Alcohol and Drug Centre in Victoria in mid-May 2000. Turning Point systematically records data for each call received, which was not possible in previous years due to high demands on Department of Health and Human Services staff time. However, during 1998/99, staff were able to record data for 840 calls to ADIS (not all calls to the service were recorded). The primary drug mentioned in the call was noted in the majority of cases (Figure 58). During this period, the majority of calls pertaining to illicit drugs were regarding cannabis (18%), followed by opioids (13%) and methamphetamine (7%). A trend toward a

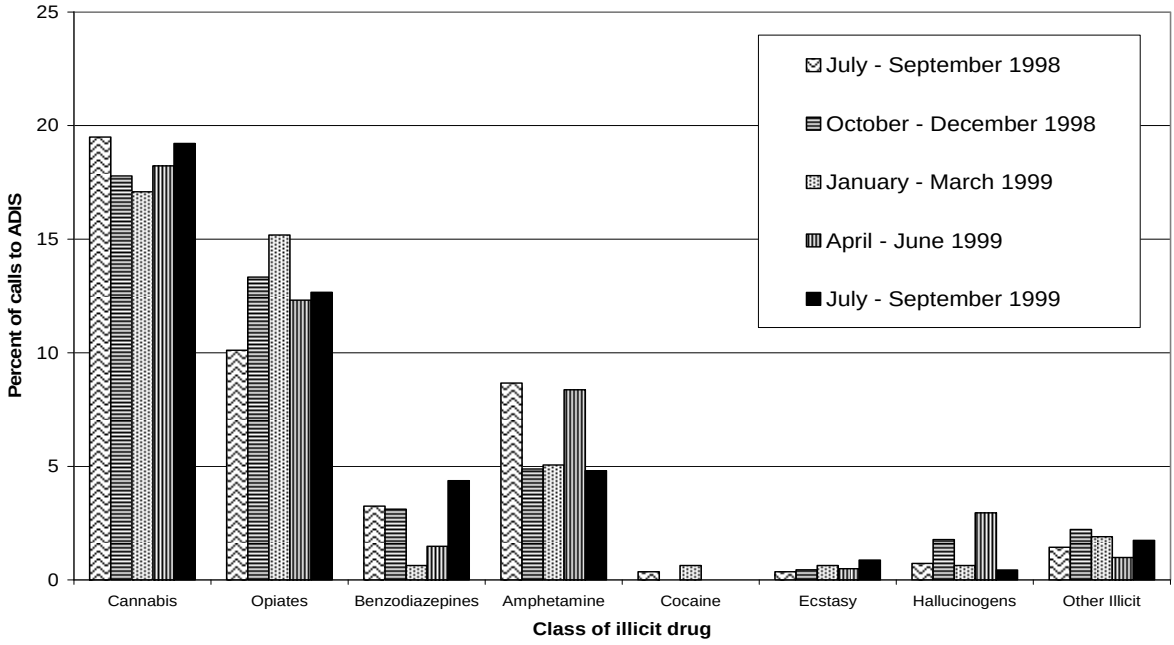
slight increase in opioid-related inquiries was noted during this period. Data from previous years were unavailable, rendering it difficult to make comparisons.

Data from calls made to the Turning Point-administered ADIS have been reported over differing time periods due to the requirements of the Department of Health and Human Services; however, 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 the past five years: there were 2,422 calls made to the service between May 15, 2000 and June 30, 2001; 2,208 in the 2000/01 financial year; 1,827 in 2001/02; 1984 during the period April 2002-March 2003; 1,837 during 2003/04; 1,498 in 2004/05; and 1,469 in 2005/06.

For calls regarding specific persons using drugs (either from the person themselves or about them from parents, partners, etc.) to the Turning Point-administered ADIS, information regarding the drug or drugs used is detailed in Figure 59. While these largely follow similar patterns to the 1998/99 ADIS data, due to its more systematic recording and its referral to a specific sub-group of calls, the two datasets are not directly comparable, and as such have been displayed in separate figures.

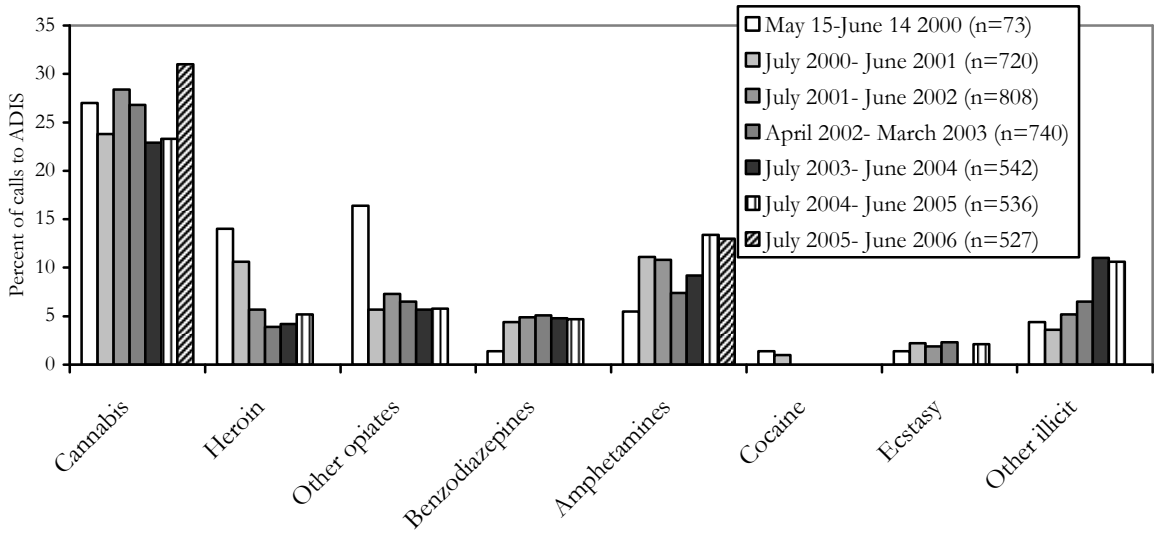
Due to the fact that quarterly data are not available, it is difficult to make clear inferences regarding trends; however, in all sets of ADIS data the bulk of calls pertaining to illicit drugs were in regard to cannabis use, followed by methamphetamine and opioids. Full data was not reported in regard to drugs used in 2005/06, however, 47% of all calls related to alcohol, 31% to cannabis and 13% to amphetamines, a pattern in keeping with the overall trends in previous years. These figures suggest an increase in calls relating to cannabis (possibly reflecting recent media campaigns in regard to an association between cannabis use and mental health problems) and a stable proportion of calls in relation to methamphetamine.

Figure 58: Percentage of calls to ADIS by drug type (1998/99)



Source: Alcohol and Drug Services, Department of Health and Human Services

Figure 59: Percentage of calls to ADIS referring to persons using specific drugs, May 14, 2000-June 2005



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

Trends in the demographic characteristics of the drug users identified in calls to ADIS over time are again 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%). During 2001/02, there appeared to be a slight upward shift in the age of identified consumers, as, while the majority were again aged between 22 and 40 years (56.4%), calls in relation to people in the 16 to 18 year age group had decreased by 5% (to 10.2%), while calls relating to people more than 40 years of age increased 6% (to 19% of calls). Age characteristics of the drug consumers described in 2002/03 ADIS calls were almost identical to the previous year (10.7% aged 16 to 18 years; 57% aged between 22 and 40 years; 19.2% more than 40 years of age). While in a slightly differing age grouping, there is again some suggestion of an increased age of the drug users discussed in the 2003/04 data, where 9.5% were aged between 15 and 19; 62.3% aged between 20 and 40 years; and 26.7% were more than 40 years of age, an increase of 7.5% from the previous year's report. The age of the drug users discussed in calls to ADIS in 2004/05 were consistent with those reported in the preceding year: 9.5% between 15 and 19; 61% between 20 and 40 years; and 28% more than 40 years. A change in reporting format in 2005/06 does not allow comparisons with previous data, however, 14% of callers were aged between 20 and 24, and were between 25 and 34.

Among the calls relating to people using drugs in the 2000/01 year, 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 60% 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 (62% male in 2002/03; 61% in 2003/04; 56% in 2004/05; and 62% in 2005/06).

Turning Point also provide a specialist alcohol and drug telephone service targeted specifically to health professionals to assist with clinical management of drug and alcohol problems: the

Drug and Alcohol Clinical Advisory Service (DACAS). Of the 63 calls to the service in the 2000/01 financial year, the majority were from medical practitioners (69.4%) although there was also a sizeable level of utilisation of the service by nurses (12.2%), general drug and alcohol staff (10.2%) and youth/welfare workers (6.1%). The majority of calls were regarding opioids (50%: prescription opioids 25%, methadone 15.4%, heroin 9.6%), with a substantial proportion of consultations regarding psychostimulants such as methamphetamine (15.4%), benzodiazepines (9.6%) and cannabis (9.6%).

Very similar patterns were seen among the 59 calls made to DACAS in the 2001/02 financial year. Again, the majority of calls were made by medical practitioners (68.8%), with some utilisation by pharmacists (8.3%), nurses (6.3%), social workers (2.1%), and general drug and alcohol staff (2.1%). The majority of calls again related to opioids (40.7%: methadone 22.0%, prescription opioids 6.8%, heroin 6.8%, buprenorphine 2.1%), with a lower proportion of calls relating to psychostimulants (11.8%), benzodiazepines (11.9%), and cannabis (6.8%).

In the April 2002-March 2003 period, the annual number of calls to DACAS had again fallen from previous years, with 48 calls in total made to the service (although approximately 10 were of an administrative rather than information-related nature). In keeping with previous trends, the majority of calls were made by medical practitioners (47.8%), with some utilisation by nurses (13.0%), general alcohol and drug workers (13.0%), youth workers (4.3%), psychologists (4.3%) and other medical practitioners (4.3%). The majority of calls related to methadone (22.2%), alcohol (18.5%) and cannabis (18.5%), with smaller numbers relating to benzodiazepines (11.1%) and inhalants (7.4%). This represents an increase in the proportion of calls regarding alcohol and cannabis in relation to the other drugs.

During 2003/04, 44 calls were made to DACAS (although a substantial number of health professionals had used the ADIS line during this time), a similar call rate to that of the 2002/03 reporting period. Calls again were predominantly made by medical practitioners (36.2%), but also made by nurses (21.3%), alcohol and drug workers (10.6%), pharmacists or social workers (5.3% respectively). While not explicitly detailed, the majority of calls identified issues pertaining to the management of alcohol problems (53%), cannabis (40%) or benzodiazepines (20%).

In the 2004/05 financial year, 42 calls were made to DACAS, with a further 110 calls from health professionals made to the ADIS line in that period. Calls were predominantly made by medical practitioners (increasing from 2003/04 to 55% of calls), but also by nurses (25%), alcohol and drug workers (15%) and workers in mental health fields (5%). While the content of calls was not explicitly detailed, 30% of consultations related to the management of maintenance pharmacotherapy, with smaller proportions relating to alcohol or cannabis use (15% respectively).

In the 2005/06 financial year, 49 calls were made to DACAS, with an additional 139 calls from workers in the health and welfare sector to ADIS in that period. Twelve calls were received from medical practitioners, and the remaining calls (n=37) were made by a range of health workers, including alcohol and other drug workers, nurses and allied health professionals in various treatment settings (proportions for each group were not provided). The content of calls was generally focused on medical management of withdrawal and prescribing advice, mainly concerning cannabis, methadone and amphetamine related treatments.

11.2 Overdose

While all but one participant included in the IDU sample reported that they had ever used some form of opioid, one-third of these (n=32, 32%) had ever experienced an opioid overdose. Among these 32 individuals that had ever experienced an opioid overdose, 21 had overdosed

on heroin, 8 with morphine and 6 with methadone. Just a single participant in the current cohort had overdosed in the year prior to interview (on any opioid: Table 56). Of those who had ever overdosed on any opioid, the median number of times they had overdosed was twice (median = three times, range 1-15 times for heroin overdose; median = once, range 1-2 times for morphine overdose). Among those that had ever experienced an overdose, the median time since their last overdose was five years prior to interview among those that had overdosed on heroin (range 0.3-240 months), and three years prior to interview among those that had overdosed on morphine (range 24-180 months).

It is notable that, in recent years, the rates of overdose amongst the Tasmanian consumers interviewed in the IDRS have been comparable with those reported in other jurisdictions. For example, in the 2004 IDRS, 49% of the national study sample (total sample size n=948) had ever experienced an opiate overdose, with 13% experiencing at least one overdose in the year prior to interview (12% on heroin, 2% on morphine). These figures are comparable to those figures reported in the 2004 Tasmanian IDRS study (47% ever overdosed, 11% in the previous 12 months). In earlier IDRS studies, the local level of reported recent experience of non-fatal opioid overdose was lower than that experienced in the national sample, possibly reflecting the different patterns of opiate use locally, where relatively lower proportions of the consumers interviewed had used heroin, but use of pharmaceutical preparations of opioids was much more common – with this predominant use of pharmaceutical opioids (where the dose is known) having the potential to reduce the likelihood of accidental overdose. However, it may be that the high level of use of benzodiazepines, and in particular the simultaneous use of multiple CNS depressant drugs, has underpinned these overdose levels in the local cohort: as noted in Section 3.3 above, of the 67 IDRS IDU participants that reported using an opioid on the day prior to interview, 42% reported using an opioid in conjunction with either benzodiazepines (52%) or alcohol (16%) on this day.

This noted, the proportion of the local sample reporting having ever overdosed (32% in 2006; 33% in 2005; 46% in 2004) and the proportion that reported experiencing an overdose in the preceding year (1% in 2006; 6% in 2005; 11% in 2004) have both declined in comparison to the 2005 and 2004 studies, and returned to levels similar to those reported in the 2002 and 2003 samples (although it is worth noting that there was a lower level of opiate use among the 2005 cohort compared with the previous cohorts).

Table 56: Reported experience of opioid overdose among the IDU sample (n=100), 2000-2006

	% of IDU in past month						
	2000 IDRS	2001 IDRS	2002 IDRS	2003 IDRS	2004 IDRS	2005 IDRS	2006 IDRS
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*
Median times ever overdosed	**twice**	**once**	**once**	**twice**	**thrice** *(heroin); once (morphine)*	**twice** *Twice (heroin) Once (morphine) Once (methadone)*	**twice** *Thrice (heroin); Once (morphine)*
Overdosed ***(last 12 months)***	**10%**	**8%**	**7%**	**5%**	**11%**	**6%** *2% heroin; 4% methadone*	**1%** *(heroin)*
Administered naloxone (ever)	**14%**	**13%**	**21%**	**19%**	**26%** *(24% heroin)*	**12%** *(11% heroin)*	**12%** *(12% heroin)*
Administered naloxone ***(last 12 months)***	**7%**	**3%**	**3%**	**3%**	**7%**	**1%**	**0%**
Witnessed an overdose (ever)	**50%**	**54%**	**61%**	**65%**	**65%**	**55%**	**25%**
Median times ever witnessed overdose	**twice**	**twice**	**twice**	**twice**	**thrice**	**thrice**	**four times**
Witnessed an overdose ***(last 12 months)***	**24%**	**51%**	**26%**	**34%**	**20%**	**27%**	**4%**

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

Of note is that only slightly more than one-third of those who indicated they had ever had an opioid overdose had ever been administered Narcan (38%). Narcan (naloxone) is a fast-acting opioid antagonist given to reverse the effects of opioids in the event of an overdose. The one participant who had overdosed in the preceding six months (heroin and methamphetamines) was not administered naloxone. Overall, those who had been administered Narcan reported a median period of 66 months since they were last administered the drug (range 24-240 months).

Twenty-five percent of the IDU respondents reported ever witnessing one or more overdoses (median = four times, range once to twenty-seven times). Those respondents that had ever witnessed an overdose reported a median period of 36 months since they last experienced such an event (range 1-144 months). Just 4% of the current cohort reported witnessing an overdose in the 12 months prior to the interview, (markedly lower than any other cohort has reported: 51% in 2001, 26% in 2002, 34% in 2003, 20% in 2004, and 27% in 2005).

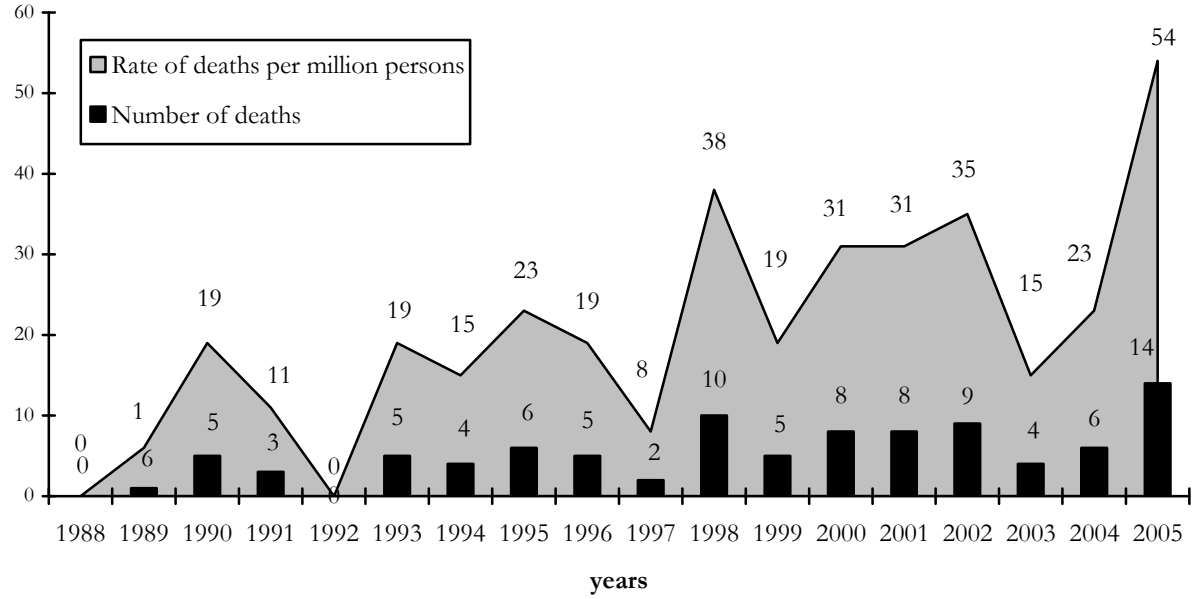
The number of opioid-related fatalities[32] among those aged 15-44 years noted by the State Coroners office has remained quite small during the period 1988-2005, these minimal figures rendering clear analysis of trends difficult. However, when the rate of deaths per million population are considered, it becomes clearer that there has been an increase in rates of overdose over time in Tasmania, from less than 10 deaths per million population prior to 1990 to over 30 deaths per million population in recent years (1998, 2000-2002, 2005). While an increase in the number of deaths has been reported in 2005 (n= 14; Degenhardt & Roxburgh, 2007), it should be noted that Tasmanian opioid deaths account for 3.7% of the national total. It is not possible to determine whether this represents a trend towards an increased rate of overdose, or an unusual year in-line with the general trend towards an increasing population rate of such overdoses. It should be noted that the number of opiate-related deaths nationally declined sharply in 2001 and have remained relatively stable since this time (Degenhardt & Roxburgh, 2007).

To 1999, there was approximately an even sex distribution among these victims of opioid-related fatalities, although in 2000 the five fatalities related to four males and a single female, and in 2001 the figures reflect the death of two males and three females. The nine accidental deaths due to opioids in 2002 related to seven males and two females. During 2003, the four accidental deaths due to opioids related to two females and two males. In 2005, eleven males and three females were reported to have fatally overdosed on opioids. With the exception of a single fatal overdose clearly associated with heroin use, the cases to 1999 largely relate to methadone or morphine. Benzodiazepines were also present in many of these cases[33].

[32] These figures are derived from the underlying cause of death according to Australian Bureau of Statistics coding practices. They relate to the following codes from the International Classification of Diseases, 10th edition of F11; F19 with F11; X42, X44 or F19 with T40.0-40.4, T40.6; namely accidental deaths due to opioid use disorder, multiple drug use disorder or poisoning where opioid use disorder or poisoning was included. Please refer to Degenhardt, Roxburgh and Black (2004) for further details.

[33] Toxicological and demographic detail for cases in 2000 and 2001 were not provided to the authors.

Figure 60: Number of opioid overdose deaths among those aged 15-44 years, 1988-2005



Source: Degenhardt & Roxburgh (2007)

11.3 Blood-borne viral infections

Blood-borne viral infections, and in particular HIV/AIDS and hepatitis B and C, 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 and hepatitis B and C in Tasmania, and, where possible, records the relevant risk factors for infection the person may have been exposed to. Table 57 indicates the number of cases of BBVI recorded in the state between 1991 and 2006. In regards to the markedly increased incident (new) cases of hepatitis C infection between 1997 and 1998, this is likely to simply reflect improvement in the surveillance system. Following this period, incident reports of hepatis C have remained between 13 and 19 cases per annum, with the exception of 2000, 2004 and 2005 (30 cases in 2000 and 26 cases in both 2004 and 2005 were reported: Figure 61). In contrast, unspecified (not new infections) notifications of hepatitis C had steadily increased between 1997 and 2003 (rising from 195 to 349 cases in this period), but declined over 2004 and 2005 (falling from 347 cases in 2003 to 194 in 2005). However, in 2006, this number of unspecified notifications had again increased, to 249 cases. All incident cases of hepatitis C between 1996 and 2000 had injecting drug use as a recent risk factor for infection[34]. Similar to the pattern for incident cases of hepatitis C, incident cases of hepatitis B 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 in both 2005 and 2006 (n=3 and 9 respectively). Reports of unspecified hepatitis B infections (not new cases) have varied around 40 cases (22-71) per annum between 1991 and 2006, showing no clear trend in any direction.

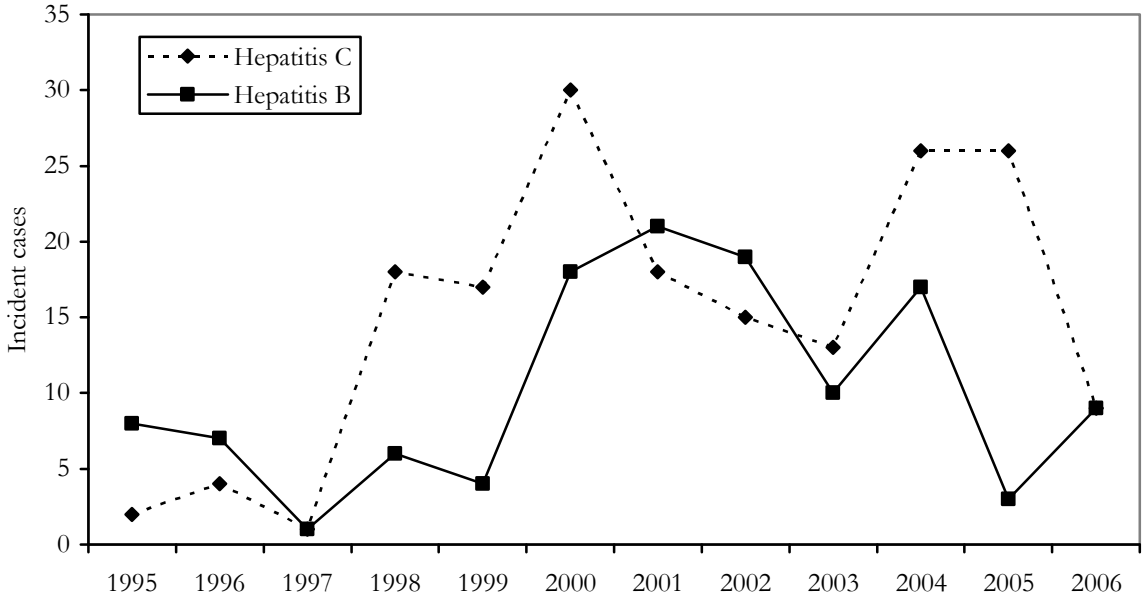
[34] Such detailed information was not available to the authors for cases identified since 2001.

Table 57: Rates of notifiable blood-borne viral infections in Tasmania, 1991-2006

	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	317	21	20
2002	15	320	19	34
2003	13	349	10	71
2004	26	285	17	60
2005	26	214	3	53
2006	9	249	9	46

Source: Communicable Diseases Network - Australia New Zealand - National Notifiable Diseases Surveillance System, and Public Health, Department of Health and Human Services (data as of Jan 24, 2007 and subject to revision). #Number of incident cases of hepatitis B infection where illicit drug use was present as a risk factor for acquiring the infection are presented in parentheses. 'n/a' refers to cases where either no data are available or where recorded data were not specifically broken into incident and unspecified cases.

Figure 61: Total notifications of incident hepatitis B and C infections in Tasmania, 1995-2006



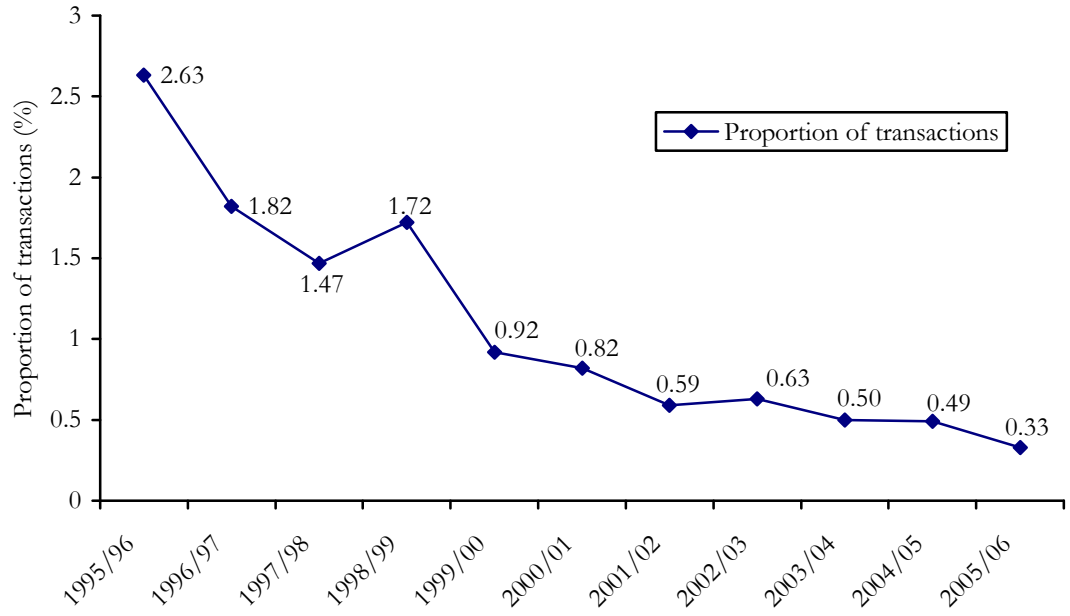
Source: Communicable Diseases Network - Australia New Zealand - National Notifiable Diseases Surveillance System, and Public Health, Department of Health and Human Services (data as of Jan 24, 2007 and subject to revision)

11.4 Sharing of injecting equipment among IDU

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 BBVI such as HIV and hepatitis B and C. Clients of non-pharmacy Needle Availability Program outlets are routinely asked whether they have shared needles and syringes or other injection equipment since their last visit to the service.

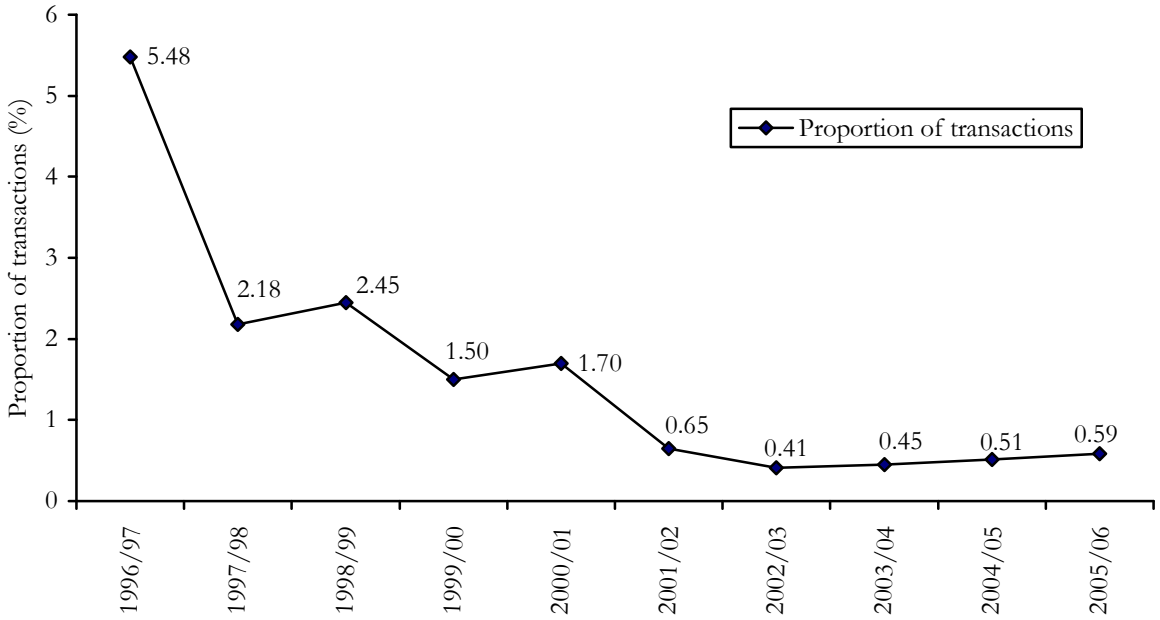
Reported sharing of needles/syringes by clients of non-pharmacy Needle Availability Program outlets overall in Tasmania have shown a reasonably steady decline since 1995/96 (Figure 62). While data on recent sharing have not necessarily been uniformly recorded for every client transaction in these services, among those where information was collected the reported proportion of clients recently sharing needles/syringes has declined from 2.6% of recorded transactions state-wide in 1995/96 to just 0.3% in 2005/06. Following a similar overall trend to that of sharing of needles and syringes, reported rates of sharing of other injection equipment (such as spoons, mixing containers or tourniquets) has steadily declined from 5.48% of all recorded client transactions state-wide in 1996/97 to 0.42% in 2002/03, and plateaued around this figure in subsequent years (0.45% in 2003/04, 0.51% in 2004/05 and 0.59 in 2005/06: Figure 63).

Figure 62: Reported sharing of needles and syringes by non-pharmacy Needle Availability Program clients, 1995/96-2005/06



Source: Sexual Health, Department of Health and Human Services

Figure 63: Reported sharing of other injection equipment by non-pharmacy Needle Availability Program clients, 1996/97-2005/06



Source: Sexual Health, Department of Health and Human Services

Among the 2006 IDRS IDU sample, thirteen participants reported lending a used needle/syringe to others in the month prior to interview. This is a similar rate to that reported in the 2005 study (14%) and 2004 study (12%), which was a clear increase from the extremely low rates reported in previous local studies (Table 58). These participants predominantly reported providing their used equipment to others only on one (n=7) occasion in the preceding month, although three individuals reported doing so on 2 occasions; two individuals on 3-5 occasions; and one individual lending equipment on 6-10 occasions in this period.

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 decreased to 3% in 2006 (from 10% of the 2000-2002 samples: Table 58). It is noteworthy that this level of recent sharing of needles among a regular injecting cohort is substantially greater than that seen in the NAP client data. All of those in the 2006 cohort who had injected with a used needle/syringe in the month prior to interview reported that only one other person had used the syringe prior to them, in all cases a regular sex partner. Again, all three participants reported only having injected with another person's used equipment on one occasion in the preceding month. The types of needles shared were 1mL insulin syringes (n=2), and a winged infusion set (butterfly, n=1). Participants noted that they had used another person's equipment because NSP outlets were either too far away for them to access (n=2) or that they required equipment on an occasion when accessible outlets were closed (nights or weekends, n=1). One participant reported that the policy in NSP outlets of limiting distribution of winged-infusion sets per visit was problematic, and suggested that this may contribute to individuals sharing injection equipment.

Interestingly, almost half (46%) of the consumers sampled reported re-using their own injection equipment in the month prior to interview, a decrease from 2005, in which 62% reported this practice. *Of significant concern however, 42% reused from a shared sharps bin, and of this*

group, 81% never cleaned equipment with bleach. This is not a recommended practice, not only for the risk of blood-borne virus transmission, but also because 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. Amongst the group who reported re-use of equipment, the majority had done this once (n=21) or twice (n=14), with minorities re-using 3-5 times (n=8), 6-10 times (n=2) and more than 10 times (n=1) in the preceding month. The equipment most commonly re-used were 20ml barrels (n=15), 1ml barrels (n=14) and 'butterflies' (winged infusion kits: n=12) with smaller proportions re-using 3/5ml barrels (n=3) or a needle only (n=1). Participants noted that they had re-used equipment because they required equipment on occasions when accessible outlets were closed (nights or weekends, n=37), because an outlet was too far away for them to access (n=5), because they weren't motivated to access sterile equipment (n=3) or because their outlet had limits on the amount of equipment provided on any one occasion (n=2).

One-quarter of the IDU sample (27%) reported sharing some other type of injecting equipment in the month prior to interview. Tourniquets were shared in this time by 16%, spoons or mixing containers by 7%, water by 11% and filters by 5% of the IDU cohort. While these rates are similar to those reported amongst the 2005 Tasmanian IDRS IDU cohort, these figures appear high in comparison to those identified in the 2002 and 2003 Tasmanian IDRS cohorts (Table 58). Some of this difference may have been due to changes in interview techniques which allowed people to differentiate between 'sharing' where both individuals were using sterile equipment or otherwise. Between the 2005 and 2006 studies, rates of sharing of tourniquets remained stable, with rates of sharing of waters, filters and spoons/mixing containers all tending to slight increases (Table 58). These indices of sharing of injection equipment require careful monitoring, as sharing of any equipment during the injection process puts consumers at risk of exposure to BBVI, and the possible upwards trend in some of these figures (particularly reusing equipment from shared disposal bins) suggests that some users may be adopting unsafe practices or relaxing their vigilance around such issues.

Table 58: Proportion of the IDU sample (n=100) reporting sharing of injection equipment in the month prior to interview

Injection equipment sharing	% of IDU in past month					
	2001 IDRS %	2002 IDRS %	2003 IDRS %	2004 IDRS %	2005 IDRS %	2006 IDRS %
Borrowed used needles	10	10	6	8	5	4
Lent used needle to others	6	1	3	12	14	13
Shared spoons/ container	5	1	1	8	4	7
Shared water	7	1	2	11	5	11
Shared filters	3	1	1	8	2	5
Shared tourniquets	10	14	11	21	15	16

Source: IDRS IDU interviews

In the current study, some aspects of injection practices were examined in more detail. Despite the current IDU cohort being regular injecting drug users, 89% reported that they always injected themselves. Two participants 'never' self-injected, 2% injected themselves 'sometimes', 3% 'about half the time' and 4% 'usually' injected themselves in the preceding month. The demographic characteristics of participants that did not always self-inject were similar to participants that did always inject for age, sex, cultural background, education, employment,

sources of income, prison history, sexual preference, frequency of injection, drug of choice, drug most injected, length of injecting career, frequency of injecting and involvement in treatment. However, participants who reported not always injecting themselves were found to be significantly more likely to report sharing spoons (36% vs. 3%: $\chi^2(1_{n=100})=16.16$, $p<0.001$) and water (55% vs. 6%: $\chi^2(1_{n=100})=23.64$, $p<0.001$) than those who did always inject themselves. No differences were found between groups for sharing of other injecting equipment.

11.5 Injection-related health problems

There was a substantial rate of injection-related problems reported by the IDU surveyed, with 50% reporting at least one such problem in the preceding month (Table 59). This rate of experience of injection-related health problems is notably lower that those identified in previous Tasmanian IDRS IDU cohorts (62% in 2005; 72-78% between 2000 and 2004: Table 59). The most commonly reported problems among the Tasmanian IDU were difficulty injecting (38%), indicating vascular damage, and scarring/bruising of injection sites (29%). Comparing rates of recent injection-related problems for the 2005 and 2006 Tasmanian IDU samples, it is evident that the rate of reported difficulties in injecting has declined. Between 2000 and 2005, the rates expressed by IDU cohorts were between 47 and 51%, however in 2006, this figure has dropped to 38% (Table 59). Similarly, reported rates of scarring or bruising of injection sites dropped in 2005, maintaining a similar level in 2006 (31% in 2005 and 29% in 2006), and was much less commonly reported in comparison to previous samples (42-59% of the study participants between 2000 and 2004). Reported rates of experience of 'dirty hits' had continued a decline since the levels present in 2003 (31% in 2003, 19% in 2005, 15% in 2006). Experience of a 'dirty hit' – feeling physically unwell soon after injection – is commonly due to the injection of contaminants or impurities. In the 2006 cohort, 67% of the 15 participants reporting experience of a 'dirty hit' reported this to have been associated with the injection of methadone, 13% either methamphetamine or morphine, and 20% benzodiazepines. This association of 'dirty hits' has been reported in 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 2002 study, one key expert – a methadone prescriber with a large client base – noted an increasing number of people feeling 'sick' from injection of methadone syrup, which they suggested as possibly due to the increased dilution of these doses in 2001.

As has been noted in the preceding sections, several key experts noted recent changes in the experience of injection-related problems amongst the substance-using groups they had contact with in the preceding six months. One key expert (a drug treatment worker) noted an improvement in injecting practice, primarily of methamphetamine, and noted that consumers had a high level of awareness of safe injecting practices. However, four key experts commented on recent increases in reports of vein damage amongst the consumers they were familiar with: one needle availability program worker reported that many of their clients were not practicing safe injecting techniques, such as swabbing and injecting in clean, safe environments. This key expert noted that one consumer had recently commenced injecting in their neck (jugular vein), as all safer injecting positions had been damaged. Another key expert, who is employed in a detoxification setting, reported a consumer recently experiencing gangrene in their fingers due to injecting benzodiazepines, and has now commenced injecting into their neck. Injecting into the neck area is a particularly dangerous activity, as veins, arteries (directly to the brain), tendons and nerves are all closely located, and an error in injecting can cause serious complications. As it is a difficult position for the consumer to see, injecting by another person is more likely to occur, thereby increasing the potential for blood-borne virus transmission. A youth worker also commented on a consumer recently had a finger amputated

(related to injecting), who is continuing to inject. An ambulance officer reported a recent increase in people requiring assistance due to various complications arising from vein damage.

Two key experts working with large numbers of consumers noted an increase in subacute bacterial endocarditis (infection of the valves of the heart), which they believed to be associated with re-use of non-sterile injection equipment, or of injection of drugs dissolved in non-sterile solutions. A further two key experts commented on increases of infections related to injecting, such as cellulitis, amongst consumer groups. One of these experts reported that some consumers are on constant antibiotics, at times receiving these intravenously during an admission into a general hospital.

Three key experts (working in an NSP outlet, drug treatment and general practice) noted that many consumers do not use 'pill filters' during the preparation of pharmaceutical preparations of opiates or benzodiazepines. Pill filters may remove particulate matter used in tablet preparations such as talc being injected with the active drug – this can cause harm around the injection site and can accumulate in lungs or other organs over time, damaging the function of these more distal organs. The NSP worker reported that the price of 'pill filters' is likely an obstacle to people using this equipment.

Table 59: Injection-related health problems reported by participants in the IDU survey in the month prior to interview (n=100)

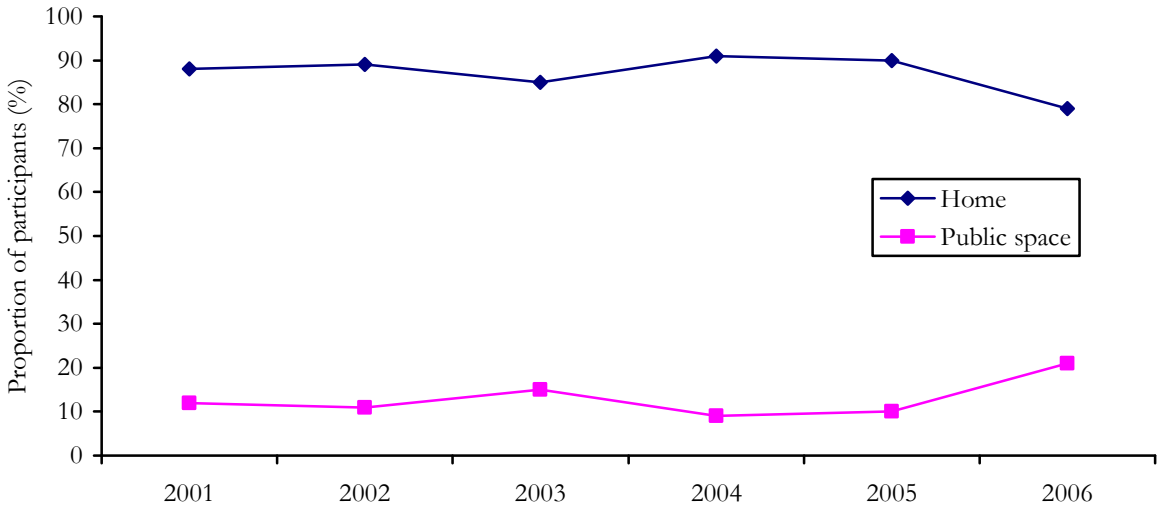
Injection-related health problems	% experiencing the problem in the last month						
	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %
Scarring/bruising	59	42	53	49	42	31	29
Difficulty injecting	50	48	48	51	49	47	38
Thrombosis	18	21	5	10	8	12	5
"Dirty hit"	15	31	18	31#	24~	19@	15^
Infections/abscesses	9	9	8	8	11	11	7
Overdose	0	0	0	0	1	1	1
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*)
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
% injecting daily	31	29	29	17	27	30	37

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 methamphetamines, 13% to morphine and 7% to benzodiazepines.

Participants were asked to comment on the location in which they usually injected in the month preceding the interview (Figure 64). 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). Since 2001, between 85 and 91% of participants have reported injecting in a private home, except in 2006, which shows a decrease in the number of people injecting in a private home (79%) and conversely, an increase in the number of people reporting usually injecting in a public space (21%), such as a public toilet, a car or on the street. Participants

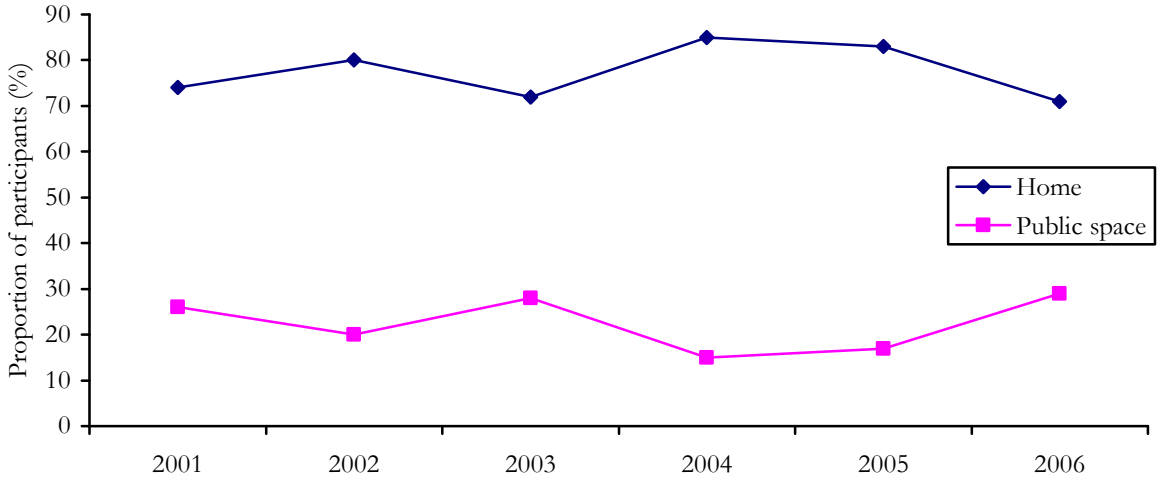
were also asked to comment on the location for the last injection prior to the interview. A similar change was detected; 71% of participants had last injected in a private home, and almost one-third (29%) had injected in a public space (Figure 65).

Figure 64: Proportion of IDU participants reporting usual location for injection in the month preceding interview, 2001-2006



Source: IDRS IDU interviews

Figure 65: Proportion of IDU participants reporting the last location for injection, 2001-2006



Source: IDRS IDU interviews

11.6 Driving risk behaviours

The majority of the consumers interviewed in the current study had driven a car in the preceding six months (73%). Of these participants, two-thirds noted that they had driven within one hour of consuming (non-prescription) drugs in this time (68%, n=50), a relatively similar proportion to that identified in the 2005 cohort (63%, n=53 of the 84 that had recently driven). Table 60 below summarises the drugs that were used, where methamphetamine (62%, n=31), diverted methadone (56%, n=28) and cannabis (56%, n=28) were most commonly reported, with smaller proportions reporting driving soon after consuming diverted morphine (38%, n=19). In comparison to the 2005 cohort, a smaller proportion of participants reported driving soon after consuming cannabis (56% in 2006 and 62% in 2005) and methamphetamines overall (62% in 2006 and 74% in 2005), however, looking more closely at different forms of methamphetamine, the proportion of participants driving soon after consuming crystal methamphetamine rose to 24% in 2006, from just 6% in 2005. Increases were also noted amongst participants driving soon after consuming diverted methadone (56% in 2006 and 38% in 2005) and diverted morphine (38% in 2006 and 25% in 2005). However, a slight decrease in the proportion of participants reporting driving after using cannabis was evident (56% in 2006, 62% in 2005), a drug which has featured prominently in promotional material around drug driving campaigns. Given the relatively stable high rates of driving under the influence of drugs in the past two cohorts, it will be most 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.

Table 60: Proportion of IDU driving a car in the preceding six months that had driven soon after using non-prescription drugs, 2005-2006.

Drug	2005	2005	2006	2006
	%*	N*	%#	N#
Heroin	2%	1	2%	1
Methadone (illicit)	38%	20	56%	28
Morphine (illicit)	25%	13	38%	19
Cocaine	2%	1	-	-
Methamphetamine (any)	74%	39	62%	31
Powder methamphetamine	*49%*	*26*	*30%*	*15*
Base methamphetamine	*43%*	*23*	*26%*	*13*
Crystal methamphetamine	*6%*	*3*	*24%*	*12*
Ecstasy	4%	2	-	-
Cannabis	62%	33	56%	28

Source: IDRS IDU interviews Note: * In 2005, 84 participants drove a car in the preceding six months, 53 of these had driven soon after using non-prescription drugs. # In 2006, 73 participants drove a car in the preceding six months, 50 of these had driven soon after using non-prescription drugs

11.7 Mental health problems

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 attended a health professional for a mental health problem (other than drug dependence) in the six months prior to interview (Table 61).

While attendance to a health professional for such issues is likely to underestimate the real prevalence of mental health problems in this group (as it is common for many people not to seek help for these issues), a high proportion of IDU reported recently presenting to services

for mental health concerns. Almost two-fifths (38%) of IDU participants in the current study reported recently attending an appointment with a professional for a mental health issue. The majority of these individuals had presented to a general practitioner for assistance (35%; Table 61) rather than a dedicated mental health professional (12%). These rates of seeking mental health treatment in the current cohort (38%) are similar to those reported in the prior study (43%) and represent a sustained and substantial increase in comparison to the levels identified in the 2002 (25%) and 2003 (28%) consumer samples. Consistent with this, the rates of prescribed anti-depressant use in the current cohort (28%) was similar to that reported in the 2004 and 2005 samples (34% and 28% respectively), and higher than earlier local IDRS studies (17% in 2003, 24% in 2002). The most common, self-reported, reason for seeking support among IDU was depression (71% of those that had sought treatment, n=27), followed by anxiety (66%, n=25). These have remained the predominant issues in each of the IDRS cohorts, just as they are in the general population (American Psychiatric Association, 1994).

When examining the self-reported mental health problems experienced in relation to the number of cases where the participant had presented to a health professional (Table 61), these are very similar to those reported in 2005. However, differences were found when comparing 2006 and 2004 findings, primarily with regard to the proportion reporting depression (98%, n=43 in 2004; 71%, n=27 in 2006). Additionally, in keeping with the high levels of use of methamphetamine amongst the current cohort, the proportions self-reporting experiencing anxiety have increased, a trend that has been evolving over time (with 16%, n=4 of those seeking mental health treatment in 2002 reporting problems with anxiety, rising to 66%, n=25 reporting anxiety in 2006). Interestingly, reports by participants regarding experiences of paranoia, a symptom that is common following extended methamphetamine use, have decreased in 2006 (from 14% in 2004 (n=6) to 7% (n=3) in 2005 and 5% in 2006 (n=2)). Reported rates of presentation for psychosis and related problems (psychotic episodes, schizophrenia, drug-induced psychosis) have remained relatively stable over time, and were substantially lower than that for mood disorders. However, this proportion in the sample as a whole (4% of each of the 2002 and 2003 samples, 9% in 2004, 6% in 2005 and 7% in 2006) is clearly greater than that experienced among the general population (less than 1%: American Psychiatric Association, 1994). Reported rates of presentations for most other issues had remained relatively stable across the 2004 and 2005 cohorts.

Table 61: Proportion of IDU participants attending a health professional for a mental health problem other than addiction in the six months prior to interview

	2002 IDRS		2003 IDRS		2004 IDRS		2005 IDRS		2006 IDRS	
% attending a health professional for a mental health problem in past 6 months	25		28		44		43		38	
% attending GP	16		20		36		36		35	
% attending mental health professional	12		14		22		21		12	
Specific mental health problems experienced (% of those reporting attending a health professional)										
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Depression	*15*	60	*18*	64	*43*	98	*33*	76	*27*	71
Bipolar	*2*	8	*4*	14	*4*	9	*4*	9	*3*	8
Anxiety	*4*	16	*12*	43	*22*	50	*27*	63	*25*	66
Panic	*3*	12	*2*	7	*4*	9	*6*	14	*4*	11
Paranoia	*1*	4	*4*	14	*6*	14	*3*	7	*2*	5
Schizophrenia/Psychosis	*4*	16	*4*	14	*9*	20	*6*	14	*7*	18
Obsessive-compulsive disorder	*1*	4	-	-	*2*	5	*1*	2	*1*	3
Attention deficit hyperactivity disorder	*2*	8	*2*	7	-	-	-	-	-	-
Anger management	*2*	8	*1*	4	-	-	-	-	-	-
Personality disorder	*3*	12	-	-	*2*	5	*2*	5	*2*	5

Source: IDRS IDU interviews

11.8 Substance-related aggression

Participants in the current study were asked if they had become verbally aggressive (threatening, shouting, abuse) or physically aggressive (shoving, hitting, fighting) either while under the influence or in withdrawal from drugs in the six months prior to interview.

In terms of verbal aggression (Table 62), one-third (34%) of the current IDU cohort reported that they themselves had become verbally aggressive while under the influence of drugs in the preceding six months. This was most commonly associated with use of methamphetamine (n=18, 53% of those reporting verbal aggression under the influence), and, in line with the extent of use of this drug in the sample, with the powder (26%, n=9) and crystalline forms (24%, n=8) of methamphetamine rather than base/paste form (12%, n=4). Other drugs commonly reported include methadone (35%, n=12), benzodiazepines (32%, n=11), morphine and cannabis (both reported by 26%, n=9), and to a lesser extent alcohol (15%, n=5), heroin and cocaine (both reported by 3%, n=1).

One-third (32%) of those interviewed reported becoming verbally aggressive during withdrawal from drugs in the past six months. Again, this was commonly associated with methamphetamine (53%, n=17), particularly powder (25%, n=8) and crystalline methamphetamine (22%, n=7), but also with withdrawal from methadone (34%, n=11), morphine, benzodiazepines and cannabis (all reported by 25%, n=8). Somewhat smaller proportions of the sample reported that they had become physically aggressive in the preceding six months following drug use (19%). Similar to the patterns reported for verbal aggression

while under the influence of drugs, this was most often associated with methamphetamine use (58%, n=11 predominantly crystalline methamphetamine, 32%, n=6), but also with benzodiazepines and methadone (both reported by 32%, n=6). Similarly, a small proportion of consumers reported becoming physically aggressive while withdrawing from drugs, typically following methamphetamine use (73%, n=11: particularly for crystalline methamphetamine, 40%, n=6 and base/paste, 27%, n=4), benzodiazepines (27%, n=4) or methadone, morphine or cannabis (all reported by 20%, n=3).

It is noteworthy that since 2005, while the overall level of reported verbal and physical aggression has remained stable across the two cohorts, there has been an increase in reported aggression in all domains in relation to crystalline methamphetamine use. This form of methamphetamine has been associated with aggression by consumers in the current study and by key experts in previous studies.

Table 62: Proportion of IDU participants becoming aggressive following substance use in the six months prior to interview

	Verbal aggression				Physical aggression			
	Under influence		During withdrawal		Under influence		During withdrawal	
Proportion reporting aggression following drug use								
	34		32		19		15	
Drugs involved in aggression								
	%	***n***	**%**	***n***	**%**	***n***	**%**	***n***
Alcohol	15%	*5*	13%	*4*	16%	*3*	7%	*1*
Benzodiazepines	32%	*11*	25%	*8*	32%	*6*	27%	*4*
Methadone	35%	*12*	34%	*11*	32%	*6*	20%	*3*
Morphine	26%	*9*	25%	*8*	21%	*4*	20%	*3*
Heroin	3%	*1*	3%	*1*	-	-	-	-
Other opiates	-	-		-	-	-	-	-
Any methamphetamine	53%	*18*	53%	*17*	58%	*11*	73%	*11*
Speed	*26%*	*9*	*25%*	*8*	*16%*	*3*	*13%*	*2*
Crystal	*24%*	*8*	*22%*	*7*	*32%*	*6*	*40%*	*6*
Base	*12%*	*4*	*16%*	*5*	*16%*	*3*	*27%*	*4*
Cocaine	3%	*1*	-	-	-	-	-	-
LSD	-	-	-	-	-	-	-	-
Ecstasy	-	-	-	-	-	-	-	-
Cannabis	26%	*9*	25%	*8*	16%	*3*	20%	*3*
Inhalants	-	-	-	-	-	-	-	-

Source: IDRS IDU interviews

11.9 Criminal and police activity

Three-fifths (59%) of the IDU respondents self-reported involvement in some type of criminal activity in the preceding month (Table 63). This is a level higher than that reported in the 2006 National IDRS sample (45%, total sample size 914: O'Brien et al., 2007). The crimes most commonly reported were dealing of drugs (41%) and property crime (32%), with smaller proportions reporting recent involvement in violent crime (15%) and fraud (19%).

Participants were asked to comment on the frequency of these crimes; property crimes were most often committed less than once per week but not daily (13% of the sample), and a smaller group (9%) reported carrying out property crimes such as stealing or shoplifting, on a daily basis. Most of the group who reported dealing drugs in the month preceding the interview reported daily involvement (21%), and violent crimes were generally committed on a less than weekly basis (9%) or less frequently.

More than half (55%) of the IDU respondents had been arrested in the previous twelve months. The most common grounds for arrest were property crime and violent crime (both reported by 16% of the cohort), driving offences (10%), or miscellaneous charges (22%: such as outstanding warrants and fines, n=9; breach of bail conditions, n=3; possession of a dangerous weapon, n=2; rape, n=1; abduction, n=1).

On examination of rates of reported criminal activity in the 2005 and 2006 Tasmanian IDRS samples (Table 63), the (self-reported) level of criminal involvement had increased from 53% of the participants interviewed in 2005 to 59% in 2006, a rate markedly higher than the average of the 2006 national IDRS consumer sample. The Tasmanian rates for self-reported criminal activity have fluctuated between 50 and 64% since 2000. Over this time, reports of property crime have slowly increased, from 18% in 2000 to 32% in 2006, along with reports of violent crimes, from 4% in 2001 to 15% in 2006. Self-reported rates of fraud have remained between 2 and 7% between 2000 and 2005, however in 2006 this increased to 19%. The proportion of clients reporting arrest in the preceding twelve months has also slowly increased across the samples (41% in 2002, 55% in 2006). The most notable change in the rates of arrest amongst the Tasmanian cohorts is for property crimes; this peaked in 2004 with 29% of the cohort reporting having been arrested in the preceding twelve months, and has dropped to 16% in both the 2005 and 2006 studies, despite a gradual increase in self-reported involvement in this type of crime.

Among the key experts interviewed, several considered rates of property crime to have increased among the substance-using groups that they were associated with in the preceding six months (n=6). Key experts noted some involvement of the groups they were referring to in petty crime, such as opportunistic shoplifting. One key expert (who worked in a custodial setting) noted an increase in aggravated burglaries and stealing, stating *"in the past it was just burgs and stealing, now it's aggravated burgs and stealing"*. Four key experts commented that violent crimes had increased, one of these believing that this may be due to increased use of methamphetamine. In terms of dealing of drugs, most key experts were not able to comment on such activities amongst the groups of consumers that they were familiar with, with only one key expert noting a recent increase in drug dealing. Similarly, key experts were not able to comment on consumers' involvement in fraud, except for two key experts, who both noted a small increase in fraud. One law enforcement officer commented on a slight increase in prescription offences in the preceding six months, stating that this was *"probably opportunistic"*.

Table 63: Reported criminal activity among IDU (n=100)

Activity	2000 IDRS %	2001 IDRS %	2002 IDRS %	2003 IDRS %	2004 IDRS %	2005 IDRS %	2006 IDRS %
Crime (% in last month)							
Dealing	49	41	34	32	43	33	41
Property crime	18	23	28	22	34	31	32
Violent crime	10	4	6	5	5	10	15
Fraud	5	4	2	6	7	6	19
Any crime	*64*	*56*	*50*	*52*	*63*	*53*	*59*
Arrested last 12 months (%)	*43*	*41*	*41*	*46*	*51*	*47*	*55*
Arrested for property crime	16	13	25	21	29	16	16
Arrested for use/possession	9	1	9	2	9	5	5
Arrested for violent crime	6	9	14	5	9	11	16
Arrested for fraud	2	0	0	3	2	1	3
Arrested for dealing/trafficking	1	2	1	0	1	2	3
Arrested for driving offence	*	4	5	2	6	11	10
Arrested for alcohol and driving	*	2	2	1	1	0	0
Arrested for drugs and driving	*	0	3	3	2	0	1
Arrested for other reason	10	17	8	16	14	16	22

Source: IDRS IDU interviews *Note: Comparable data for these cells were not gathered in the 2000 IDRS study

11.10 Police activity

Respondents were asked a number of questions regarding their perceptions of changes in police activity in the past six months and the impact of these changes (Table 64). Among the IDU participants, 54% believed that police activity had remained stable, and one-third (n=33%) reported an increase in police activity in this time. However, most had not experienced any reduction in their ability to purchase drugs by any recent changes in local police activity (70%). The major changes noted by IDU were primarily an increased visibility of police presence (n=22), commonly noted in the central business district or North Hobart (n=4) and around pharmacies dispensing methadone (n=6); an increase in searches, either of the person or of cars (n=2); an increase in police 'talking' to people (n=3); and an increased number of raids or busts of providers noted (n=3).

Key experts reported similar perceptions of police activity, with most who were able to comment reporting increases in police activity toward the drug users in general and the client group they came into contact with. Key experts perceived an increase in 'raids' and 'busts' (n=3), and three key experts (one of whom was a law enforcement officer) noted an increase in police activity that was drug focused. One key exert (a drug treatment worker) noted an increase in people being referred to treatment by police via the Illicit Drug Diversion Initiative (IDDI).

Table 64: Perceptions of police activity among IDU

Question	%
Have there been changes in police activity in the last six months?	
More activity	33
Stable	54
Less activity	2
Don't know	9
Has police activity made it more difficult to buy drugs recently?	
Yes	14
No	70
Don't know	14

Source: IDRS IDU interviews

Such an approach by police is likely to reflect their investment in early intervention to help deflect first time offenders away from the criminal justice system. In July 1998, Tasmania Police introduced a Cannabis Cautioning Program, which gave police officers the discretion to caution first-time minor cannabis offenders. Following a successful trial of the program, the eligibility criteria for cautioning were expanded to include consideration of non-first time offenders (ABCI, 2001). In March 2000, under a series of initiatives funded by the Council of Australian Governments, the program was further adapted within the Tasmanian Early Intervention and Diversion Framework. This current diversion model now extends to cover 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 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). This initiative has been well supported by police, with approximately 1000 diversions made per annum between 2001/02 and 2004/05; however, this has decreased in 2005/06, with 595 diversions being made (Table 65). The number of second- and third-level diversions (to health interventions), which have fluctuated in recent years, have declined proportionally (from 365 cases in 2004/05 to 236 cases in 2005/06: Table 65).

Table 65: Drug diversions or cautions issued by Tasmania Police, 2000-2005

	2000 /01	2001 /02	2002 /03	2003 /04	2004 /05	2005 /06*
Number of cautions/diversions state-wide	764	978	990	977	977	595
% diversions in Southern District	95	79	78	n/r	53	33
Number diverted to health intervention state-wide	151	n/a	263	179	365	236
% health intervention diversions in South	86	n/a	86	90	57	44

Source: Tasmania Police State Intelligence Services State-wide Illicit Drug Reports; Alcohol and Drug Service. 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. *These figures are also included within the Alcohol and Other Drug Treatment Services Minimum Dataset statistics. 'n/a' refers to cases where the relevant data were not provided to the authors

Data pertaining to drug-related arrests in Tasmania between 1995/96 and 2004/05 are shown below in Table 66 (Data for 2005/06 was not available at the time of publication). These data illustrate a marked increase in arrests for methamphetamine-related offences for 2000/01 and 2001/02 in comparison to previous years (7 arrests in 1998/99 to 89 in 2001/02). While these arrests decreased between 2001/02 and 2003/04 (89 in 2001/02, 66 in 2003/04 and 39 in 2003/04), these again increased in 2004/05 (rising to 72 arrests in that financial year). Cannabis-related arrests appear to have doubled between 1999/00 and 2004/05 (from 736 in 1999/00 to 1,474 in 2004/05). As this increasing trend coincides with the implementation of the Cannabis Cautioning Program, and subsequently the Illicit Drug Diversion Initiative, it is likely that much of this increase may simply reflect the increase in utilisation of 'official' cautions and diversions by Tasmania Police (which are included in these statistics) over 'unofficial' warnings, which would not be recorded in these statistics in preceding years. Arrests for opioids have remained low in the past 9 years, and arrests for cocaine have remained almost non-existent in that time.

Table 66: Number of arrests (including cautions and diversions) for cannabis-, methamphetamine-, opioid- and cocaine-related offences in Tasmania, 1996/97-2004/05

Type of offence	1996/ 97	1997/ 98	1998/ 99	1999/ 00	2000/ 01	2001/ 02	2002/ 03	2003/ 04	2004/ 05
Cannabis	1079	1196	736	799	1050	1540	1830	1638	1474
Methamphetamine	20	15	7	28	70	89	66	39	72
Opioids	28	16	25	9	9	34	9	10	16
Cocaine	0	0	0	0	4	1	0	0	0

Source: Australian Illicit Drug Reports 1995/96-2000/01, Australian Bureau of Criminal Intelligence (now the Australian Crime Commission), and Tasmania Police State Intelligence Services State-wide Illicit Drug Reports. Note: 2001/02 data are based on data provided to State Intelligence Services, which may differ from official statistics and counting rules used by the Australian Crime Commission (formerly ABCI); similarly, data for 2004/05 is State Intelligence Service Data, reported for consistency with data presented earlier in this report. ACC figures for 2004/05 differ only slightly from those reported here (cannabis: n=1353; methamphetamine: n=69; opioids: n=10; cocaine: n=0) Note: Data for 2005/06 was not available at the time of publication.

Table 67 below indicates the proportion of arrests for offences relating to the possession or use of illicit drugs (consumer offences) as opposed to supply-type (provider) offences between 1996/97 and 2004/05. During this period, the proportion of arrests relating to consumer-type offences has been variable without particular trend for both cannabis and opioid arrests (Table 67). Arrests relating to methamphetamine, however, have followed a variable but identifiable trend toward a lower proportion of consumer-type arrests (Table 67), which is reflective of Tasmania Police's focus toward suppliers.

Table 67: Consumer arrests (including cautions and diversions) for cannabis-, methamphetamine- and opioid-related offences as a proportion of all drug-related arrests in Tasmania 1996/97-2004/05

Drug Type	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
Cannabis	49	76	93	88	96	72	90	92	82
Methamphetamine	90	100	86	71	86	79	63	79	61
Opioids	86	94	96	78	89	68	88	100	81

Source: Australian Illicit Drug Reports 1995/96-2000/01, Australian Bureau of Criminal Intelligence (now the Australian Crime Commission), and Tasmania Police State Intelligence Services State-wide Illicit Drug Reports. Note: 2001/02 data are based on data provided to State Intelligence Services, which may differ from official statistics and counting rules used by the Australian Crime Commission (formerly ABCI). Similarly, 2004/05 data are based on SIS reporting, for consistency with data presented earlier in this report; however, figures reported by the ACC are consistent with these: cannabis – 83% consumers; methamphetamine – 62% consumers; opioids – 80% consumers. Note: Data for 2005/06 was not available at the time of publication.

As shown in Table 68, the number of individuals before the Supreme Court for selling or trafficking in drugs has increased slightly in the past decade, from 22 individuals in 1996/97 to 33 in 2004/05 (data from 2005/06 was not available to the authors in time for inclusion in this report). 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 33 in 2004/05) may largely relate to such legal changes (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, and then were the subject of a reference to the Court of Criminal Appeal to determine if there were any retrospective effect: T. Ellis SC, *Personal Communication*, 2005), rather than 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 (3 individuals in 2003/04 and 10 in 2004/05).

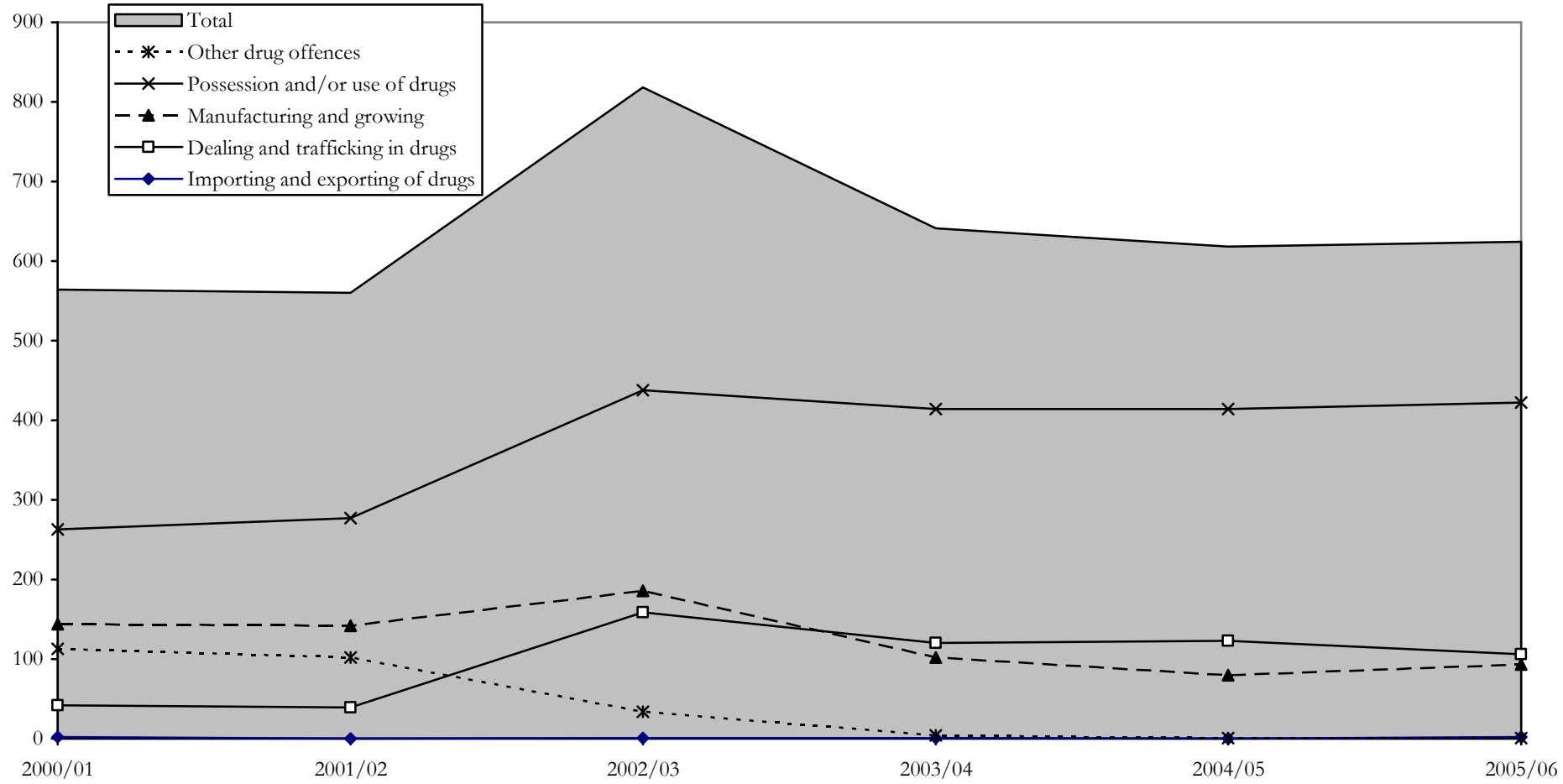
The number of individuals before the Magistrates Court for drug-related matters has stabilised somewhat in the past three financial years following marked increases in the number of cases in 1999/00 (Table 68, Figure 66). In particular, the number of individuals before the court dealing and trafficking in drugs (23 individuals in 1999/00 and 106 in 2005/06) has markedly increased. It is noteworthy that the number of cases in relation to possession or use declined in 1999/00 in comparison to previous years, possibly reflecting the impact of the Cannabis Cautioning trial; however, these cases have steadily increased since this time (195 individuals in 1999/00 and 422 in 2005/06), and in recent financial years these cases had returned to a level similar to that prior to the implementation of the diversion programs. The number of cases relating to importing and/or exporting of drugs heard by the Magistrates Court has remained low and stable in recent years. In contrast, the number of cases for manufacturing or growing of drugs has declined in recent years following an earlier increase (with 101 individuals before the court for this charge in 1999/00, rising to 186 in 2002/03, and declining to 93 in 2005/06).

Table 68: Number of individuals before Tasmanian courts or imprisoned on drug charges, 1996-2006

	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
SUPREME COURT OF TASMANIA										
Number of individuals convicted of selling or trafficking in dangerous drugs	22	18	22	27	14	15	30	20^	33~	**
HOBART MAGISTRATES COURT										
Number of individuals before the court for:										
dealing and trafficking in drugs	*n/p*	30 *(40)*	28 *(33)*	23 *(28)*	42 *(47)*	39 *(48)*	159 *(180)*	120 *(138)*	123 *(130)*	106 *(118)*
importing /exporting of drugs	*n/p*	4 *(5)*	7 *(8)*	5 *(8)*	2 *(2)*	0 *(0)*	1 *(1)*	1 *(1)*	0 *(0)*	2 *(3)*
manufacturing/growing of drugs	*n/p*	201 *(260)*	164 *(189)*	101*(124)*	144 *(163)*	142 *(194)*	186 *(202)*	102 *(105)*	80 *(81)*	93 *(96)*
possession and/or use of drugs	*n/p*	469 *(928)*	342 *(654)*	195*(428)*	263*(544)*	277 *(542)*	438 *(896)*	414 *(829)*	414 *(800)*	422 *(823)*
other drug offences	*n/p*	229 *(284)*	178 *(251)*	105*(169)*	113*(155)*	102 *(104)*	34 *(38)*	4 *(6)*	1 *(1)*	1 *(1)*
(alleged number of offences in parentheses)										
HOBART PRISON*										
Number of individuals incarcerated	21	42	26	29	*n/p*	16	35	36	55	57
Number of offences among those incarcerated	33	77	50	44	25	27	78	83	101	112
Offence breakdown										
Grow prohibited plant/substance	3	6	3	4	0	2	6	5	13	13
Possession/use	16	30	20	22	13	18	44	51	66	67
Prescription offences	3	7	6	0	0	0	4	1	0	6
Sell/supply narcotic substance	1	1	1	2	0	1	5	1	2	0
Sell/supply prohibited substance	1	6	4	0	6	4	5	8	10	6
Traffic in narcotic substance	1	1	1	6	1	1	3	1	0	3
Traffic prohibited substance	4	7	2	4	1	1	7	7	7	6
Traffic prohibited plant	0	5	4	2	1	0	3	4	1	6
Other	4	14	9	5	3	0	0	4	1	5

Sources: Department of Public Prosecutions (Supreme Court data); Magistrates Court (Magistrates Court data); Corrective Services (Prison data), Department of Justice and Industrial Relations. *Note that numbers of incarcerations refer to cases presented before both the Supreme and Magistrates courts; 'n/p' refers to cases where data were not provided to the authors. ^Note: this includes the following offences: cultivating a controlled plant for sale (3); posses a thing intended for the use in manufacturing drugs for sale (1); selling a narcotic substance (1); trafficking in a controlled substance (16); ~note that this includes the following offences (most serious offences only recorded): trafficking in a controlled substance (19); trafficking in a prohibited substance (1); cultivating a controlled plant for sale (10); possess thing intended to use for cultivating a controlled plant for sale (2). **Note: Data for 2005/06 not available at the time of publication.

Figure 66: Number of individuals before the Hobart Magistrates Court for drug-related offences, 2000/01-2005/06



Source: Hobart Magistrates Court

In recent years, both the number of individuals incarcerated at Hobart Prison, and the number of offences among these individuals has increased (Table 68), with these changes largely relating to increases in the numbers imprisoned on charges of possession or use of drugs, and for growing a prohibited plant or substance (the number of individuals incarcerated for most other categories of drug-related offence had remained stable over time: Table 68).

11.11 Pharmacy burglaries

Tasmania Police provided information in relation to burglaries of Tasmanian pharmacies between 1998/99 and 2004/05 (data for the 2005/06 financial year was not available at the time of publication). The data suggest that, following a steady decline between 1998/99 and 2000/01, the number of pharmacy burglaries slightly increased, from just two during 2000/01 to 10 during 2002/03, and subsequently remained relatively stable, at 6 in 2003/04 and 7 in 2004/05 (Table 69). The majority of the incidents in 2004/05 related to the theft of cash, rather than pharmaceutical opiates or related drugs. Although the products stolen were not explicitly detailed in all cases, benzodiazepines were the most commonly stolen pharmaceutical (among those of interest in the context of illicit drug use or production), featuring in at least 12 of the 17 incidents in 1998/99, 8 of the 10 1999/00 burglaries, 2 of the 10 2002/03 burglaries and 1 each of the incidents in 2001/02 and 2003/04. In 2004/05, one of the 7 pharmacy burglaries involved the theft of benzodiazepines, and there was an additional case of shoplifting of benzodiazepines in this period. Part of the reason for this is that opioid-based products are commonly stored in more secure areas (such as floor safes), and hence these higher-illicit value products are rarely stolen. Amongst the 10 burglaries in 2002/03, five accessed prescription drugs of interest (3 accessed benzodiazepines, 3 dexamphetamine, 3 oxycodone, 2 pseudoephedrine, 1 morphine and 1 methadone respectively, although the drugs stolen were not specified in three of the burglaries), and it is noteworthy that at least one of the burglaries in 2002/03 netted a wide array of products including morphine, methadone, Physeptone, benzodiazepines and a number of other opiates, and (unlike the majority of the other burglaries) appeared quite organised and targeted in the products accessed. During 2003/04, three of the six burglaries accessed pharmaceuticals of interest (2 accessed methadone, 1 benzodiazepines, and 1 pseudoephedrine, although the products stolen were not specified in some cases). None of the pharmacy burglaries during 2003/04 accessed a large number of products or appeared to target any particular products. Similarly, in 2004/05, none of the seven burglary incidents accessed pharmaceutical opiates (although there was a single case in this period where these drugs were shoplifted); however, there was one case of theft of pseudoephedrine in these burglaries. As such, it is clear that pharmacy burglary is clearly not a major pathway to access of the pharmaceutical products used by the IDU within Tasmania.

Table 69: Pharmacy burglaries in Tasmania, 1998/99-2004/05

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
Number of pharmacy burglaries	17	10	2	4	10	6	7
Number of burglaries accessing*:							
Benzodiazepines	12	8	-	1	2	1	1 (+1)
Pharmaceutical opiates	-	-	-	-	3	2	0 (+1)

Source: Tasmania Police

*Note: Details of products stolen is not available in all cases; + refers to additional non-burglary (shoplifting) theft of pharmaceutical products

11.12 Summary of drug-related issues

Overdoses

- In 2006, 1% of the consumers interviewed reported experiencing a non-fatal opioid overdose in the preceding year, and 4% of the sample had witnessed such an overdose in this time. This rate of overdose experience is markedly lower than that seen amongst previous cohorts; however, several key experts provided anecdotal reports of an increase in the numbers of overdoses in the preceding six months, which were attributed to coincident use of multiple CNS depressant drugs (opioids and benzodiazepines in particular).
- The number of opioid overdose deaths among those aged 14-54 years noted by the State Coroners office and the Australian Bureau of Statistics appeared to have declined in 2003 (n = 4) only to be followed by a slight increase in 2004 (n = 6) and 2005 (n = 14). Tasmania accounted for 3.7% of the national total of opioid overdose deaths in 2005.

Blood-borne viral infections

- Reported incident cases of hepatitis C infection in Tasmania appear to have declined, down to 9 cases recorded in 2006, the lowest rate since 1997.
- Reported incident rates of hepatitis B infection in the state also appear to have remained largely unchanged since 2002, with 20 cases or less reported annually.

Sharing of injection equipment

- Self-reported rates of sharing of needles or syringes among non-pharmacy Needle Availability Program clients state-wide have declined from 2.6% of all transactions in 1995/96 to 0.3% in 2005/06. However, all IDRS studies in Hobart have suggested that 3-10% of these cohorts share used needles or syringes at least once in a month. Additionally, there are indications of increasing sharing rates in the past two IDRS surveys (using the proxy measure of whether consumers had 'lent' their used needles to another consumer in the preceding month, reported by 13% of the 2006 participants).
- Self-reported rates of sharing of other injection equipment among non-pharmacy Needle Availability Program clients state-wide have declined from 5.5% of all transactions in 1996/97 to 0.6% in 2005/06. In contrast, approximately one-quarter of IDU consumers interviewed in the current study had shared injecting equipment such as tourniquets spoons or water in the month prior to interview.
- Almost half of the consumers reported re-using injecting equipment from a shared sharps disposal bin, and four-fifths of this group did not use bleach to clean equipment. This practice is of great concern, as lack of correct cleaning of equipment greatly increases the chance of transmission of blood-borne viruses, and along with this, repeated use of needles leaves them blunt, which could cause damage to the venous system. Use of non-sterile equipment can lead to the introduction of bacteria into the bloodstream, which can lead to infections, septicaemia or endocarditis. The majority of consumers who reported this practice had done so once in the preceding month.
- Almost half (46%) of the consumers reported re-using their *own* equipment, a reduction from the 2005 study, in which 62% reported this practice. The majority of participants who reported re-use of their own injecting equipment had done so once in the preceding month, and the equipment most frequently re-used included 20ml barrels, 1ml barrels and winged infusion sets ('butterflies'). This was typically reported as being due to NSP outlets being inaccessible (either due to distance or equipment being required outside of business hours).

- Despite being regular injecting drug users, 11% of the 2006 local IDRS cohort did not always self inject in the month preceding the interview. This group was also more likely to share spoons and water during injecting than consumers who did always inject themselves.

Injection related problems

- A substantial proportion of IDU surveyed experienced injection-related health problems, however, this was at a relative rate less than those seen amongst IDU in other jurisdictions and in previous Tasmanian IDRS cohorts.
- Scarring and bruising, difficulties finding veins to inject into (indicative of vascular damage) and experience of 'dirty hits' (feeling physically unwell soon after injection, often associated with the injection of contaminants or impurities) were the most common injection-related problems experienced by the current IDRS IDU cohort.
- Multiple key experts noted recent increases in experiences of bacterial infections associated with injecting drug use in recent months, likely related to injection of non-sterile solutions or re-use of injection equipment.

Driving risk behaviours

- Around two-thirds of the consumers sampled that had driven a car in the past six months had done so within an hour of using non-prescription drugs on at least one occasion. Methamphetamine, methadone and cannabis were most commonly involved.

Mental health comorbidity

- More than one-third of the IDRS IDU participants reported presenting to a health professional for a mental health issue in the preceding six months.
- In comparison to reports in earlier local IDRS IDU surveys, there has been an increasing rate of individuals presenting for depression and anxiety-related issues.
- Rates of psychotic-type syndromes (schizophrenia, paranoia) have remained stable in recent IDRS IDU surveys, but are at a higher level than seen in general community cohorts.

Crime

- Over half of the IDRS IDU self-reported involvement in some form of criminal activity in the month prior to interview, a level somewhat higher than that seen in IDRS IDU samples in other jurisdictions. Crimes most commonly reported were drug dealing, and, to a lesser extent, property crime (such as shoplifting or burglaries).
- Around one-third of the consumers interviewed reported becoming verbally aggressive following drug use in the past six months, and one-fifth or less reported becoming physically aggressive following drug use in this time. The drugs most commonly involved were methamphetamines, and, to a lesser extent, benzodiazepines and/or methadone.

12.0 DISCUSSION

The major trends identified in the 2006 Tasmanian IDRS report relate to indications of changing patterns of pharmaceutical opiate use amongst local IDU, along with the continuing trend toward coincident opioid and benzodiazepine (particularly alprazolam) use. Shifts within the local methamphetamine market have also been identified. Importantly, an emerging trend toward unsafe injection practices amongst some IDU has become apparent from this study, which has not been identifiable in other data collections with this demographic.

Summaries of major trends for each drug class are reported below by drug type.

12.1 Heroin

Very few of the IDU consumers interviewed in the 2006 Tasmanian IDRS could report on local trends in price, purity, or availability of heroin. Consistent with patterns seen in previous studies, only a small proportion of the cohort (9%) reported using the drug in the preceding six months, with this use being very infrequent (6 of the previous 180 days), despite a high preference for heroin as a drug of choice. Similarly, use of heroin among clients of the state's Needle Availability Program remained below 1% of all non-pharmacy client transactions in 2005/06.

Only one participant in the current study was able to provide information regarding price paid for recent heroin purchases. This purchase was between 2-3 'caps' (~0.05-0.15g), at a cost of $200. In previous years, when greater proportions of local IDRS IDU cohorts reported recent heroin use, information regarding price was more common. In 2005, four participants commented on buying a 'cap' of heroin, reporting a modal price of $100. Three participants commented on purchasing a gram of heroin, reporting a median price of $360. Consistent with trends noted in previous years, the majority of IDU considered heroin as 'difficult' or 'very difficult' to access, and that this situation had not changed in recent months. In further support of this, almost half of those reporting on availability (43%, n=3) had only used heroin sent directly to them from another jurisdiction (mainland Australia), rather than being able to access the drug locally. Consumers predominantly used rock-form heroin and considered the drug as 'medium' in subjective purity in the preceding six months.

The majority of indicators - such as a steadily declining proportion of use of heroin among clients of the state's Needle Availability Program, findings such as the low median rate of use of heroin (six days in last six months amongst those who had used the drug) and that, of the 36% of the IDU sample that reported heroin as their drug of choice, only around two-fifths (22%) had recently used heroin - indicate that the low availability of heroin in the state, identified in earlier IDRS studies, has continued in 2006.

12.2 Methamphetamine

Over the past five years of the IDRS in Hobart, higher-purity forms of methamphetamine have generally increased in availability in the state. This easy availability of high-potency forms of the drug may have made use of methamphetamine particularly attractive among IDU, with a substantial majority all of those surveyed in the current study using some 'form' of the drug in the six months prior to interview (83%), despite less than one-third (28%) nominating it as their drug of choice.

The market prices locally for all three presentations of methamphetamine appear to have remained relatively stable since those reported in the 2005 IDRS study, particularly in relation to 'point' (approximately 0.1g) amounts of the drug, at $50 for any form. Modal purchase prices for larger amounts of powder and 'base/paste' methamphetamine remained stable since 2004 at $300 per gram. However, there were some indications of a decrease in price for gram purchases of crystal methamphetamine, falling from a median of $400 in 2004 to $340 in 2005 and to $300 in the current survey, although only small numbers of participants reported purchasing in such amounts. Consumers predominantly regarded the prices of each presentation of the drug as remaining stable in recent months.

IDU reports on subjective purity of powder methamphetamine were 'low' to 'medium' and participants reported fluctuating purity in recent months. 'Base' was considered by consumers to fluctuate between 'medium' to 'high' subjective purity, with potency fluctuating in recent months. Consumers considered crystalline methamphetamine used locally as 'high' in subjective purity, with this fluctuating in purity in the preceding six months, generally trending toward increased levels.

Consumers interviewed regarded powder form methamphetamine as 'easy' to 'very easy' to access, with availability stable in recent months. 'Base' was also considered as 'easy' to 'very easily' accessed, with availability stable in the preceding six months. The majority of consumers who had recently used crystal methamphetamine reported that it was 'easy' to 'very easy' to access; however, one-quarter of participants considered it as 'very difficult' or 'difficult' to access. While consumers generally noted little recent change in availability of crystal methamphetamine in recent months, a smaller proportion of consumers regarded the drug as 'easier' to access. Consistent with this, there was an increase in the median frequency of use of this form between the 2005 and 2006 surveys (frequency of use increasing from 3 to 9 days of the preceding 180, despite an almost equal number of consumers of the sample in each survey reporting recent use).

Previous years have seen major upheavals in methamphetamine markets in Hobart. Between 2001 and 2005 there have been steady increases in the use of methamphetamine, both among the IDRS IDU cohort (85% using the drug in the preceding six months in 2001, 95% in 2005) and among clients of the state's Needle Availability Program (30% reporting it as the 'drug most often injected' in 2000/01, 59% in 2004/05). Within these markets, shifts have also occurred: among IDRS IDU cohorts, use of the powder form has been steadily increasing (39% in 2002; 76% in 2005), and the predominantly used form, base/paste methamphetamine, was briefly overshot by a marked increase in local availability of crystal methamphetamine in 2003. In subsequent years, crystal methamphetamine availability returned to lower levels than for the other two forms of the drug. Trends in 2006 represent subtle changes both for the methamphetamine market overall (for the IDU demographic) and within it: in a difference to trends in previous years, there are possible indications of a decline in use of methamphetamine among IDU, both amongst the IDRS IDU cohort (95% in 2005, 83% in 2006) and clients of the state's Needle Availability Program (59% in 2004/05, 56% in 2005/06). Amongst IDU consumers who report recent use of methamphetamine, reductions in the proportion reporting use of the most common powder and base/paste forms (falling from 78% to 62% recently using powder and 81% to 63% recently using base/paste between 2005 and 2006 respectively), and a shift to half-gram rather than 'points' as the most common purchase amounts combined with reported *increases* in availability of these forms, are suggestive of decreased or unreliable purity of the product available to this demographic. While, in contrast, use of crystal methamphetamine appears to have slightly increased amongst IDRS IDU cohorts (52% in 2005, 64% in 2006), this remains infrequent and not commonly the methamphetamine form most used amongst this group.

Consumers anecdotally noted a change in the local drug culture developing, with methamphetamine being used at greater frequency by existing users, and the drug increasingly used among different – not necessarily IDU – demographic groups; younger teenage groups, equally used by males and females, as well as into a wider range of socio-economic groups (a finding supported by the 2006 Tasmanian EDRS study: Matthews & Bruno, 2007). Service providers also anecdotally noted the impact of increasing polydrug use and methamphetamine use on clients seeking their services, and reported concern about the multiple health and social problems experienced by this client group within Tasmania.

12.3 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 amongst clients of the state's Needle Availability Program virtually non-existent (less than 0.1% of non-pharmacy equipment transactions). Only a very small proportion of the IDRS IDU participants reported recent use of the drug (12%), which was predominately in powder form. By the very few consumers that could comment on trends in availability, cocaine was considered 'very difficult' to access, a situation that was considered stable in the preceding six month period. The cocaine that is used by Tasmanian IDU appears generally to be purchased locally, however one-quarter of participants who were able to comment reported that they purchased cocaine from other Australian jurisdictions. There have been no seizures of cocaine made by Tasmania police between 2001 and 2005. These patterns of low levels of availability and use in these cohorts appear to have remained reasonably stable over the past few years. However, it is noteworthy that around two-thirds of the Tasmanian IDRS IDU sample has reported lifetime use of cocaine, an increase from patterns seen in earlier studies. Similarly, there has been an increase in the level of use of the drug in different local consumer populations (Matthews & Bruno, 2007) which may provide early indications of emerging changes in local markets for the drug.

12.4 Cannabis

Among the IDU consumers surveyed, cannabis use continued to be almost ubiquitous, with 88% using the drug in the preceding six months, and the majority of these individuals using the drug daily.

Consumers reported purchasing a median of 1.7g of outdoor-cultivated cannabis or a median amount of 1g of indoor-cultivated cannabis in a traditional $25 'deal' of the drug.

When accessing outdoor-cultivated cannabis, consumers typically purchased in quarter-ounce (median $60) or ounce (median $170) amounts. While the price of a quarter-ounce purchase had remained stable between 2005 and 2006, the median price for an ounce of outdoor-cultivated cannabis decreased from $200 in 2005 to $170 in 2006. The majority of consumers reported no change in price, whilst a minority reported prices decreasing in the preceding six months.

Prices for indoor-cultivated cannabis were higher than for outdoor-cultivated cannabis, at a median of $90 per quarter-ounce and $250 per ounce, with the most common purchase prices reflecting a $50 decrease in the cost for one ounce purchases of indoor-cultivated cannabis and stable prices for quarter-ounce purchases, in comparison with 2005. Consumer reports reflect general stability in prices paid for the most commonly purchased amount: quarter-ounces.

Consumers overwhelmingly reported that both indoor- and outdoor-cultivated cannabis was 'easy' or 'very easy' to obtain in 2006, with this situation remaining stable for both forms of

cannabis. However, there were indications of somewhat increased availability (a greater proportion of consumers reporting both forms as 'very easy' to access) in comparison to the trends identified in the 2005 IDRS survey, following indications of relatively decreased availability between 2003 and 2004.

Similar to previous years, consumers described the subjective potency of outdoor-cultivated cannabis as 'medium', with this level generally considered stable to fluctuating in the preceding six months. Indoor-cultivated cannabis was regarded as 'high' to 'medium' in subjective potency by consumers, with this level regarded as stable or fluctuating to increased potency in recent months. Those cannabis-consuming IDU interviewed generally reported using both indoor- and outdoor-cultivated cannabis in the preceding six months, although indoor-cultivated cannabis was the form most commonly smoked. 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, both from the National Drug Strategy Household Survey (suggesting that use of cannabis in the previous year in local samples has declined from 15.8% in 1998, and 11.9% in 2001 to 10.9% of those aged 14 and over in 2004), and from a slowly decreasing rate of use in Hobart IDRS IDU samples, particularly in regard to the proportion of daily cannabis smokers.

12.5 Other opioids

Morphine

Morphine was reported to cost a median of $80 per 100mg, or $50 per 60mg (MS Contin), an increase of $10 for 100mg tablets from prices reported in 2005, but consistent for 60mg quantities, and considered by respondents as being stable to increasing in recent months. Morphine was considered 'easy' to 'very easy' to obtain by consumers, and reported as remaining stable or increasing in availability in recent months. Two-thirds of the sample (62%) had used morphine in recent months, with all but one injecting the drug in this time. MS Contin remains the predominant preparation used by this group, used by 42% of the sample as a whole, and was the form used predominantly by more than two-thirds (69%) of those reporting recent morphine use, with Kapanol the next most commonly used preparation (used by one-third of the sample), followed by Ordine (liquid morphine: 23%). Recent IDRS studies have shown a decreasing median frequency of use and proportion of consumers reporting recent morphine use; however, in 2006, this trend has been reversed, with 62% of participants reporting recent use (58% in 2005) and a median frequency of use of 21 days (11 days in 2005) in the preceding six months. Similar trends are also apparent in data from the state's Needle Availability Program. However, the measures of morphine use in the 2006 IDRS IDU cohort remain markedly lower than those from earlier local IDRS studies (for example, in 2000, 77% had recently used the drug, with a median frequency of 52 days).

Methadone syrup

Diverted methadone syrup was reported to cost a median of approximately $1.00 per milligram in 2006, a price higher than that reported by 2005 participants ($0.80 per mg), but the same as prices reported during 2001 through 2004. The majority of participants who commented reported prices to be stable in recent months. Most commonly, participants reported that methadone syrup was 'easily' accessed, with over half reporting stable availability of the drug in the preceding six months (although a minority reported decreased availability).

Methadone syrup is most frequently purchased from friends or acquaintances, and this is generally carried out in an agreed upon public location. *Predominantly, those participants reporting purchasing diverted methadone syrup were themselves receiving methadone maintenance treatment.* All consumers

who commented on their source of illicit methadone reported this to be from diverted 'take-away' doses. There have been increasing reports of consumers injecting combinations of alprazolam and methadone syrup in the past four 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 consumers and key experts noted as concerns in regard to this trend.

Physeptone
Diverted Physeptone tablets of methadone were regarded as costing a mode of $10 per 10mg (as has been reported in the past six years of the IDRS), with prices regarded by consumers as stable or increasing 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. The proportion of the consumer sample reporting recent Physeptone use rose slightly in 2006 to 49%, after a decline in the three preceding years (64% in 2003, to 52% in 2004 and 41% in 2005).

Oxycodone
Oxycodone use among local IDU samples appears to have increased in recent years, with one-third of the current cohort reporting use of the drug, predominantly Oxycontin tablets, in the preceding six months. Despite their higher relative potency than morphine tablets, these drugs are sold locally at lower comparative prices ($0.63 per milligram for 40mg and 80mg oxycodone tablets). According to consumer reports, median prices for both 40mg and 80mg tablets have increased since 2005 (from $20 in 2005 to $25 in 2006 for 40mg tablets; and from $40 in 2005 to $50 in 2006 for 80mg tablets). Consumers reported that prices were stable to increasing over the preceding six months. Availability reports were mixed, with two-fifths of those who commented reporting 'easy' access, and one-third reporting access as 'difficult', a situation regarded as stable by most participants. While the drug remains somewhat difficult to access illicitly, the rapidly increasing rate of prescription of oxycodone, and its perceived similarity amongst consumers to morphine, render it likely that oxycodone use may expand within the local IDU market. Given the high relative potency of oxycodone and its possible synergistic effects with other opiates, 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 by IDU, as the vast majority report obtaining them 'illicitly', i.e. not on a prescription in their name.

12.6 Benzodiazepines

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 in comparison to that identified in other Australian jurisdictions. As noted in the 2003 to 2006 studies, it is also clear that alprazolam (Xanax in particular) appears 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. Between the 2003 and 2006 studies, the proportion of the IDU samples reporting recent injection of alprazolam had increased (from 11% among the 2003 IDU cohort to 27% in 2006), and there have been anecdotal reports of increased demand for alprazolam locally. This is a particular concern given the serious psychological and physical harms associated with benzodiazepine injection. Additionally, the level of use and availability of benzodiazepines

generally remains high within local IDU, particularly among primary users of opiates, 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.

12.7 Associated harms

Self-reported rates of sharing of needles or syringes among clients of non-pharmacy Needle Availability Program outlets have steadily declined over time from 2.6% of all transactions in 1995/96 to 0.3% in 2005/06. However, all IDRS studies in Hobart have suggested that 3-10% of these cohorts share used needles or syringes at least once in a month. Additionally, there are indications of increasing sharing rates in the past two IDRS surveys (using the proxy measure of whether consumers had 'lent' their used needles to another consumer in the preceding month, reported by 13% of the 2006 participants). Similar to the improving trends for sharing of needles and syringes, self-reported rates of sharing of other injection equipment (such as water, tourniquets and mixing containers) has steadily decreased among clients of non-pharmacy Needle Availability Program outlets (5.5% in 1996/97 to 0.6% in 2005/06). In contrast, approximately one-quarter of IDU consumers interviewed in the current study had shared injecting equipment such as tourniquets spoons or water in the month prior to interview.

Almost half of the consumers reported re-using injecting equipment from a shared sharps disposal bin, and four-fifths of this group did not use bleach to clean equipment. Almost half of the consumers interviewed reported re-using their *own* injection equipment in the month prior to interview (a reduction from two-thirds of the cohort reporting this in 2005), with the majority of these participants re-using on one occasion in this time. This is not a recommended practice, 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. The equipment most frequently re-used included 20ml barrels, 1ml barrels and winged infusion sets ('butterflies'). This was typically reported as being due to NSP outlets being inaccessible (either due to distance or equipment being required outside of business hours).

In more targeted examination of injection practices in the current IDRS study, two notable points for health education interventions were identified. Firstly, in the current cohort, despite being regular injecting drug users, 11% of the 2006 IDU cohort did not always self-inject, with those that did not always self-inject being significantly more likely to share other injecting equipment such as spoons/mixing containers and water during injecting than those who did always inject themselves.

Blood-borne viral infections, such as HIV/AIDS and hepatitis B and C, are a major health risk for individuals who inject drugs. Surveillance data on the number of hepatitis C cases reported to the Public Health Department indicate that reported incident cases of hepatitis C infection in the state appear to have declined to 9 cases recorded in 2006, the lowest rate since 1997. Reported incident rates of hepatitis B infection in the state also appear to have remained largely unchanged since 2002, with 20 cases or less reported annually.

A substantial proportion of IDU surveyed experienced injection-related health problems; however, this was at a rate less than those seen amongst IDU in previous Tasmanian IDRS cohorts. Scarring and bruising, difficulties finding veins to inject into (indicative of vascular damage) and experience of 'dirty hits' (feeling physically unwell soon after injection, often associated with the injection of contaminants or impurities) were the most common injection-

related problems experienced by the current IDRS IDU cohort. Multiple key experts noted recent increases in experiences of bacterial infections associated with injecting drug use in recent months, likely related to injection of non-sterile solutions or to re-use of injection equipment.

Around two-thirds of the consumers sampled that had driven a car in the past six months had done so within an hour of using non-prescription drugs on at least one occasion. Methamphetamine, methadone and cannabis were most commonly involved. This level of self-reported drug-driving has remained stable when compared with that among the 2005 IDRS study participants, although the proportion reporting driving while affected by cannabis has declined slightly in this time.

In 2006, 1% of the consumers interviewed reported experiencing a non-fatal opioid overdose in the preceding year, and 4% of the sample had witnessed such an overdose in this time. This rate of overdose experience is markedly lower than that seen amongst previous cohorts; however, several key experts provided anecdotal reports of an increase in the numbers of overdoses in the preceding six months, which were attributed to coincident use of multiple CNS depressant drugs (opioids and benzodiazepines in particular). The number of opioid overdose deaths among those aged 14-54 years noted by the State Coroners office appeared to have declined in 2003 against a backdrop of a steadily increasing population rate of overdose in Tasmania in recent years. While the number of opioid deaths did rise slightly in 2005, opioid deaths in Tasmania in 2005 accounted for 3.7% of the national total.

More than one-third of the IDRS IDU participants reported presenting to a health professional for a mental health issue in the preceding six months. This rate of presentations is substantially greater than that seen in the general population. In comparison to reports in earlier local IDRS IDU surveys, there has been a steadily increasing rate of individuals presenting for depression and anxiety-related issues. Despite increases in the use of high-potency methamphetamines, rates of psychotic-type syndromes (schizophrenia, paranoia) have remained stable in recent IDRS IDU surveys, albeit at a higher level than seen in general community cohorts.

Over half of the IDRS IDU self-reported involvement in some form of criminal activity in the month prior to interview, a level somewhat higher than that seen in IDRS IDU samples in other jurisdictions. Crimes most commonly reported were drug dealing, and, to a lesser extent, property crime (such as shoplifting or burglaries).

Around one-third of the consumers interviewed reported becoming verbally aggressive following drug use in the past six months, and one-fifth or less reported becoming physically aggressive following drug use in this time. The drugs most commonly involved were methamphetamines, and, to a lesser extent, benzodiazepines and/or methadone.

Methodological considerations

The aim of the IDRS is to gather evidence of emerging drug trends in illicit drug use and related problems within the community. The IDRS methodology is heavily dependant on the perceptions of individuals involved in, and exposed to, the illicit drug use 'scene' (both individuals who inject drugs and professionals working with these groups). While these subjective impressions are combined with other, more objective, indicator data where possible to support and substantiate these reports, given the inherently covert nature of illicit drug use, available indicator data are limited and often insensitive to the trends of interest in this study.

The focus of the IDRS on surveying professionals in drug and alcohol-related fields, and often those people accessing their services, has meant that the study over-represents low educational

and socio-economic groups, given that the charter of the majority of the agencies involved is to provide services to these populations. As such, the methodology leaves the major group of illicit drug users – those who use substances occasionally and non-problematically – largely untapped. Due to this gap, it would be inappropriate to regard the IDRS as providing a representative overview of illicit drug use or the demographics of those who use illicit drugs – however, the development of a representative prevalence sample of substance use is *not* the aim of this study, as this information is provided through studies such as the National Drug Strategy Household Survey.

Importantly, this methodology in its current form does not adequately tap accurate information about drugs that are more commonly used recreationally (for example, ecstasy), and more focused research within different demographic groups is required to provide better information in these areas.

It is important to consider that the purpose of the IDRS is simply to detect trends that warrant further investigation, not to explore and verify such trends. As such, the concurrent use of the three data sets included in this study, each with their own inherent strengths and limitations, affords an efficient and appropriate approach to achieving the aims of the study. In subsequent years, the validity of the IDRS will be further enhanced by the development of more systematic data sets (e.g. for ambulance and coroner data), and the incorporation of the results of several projects currently underway in the state.

13.0 IMPLICATIONS

The findings of the Tasmanian 2006 IDRS suggest the following areas for further investigation and possible consideration in policy:

1. Interventions to improve injection practices and injection-related health

The detailed face-to-face interviews in the current study identified a high level of extremely risky injection practices amongst the consumer cohort that have not been identified in other data sources (such as NAP data or the NSP study). For example, one in ten participants had given a used needle to another individual in the month prior to interview, and four in ten had themselves re-used injecting equipment from shared disposal bins without appropriately cleaning this equipment. Given the increasing identification of infections and endocarditis, both among the current IDU sample and by key experts interviewed in the current study – all of which are associated with the introduction of bacteria into the bloodstream (which is possible through the use of non-sterile injecting equipment) – this is clearly an emerging issue which demands urgent intervention.

The high level of re-use and sharing of injection equipment requires the attention of the Needle Availability Program, as a priority, to identify whether systemic barriers exist 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 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.

2. Monitoring and application of region-specific drug trend information

As Tasmanian illicit drug use culture has been consistently shown to substantially differ from other jurisdictions (with regard to, for example, 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 minimisation information campaigns need to be tailored to the particular needs and types of substances used within the state.

It would be beneficial 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 available 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. An initial study in 2003 has provided evidence suggesting that there are clear distinctions between the drug markets in these regions (Bruno, 2004b [unreleased]). As such, it may not be appropriate to infer similarity between drug trends and emergent issues identified in Hobart-based studies to these regions.

3. Development of specialist training and interventions for methamphetamine

As availability of the higher potency forms of methamphetamine appears to be relatively stable, clear and practical harm-reduction information for use of these forms of the drug should be accessed and distributed to consumers and health intervention workers. It is important to note also that there are indications that these drugs are increasingly being used by populations other

than regular injecting drug users, such as primary ecstasy-using groups, that may not be accessing traditional health/health information services (Matthews & Bruno, 2005, 2006, 2007). Additionally, since increased levels of use of such high-potency methamphetamine may increase the level of experience of the negative effects of excessive methamphetamine use, development and implementation of practical strategies and training for dealing with such affected individuals should be considered for frontline health intervention workers and emergency services workers. Similarly, investigation into the requirement for specialist treatment programs and/or services for primary consumers of these drugs is warranted.

4. 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 within 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 use of biological filters; and/or at the policy level, requiring use of sterile water for dilution of methadone doses or switching to Biodone syrup, as this preparation does not contain the agent sorbitol, which can cause irritation and harm to the venous system.

5. 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. 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 Needle Availability Program staff and peer groups, are necessary.

For example, despite clear evidence that injection of tablets are associated with the development of granulomas in internal organs (Roberts, 2002; Gotway et al., 2002) there has been *no* research into the effectiveness of commercially available pill or biological filters on reducing the harms associated with intravenous use of these drugs. As an interim harm-reduction measure, however, given the existing evidence in support of the potential benefit offered by such filters in regard to the use of other drugs (Scott, 2005) it would be recommended that pill filters become more widely available, at a cost that is not unaffordable, and their use promoted by frontline workers, to local IDU consumers.

6. 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 (Piereira, Lawlor, Vigano, Dorgan & Bruera, 2001). Moreover, oxycodone reaching systemic circulation after injection is more than twice that after oral or rectal administration (Leow, Smith, Watt, Williams & Cramond, 1992). While conducting interviews for the current study, it was apparent that many consumers 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 that 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 avoid granulomas (Roberts, 2002). Frontline

workers need to be aware of these issues and to implement harm reduction interventions with potential illicit consumers of this drug.

In other jurisdictions, diverted use (both oral and injecting) of buprenorphine (Subutex) and buprenorphine-naloxone (Suboxone) has been reported by substantial proportions of IDRS IDU cohorts (O'Brien et al., 2007). At the time of this report, Suboxone treatment is not yet available in the state, however Subutex treatment is currently being provided to a relatively small number of people. In light of the harms associated with injecting this drug (vascular damage, infections and overdose) identified in other jurisdictions and internationally, continued monitoring is recommended as these treatments are expanded across the state.

Thirdly, research examining misuse of pharmaceutical products in populations other than IDU is warranted, as this has been a demographic identified in both key expert interviews in the current study and in associated local research (Fry, Smith, Bruno, O'Keefe & Miller, 2004; Bruno, 2004c) but not accessed within the methodology of the IDRS, and this population has, to date, been largely invisible in research or other data collections.

7. 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 is clearly being 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, and a targeted campaign to increase awareness of the potential harms of this combination, as well as provision of accurate, non-judgemental harm reduction information, would be timely and likely to lead to improved health outcomes for consumers.

8. Increased attention to substance dependence-mental health comorbid issues

While self-reported rates of experience of mental health issues are likely to under-represent the true extent of these issues, around two-fifths of the IDU sample reported recently attending a health professional for mental health concerns, a level substantially greater than that seen in the general population. As such, the increasing systemic focus in the state toward development and implementation of interventions for such co-morbid populations is clearly warranted and continued enhancement of partnerships between the mental health and alcohol and other drug sectors is crucial to meet the needs of this group.

9. Expanded access to dental health services for IDU

Further focus needs to be placed on the dental health of injecting drug users, as anecdotal reports indicate numerous severe dental health problems experienced by this group, both amongst long-term methadone patients and among consumers of methamphetamine. For many of these individuals, accessing dental health services is problematic, partly due to long waiting lists to access public dental health treatment, and also the prohibitive cost of private dental care. Provision of regular, dedicated sessional times at public dental services for injecting drug users, or development of co-ordinated relationships between dental services and the holistic health services currently accessed by IDU may be appropriate treatment options to service the needs of this demographic group.

10. 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 (two-thirds of those with access to a vehicle). This has remained unchanged in comparison to levels identified in the 2005 study, 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 unchanged, there were declines in reports of driving under the influence of cannabis, the drug most focused on in media reports of this issue. 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 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 Crime Commission (2003). *Australian Illicit Drug Report 2001-02*. Canberra: Australian Crime Commission.

Australian Crime Commission (2004). *Australian Illicit Drug Report 2002-03*. Canberra: Australian Crime Commission.

Australian Institute of Health and Welfare (1999). *1998 National Drug Strategy Household Survey: First Results*. AIHW cat. no. PHE 15. Canberra: AIHW (Drug Statistics Series).

Australian Institute of Health and Welfare (2002). *2001 National Drug Strategy Household Survey: First Results*. AIHW cat. no. PHE 35. Canberra: AIHW (Drug Statistics Series).

Australian Institute of Health and Welfare (2002). *2001 National Drug Strategy Household Survey: State and Territory Supplement*. AIHW cat. no. PHE 37. Canberra: AIHW (Drug Statistics Series).

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: Author.

Australian Institute of Health and Welfare (2005b). *2004 National Drug Strategy Household Survey: Detailed Findings*. AIHW cat. no. PHE 66 (Drug Statistics Series No. 16). Canberra: Author.

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*. National Drug and Alcohol Research Centre Monograph No. 50. Sydney: 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)*. National Drug and Alcohol Research Centre Monograph No. 51. Sydney: University of New South Wales.

Bruno, R (2004, unpublished). Status of Drug Use in Tasmania, Second Report. Tasmanian Department of Health and Human Services.

Bruno, R. & McLean, S. (2000). *Tasmanian Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS)*. National Drug and Alcohol Research Centre Technical Report No. 84. Sydney: University of New South Wales.

Bruno, R. & McLean, S. (2001). *Tasmanian Drug Trends 2000: Findings From the Illicit Drug Reporting System (IDRS)*. National Drug and Alcohol Research Centre Technical Report No. 109. Sydney: University of New South Wales.

Bruno, R. & McLean, S. (2002). *Tasmanian Drug Trends 2001: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 135. Sydney: University of New South Wales.

Bruno, R. & McLean, S. (2003). *Tasmanian Drug Trends 2002: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 148. Sydney: University of New South Wales.

Bruno, R. & McLean, S. (2004). *Tasmanian Drug Trends 2003: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 178. Sydney: University of New South Wales.

Bruno, R. (2005). *Tasmanian Drug Trends 2004: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 215. Sydney: University of New South Wales.

Bruno, R. (2006). *Tasmanian Drug Trends 2005: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 245. Sydney: University of New South Wales.

Bruno, R. & McLean, S. (2004a). *Tasmanian Party Drug Trends 2003: Findings From the Party Drug Initiative (PDI).* National Drug and Alcohol Research Centre Technical Report No. 186. Sydney: University of New South Wales.

Bruno, R. (2004a, unpublished). Tasmanian Technical Report: Benzodiazepine and Pharmaceutical Misuse and Their Relationship to Crime. Hobart: University of Tasmania.

Bruno, R. (2004b). *The Status of Drug Use in Tasmania.* Tasmanian Department of Health and Human Services.

Bruno, R. (2004c). *Benzodiazepine and Pharmaceutical Opiate Misuse and their Relationship to Crime: An Examination of Illicit Prescription Drug Markets In Melbourne, Hobart and Darwin (Tasmanian Technical Report). (In press).*

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* (pp. 9-30). Canberra: Australian Government Publishing Service.

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).* National Drug and Alcohol Research Centre Technical Report. Sydney: University of New South Wales.

Darke, S., Kaye, S. & Ross, J. (2001). Geographical injection locations among injecting drug users in Sydney, Australia. *Addiction*, 96, 241-246.

Degenhardt, L. (2001). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre.

Degenhardt, L. (2002). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre.

Degenhardt, L. (2003). *Opioid Overdose Deaths in Australia.* Sydney: National Drug and Alcohol Research Centre.

Degenhardt, L., Roxburgh, A. & Black, E. (2004). *2003 Australian Bureau of Statistics data on accidental opioid induced deaths.* Sydney: National Drug and Alcohol Research Centre.

Degenhardt, L., & Roxburgh, A. (2007). *Accidental drug-induced deaths due to opioids in Australia, 2005.* Sydney: National Drug and Alcohol Research Centre

Dwyer, R. & Rumbold, G. (2000). *Victorian Drug Trends 1999: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 89. Sydney: University of New South Wales.

Erowid. (2006). Retrieved Jan 20, 2007 from http://www.erowid.org/chemicals/2CI/2CI.shtml.

Fry, C. & Bruno, R. (2002). Recent trends in benzodiazepine use among injecting drug users in Victoria and Tasmania. *Drug and Alcohol Review,* 21, 363-367.

Fry, C., Smith, B., Bruno, R., O'Keefe, B. & Miller, P. (2004). *Benzodiazepine and Pharmaceutical Misuse and their Relationship to Crime: An examination of illicit prescription drug markets in Melbourne, Hobart and Darwin (National Report).In Press.*

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-S135.

Hando, J. & Darke, S. (1998). *New South Wales Drug Trends 1997: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 56. Sydney: University of New South Wales.

Hando, J., O'Brian, S., Darke, S., Maher, L. & Hall, W. (1997). *The Illicit Drug Reporting System Trial: Final Report.* National Drug and Alcohol Research Centre Monograph. Sydney: University of New South Wales.

Hargraves, K. & Lenton, S. (2002). *WA Drug Trends 2001: Findings From the Illicit Drug Reporting System (IDRS).* National Drug and Alcohol Research Centre Technical Report No. 134. Sydney: University of New South Wales.

Jenkinson, R. & Quinn, B. (2007). *Victorian Drug Trends 2006: Findings from the Illicit Drug Reporting System (IDRS).* NDARC Technical Report. Sydney: National Drug and Alcohol Research Centre. *In press.*

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, 479-484.

Matthews, A. & Bruno, R. (2005). *Tasmanian Party Drug Trends 2004: Findings From the Party Drug Initiative (PDI).* National Drug and Alcohol Research Centre Technical Report. Sydney: University of New South Wales.

Matthews, A. & Bruno, R. (2006). *Tasmanian Party Drug Trends 2005: Findings From the Party Drug Initiative (PDI).* National Drug and Alcohol Research Centre Technical Report. Sydney: University of New South Wales.

Matthews, A. & Bruno, R. (2007). *Tasmanian Party Drug Trends 2006: Findings From the Party Drug Initiative (PDI).* National Drug and Alcohol Research Centre Technical Report *(in press).* Sydney: 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).* National Drug and Alcohol Research Centre Technical Report No. 72. Sydney: 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).* National Drug and Alcohol Research Centre Technical Report No. 86. Sydney: 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).* National Drug and Alcohol Research Centre Monograph No. 43. Sydney: University of New South Wales.

National Centre in HIV Epidemiology and Clinical Research (2002). *HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report 2002*. Sydney: University of New South Wales National Centre in HIV Epidemiology and Clinical Research.

O'Brien, S., Black, E., Degenhardt, L., Roxburgh, A., 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)*. National Drug and Alcohol Research Centre Monograph. Sydney: University of New South Wales. (*in press*)

Pereiris, 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, 672-687.

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,* 260-261.

Roxburgh, A. and Degenhardt, L. (2006b) Drug-related hospital stays in Australia 1993-2005. Sydney: National Drug and Alcohol Research Centre.

Rumbold, G., & Fry, C. (1998). *Victorian Drug Trends 1997: Findings From the Illicit Drug Reporting System (IDRS)*. National Drug and Alcohol Research Centre Technical Report No. 59. Sydney: University of New South Wales.

Scott, J. (2005). Laboratory study of the effectiveness of filters used by heroin injectors. *Journal of Substance Use, 10,* 293-301.

Shand, F. & Mattick, R. (2002). *Census of Clients of Treatment Service Agencies (COTSA) 2001*. Sydney: University of New South Wales.

SPSS Inc. (2006). SPSS for Windows, Release 14.0.2, Standard Version.

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*. National Drug and Alcohol Research Centre Monograph Report No. 59. Sydney: 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)*. National Drug and Alcohol Research Centre Monograph. Sydney: University of New South Wales.

Thein, H., Maher, L. & Dore, G. (2004). Australian NSP Survey: *Prevalence of HIV, HCV and injecting and sexual behaviour among IDU at Needle and Syringe Programs. National data report 1999-2003*. Sydney: National Centre in HIV Epidemiology and Clinical Research, University of New South Wales.

Thein, H., White, B., Shourie & 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. & Churchill, A. (2002). *Australia's Dynamic Methamphetamine Markets*. Drug Trends Bulletin, June, 2002. Sydney: National Drug and Alcohol Research Centre.

Topp, L. Darke, S., Bruno, R., Fry, C., Hargreaves, Humeniuk, R., McAllister, R., O'Reilly, B. & Williams, P. (2001). *Australian Drug Trends 2000: Findings From the Illicit Drug Reporting System (IDRS)*. National Drug and Alcohol Research Centre Monograph No. 47. Sydney: 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.

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).* National Drug and Alcohol Research Centre Monograph No. 48. Sydney: University of New South Wales.

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.

Warner-Smith, M., Lynskey, M., Darke, S. & Hall, W. (2000). *Heroin overdose: Prevalence, correlates, consequences and interventions.* National Drug and Alcohol Research Centre Monograph No. 46. Sydney: University of New South Wales