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## Key findings

- The opioids most commonly used by the IDU sample were 'other opiates' (i.e. morphine, MST, homebake heroin) and methadone
- Forty percent of the IDU sample had used methamphetamine in the past six months
- Forty-three percent of the IDU sample had used Ritalin (Methylphenidate) in the past six months
- Thirty percent of the IDU sample had used BZP party pills in the past six months, and 32% of these users had injected BZP in the past six months
- Internationally sourced heroin was used by only 24% of the IDU sample in the past six months
- Ninety-three percent of the IDU sample had obtained their supply of needles from a Needle Exchange in the past six months
- Forty-nine percent of the IDU sample who been in prison had injected drugs while in prison
- Fifty-two percent of the IDU sample who had been tested for Hepatitis C were positive for the virus
- Thirteen percent of the IDU sample who had sex with casual partners had never used a condom
- Twelve percent of the IDU sample had accessed an ambulance in relation to their drug use in the past six months

## Frequent injecting drug use in New Zealand: Findings from the 2006 Illicit Drug Monitoring System (IDMS)

### Introduction

The Illicit Drug Monitoring System (IDMS) was established in 2005 to provide timely information on frequent drug use in New Zealand. The data collected by the IDMS is intended to be used by a wide range of people to inform appropriate responses to drug related harm. The IDMS is conducted annually as part of the National Drug Policy.

This research bulletin summarises information on the drug use patterns and injecting drug behaviour of the frequent intravenous drug user (IDU) sample interviewed for the 2006 IDMS. It is the third research bulletin from the 2006 IDMS. Previous research bulletins have summarised drug trends and drug related harm from the 2006 study. Further research findings concerning injecting drug use can be found in the main 2006 IDMS report which is available to download from the National Drug Policy website ([www.ndp.govt.nz](http://www.ndp.govt.nz)) or from the SHORE website ([http://www.shore.ac.nz/projects/idms\\_study.htm](http://www.shore.ac.nz/projects/idms_study.htm)).

### Method

A total of 93 frequent IDU from the three main centres (i.e. Auckland, Wellington and Christchurch) were interviewed for the 2006 IDMS using purposive sampling and 'snowballing' (Biernacki and Waldorf, 1981, Watters and Biernacki, 1989). The sample was recruited through the use of posters and flyers left in a range of community locations including needle exchanges, pharmacies, music shops, pubs and bars, music venues and university campuses. Interviewing took place from July to October 2006. The research protocols used in the IDMS have been approved by the Massey University Human Subjects Ethics Committee. Interviews are strictly confidential and anonymous. No person participating in the study can be identified at any later date. All participants are offered a \$20 food or petrol voucher in exchange for their time.

### Demographics

Fifty-six percent of the IDU sample was male. The median age of the IDU sample was 32 years (mean 32 years, range 16-57 years). Seventy-eight percent of the IDU sample were European and 19% were Maori. Fourteen percent of the sample identified themselves as bisexual and 5% as homosexual. Forty-five percent of the IDU sample were sick or invalid, 28% were working (i.e. either full or part time), 14% were unemployed, 6% were parenting/care-giving or doing unpaid work and 2% were tertiary students. Thirty-seven percent of the IDU sample had no educational qualifications. The frequent IDU earned a median gross annual income of \$22,500 (mean \$34,593) (\$NZ). Eighty percent of the IDU sample was assessed to be drug dependent by scoring four or more on a five item Short Dependency Scale (SDS) (see Gossop et al., 1995). Thirty-four percent of the IDU sample was currently on a methadone maintenance programme and a further 18% had been on a methadone programme in the past.

## Drug use and injecting patterns

The opioids asked about in the IDMS interview included heroin, methadone and 'other opiates'. The interviewer explained that the term 'other opiates' referred to a range of opiates diverted from the medical system including morphine, morphine sulphate tablets (MST) and Kapanol, as well as locally made 'homebake heroin', which is synthesised by users from codeine.

The IDU sample had tried a median of 15 different drug types in their lifetimes (mean 15, range 6-22) (Table 1). Those who had tried 'other opiates' had first done so at a median age of 18 years old and had first injected 'other opiates' at a median age of 19 years old. Methadone was tried and injected at a relatively later age by the IDU sample and this is likely to reflect its use in drug maintenance programmes, which users tend to enter later in their drug using careers as part of a drug treatment programme. Methamphetamine, crystal methamphetamine, and Ritalin (Methylphenidate) were also tried and injected at relatively older ages and this reflects the fairly recent popular emergence of these drug types. BZP party pills had been tried by nearly half of the IDU sample and one-third of those who had tried BZP party pills had injected them.

**Table 1: Lifetime history of drug use and drug injection of the IDU sample, 2006**

DRUG TYPE	Ever used (n = 93)	n	Median age first used	Ever injected	Median age first injected
Cannabis	100%	93	14 years	–	–
Alcohol	99%	92	13 years	–	–
Other opiates (morphine, MST, homebake, M-Eslon, Kapanol)	95%	88	18 years	97%	19 years
Tobacco	94%	87	13 years	–	–
LSD	90%	84	17 years	18%	19 years
Methadone	85%	79	22 years	92%	28 years
Benzodiazepines	85%	79	18 years	52%	23 years
Amphetamine	80%	74	18 years	61%	19 years
Ritalin (Methylphenidate)	74%	69	25 years	74%	26 years
Methamphetamine	73%	68	25 years	72%	27 years
Heroin	71%	66	19 years	98%	19 years
Ecstasy (MDMA)	70%	65	21 years	57%	23 years
Amyl nitrate	70%	65	17 years	–	–
Nitrous oxide	69%	64	22 years	–	–
Crystal methamphetamine	55%	51	25 years	75%	27 years
BZP Party pills	49%	46	27 years	37%	25 years
Cocaine	47%	44	22 years	80%	23 years
Solvents	39%	36	15 years	–	–
Ketamine	24%	22	25 years	59%	22 years
GHB	23%	21	27 years	10%	38 years
MDA	22%	20	22 years	55%	22 years
Anti-depressants	19%	18	20 years	6%	19 years
Mushrooms	13%	18	16 years	–	–

The IDU sample had used a median of seven drug types in the past six months (mean 7, range 1-16) (Table 2). Eighty-six percent of the IDU sample had smoked tobacco in the past six months and 80% had smoked cannabis in the past six months. Tobacco and cannabis were smoked at daily or near daily levels by the sample.

The opioids most commonly used by the IDU sample were 'other opiates' (77%) and methadone (74%). Ninety-six percent of those IDU who had used 'other opiates' had injected them in the past six months, with a minority of users smoking and swallowing them in the past six months. Seventy percent of those who had used methadone had swallowed it in the past six months and two-thirds had injected it in the past six months. Internationally sourced heroin was used by a quarter of the IDU sample in the past six months.

Methadone, 'other opiates' and heroin were used by the IDU sample on average approximately once every 2-3 days over the past six months. Forty-six percent of those who had used methadone in the past six months had done so on a near daily basis (i.e. used on 150 days or more in the past six months). Thirty-six percent of the 'other opiate' users and 33% of the heroin users were near daily users.

Forty-three percent of the IDU sample had used Ritalin (Methylphenidate) in the past six months and 90% of those who had used Ritalin (Methylphenidate) had injected it in the past six months. Forty percent of the IDU sample had used methamphetamine in the past six months. Eighty-one percent of the methamphetamine users had smoked methamphetamine and 70% had injected it during the past six months. Thirty percent of the IDU sample had used BZP party pills in the past six months and 32% of users had injected party pills in the past six months.

**Table 2: Prevalence of use, frequency of use and means of administration of drug types of the IDU sample in the past six months, 2006**

DRUG TYPE	Used in past six months (n = 93)	n	Mean number of days	Injected past six months	Smoked in past 6 months	Snorted in past 6 months	Swallowed in past 6 months
Tobacco	86%	80	181 days	–	–	–	–
Cannabis	80%	74	123 days	–	100%	–	11%
Other opiates (morphine, MST, homebake, M-Eslon, Kapanol)	77%	72	85 days	96%	6%	1%	15%
Methadone	74%	69	92 days	64%	–	–	70%
Alcohol	68%	63	48 days	–	–	–	–
Benzodiazepines	57%	53	43 days	11%	–	–	98%
Ritalin (Methylphenidate)	43%	40	41 days	90%	3%	13%	15%
Methamphetamine	40%	37	43 days	70%	81%	8%	8%
BZP Party pills	30%	28	6 days	32%	0%	4%	79%
Ecstasy (MDMA)	29%	27	6 days	44%	0%	4%	79%
Heroin	24%	22	71 days	100%	14%	0%	5%
Crystal methamphetamine	24%	22	42 days	68%	59%	18%	9%
Nitrous oxide	22%	20	7 days	–	–	–	–
LSD	20%	19	3 days	16%	0%	–	100%
Amphetamine sulphate	18%	17	19 days	71%	12%	35%	24%

## Supply of needles

The frequent injecting drug users were read a list of people and places from which they may have obtained a needle and were asked to indicate if they had obtained a needle from any of these people or places in the past six months. Ninety-three percent of the IDU sample had obtained needles from a Needle Exchange in the past six months. Pharmacies (47%), after hour electronic needle dispensers operated by the Needle Exchange (37%), and friends (34%) were also common people and places from which needles were obtained. One in seven of the IDU sample (15%) had obtained a needle from a drug dealer in the past six months.

## Sharing of needles and injecting equipment

Eighty-eight percent of the IDU sample had never used a needle after someone else in the past six months. Four percent of the IDU sample had used a needle after someone else on two or more occasions in the past six months. Sixty three percent of the IDU sample had never used injecting equipment after someone else in the past six months. The injecting equipment most commonly used after someone else were spoons/mixing container (43%), tourniquet (34%) and 'dregs' (21%). Sixty-three percent of the IDU sample had used a new sterile needle every time they injected a drug in the past six months.

## Places where drugs were injected

The frequent injecting drug users were read a list of places where they may have injected drugs and were asked to indicate whether they had injected drugs at any of these locations in the past six months. User's own home (91%) and their friends' homes (73%) were the most common places where drugs had been injected. Drugs were also injected in a number of other locations in the past six months including a car (39%), public toilet (24%), venue toilet (e.g. pubs/clubs) (17%), 'street, park or beach' (12%) and communal 'shooting' room (8%).

## Injection while in prison

Thirty-eight percent of the IDU sample had been in prison at some time during their lifetime and 9% had been in prison in the past 12 months. Forty-nine percent of the IDU sample who had ever been in prison had injected drugs while in prison.

## Safe sexual practices

Seventy-five percent of the IDU sample had penetrative sex with at least one person in the past six months. Forty-six percent of the IDU sample who had sex in the past six months had done so with a 'casual partner'. Sixty-three percent of the IDU sample who had sex with casual partners had used 'condoms/dams or gloves' on every occasion in the past six months. Thirteen percent had 'never' used 'condoms/dams or gloves' when having sex with casual partners in the past six months. A further 16% had only 'sometimes' used 'condoms/dams or gloves' when having sex with casual partners in the past six months.

## Blood borne viruses

The frequent IDU sample were asked whether they had been tested for Hepatitis B & C, and what their current infection status was. Twenty-five percent of the IDU sample reported that they had been vaccinated against Hepatitis B and had completed the programme schedule. Seventy percent of the IDU sample had been tested for Hepatitis B (42% in the past year). Three percent of the IDU sample who had been tested for Hepatitis B reported being a carrier of the virus. Eighty-four percent of the IDU sample had been tested for Hepatitis C (57% in the past year). Fifty-two percent of the IDU sample who had been tested for Hepatitis C reported being positive for the virus. Eighty-three percent of the IDU sample had been tested for HIV (39% in the past year). None of the IDU sample reported being positive for the HIV virus.

## Accessed health services

The frequent IDU sample were asked what health services, if any, they had accessed 'in relation to their drug use' in the past six months. Thirty-six percent of the IDU sample had visited a General Practitioner in relation to their drug use in the past six months (Table 3). Thirteen percent of the sample had visited an Accident and Emergency Department, 12% had used an ambulance and 10% had been admitted overnight to a hospital in relation to their drug use in the past six months.

**Table 3: Health services accessed by the IDU sample in relation to drug use in the past six months, 2006**

HEALTH SERVICE	Injecting drug users (n = 92)
Drug and Alcohol worker	39%
General Practitioner	36%
Accident and Emergency	13%
Ambulance	12%
Counsellor	11%
Hospital (admitted)	10%
First Aid	10%
Psychiatrist	8%
Psychologist	5%
Social worker	4%

## Discussion

This research bulletin presents a summary of the drug use and drug injecting behaviour of the IDU sample of the 2006 IDMS. The value of this data on injecting drug use will increase with the completion of future annual waves of the IDMS which will allow the examination of trends in these behaviours over an extended period of time. Monitoring the health and injecting behaviour of a country's IDU population is an important component of the public health response to blood borne viruses, such as Hepatitis C and B and HIV (see Dolan et al., 2005).

The findings concerning the drug use patterns of injecting drug users support the understanding that pharmaceutically sourced opioids, such as morphine, methadone and 'homebake heroin', are the main opioids currently used in New Zealand. Internationally sourced heroin was used by only a quarter of the IDU sample in the past six months. In contrast, the 2006 Illicit Drug Reporting System (IDRS) found heroin was used by 56% of a national Australian IDU sample in the previous six months (see O'Brien et al., 2006). Methadone and Ritalin (i.e. Methylphenidate) were also commonly used and injected by the IDU sample in New Zealand. Methadone and Ritalin can be prescribed to individuals to be taken orally as part of a drug treatment or medical programme, but the level of injection of these drug types by the IDU sample indicates recreational rather than medical use.

The emergence of methamphetamine in New Zealand since the late 1990s (see Wilkins, 2002, Wilkins et al., 2002) does appear to have influenced the drug use patterns of the IDU population in New Zealand. Forty percent of the IDU sample of the 2006 IDMS had used methamphetamine in the past six months. It is not clear from our findings whether the level of methamphetamine use by the IDU sample represents experienced IDU taking advantage of the greater availability of methamphetamine, or primary methamphetamine smokers changing their mode of administration to injection to overcome increasing tolerance and to economise on the cost of the drug. This research question potentially has serious public health implications. If younger primary methamphetamine users are increasingly opting to inject methamphetamine then this could change the demographic profile of the IDU population in New Zealand, which otherwise appears to be aging (Brunton et al., 2005). These new younger injecting methamphetamine users may have less contact with established needle support networks, such as Needle Exchanges, and consequently may be more likely to be involved in unsafe injection practices and the spread of blood borne viruses. Alternatively if existing IDU are increasingly using methamphetamine (either injecting or smoking it) rather than traditional opioids, then they may be at greater risk of unsafe sexual behaviour and spreading blood borne viruses as a result of the stimulating effects of methamphetamine on sex drive and the existing high rates of infection of Hepatitis C within the IDU population (see Rawson et al., 2002, Semple et al., 2004, Yen, 2004). The effects of Ritalin are somewhat similar to cocaine (Russell et al., 2003), and consequently the level of injection of Ritalin by the IDU sample may also contribute to these public health risks.

The New Zealand Needle Exchange has previously participated in a number of surveys of IDU populations in New Zealand. Seroprevalence surveys of people attending Needle Exchanges were conducted in 1997, 1998 and 2004 (Kemp and MacDonald, 1999, Brunton et al., 2005). We included a number of the questions from the 2004 seroprevalence survey in the IDMS interview. There are some methodological differences between the IDMS and seroprevalence surveys. The IDMS recruits injecting drug users from a range of community locations including Needle Exchanges, while the seroprevalence surveys were solely of Needle Exchange clients. The IDMS consists of a face-to-face interview while the seroprevalence questionnaire was self-completed

by the participant (with assistance available when required). The questions in the IDMS interview refer to events in the past six months while the questions in the seroprevalence interview ask about events in the past month. The methodological differences between the IDMS and seroprevalence surveys prevent any direct statistical comparisons. However, the findings from the 2006 IDMS provide an opportunity to discuss any convergence in evidence compared to previous seroprevalence surveys. Direct statistical comparisons of IDU behaviour will be possible with future waves of the IDMS and future waves of seroprevalence surveys. A further wave of the seroprevalence survey is planned for 2008.

Most of the IDU sample of the 2006 IDMS have been tested for HIV, and Hepatitis B and C at some point during their lifetimes, although lower proportions of the sample had been tested in the past year. The levels of testing for blood borne viruses in the IDU sample of the 2006 IDMS were similar to levels of testing found in the 2004 seroprevalence survey of Needle Exchange clients (see Brunton et al., 2005). The self reported levels of Hepatitis C infection were similar in both the 2006 IDMS and the 2004 seroprevalence survey (52% in the 2006 IDMS vs. 57% in the 2004 seroprevalence). Twenty-five percent of the IDU sample of the 2006 IDMS compared to 34% of the 2004 seroprevalence survey had been vaccinated against Hepatitis B. The seroprevalence surveys include the testing of participants' blood for blood borne viruses. When these test results were compared to self reported levels of infection for the 2004 seroprevalence data there appeared to be an underreporting of Hepatitis C infection (57% self reported vs. 70% from testing), an underreporting of past Hepatitis B infection (11% vs. 22%) and an over-reporting of immunity to Hepatitis B from vaccination (34% vs. 17%) (see Brunton et al., 2005). The self reported levels of blood borne virus infection among the IDU sample of the 2006 IDMS should be interpreted with this level of underreporting in mind.

There is evidence from the IDU sample of the 2006 IDMS and the 2004 seroprevalence survey of fairly good levels of safe injection practices in New Zealand. Similar proportions of the IDU sample from the 2006 IDMS and the 2004 seroprevalence sample had never used a needle after someone else (88% vs. 85%). A higher proportion of the IDU sample of the 2006 IDMS compared to the 2004 seroprevalence survey had used a new sterile needle on every occasion (63% vs. 50%). Sixty-three percent of the IDU sample from the 2006 IDMS compared to 60% of the 2004 seroprevalence sample had never shared injecting equipment. Nearly all the IDU sample from the 2006 IDMS and 2004 seroprevalence sample had obtained needles from a Needle Exchange (93% and 95%). A minority of the IDU sample from the 2006 IDMS had obtained their needles from a drug dealer and this raises some concerns about the safety of this needle supply.

There are currently no needle exchange services offered in New Zealand prisons. The IDMS and seroprevalence surveys indicate that many IDU continue to inject while in prison with potential implications for the transmission of blood borne viruses among users, their partners and families, and the wider community. Similar proportions of the IDU sample from the 2006 IDMS and the 2004 seroprevalence sample had been in prison at some time during their lifetimes (38% vs. 45%), and an identical proportion had been in prison in the past 12 months (9% for both). Similar proportions of both survey samples reported injecting drugs while in prison (49% of the IDMS vs. 40% of seroprevalence). The 2004 seroprevalence study found an association between prison history and Hepatitis C infection with 80% of those imprisoned testing positive for Hepatitis C compared to 61% of those who had never been in prison (see Brunton et al., 2005, p.10).

Thirty percent of the IDU sample from the 2006 IDMS had used BZP party pills in the past six months and one third of these BZP users had injected BZP in the past six months. Previous research on BZP use in New Zealand has not identified the injection of BZP as a common occurrence (see Sheridan et al., 2007, Wilkins et al., 2006, 2007). A household survey of BZP party pills conducted in early 2006 found only one respondent who reported they typically injected their BZP party pills (0.6%) (Wilkins et al., 2006, 2007). Three respondents in the national household survey (1.2%) reported having ever injected BZP party pills. The legal status of BZP party pills and their resulting ready availability and low price relative to illegal alternatives may explain the attraction of BZP for IDU populations. BZP is a stimulant with characteristics similar to low potency amphetamine (Bye et al., 1973, Campbell et al., 1973). The government is currently in the process of passing legislation to ban BZP (see Anderton, 2007) and it will be interesting to track the extent to which BZP remains a drug of choice for the IDU population in New Zealand in future years.

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