

**SEX, DRUGS AND VIRUSES IN SIN CITY
SYDNEY, 1994**

**Report of the Australian Study of HIV and Injecting
Drug Use
(ASHIDU)**

Scott Rutter, Kate Dolan and Alex Wodak

Technical Report No. 37

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July 1996

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SYDNEY ASHIDU INVESTIGATORS

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We thank Neil Donnelly for advise on statistical analysis in this report.

GLOSSARY OF TERMS

Homebake	An opiod illegally manufactured from codeine based pharmaceuticals. Homebake is most commonly used in Western Australia.
FitPack	A hard cover packet of three, five or ten needles and syringes which incorporates features designed to enable the syringes to be "locked in" so they cannot be removed for re-use or cause injury. FitPacks are available from needle and syringe exchange programs and chemists.
2X2X2 Method	A syringe cleaning method in which bleach and cold water are used in cleaning cycles (ie. twice with water, twice with bleach and twice again with water, with bleach recommended to be in contact with the syringe for a minimum of 30 seconds) to decontaminate injecting equipment. The efficacy of this method is currently under review.
White King	A popular brand of bleach used to clean injecting equipment.
Home brand	Unspecified brands of bleach.

EXECUTIVE SUMMARY

This study involved a quite significantly disadvantaged population. The typical respondent was a thirty year old single, unemployed male who had limited schooling, lived in eastern Sydney at the time of the study but was also highly mobile. It is encouraging that the prevalence of HIV infection among female and heterosexual male respondents was only 3%. This is in line with numerous other studies in Sydney and elsewhere in Australia. However, more than two thirds of the Sydney respondents were infected with hepatitis C and almost one quarter have been exposed to hepatitis B. These figures are higher than other parts of Australia. They may reflect the fact that the Sydney sample was somewhat older and started injecting at a younger age. It is clear from this study that much more effort will be required to overcome the challenge of controlling hepatitis C infection in this population.

The Sydney respondents were more likely to have began injecting earlier than their counterparts in other cities and more likely to inject heroin or cocaine rather than amphetamines. Almost all respondents were polydrug users. The high prevalence of tobacco use in this population will undoubtedly worsen their health outcomes. It is encouraging that the Sydney respondents had a significantly lower prevalence of alcohol use than respondents from other cities.

In this study, respondents injected drugs on average 46 ± 61 occasions during the previous month. It is particularly gratifying that this study demonstrates a continuing decline in the proportion of injections involving unsafe practices. In 1985, two studies were conducted in Sydney with sharing of injection equipment reported by about 95% of respondents (Crofts et al, 1996). In this study conducted in Sydney about a decade later, almost 90% of Sydney IDUs reported not sharing injection equipment. This suggests that the norm of sharing injecting equipment in 1985 has changed in a decade to a norm of not sharing injecting equipment. Although some of this change may represent the difficulty injecting drug users have admitting to sharing today, there can be little doubt that a major reduction in risk behaviour has occurred. This reduction appears to be more marked in Sydney than elsewhere in Australia, possibly because of the many years of intensive education and early and extensive implementation of prevention measures.

Sydney respondents were more likely to inject alone than their counterparts in other cities. This may reflect an attempt to reduce the risk of sharing and becoming infected with blood borne viruses. However, injecting alone may increase the risk of a fatal outcome from an overdose.

An higher proportion of Sydney injecting drug users reported injecting in public places and injecting rooms than their counterparts in other cities. One in four respondents in Sydney reported that their last injection took place in a street, park or injecting room. It is possible that the establishment of legally sanctioned injecting rooms, as recently recommended for consideration by the NSW Premier (Sharp, 1996) could result in a further reduction in risk behaviour. Major reductions in risk taking practices by IDUs are required not just to keep HIV under control but to substantially reduce and possibly control the spread of hepatitis C in this population.

The high utilisation of needle exchanges and pharmacies is very gratifying and consistent with the reduction in risk behaviour documented in this population. These facilities seem to provide a good service. In general, IDUs appear to be well aware of their responsibilities when disposing of used injection equipment.

It is curious that these major reductions in risk behaviour have occurred among injection drug users in Sydney even though most respondents in this study greatly underestimated their risk of becoming infected with either HIV, hepatitis B or hepatitis C. Some perceived correctly that they were more at risk of hepatitis B and hepatitis C than HIV.

The high level of testing for HIV provides further confidence that a major undetected outbreak of HIV in this population is unlikely to occur. However, the high level of testing for HIV, hepatitis B, and hepatitis C suggest that either the respondents are more concerned about their risk of blood borne viral infections than they are prepared to own up to or the health care system they interact with encourages regular and possibly excessive testing. It is disappointing that the rate of hepatitis B vaccination in this population is still so low. With such a high prevalence of hepatitis B and such low levels of hepatitis B vaccinations, substantial sexual transmission of this virus is inevitable.

Sydney IDUs according to the data in this study mainly live in fairly impoverished circumstances. Although supported by reasonable social networks, many of their close friends are also IDUs. Few have encountered more than a handful of other IDUs infected with HIV. Yet their evidence of close linkages between respondents in this study and homosexual male IDUs suggests the possibility of a bridge for HIV infection ultimately reaching the general population.

The respondents in this study had an average annual income of \$36,000 of which they spent about \$16,000 on illicit drugs. In total, the 219 respondents spent over \$3.5 million a year on illicit drugs and derived about \$2.7 million from property crime, fraud and the sale of drugs. If this is extrapolated to the estimated 172,000 heroin injectors nation wide, annual expenditure on illicit drugs would be \$2.7 billion and an annual income of \$2.1 billion would be derived from crime.

Almost three quarters of respondents had attended a doctor in the previous month. Many had attended health and welfare professionals. About 90% had wanted to change their drug use with three quarters reported that their drug use had caused problems. Over half were in treatment with 90% of these in methadone treatment which had lasted, on average, for two and a half years. Another (almost) one third had previously been in methadone treatment. The reported doses of methadone received was well in the effective range. These results suggest that there is a major demand for treatment which is currently being met mainly by methadone. Law enforcement seems to have provided little impetus to change or enter drug treatment. Almost one third had tried self-help to improve their situation while over one in five have undergone detoxification. Family and friends were clearly another important source of assistance.

Contact with other drug users was the most commonly cited single factor which precipitated a decision to leave treatment among both those who regarded treatment as being helpful as well as those who regarded it as unsuccessful. This raises the possibility that increasing the provision of methadone in general practice and community pharmacies will improve outcomes from this treatment. Lack of follow up was identified by one in six respondents as a major factor for their lack of success. This is remediable at least potentially. It is difficult to avoid the conclusion that a large proportion of these respondents are unhappy about their drug use and have tried many times and in many ways to bring their lives under control. The many IDUs who have benefited from interacting with treatment (or self help) and have not relapsed would not, of course, be eligible for recruitment in this study.

This study also adds further confirmation that drug overdose is a very common experience among drug users. Two thirds have personal experience with a previous overdose. It is disappointing that only one in eight attribute a previous overdose to polydrug use. These data also suggest that official statistics under represent the incidence of overdose as a considerable proportion of these events were not reported to officials. One third of respondents had been present at a previous fatal overdose.

Over half the respondents reported switching from non-injecting routes of administration to injecting but only one in five of the total population reported a transition in the reverse direction. The factors responsible for a transition to injecting seem powerful and easily identifiable while the factors responsible for a reverse transition seem less powerful and more difficult to identify.

Only one in three respondents were aware of the existence of an organisation for drug users while only half of these respondents had come into contact with a user organisation. However, those who had contacted their local drug user organisation reported benefit in general.

Two thirds of these respondents had experienced imprisonment before turning twenty. The most recent imprisonment had lasted for almost one year. Over half had been imprisoned for an offence directly related to drugs while the remainder was imprisoned for offences that were indirectly related to drug use. Over one third of respondents with a prison history had been on methadone treatment when last in prison. Of those who had previously been in prison, over 40% reported injecting during their last period of incarceration. 56% of those who had injected during their last period in prison reported sharing. While the practice of sharing is becoming much less common among IDUs in the community, the prevalence of injecting inside prison remains very high. It is also known that drug injectors sharing in prison do so with a much larger number of partners than in the community.

In summary, this study documents the reduction in risk behaviour which has enabled tight control to be kept over HIV infection in this population. However, the prevalence of hepatitis C and hepatitis B among injecting drug users in Sydney and elsewhere in Australia remains unacceptably high. The incidence and outcome from drug overdose are disturbing. These data show much cause for concern. The provision of sterile injection equipment appears to be working well. Drug treatment is

clearly reasonably available and relatively attractive. Nevertheless, this study points to some grounds for improvement.

Major studies of this kind are now being done less frequently in Australia. They are being supplemented by more frequent but far less detailed studies which help to monitor risk behaviour and the prevalence of blood borne viral infections. Although these major and more detailed studies consume considerable resources, they also provide a large quantity of very valuable information which is not other wise obtainable.

INTRODUCTION

This is a report of the Sydney component of the Australian Study of HIV and Injecting Drug Use (ASHIDU). A report of the entire study, comprising Sydney, Melbourne, Adelaide and Perth (Loxley et al, 1995) and a report on the findings in Perth (Bevan et al, 1996) have already been published. A summary of the entire study appears as an appendix.

There are many reasons why the authors believe it was important to publish a separate report of the Sydney component. Sydney is the largest city in Australia. It remains the epicentre of the HIV epidemic in Australia. About 65% of known HIV infections and 59% of reported AIDS cases occur in New South Wales. Sydney is also the major national centre for illicit drug distribution and illicit drug use.

The major areas associated with HIV infection in Sydney are in the eastern suburbs and inner city. This corresponds roughly with the areas in Sydney most associated with illicit drug use. Because of the similar geographic distributions of large numbers of HIV infected homosexual males and injecting drug users at risk of HIV infection, many of the national initiatives to control the spread of HIV infection among and from injecting drug users have commenced in Sydney.

More research has been conducted on HIV infection among injecting drug users in Sydney than elsewhere in Australia (Crofts et al, 1996). Therefore, this report can be compared and contrasted with a larger body of research material than elsewhere in Australia.

This research study was undertaken at time when national public health concerns about injecting drug users were making a transition from a preoccupation with prevention of spread of HIV infection to additional issues including the control of other blood borne viruses (such as hepatitis C and hepatitis B) and attempts to reduce the incidence and improve the outcomes from drug overdose.

During the last few years it has become apparent that the likelihood of an uncontrolled epidemic of HIV among and from injecting drug users in Australia was remote. However, the large body of research prompted by this fear documented a number of other important and unacceptable outcomes. We trust that this research benefits the health and welfare of those citizens of Australia who inject drugs. We trust that this report will also be of assistance to the far more numerous citizens of Australia who do not inject drugs but support facilities for those who continue to inject drugs.

METHODOLOGY

The data contained in this report was collected as part of the Australian Study of HIV and Injecting Drug Use (Loxley et al, 1995). The study was designed to provide cross sectional, multi-city data on injecting drug users knowledge and behaviours pertinent to risks of acquiring HIV or other blood borne viral infections.

Data was collected using a questionnaire which was designed based on the ANAIDUS-Q (Darke et al., 1991) questionnaire. The ASHIDU questionnaire also included the drug use sub-scale of the HIV Risk-Taking Behaviour Scale (Darke et al., 1991) and questions for quantity-frequency evaluations based on the Opiate Treatment Index (Ward et al., 1990).

Blood samples were also collected from consenting respondents to test for the presence of antibodies to HIV and, if possible, hepatitis C and hepatitis B. Blood spots were taken using a Gucolet and disposable lancet and absorbed on to prepared blotting paper. Three blood spots (10 drops) were needed to test for antibodies to all three viruses. Normal infection control procedures were followed when collecting samples. Testing was performed at the National Reference Laboratory at Fairfield Hospital.

A stratified sample of approximately 220 subjects was recruited in each of the study sites (Sydney, Perth, Melbourne and Adelaide). The stratifications were to ensure adequate numbers (33%) of under represented populations which included women, respondents under 25, respondents with no drug treatment history and respondents from outer suburbs. Recruitment also specified no fewer than 200 heterosexuals represented in the sample in each city. This requirement was limited due to the greater than expected number of bisexuals responding to recruitment.

All respondents were current injectors who had injected drugs in the past three months and were competent in the use of the English language. Respondents were eliminated if they had apparently active psychosis or were visibly intoxicated.

In Sydney 12 interviewers were trained of whom three were used for the month of July and the beginning of August. Most interviews (134) were done by one interviewer who had the most time available to work on this study.

Letters giving details of the study and requesting permission to recruit respondents were initially sent to five methadone clinics, one needle and syringe exchange, one IDU Organisation, a community health centre and an inner city hostel for young drug users. All agencies were willing to participate and an interviewer (non-user, some interviewing experience) was sent to an inner city methadone clinic to approach people consecutively as they entered the waiting area. The majority were willing to be interviewed. Interviewing was carried out in a private office.

The second interviewing site, chosen to recruit non-treatment respondents, was a church administered inner city coffee shop. Clientele were mainly "street people". The interviewer approached clients at random after initially speaking to staff about

details of the study. In both cases, staff were helpful and provided a room or semi-private area for interviewing.

Finally, in an effort to recruit respondents under the age of 25, a flyer was displayed at a drop in youth centre and staff provided with written information about the study. This venue yielded 16 respondents.

The second interviewer (an IDU with interviewing experience) recruited approximately 15 respondents through a network of friends and acquaintances. He was given five questionnaires at a time to return when completed and was considered a useful contact due to his personal contact with a large network of people believed to have had minimal contact with agencies.

The third interviewer (a non-IDU with some interviewing experience) was based at a methadone clinic in Sydney's western suburbs. Staff were initially informed in writing, clearance obtained and particular days arranged. This source yielded 33 treatment respondents but was not very useful for contact with non-treatment respondents. Further information on recruiting at other study sites is detailed in the national report (Loxley et al, 1995).

Data was coded according the interview manual and reviewed by the state supervisor. Data was entered into SPSS at the National Co-ordination Centre in Perth and raw data files were forwarded to the National Drug and Alcohol Research Centre for analysis of the New South Wales data.

Data presented in this report was analysed using SPSS for Windows. Data from Adelaide, Melbourne and Perth was combined for comparison with Sydney data. Logistic regressions were run on categorical data to determine consistent significant differences between the Sydney sample and the samples from each of the other cities. Linear regressions were run to determine significant differences on continuous data. Statistical significance is noted in text where Sydney respondents differed consistently with the other three cities.

DEMOGRAPHIC CHARACTERISTICS

The total Sydney sample of 219 respondents consisted of 144 (66%) men, 72 (33%) women and 3 (1%) transsexuals.

The mean age of respondents was 30 ± 7 years (range 15 to 49 years). The distribution of age in the sample is shown in Figure 1.

Figure 1. Age distribution of respondents

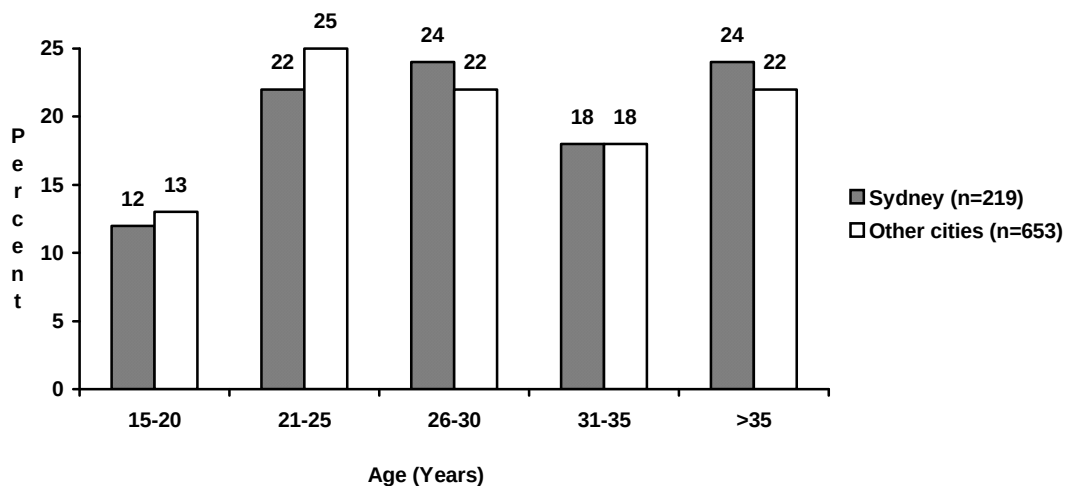


Figure 1 shows that 46% of the sample were between the ages of 21 and 30 years with 24% over the age of 35. Similar age distributions are noted for the other cities in the study. As the sample was stratified by age, it cannot strictly be compared with other studies where the mean age has usually been a couple of years younger.

“What is your residential postcode?”

All 219 respondents in the sample provided a postcode of residence. The majority (69.3%) of respondents were from the Eastern and Central Sydney Health Area. Approximately 29% recorded postcodes in the Southwestern and Western Health Areas.

“How many addresses have you lived at in the past 12 months?”

Sydney respondents had an average of 3 ± 4 addresses (range from 1 to 30) in the past 12 months which was similar to numbers reported by respondents from the other cities. These data remind us that although the sample mainly resided at present in the Eastern suburbs of Sydney, they were extremely mobile.

“Are you currently single or married?”

“How many children do you have?”

“How many of your children are financially dependent on you?”

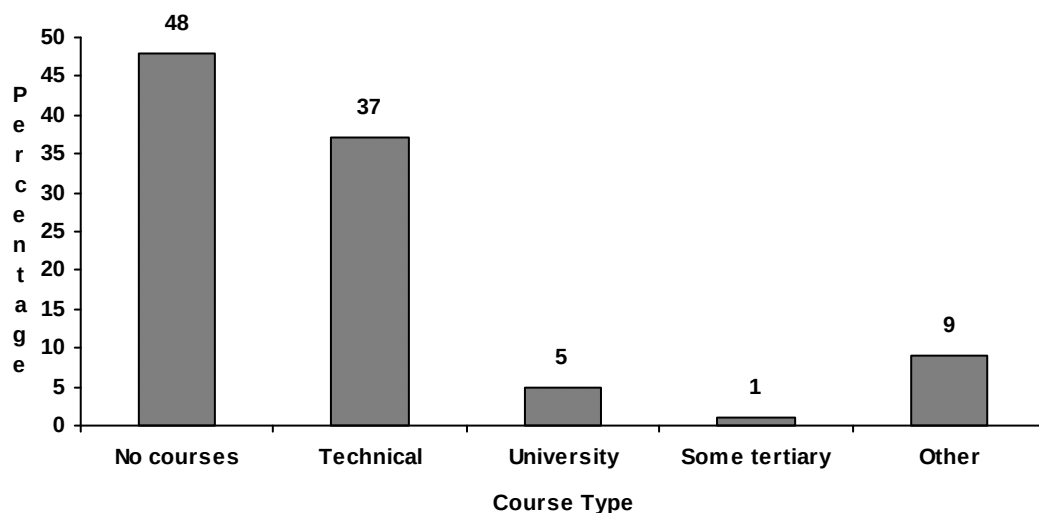
Sixty eight percent of the sample were single. Approximately half (48%) of the sample had children. Among respondents with children, the mean number of children was 1 ± 1 (range from 1 to 6). Over half (58%) of the parents in the sample had no children financially dependent on them. The majority of parents had 1 or 2 dependent children.

“How many years of high school have you completed?”

“Have you completed any courses since you left school?”

The mean number of completed highschool years was 3 ± 2 (range 0 to 6 years). Figure 2 shows the distribution of respondents who completed courses since leaving school.

Figure 2. Courses completed since leaving school

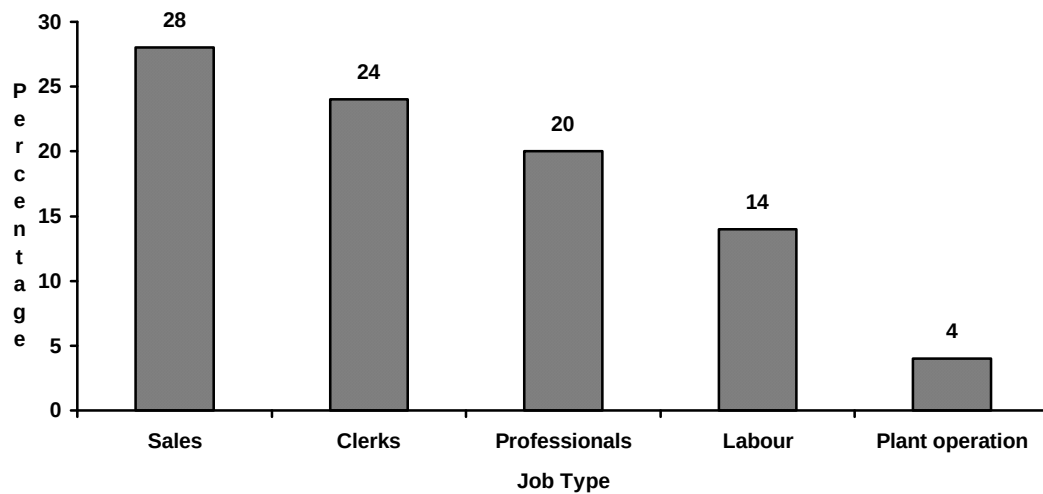


“Are you employed at the moment?”

“What is your current job?”

“What is your main source of income?”

Only 32 (15%) of the sample were employed at the time of interview. Among those who were employed, 53% ($n=32$) reported that they were engaged in part time or casual employment. The types of employment are listed in Figure 3. Approximately 80% of the sample received benefits or some type of pension while 5% received their main income from illegal activities. Unemployment in NSW in 1994 was about 11% with a higher percentage of unemployment in younger populations.

Figure 3. Current job type

“Are you of Aboriginal or Torres Strait Island descent?”

“What country were you born in?”

“What is the main language spoken at home?”

Twenty-nine (13%) of the sample indicated Aboriginal or Torres Strait Island descent which was a higher percentage than reported in other cities. Aboriginal and Torres Strait Island populations were 1% of the general population in New South Wales in the 1991 census. Figure 4 displays the countries of birth of respondents. Figure 5 displays the primary languages spoken in respondents' homes.

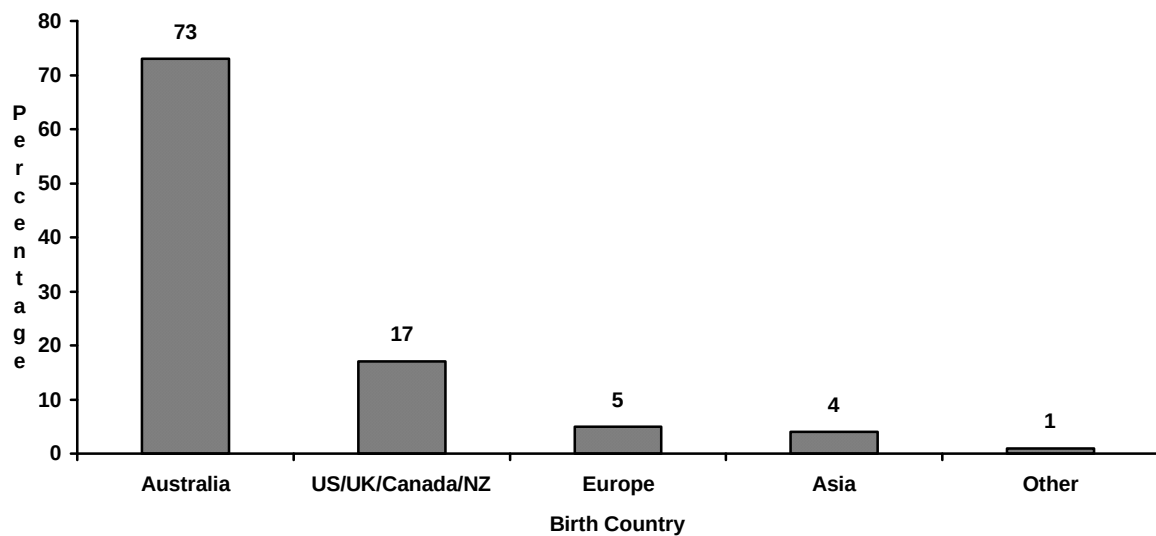
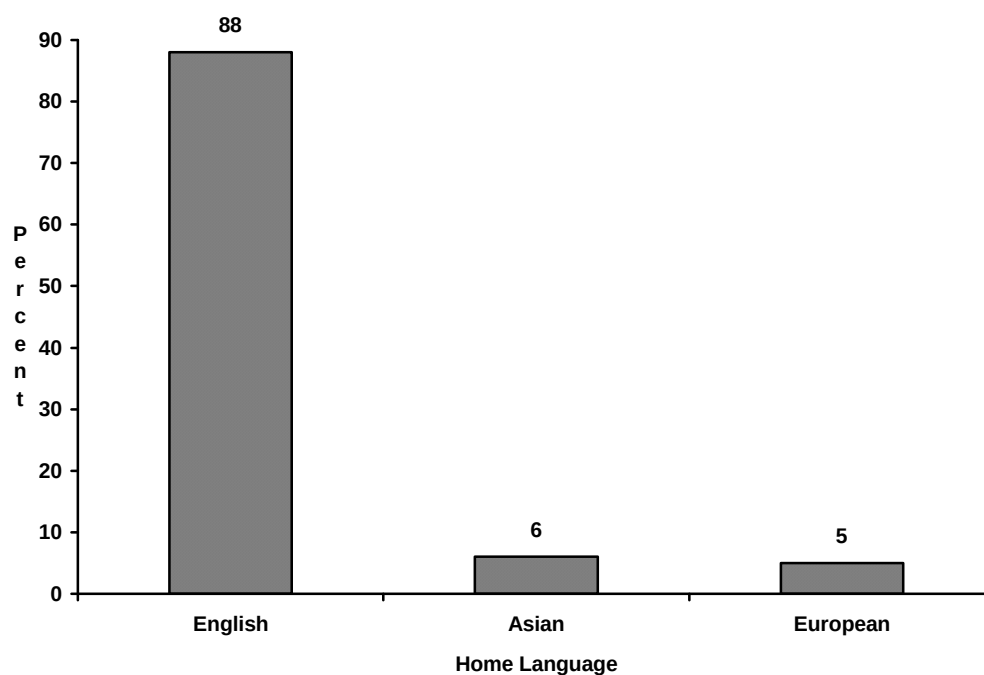
Figure 4. Country of birth

Figure 5. Language spoken at home



Results of HIV, hepatitis C, and hepatitis B blood tests

Blood samples obtained by finger prick were requested from all participants. 212 participants (97%) of the Sydney sample agreed to provide a blood sample for the study. Blood samples were tested by enzyme immunoassay for HIV and hepatitis C antibody markers. The marker for hepatitis B virus was the core antigen. Sufficient serum was obtained to enable hepatitis C tests in 200 (91%) and hepatitis B tests in 164 (75%) of the sample. The seroprevalence of these viruses is shown in Table 1 compared with other cities in the study.

Table 1. HIV, hepatitis C, hepatitis B seropositive results

	Reactive Respondents	
	Sydney %	Other cities %
*HIV	(n=212) 7	(n=620) 2
**Hepatitis C virus (HCV)	(n=200) 70	(n=588) 50
Hepatitis B virus (HBV)	(n=164) 24	(n=434) 17

* OR=3.6, 95% CI=1.5-8.4, p<.01

** OR=2.3, 95% CI=1.6-3.3, p<.001

Sydney respondents had a higher seroprevalence for HIV, hepatitis B and hepatitis C. However, six of the fourteen respondents with HIV antibodies also described themselves as gay. HIV seroprevalence among Sydney respondents describing themselves as gay or bisexual was 38% and 3% among female and other male respondents.

A higher seroprevalence of hepatitis C among NSW IDUs compared with other states was also detected in a recent study of attenders at needle exchanges (M. MacDonald, personal communication 1996).

COMMENT:

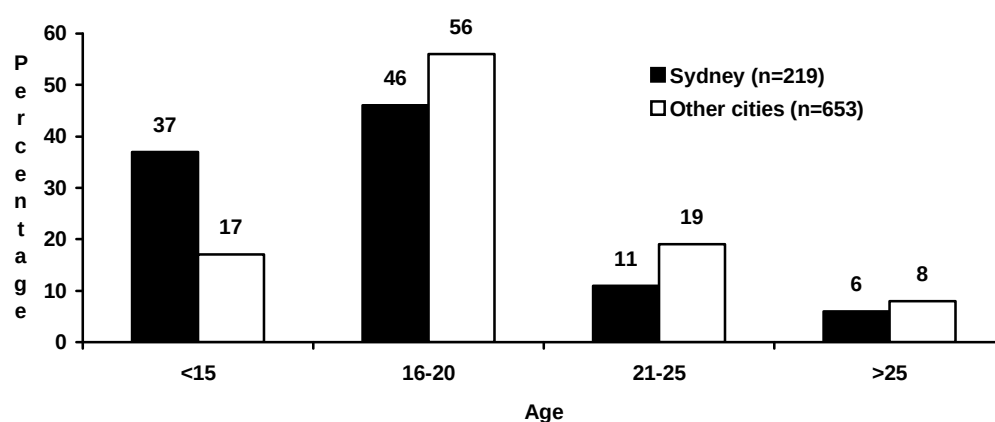
The typical Sydney respondent was a 30 year old single, unemployed male with three completed years of high school, living currently in Eastern Sydney but at 3-4 different addresses over the previous 12 months. Almost three quarters of respondents were born in Australia while almost 90% spoke English at home. About 3% of female and heterosexual male respondents were HIV positive which is significantly higher than the 1% seroprevalence reported in other cities in this study and other studies in this country ($p < 0.05$; $CI = 1.15$). Over two thirds of Sydney respondents were hepatitis C positive and almost one quarter were hepatitis B positive. This is higher than other parts of Australia and may reflect the fact that the Sydney sample was a little older. As such a high proportion of older IDUs are already infected with hepatitis C, monitoring hepatitis C prevalence in younger IDUs is required to detect any reduction in transmission.

DRUG USING BEHAVIOUR

“How old were you when you first injected a drug?”

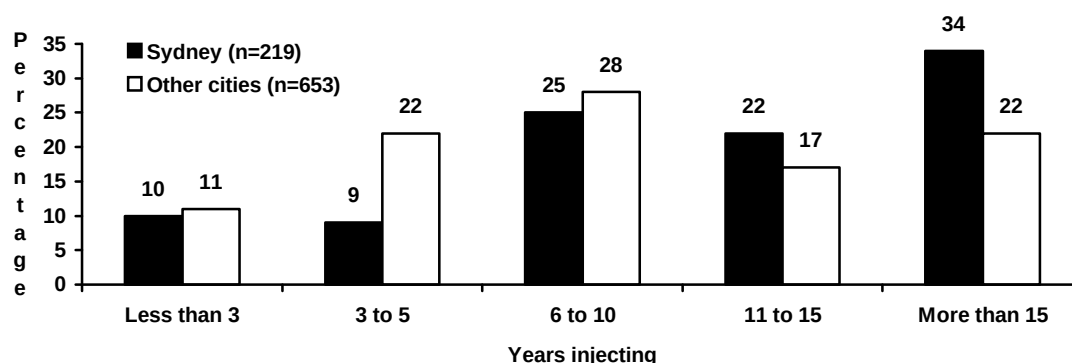
The mean age of first injection within the sample was 17 ± 4 years (range from 8 to 35 years) which was significantly lower than the mean age for the other cities ($t_{870} = -4.58$, $p < .001$). Figure 6 shows the distribution of age at first injection compared with other cities in the study. The mean age of first injection in other cities was 19 ± 4 with a range from 9 to 48 years.

Figure 6. Age of first injection



The age reported for first injection was also used to calculate the number of years each respondent has been injecting. A mean of 12 ± 7 years since first injection (range 0 to 30 years) was calculated for Sydney respondents. This was significantly longer ($t_{869} = 4.13$, $p < .001$) than the mean of 10 ± 7 years since first injection (range 0 to 40 years) calculated for respondents from the other cities. Figure 7 compares the years injecting for Sydney and the combined samples from other cities.

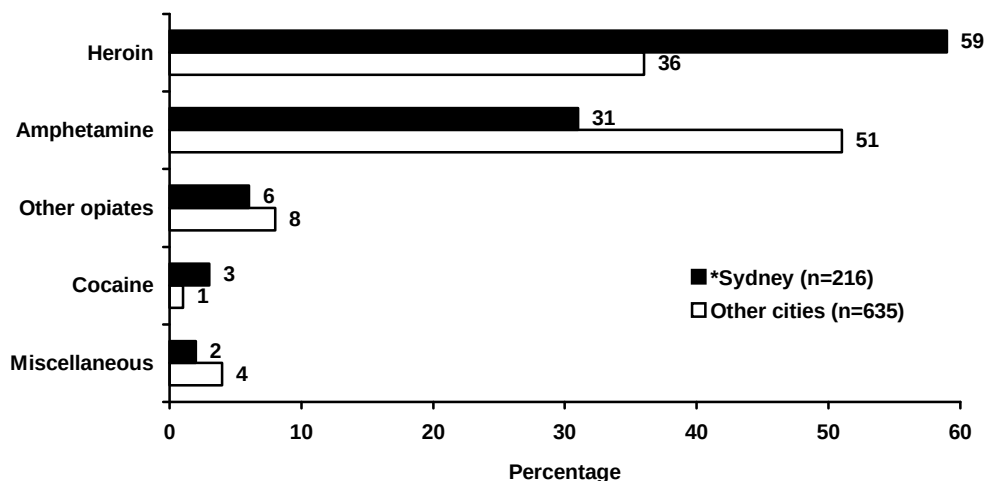
Figure 7. Years since first injection



“What drug did you first inject?”

More Sydney respondents reported first injecting heroin or cocaine while a higher percentage of respondents from other cities reported first injecting amphetamine, other opiates and other drugs such as hallucinogens and ecstasy. The results are summarised in Figure 8.

Figure 8. Drug first injected



* $p < .001$

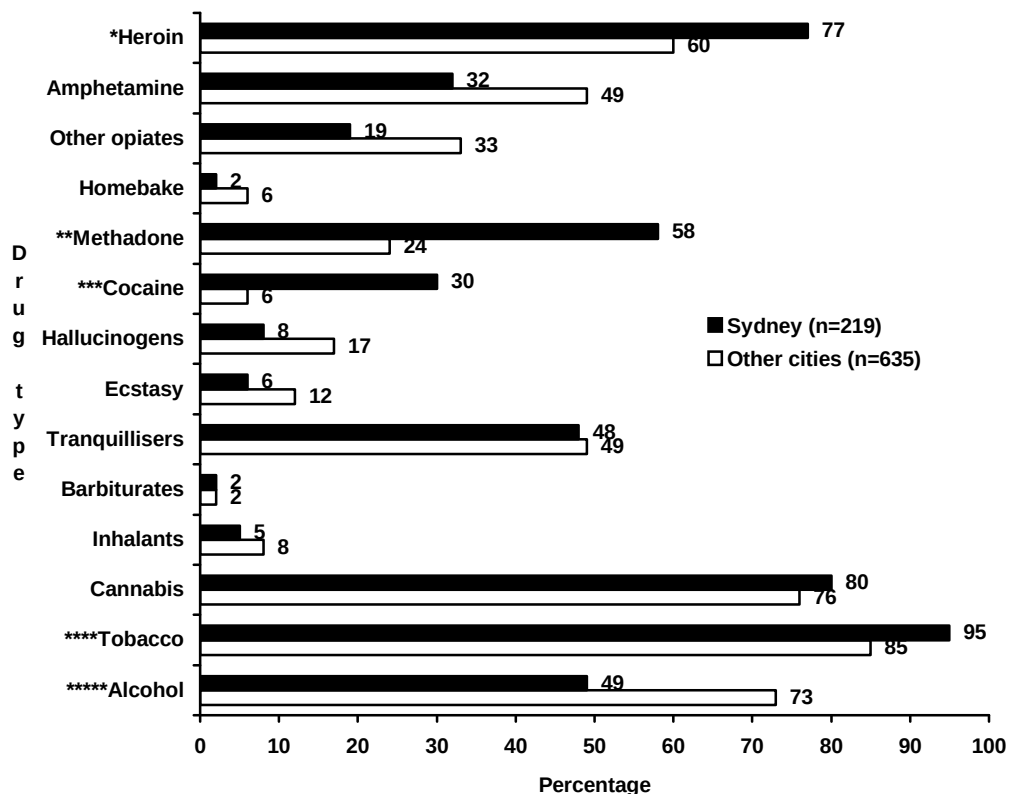
These results suggest that the Sydney sample differed somewhat from the other cities being older, starting to inject earlier and more likely to start injecting heroin or cocaine rather than amphetamine. The differences in choice of drug first injected has been noted in other studies.

“What drug(s) did you use in the last month?”

Respondents were asked what drugs they used in the last month and how they administered the drug. Tobacco and cannabis were reported by higher percentages of respondents from Sydney than the other cities. Tobacco was the most common reported drug used in the past month in all cities with 208 (95%) Sydney respondents reporting recent use. Cannabis use was recorded by 175 (80%) of Sydney respondents. Recent alcohol consumption was reported by a significantly lower proportion in Sydney compared with other cities.

Higher percentages of Sydney respondents reported using heroin, prescribed methadone and cocaine compared with other cities and lower use of amphetamines, other opiates, hallucinogens and ecstasy. Figure 9 shows the percentage of respondents who used each drug type in the last month.

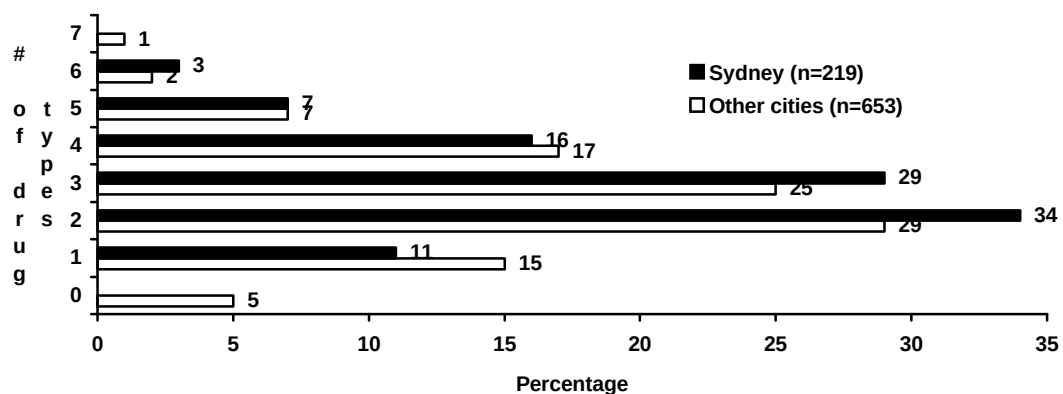
Figure 9. Drug types used in last month



* OR=2.2, 95% CI=1.5-3.2, p<.001
 ** OR=4.2, 95% CI=3.0-5.8, p<.001
 *** OR=6.6, 95% CI=4.2-10.5, p<.001
 **** OR=3.6, 95% CI=1.8-7.5, p<.001
 ***** OR=0.4, 95% CI=0.3-0.5, p<.001

The number of drug types used in the past month was calculated from the above data excluding alcohol, tobacco and cannabis. Figure 10 illustrates the percentage of Sydney respondents using multiple illicit drugs compared with respondents from other cities. A similar distribution was seen across the two samples.

Figure 10. Number of drug types used in previous month



These data provide further evidence that IDUs these days are very much polydrug users. Heavy consumption of alcohol and tobacco adds to the morbidity and mortality observed in IDUs. The high consumption of alcohol contributes to deaths from overdose. The low reported barbiturates use is encouraging and supports many other studies. Barbiturates used to make a much greater contribution to morbidity and mortality when used more widely a few years ago. The low reported use of "homebake" in Sydney probably reflects the greater availability of heroin in this city. The higher reported use of cocaine and the lower reported use of amphetamine in Sydney are almost certainly related. In other cities, amphetamine use is more common and cocaine use less common. It is not completely clear whether all respondents understood the question about methadone in the same way. Some may have understood this to mean methadone prescribed by a doctor and obtained lawfully from a clinic or pharmacy. Other respondents may have considered this to mean diverted methadone obtained from the "grey" market.

"How did you use those drugs in the last month?"

A higher proportion of Sydney respondents reported recently injecting heroin, cocaine, and methadone than respondents from other cities. Figure 11 shows the percentage of those who injected while Figure 12 indicates the percentage who smoked/snorted/swallowed.

Figure 11. Drugs injected in past month

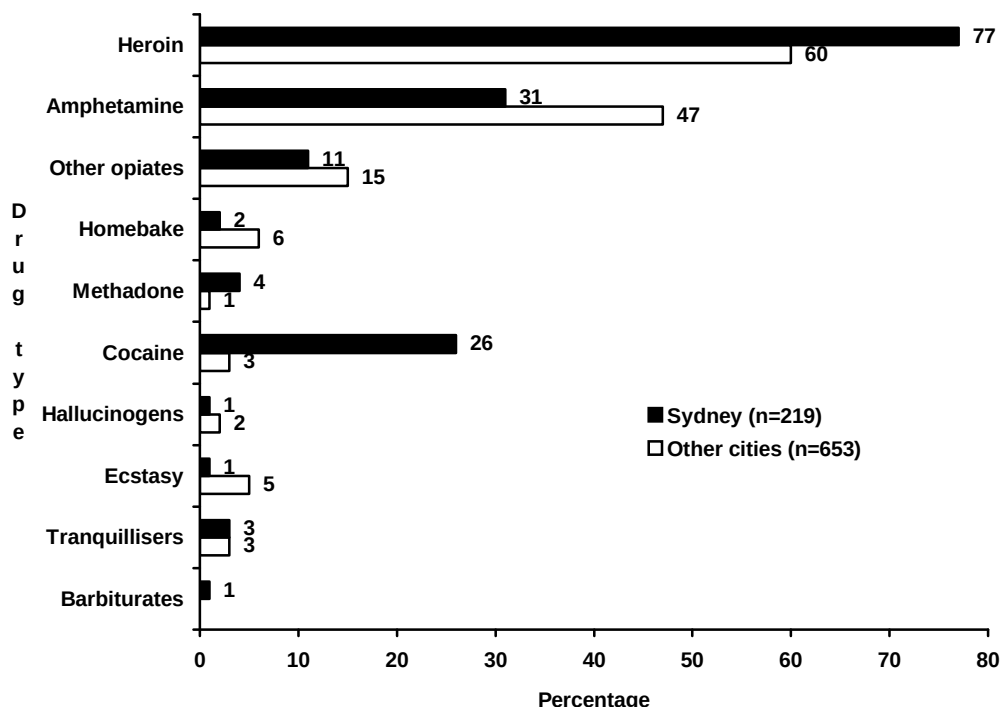
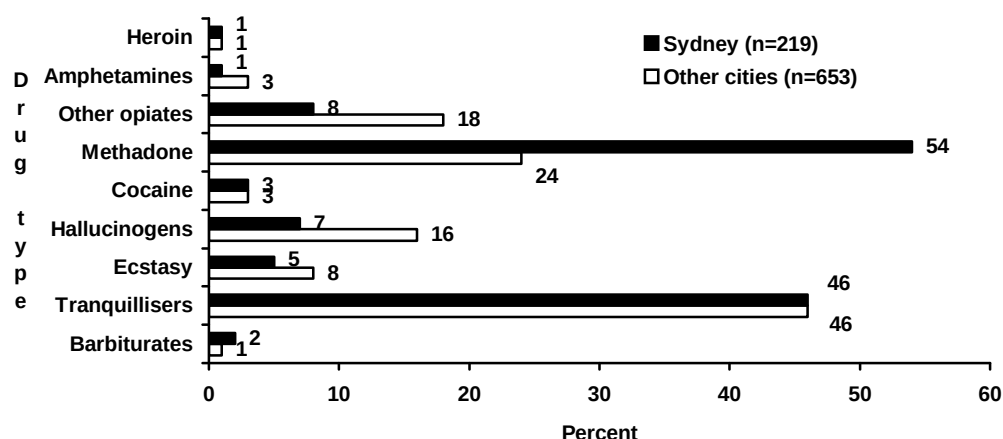


Figure 12. Drug type smoked, snorted or swallowed in past month



These data show that for the three most commonly injected drugs in Sydney and other cities, namely heroin, amphetamines and cocaine, few respondents use non-injecting routes of administration.

“On what day did you last use...?”

“How many hits, snorts or tablets did you have on that day?”

Respondents were asked to estimate the time which had elapsed during their last three episodes of using a particular drug and the amount of drug used on each occasion. Responses to these questions were used to calculate a quantity/frequency ratio based on the format used in the Opiate Treatment Index. Sydney respondents reported higher daily use of heroin and lower daily use of amphetamines compared with other cities. Frequency of drug use is summarised in Table 2.

Table 2. Frequency of use by drug type

Drug type	Sydney (n=219)		Other cities (n=653)	
	Less than Daily %	Daily or more %	Less than Daily %	Daily or more %
Heroin	43	33	34	26
Amphetamine	24	8	37	13
Other opiates	12	7	24	9
Homebake	1	0	5	2
Methadone	3	54	2	23
Cocaine	24	6	6	0
Hallucinogens	8	0	16	1
Ecstasy	6	0	12	0
Tranquillisers	18	29	25	24
Cannabis	29	51	24	53
Tobacco	0	95	1	83

A sum of the daily quantity/frequency ratios for heroin, homebake, methadone, other opiates, amphetamine and cocaine injections was calculated for all respondents and

multiplied by 30 to estimate the number of injections in the previous month. A mean number of injections for Sydney respondents and respondents from other cities was calculated from these figures. A higher estimated average number of injections of any opiates or stimulants per month was calculated for Sydney respondents compared with respondents in other cities. Sydney respondents had an estimated average of 46 ± 61 injections in the past month. Respondents from other cities reported an average of 42 ± 47 injections.

“Have you used inhalants in the past month?”

“Which inhalants have you used in the last month?”

“How often have you used inhalants in the last month?”

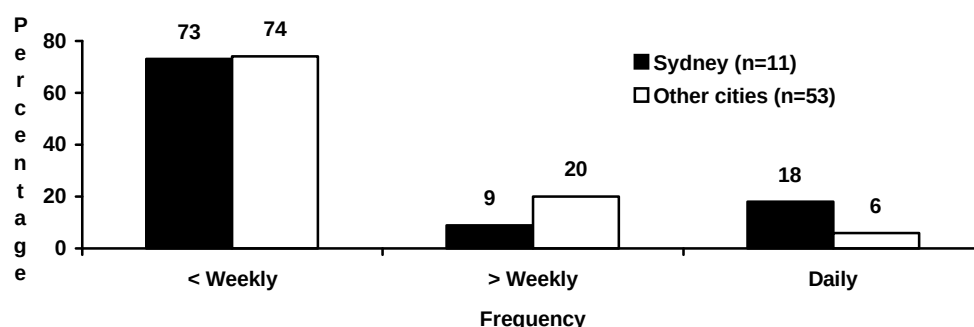
Eleven (5%) respondents from the Sydney sample had used inhalants in the past month compared with 8% in the other cities. All Sydney respondents who reported inhalant use consumed amyl nitrites while respondents from other cities reported a variety of inhalants. Table 3 indicates the different inhalants used in Sydney and other cities.

Table 3. Type of inhalant used in the past month

Inhalant type	Sydney f	Other cities f
Amyl nitrites	11	18
Glue		1
Petrol		1
Nitrous oxide		33
Other		8

The majority of the Sydney respondents (73%, $n=11$) reported less than weekly use of inhalants which was similar to the other cities. Figure 13 shows the reported frequency of use. The difference in inhalant use in Sydney may reflect drug use patterns associated with concentration of homosexual males in Eastern Sydney.

Figure 13. Frequency of inhalant use in the past month



“Have you ever used steroids?”

“Have you ever injected steroids?”

“What percentage of the time did you inject steroids?”

Only 19 Sydney respondents (9%) reported ever using steroids compared with 3% of respondents from other cities (OR=3.4, 95% CI=1.7-6.8, $p<.001$). Only six of the nineteen reported ever injecting steroids while 72% of steroid users from other cities reported ever injecting steroids. The six Sydney respondents reported injecting steroids 100% of the time. Only ten of the thirteen respondents from other cities who injected steroids reported injecting 100% of the time.

“Are there any drugs that you have taken in the past month that were not covered by the questionnaire?”

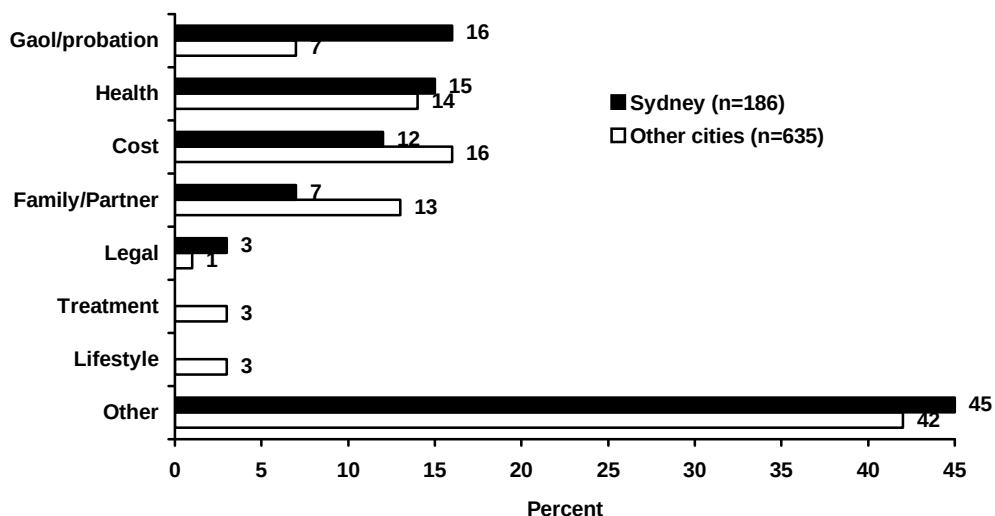
Only six Sydney respondents reported other drugs used. All drugs were prescription including Prozac, Duromine, Endone, and Proladone. Respondents did not report receiving prescriptions for these drugs.

“During the past five years what is the longest time you’ve gone without injecting any drugs?”

One hundred and seventy nine Sydney respondents (82%) reported having stopped injecting for 14 ± 13 months. Sixteen respondents (7%) reported having stopped for an average of 1 ± 1 week. Fifteen respondents (7%) reported having stopped for an average of 2 ± 2 days. Sydney respondents reported longer time periods without injecting ($t_{279} = 3.63$, $p<.001$).

“What was the main reason you stopped injecting drugs during that period of time?”

One hundred and eighty six Sydney respondents provided reasons for stopping injection of any drugs. The three main reasons were: “being in jail or on probation” (16%); “health problems” (15%); and “the cost of drugs” (12%). Similar responses were reported by respondents from other cities with the exception of more respondents reporting “family or partner” influence than “being in jail or on probation.” Figure 14 illustrates the responses.

Figure 14. Reasons for no injections of any drugs in past five years

* $p < .001$

COMMENT

In this study, Sydney IDUs began to inject heroin at about the age of 18. Amphetamines were more commonly the initial drug of injection in other cities with initiation occurring about a year later. Alcohol and tobacco use is extremely common and many IDUs use multiple drugs. Cocaine is injected almost as often as amphetamines in Sydney but amphetamines are much more commonly injected than cocaine in other cities. The three most commonly injected drugs are rarely administered by other routes. Amyl nitrites is the only inhalant reported by Sydney respondents but a variety of inhalants are used in other cities. Steroid injection is reported by less than one in ten Sydney respondents.

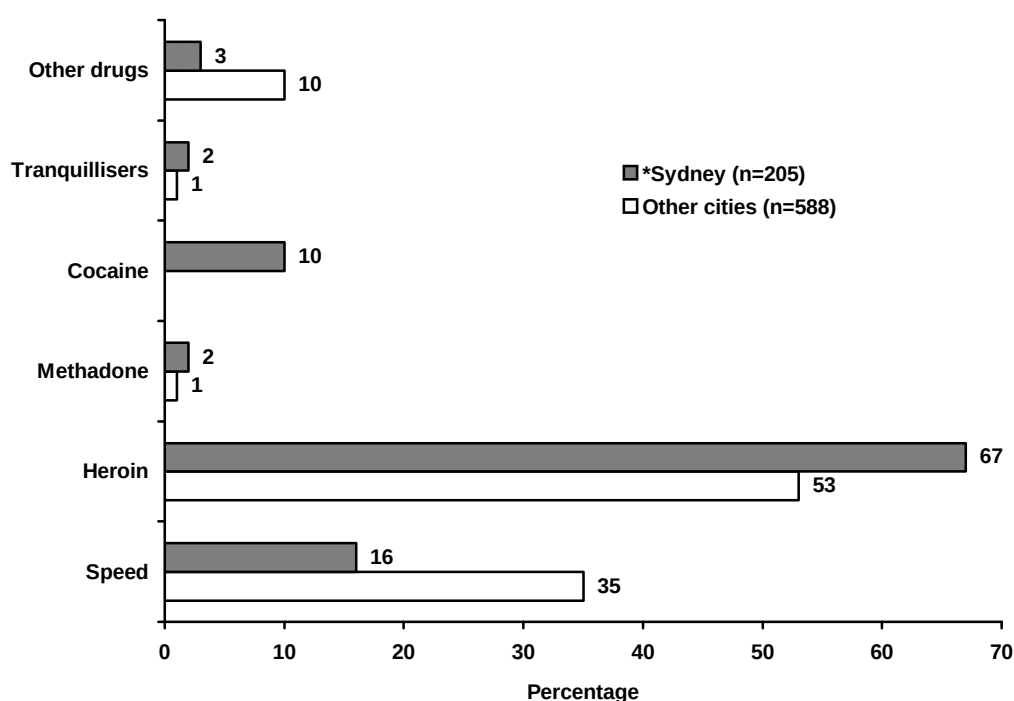
INJECTING BEHAVIOUR

“When was the last time you had a hit?”

“What did you inject the last time you had a hit?”

Respondents were asked about safer injecting behaviour in the past month. Sydney respondents averaged 5 ± 9 days since they last injected (range 1 to 80 days). Figure 15 compares the drugs last injected between the Sydney sample and other cities. Sydney IDUs reported a higher percentage of injections of heroin and cocaine. In other Australian cities, amphetamine and other drugs such as homebake, other opiates, and ecstasy were more commonly injected than in Sydney.

Figure 15. Drugs used last time hit up



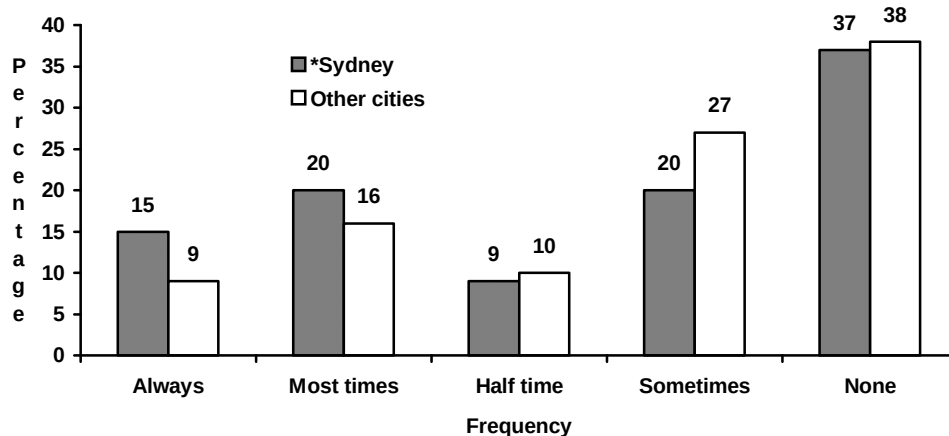
* $p < .001$

“How often did you shoot up alone in the last month?”

“How many people were hitting up with you the last time you injected?”

Figure 16 shows the distribution of respondents who injected alone in the past month. Sydney respondents who injected with someone else present in the past month reported a mean of 1 ± 1 other person (range 1 to 5). In contrast, respondents in other cities reported a mean of 2 ± 1 other persons with a range from 1 to 9. This suggests a tendency for Sydney IDUs to more commonly inject alone and to inject with fewer people present if not injecting alone.

Figure 16. Frequency of injecting alone in past month



* $p < .05$

“Did you use an new needle last time you had a hit?”

“How many people used the needle before or after you?”

“Who used the needle immediately before or after you?”

One hundred and ninety four (95%, $n=205$) Sydney respondents reported using a new needle or syringe on the last occasion that they injected compared with 88% in other cities ($OR=2.5$, 95% $CI=1.2-5.2$, $p < .01$). 10 respondents who reported sharing injection equipment indicated that only one other person used the same injection equipment before they did. Four of the ten specified a close friend or regular sexual partner had used before them. 198 (98%, $n=203$) respondents reported not passing on a needle to someone else. Four respondents reported passing on used injection equipment to a close friend or regular partner.

“Before re-using what did you use to clean the needle?”

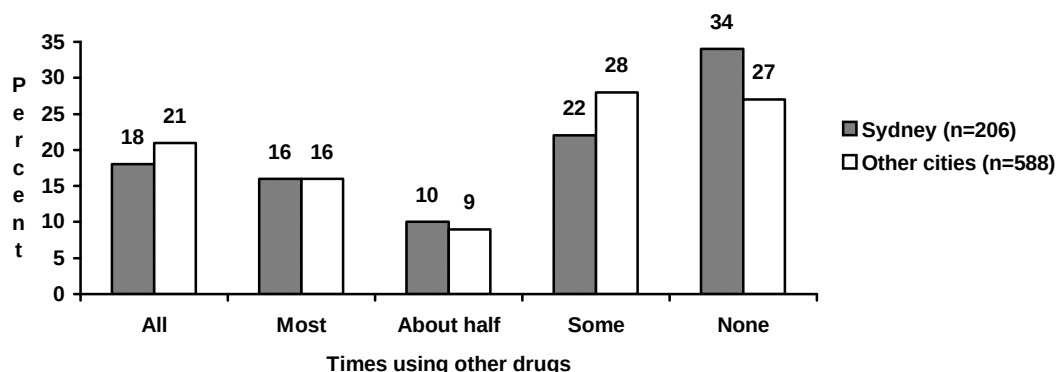
“What did the person using after you use to clean the needle?”

Eleven participants indicated how they cleaned before reusing and five noted how the person after them cleaned. Of the eleven who reported cleaning, five used hot water, two used cold water, two used bleach and two used a combination. Among the five describing the cleaning methods adopted by the person after them, three stated they used cold water only and two stated they used bleach.

“In the last month, how often had you used other drugs when you were about to have a hit?”

Over half (56%, $n=206$) of the Sydney respondents reported using other drugs “none” or only “some of the time” prior to injection. Similar responses were noted in other cities. Figure 17 summarises the responses.

Figure 17. Frequency using other drugs when last injected

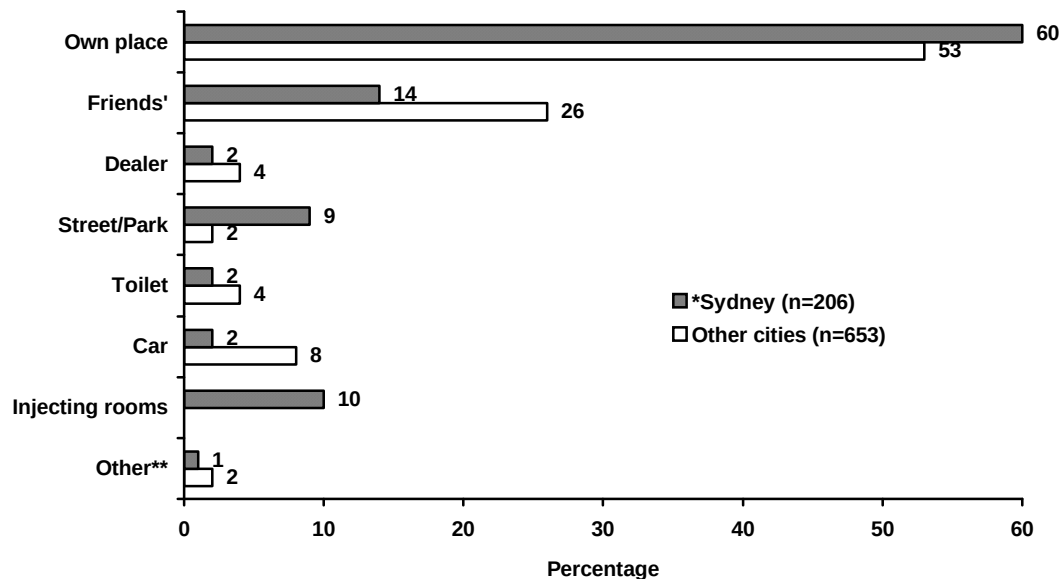


“Had you planned to inject last time you had a hit?”

“Where were you when you last injected?”

Approximately 75% (n=206) of the sample reported planning to inject on the last occasion. Similar percentages were noted in other cities. The majority (73%, n=206) of respondents reported injection in their own home or a friend's home on the last occasion of drug injecting. Fifty two (25%) Sydney respondents indicated injecting in toilets, streets, parks, cars, pubs or other public places (See Figure 18).

Figure 18. Place of last injection



* p<.001

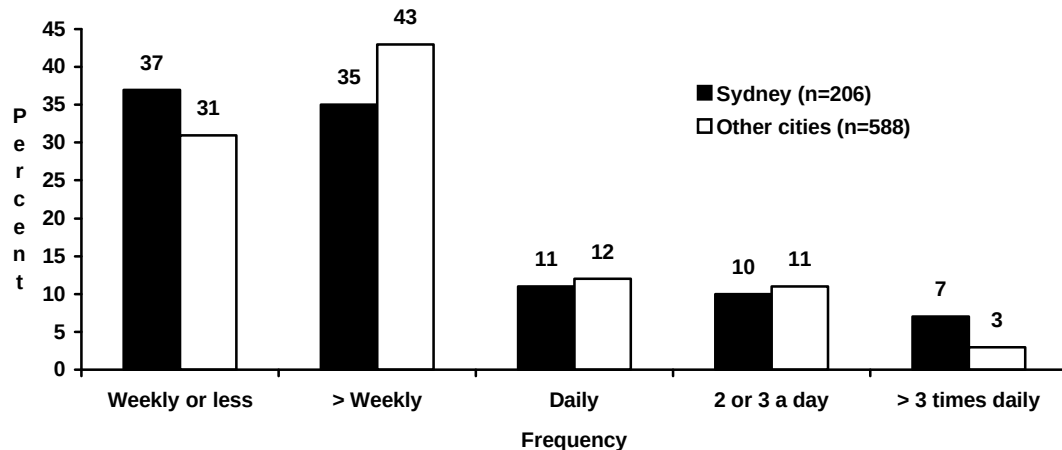
** e.g. train station, workplace, hotel, etc.

Twenty one (10%) of the respondents who reported “other” places stated they had injected in an “injecting room”. These rooms were provided with clean injecting equipment by clubs in Sydney's Kings Cross area.

“How many times have you had a hit in the last month?”

The majority of Sydney respondents (73%, n=206) reported injecting more frequently than once a week in the last month. Similar proportions were reported in other cities. Figure 19 illustrates the frequency of injection in the past month for Sydney and the remaining cities.

Figure 19. Number of injections in the last month

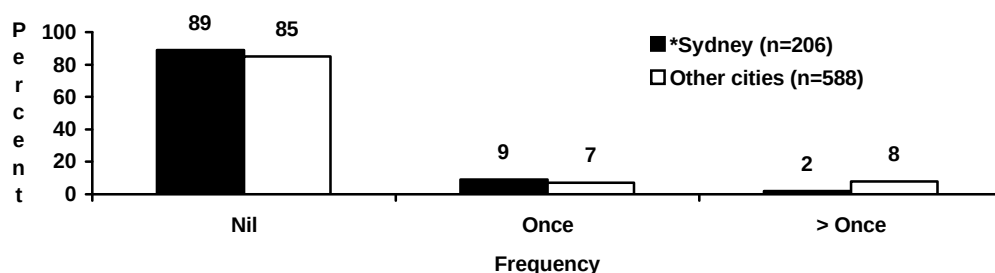


“How many times in the last month have you used a needle after someone else has already used it?”

“How many different people used a needle before you in the last month?”

A large majority (89%) of Sydney respondents reported that they had not shared needles and syringes in the past month. Similar results (85%) were reported by the respondents in the other cities. A slightly higher percentage of respondents from other cities reported sharing more than once in the past month. Figure 20 compares frequency of sharing between respondents in Sydney and other cities.

Figure 20. Frequency of sharing needles and syringes



* p<.05

Among the Sydney respondents who reported sharing in the past month, almost all (94%) reported only sharing with one other person. The remaining respondents did not know the number of their sharing partners. In comparison, 8% (n=96) of respondents from other cities reported sharing with more than one person.

“How often, in the last month, have you cleaned needles that other people have used before you re-used them?”

How often in the last month did you use bleach to clean them?”

Among the eighteen Sydney respondents who reported sharing, only 61% reported cleaning their needles and syringes every time compared with 68% (n=101) of respondents from other cities. Only five (27%, n=18) Sydney respondents reported using bleach to clean the needles and syringes while 30% (n=101) of respondents from other cities reported using bleach.

“How many times in the last month has someone used a needle after you have used it?”

One hundred and seventy six Sydney respondents (90%, n=195) reported never passing on injection equipment to someone else in the previous month compared with 82% (n=547) of respondents from other cities.

HIV Risk Taking Behaviour Scale (HRBS)

The previous six questions comprised the drug use component of the HIV Risk Taking Behaviour Scale developed by Darke et al (1991). The responses to each of the questions were added to produce a relative scale of risk from zero (low risk) to 25 (high risk). Sydney respondents (n=187) reported a mean score of 2.40 ± 1.89 which was significantly lower ($p < .001$) than the mean of 3.39 ± 3.79 for respondents in other cities. The lower proportion of sharing reported by Sydney respondents resulted in a lower average HRBS score. The widespread availability of sterile injecting equipment and intensive education measures in Sydney are a possible explanation for the lower proportion of sharing than found in the other cities.

“If you used bleach to clean your needles, what method did you use?”

“What kind of bleach did you use?”

Nine of the 16 respondents who reported that they cleaned needles indicated using the “2x2x2” method while the seven remaining stated some other cleaning method. Of the 20 respondents who noted the type of bleach used, seven used a bleach packet, six used “White King” bleach, five used a home brand and the remaining two mentioned another type of bleach.

“Have you used a needle or syringe from anyone in the last month that you knew had HIV or had developed AIDS?”

None of the 194 respondents reported using injection equipment from someone known to be infected with HIV.

COMMENT

The proportion of Sydney IDUs reporting not sharing injection equipment in 1994 (89%) is similar to the proportion who reported sharing in the past month in 1985. Some of this change may represent the social undesirability of admitting sharing in 1994. But it is likely that the 1994 data does represent substantial behaviour change. It is likely that the Sydney figures are different from other cities because IDUs would perceive that sharing is more hazardous for HIV in Sydney than other Australian cities. The higher proportion of Sydney IDUs injecting alone may reflect

an attempt to reduce the risk of sharing and consequent infection with blood borne viruses. On the other hand, injection alone may increase the risk of a fatal outcome from an overdose. The low proportion of respondents reporting cleaning suggests that further endeavours to improve decontamination practices will yield little benefit in public health terms. Drug injecting is associated with consumption of other drugs in almost half the drug taking episodes. This will make it difficult to further reduce the incidence of overdose and improve other health outcomes.

A higher proportion of Sydney IDUs reported injecting in public places (streets, parks, etc.) and injection rooms. One in four respondents in Sydney reported that their last injection was in a street, park or injection room. This raises the possibility of further reduction of risk behaviour in legally sanctioned injection rooms as has occurred in gay saunas in developed countries and brothels in Asian countries

It is disturbing that the prevalence of hepatitis C and hepatitis B levels are so high despite the substantial decline in unsafe sharing practices. However, many of these infections are long standing. Any decline in incidence could be overshadowed by these long standing cases and will only be revealed by monitoring prevalence and preferably incidence in younger IDUs.

SEXUAL BEHAVIOUR

“Have you had sex with anyone in the past month?”

One hundred and thirty seven respondents (63%) reported having sex in the past month (which was similar to the 65% of respondents from the other cities). Eighty six (63%) of the respondents who reported sex in the past month were males, 49 (36%) were females and two (1%) were transsexuals. A larger percentage of female respondents from other cities (76%) reported having sex in the past month. No transsexuals reported sexual contact in other cities.

“What sex was your last sexual partner?”

“Was that partner bisexual?”

“Was that partner a regular sexual partner, a casual partner or a client?”

Among those respondents reporting sex in the past month, the majority (91%) of respondents reported having sex with a partner of the opposite sex which was similar to reports from respondents from other cities. Seven male respondents (8%) and four female respondents (8%) reported having sex with a partner of the same sex. Seven percent of male and ten percent of female respondents from other cities reported having sex with a partner of the same sex. The two Sydney transsexual respondents reported sex with male partners.

Eight Sydney male respondents (9%) and four female respondents (8%) reported their last sexual partner was bisexual. Ten male respondents (12%) and 11 female respondents (22%) did not know if their last partner was bisexual. Similar responses were reported by respondents in other cities.

Ninety one of the sexually active Sydney respondents (66%) reported that their last sexual partner was their regular partner. Sixty four percent of these were male. This was similar to the percentage of respondents from other cities. Thirty one Sydney respondents (23%) reported their last sexual partner was a casual partner compared with 30% of respondents from other cities. Twenty six of these Sydney respondents (84%) were male which was a larger percentage than reported for other cities (67%). Fifteen Sydney respondents (11%) reported their last sexual partner was a client. Eleven of these respondents (74%) were women (compared with 91% of respondents from other cities who reported sex with a client). Two Sydney respondents (13%) reporting sex work were men and two were transsexuals.

“Had your last sexual partner ever injected drugs?”

Eighty nine sexually active respondents (65%) reported their last sexual partner had ever injected drugs compared with 73% of respondents from other cities. Fifty eight of these respondents (64%) were men and the remaining respondents were women. Only 55% of the respondents from other cities who last had sex with an IDU were men. Ten respondents (7%) were unaware if their partner had ever injected drugs. Seven of these respondents (70%) were women compared with 37% of the respondents from other cities.

“Did you use any form of protection during your last sexual contact?”

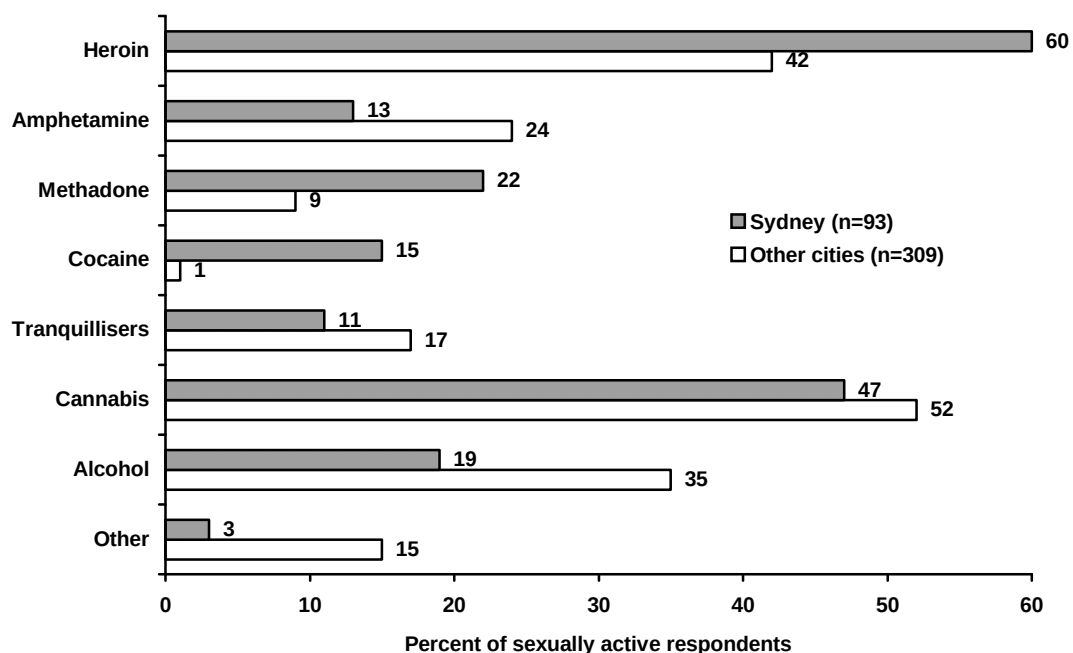
Fifty one of the sexually active respondents (37%) reported using some form of protection during their last sexual contact compared with 30% of respondents from other cities. Thirty six percent of the male respondents and thirty seven percent of the female respondents reported using protection. A similar percentage of male respondents reported using protection in other cities but only one quarter of the female respondents reported using protection. All of the transsexual respondents reported using protection.

“Did you use any drugs prior to your last sexual contact?”

“Which drugs did you use prior to your last sexual contact?”

Ninety one respondents (67%) reported using drugs just prior to their last sexual encounter which was similar to proportions (70%) reported in other cities. Sixty eight percent of the Sydney men and 63% of the women reported prior drug use which was similar to other cities. Both Sydney transsexuals reported drug use. Figure 21 compares the percent of sexually active respondents who used each type of drug between Sydney and the other cities. More Sydney respondents reported consumption of heroin, methadone and cocaine.

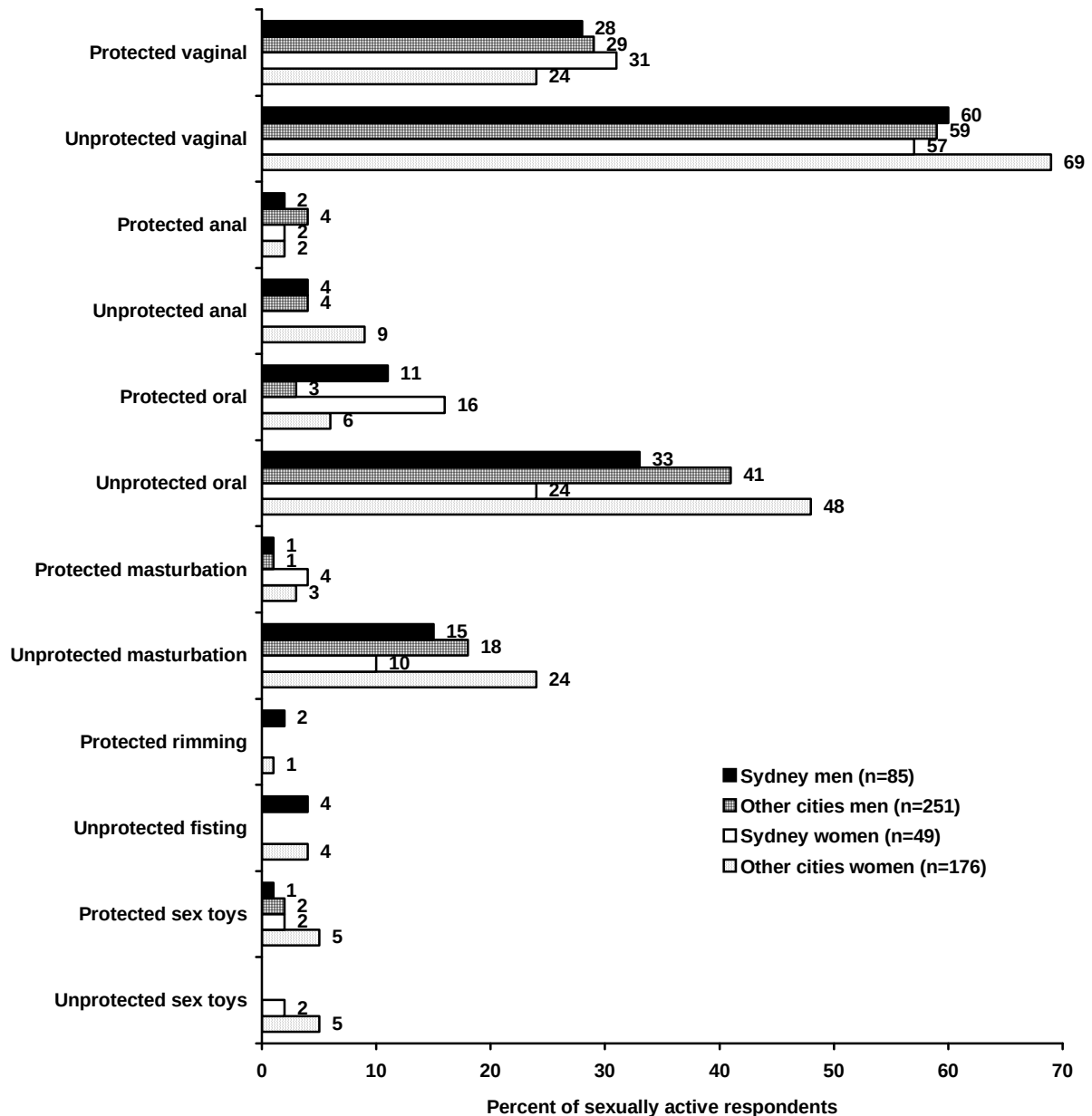
Figure 21. Drug type used prior to last sexual contact



“Which best describes your last sexual contact?”

Respondents were asked to identify the type of sexual contact they last had. Figure 22 outlines the type of sexual contact male and female respondents reported for their last sexual encounter. Both transsexuals reported engaging in oral sex with a condom, one reported masturbation with a condom or glove and one reported anal sex with a condom.

Figure 22. Type of last sexual contact by gender

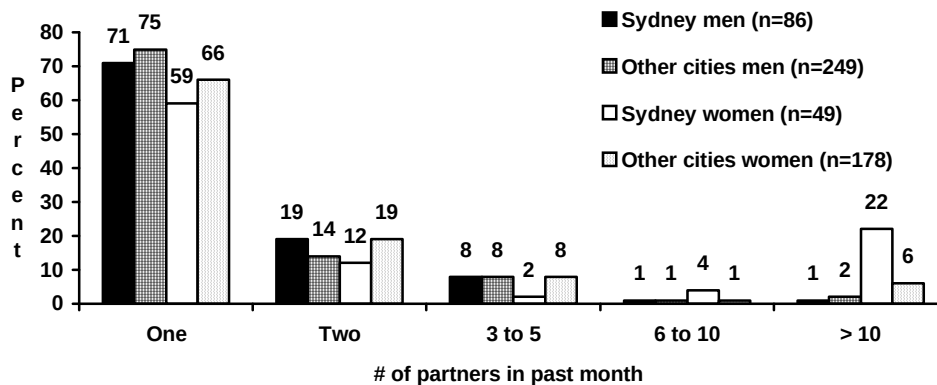


An higher percentage of respondents from other cities (n=427) reported unprotected anal sex (6%), unprotected oral sex (44%), unprotected masturbation (20%) and unprotected rimming (3%).

“How many people have you had sexual contact with in the past month?”

One hundred and thirty seven Sydney respondents (63%, n=219) reported the number of people they had sexual contact with in the past month. The majority of respondents (66%, n=137) reported only one sexual partner in the last month. Figure 23 shows the percentage of respondents reporting multiple partners in the past month by gender and cities. Both Sydney transsexuals reported more than ten partners.

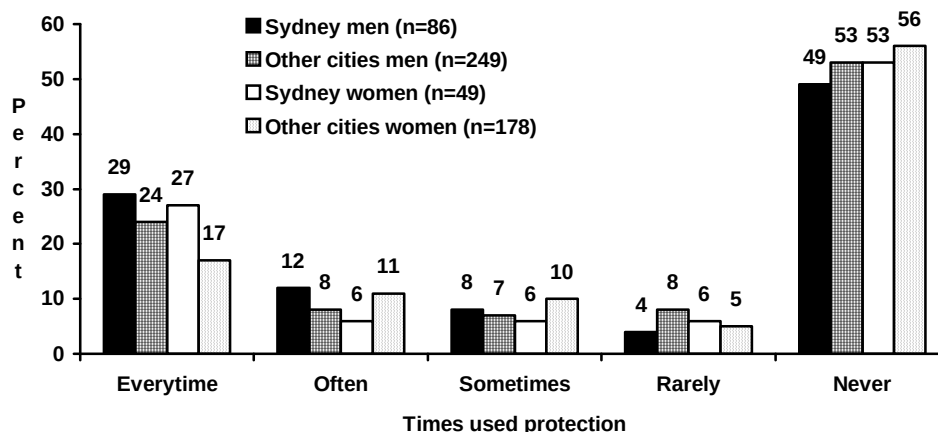
Figure 23. Number of partners in past month by gender



“How often did you use any form of protection when you had sexual contact in the last month?”

Of the one hundred and thirty seven Sydney respondents who responded to this question, just over half (51%) reported never using any form of protection in the past month compared with 55% of respondents from other cities. Figure 24 reports the frequency of male and female respondents using protection while having sex in the past month. Both transsexuals reported using protection every time they had sexual contact.

Figure 24. Frequency of use of protection by gender



“Have you been paid for sex in the past month?”

“How often have you used condoms when you’ve been paid for sex in the past month?”

Twenty of the sexually active Sydney respondents (15%) reported being paid for sex in the past month compared with 7% of the sample from other cities. The majority (75%) of Sydney respondents were women which was similar to other cities. Only three Sydney men and the two Sydney transsexuals reported having been paid for sex in the last month. The majority (77%) of Sydney women who reported sex work in the last month also reported always using protection which was similar to other cities. Both Sydney transsexuals reported always using protection when paid for sex. Two of the Sydney men reported never using condoms and the other male respondent reported using condoms only sometimes. Five out of twelve male respondents from other cities reported always using condoms and four of the male respondents reported never using condoms.

“If you had penetrative anal sex in the past month did you use condoms on every occasion?”

Twenty four (11%) Sydney respondents reported anal sex in the past month compared with 17% of respondents from other cities. Eighteen (75%) of the Sydney respondents were men, four (17%) were women and two (8%) respondents were transsexuals. Equal numbers of male and female respondents from other cities reported anal sex in the past month. Half of the Sydney respondents who had anal sex in the past month reported using condoms on every occasion compared with one quarter of the respondents from other cities. Ninety two percent of those Sydney respondents who reported not using condoms were male compared with 47% of the respondents from other cities.

“If you had penetrative vaginal sex in the past month did you use condoms on every occasion?”

Less than a third (31%) of the 124 Sydney respondents who reported penetrative vaginal sex reported using a condom every time and 22% (n=406) of respondents from other cities had the same response. Fifty four Sydney male respondents (70%) and 32 female respondents (70%) reported not using a condom. Over three quarters of the male respondents from other cities and 81% of the female respondents reported not using a condom.

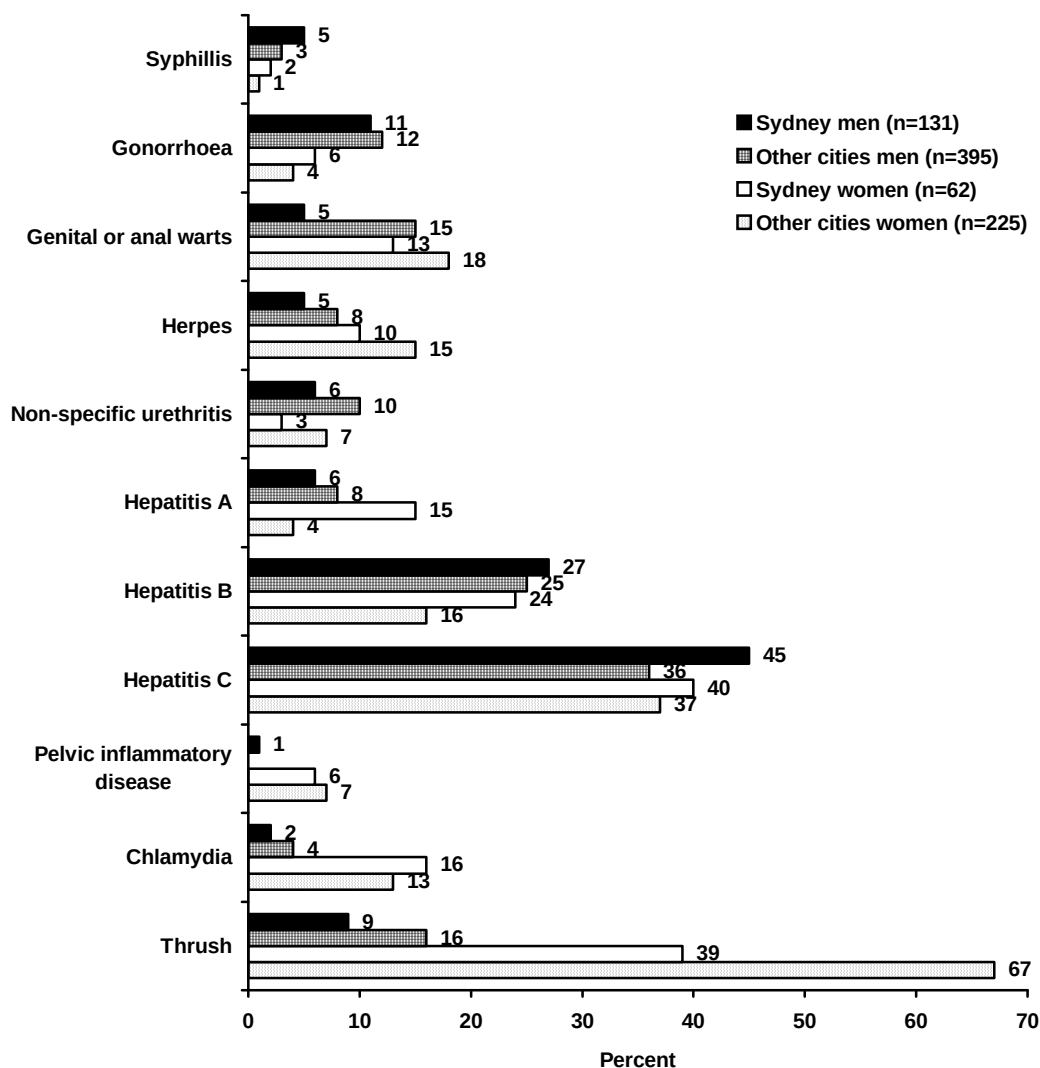
“How would you describe your sexual orientation now?”

One hundred and sixty four (84%) of those respondents (196) who reported their perceived sexual identity described themselves as heterosexual. This was similar in the other cities. Among the Sydney respondents, 70% were men. Fifteen respondents (8%) reported themselves as bisexual. Fifty three percent of the bisexual respondents were women. Ten male respondents (5%) reported themselves as gay and four female respondents (2%) identified themselves as lesbian. Similar proportions were reported in the other cities.

“Have you ever had any of the following infections diagnosed and/or treated by a doctor?”

Respondents were shown a card listing various infections and sexually transmitted diseases (STDs) and asked if they had ever received treatment for these conditions. Figure 25 shows the percentage of male and female respondents reporting treatment for any of these diseases.

Figure 25. Treatment history for STDs



“Have you ever had sex with anyone you knew at the time had HIV or had developed AIDS?”

Of the 197 respondents who answered this question, thirteen respondents (7%) reported having sex with someone they knew had HIV or had developed AIDS compared with only 4% of the respondents from other cities. The Sydney respondents consisted of ten men, two women and one transsexual. A similar

proportion of male and female respondents from other cities reported having sex with someone infected with HIV or diagnosed with AIDS. Table 4 reports the type of sexual contact reported by Sydney respondents and respondents from other cities by gender.

Table 4. Type of sexual contact with partner known to have HIV/AIDS

Sexual Contact	Men		Gender		Transsexual	
	Sydney	Other cities	Sydney	Other cities	Sydney	Other cities
	f	f	f	f	f	f
Protected Vaginal	1	2	2	3		
Unprotected Vaginal		3		1		
Protected Anal	3	4		1	1	
Unprotected Anal	1	4				
Protected Oral	1	1			1	
Unprotected Oral	5	10				
Protected Masturbation		1	1	1	1	
Unprotected Masturbation	5					
Protected Fisting						
Unprotected Fisting	1					
Protected Sex Toys	1					
Unprotected Sex Toys						

COMMENT

While other data in this report indicated reductions in risky injecting behaviour, this data reports a continuing high proportion of unsafe sexual behaviour among IDUs. Less than a third of male and female IDUs reported using condoms on every occasion in the past month. This is an area of concern which has been seen in previous research due to sexual contact between IDUs and non-injecting partners.

HIV PREVENTION

“Have you exchanged needles and syringes in the last month?”

“Where do you mostly get your new needles and syringes?”

One hundred and twenty seven out of 193 Sydney respondents (66%) indicated they had exchanged needles and syringes in the last month compared with 61% of the respondents from other cities. The primary source for needles and syringes reported by 207 Sydney respondents was needle exchanges (59%) or pharmacies (30%). Respondents in other cities (n=596) reported the primary sources were pharmacies (41%), needle exchanges (37%) and friends (11%).

“Do you sometimes find it difficult to get new needles and syringes?”

Forty five out of 208 Sydney respondents (22%) stated it was sometimes difficult to obtain needles and syringes compared with 34% of respondents (n=600) reporting difficulty obtaining new needles in the other cities.

“During what hours is it most difficult to get new needles and syringes?”

The hours reported to be most difficult to obtain new injecting equipment were midnight to 6 am (61%, n=44) and noon to 6 pm (27%, n=44) for Sydney respondents. Similar responses were reported by respondents in the other cities.

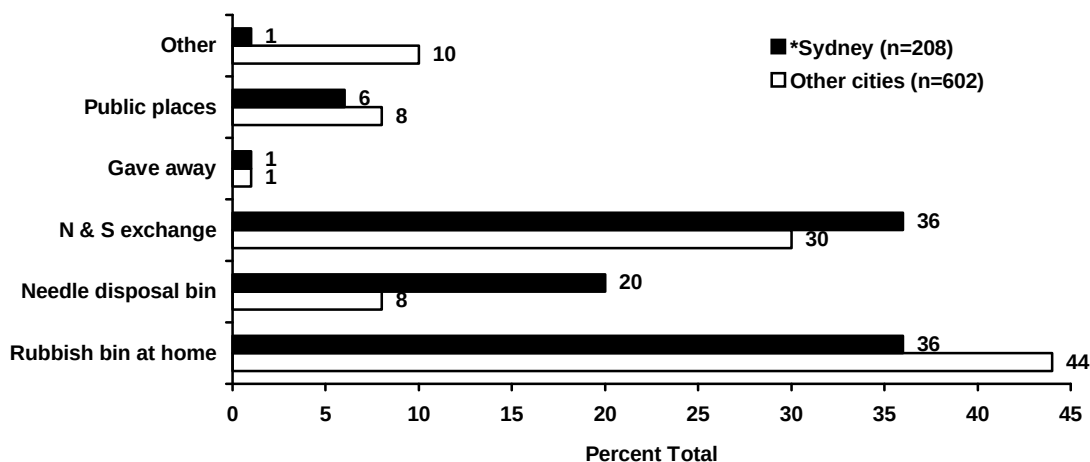
“Where did you dispose of needles and syringes in the last month?”

“Do you wrap your needles and syringes or put them in something?”

“What do you wrap your needles and syringes in?”

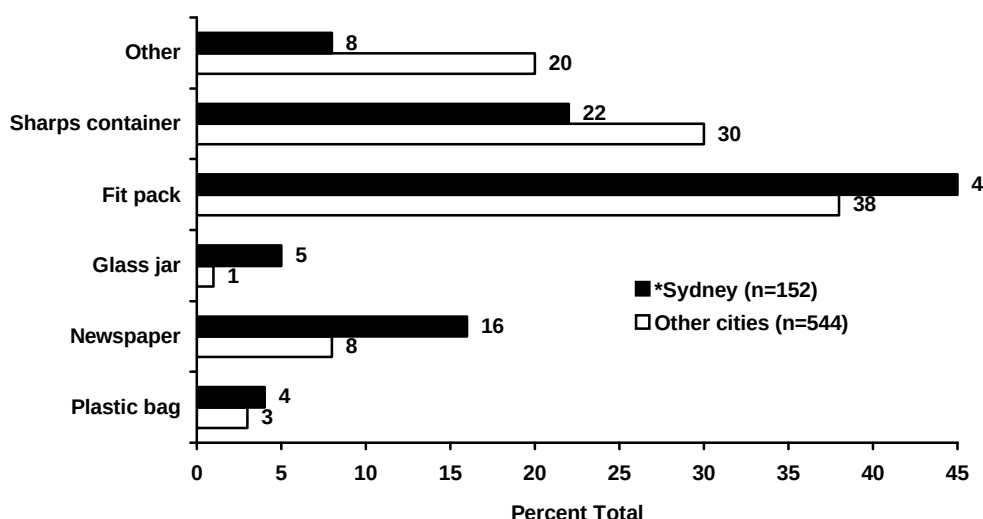
The majority (93%) of Sydney respondents (n=208) reported disposing of needles and syringes by returning them to a needle exchange (37%), throwing them into rubbish bins at home (36%) or placing them in needle disposal bins (20%). The primary means of disposal for respondents from other cities (n=602) were rubbish bins at home (44%) and needle exchanges (30%). 152 out of 188 Sydney respondents (81%) indicated wrapping their needles and syringes prior to disposal. The majority of these Sydney respondents indicated using fit packs (45%) or sharps containers (22%) prior to disposal. Similar responses were reported for other cities. Figure 26 and 27 depicts the primary methods of disposal and wrapping methods.

Figure 26. Disposal methods



* p<.001

Figure 27. Wrapping methods



* p<.001

“Do you think there are any problems with going to N & S exchanges?”

“What do you think is the main problem with N & S exchanges?”

Only 27 (13%) of the 208 Sydney respondents indicated there were problems with needle and syringe exchanges compared with over one quarter (26%) of the respondents from the other cities. Nineteen of 32 participants (59%) indicated that possible identification as an IDU by police or others was the main problem. Eight of the respondents (25%) noted inconvenient location or hours of operation. Similar problems were identified by respondents from the other cities.

COMMENT

The high utilisation of needle exchanges and pharmacies is consistent with the low reported rate of unsafe drug injecting practices. On these data needle exchanges and pharmacies seem to be providing a good service. Disposal methods for used injection equipment are generally acceptable. IDUs seem to be well aware of their responsibilities and all but a small minority dispose of their needles and syringes properly.

KNOWLEDGE AND ATTITUDES TO HIV/AIDS, HEPATITIS C AND HEPATITIS B

“What do you think your chance is of getting HIV?”

“What do you think your chance is of getting hepatitis C?”

“What do you think your chance is of getting hepatitis B?”

Twelve (6%, n=219) Sydney respondents reported already having HIV, 93 (43%, n=219) respondents reported having hepatitis C, and 53 (24%, n=219) respondents reported having hepatitis B. Lower percentages of respondents from other cities reported already having HIV (2%), hepatitis C (38%) and hepatitis B (13%). Fifty one (23%) Sydney respondents reported being vaccinated for hepatitis B compared with 19% of the respondents from the other cities.

Over half (54%) of the Sydney respondents reported a 1 in 1000 or less chance of becoming infected with HIV. Among those who did not report hepatitis C infection, less than half (47%) reported a 1 in 1000 or less chance of infection. Similar responses were recorded for respondents in other cities. Fifty (52%) Sydney respondents who did not report hepatitis B infection or vaccination and the same proportion of the respondents from other cities reported the same chances for infection with hepatitis B. Figure 28, 29 and 30 lists the frequency of responses in Sydney and other cities for all viruses.

Figure 28. Reported chances of HIV infection

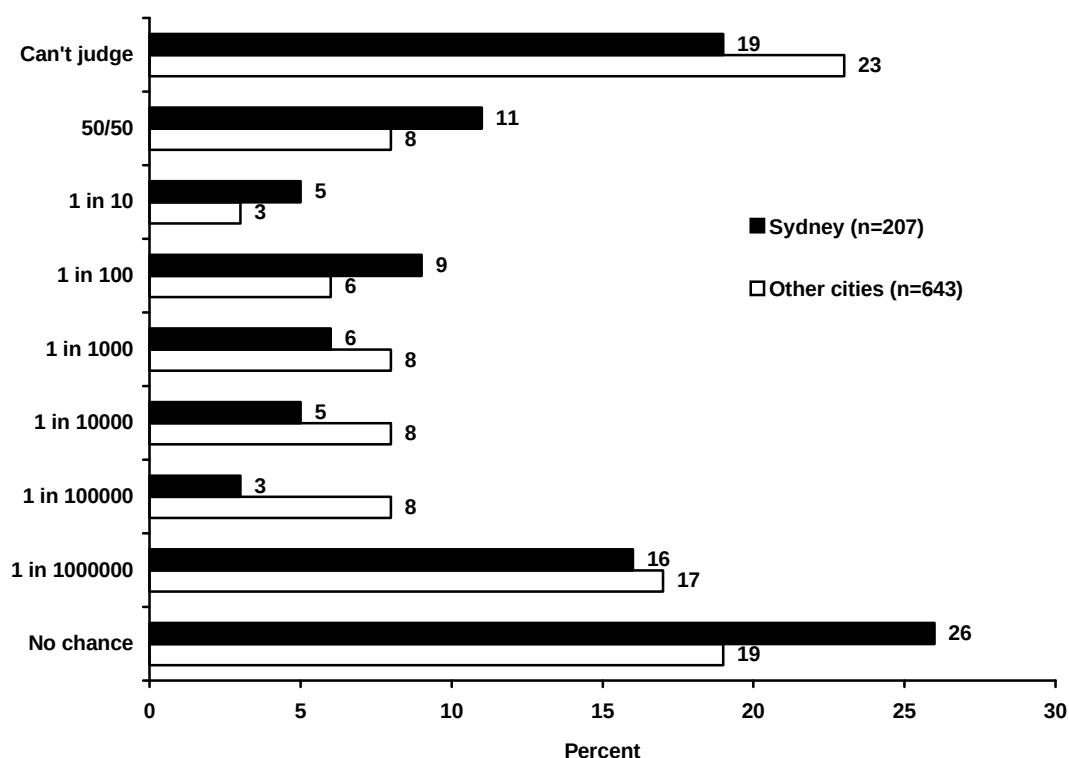


Figure 29. Reported chances of hepatitis C infection

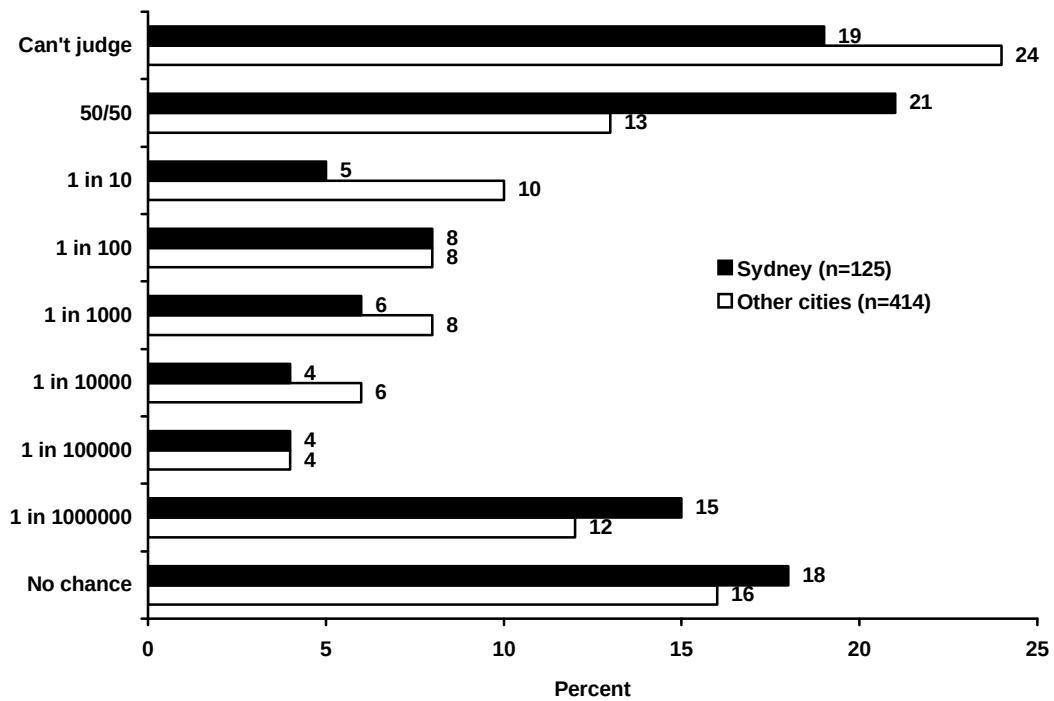
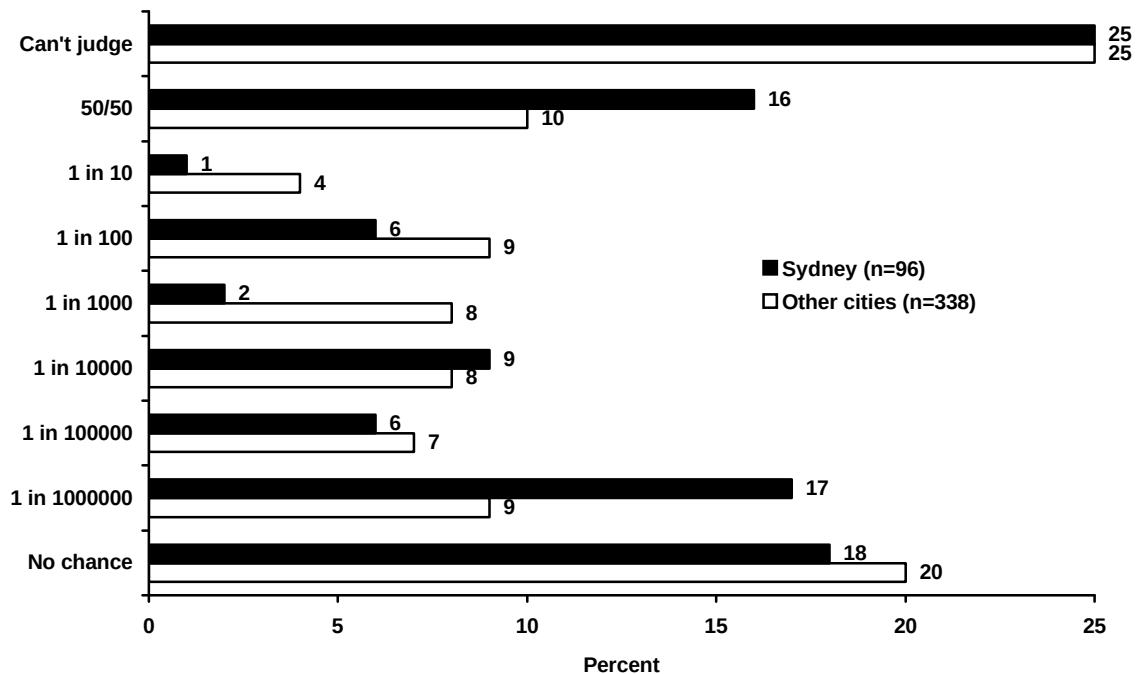


Figure 30. Reported chances of hepatitis B infection



“How many tests have you ever had for HIV/AIDS?”

“Have you ever been tested for hepatitis C or B?”

“What does it mean if you show up positive on an HIV, hepatitis C, or hepatitis B test?”

Only nine respondents (4%) reported never having been tested for HIV, 34 (16%) respondents reported never being tested for hepatitis C and 26 respondents (12%) reported never being tested for hepatitis B. Slightly higher percentages of respondents from other cities reported never being tested for HIV (8%), hepatitis C (19%), or hepatitis B (15%). Sydney respondents reported having an average of 7 ± 8 HIV tests (range from 0 to 60). Respondents from other cities had significantly fewer HIV tests with a mean of 5 ± 7 HIV tests (range from 0 to 60). The majority of respondents reported that a positive test for any of the three viruses meant “you had the virus.” The frequency of responses is listed in Table 5.

Table 5. Meaning of positive HIV, hepatitis C, or hepatitis B test

Meanings	Sydney (n=219)			Other cities (n=653)		
	HIV %	HCV %	HBV %	HIV %	HCV %	HBV %
Have virus	66	67	71	67	65	61
Do not have virus	1	6	2		3	2
Have AIDS	16	-	-	19	-	-
Exposed but may not have virus	9	11	15	6	18	20
Don't know	7	16	11	3	9	11
Other	1	1	1	4	6	6

“Have you ever been told that you had HIV/AIDS?”

“When were you first told you had HIV?”

Six Sydney respondents reported ever being told they had HIV/AIDS in addition to the twelve respondents mentioned above. Two of these six respondents did not divulge when they were first told they had HIV.

Twelve respondents reported being HIV positive between one month and nine years ago. Among these respondents, four reported being told they had HIV/AIDS and the remaining eight did not respond. The mean duration since being told was four years and two months.

“What was the result of your hepatitis C test?”

Ninety-four Sydney respondents (43%) reported that they had been told they were hepatitis C antibody positive when tested.

“What was the result of your hepatitis B test?”

Among the respondents who had been tested for hepatitis B, 52 (24%) respondents reported that they had been told they had hepatitis B and 20 respondents reported that they had been told they had the antibodies for hepatitis B.

“Have you ever been vaccinated against hepatitis B?”

Only sixty (27%) respondents reported that they had been vaccinated against hepatitis B.

“How many injecting drug users in the city have HIV?”

“How many injecting drug users in the city are infected with hepatitis C?”

“How many injecting drug users in the city are infected with hepatitis B?”

Similar estimates were given for the numbers of IDUs infected with HIV and hepatitis B in Sydney and other cities. Sixty six percent of respondents in Sydney and 69% of respondents from other cities estimated that less than half of the IDUs in their areas had HIV. Fifty one percent of the Sydney respondents and 54% of respondents in other states suggested the same numbers for hepatitis B infection. Approximately 50% of the sample from Sydney and other cities responded that over half of IDUs in other cities were infected with hepatitis C. Table 6 shows the distribution of responses for the three viruses.

Table 6. Estimated numbers of IDUs infected with HIV, hepatitis C or hepatitis B

Estimated number of infected IDUs	Sydney (n=219)			Other cities (n=653)		
	HIV %	HCV %	HBV %	HIV %	HCV %	HBV %
None			1			
Less than a quarter	37	10	26	56	11	27
One quarter to half	29	22	24	13	19	27
Half to three quarters	7	24	17	3	21	8
> Three quarters	4	25	6	1	29	3
All		4	1		1	
Don't know	23	16	25	27	19	35

“If you share needles should you be concerned about getting hepatitis C?”
“If you share needles should you be concerned about getting hepatitis B?”

213 respondents (97%) reported that there was a risk of hepatitis C infection from sharing needles, while 203 respondents (93%) reported a risk of hepatitis B infection.

“If you have unprotected vaginal penetrative sex should you be concerned about getting hepatitis C?”
“If you have unprotected vaginal penetrative sex should you be concerned about getting hepatitis B?”

Forty one respondents (19%) believed there was no risk of hepatitis C infection from vaginal sex or that they did not know of such a risk. Thirty eight respondents (18%) reported no risk or that they did not know the risk for hepatitis B infection from vaginal sex.

“If you have unprotected anal penetrative sex should you be concerned about getting hepatitis C?”
“If you have unprotected anal penetrative sex should you be concerned about getting hepatitis B?”

Forty four respondents (20%) reported no risk or that they did not know the risk of hepatitis C infection from unprotected anal sex. Forty (18%) reported no risk or that they did not know the risk of hepatitis B infection from unprotected anal sex.

COMMENT

Almost one fifth of respondents believed they could not estimate their chance of becoming infected with HIV while one in eight had a similar reaction for hepatitis B and hepatitis C. About one in ten thought they had a 50:50 chance of becoming infected with HIV, hepatitis B or hepatitis C. This is close to the actual level of risk for hepatitis B and hepatitis C while the actual risk of HIV is between one in ten and one in a hundred. Only 13% of respondents reported these levels of risk. In summary, respondents underestimated their risk of becoming infected with HIV, hepatitis B and hepatitis C but to some degree perceived correctly that they were more at risk of hepatitis B and hepatitis C than HIV.

The level of testing for HIV, hepatitis B, and hepatitis C is high. This indicates that IDUs or elements of the health care system with which they interact perceive them to be at risk. The high number of HIV tests per respondent represents almost a decade of being exposed to risk of HIV infection and getting tested. Evidence about the relationship between HIV testing and risk behaviour is equivocal. Although there may be some savings from restricting the availability of HIV testing, it should be emphasised that the total package of HIV prevention measures for IDUs is inexpensive in comparison with the costs of an uncontrolled epidemic.

The level of vaccination against hepatitis B is very poor given the fact that risk of infection is high and that the hepatitis B vaccine is safe and inexpensive. Trials of hepatitis B vaccination in IDUs have had favourable outcomes. The overall

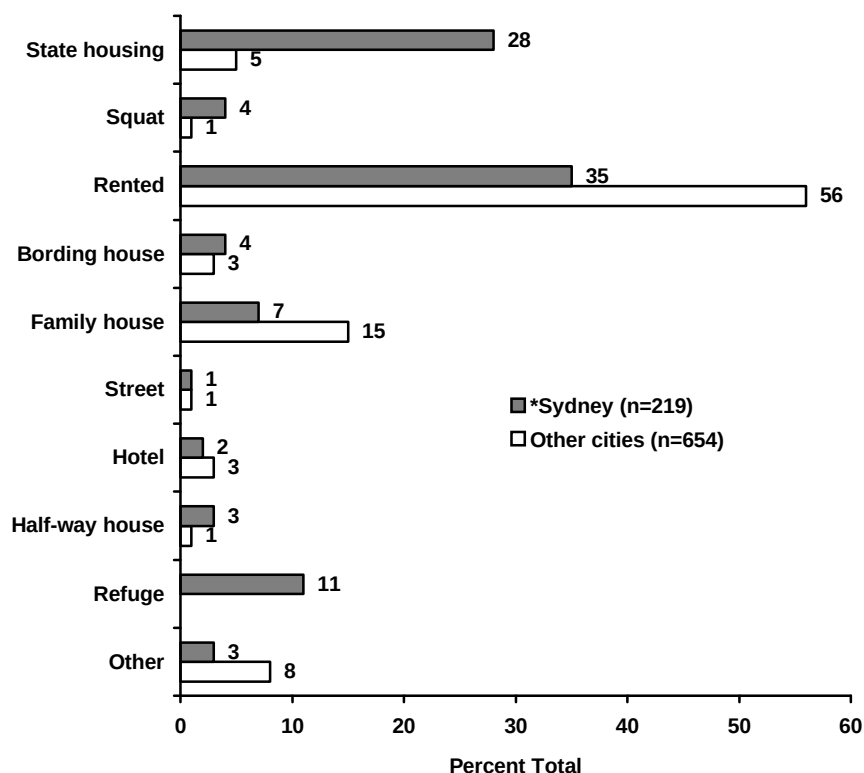
awareness of the risk of hepatitis B and hepatitis C from sharing injecting equipment is very high. It is disturbing that one in five respondents did not know of the risk or thought there was no risk of hepatitis B transmission from unprotected vaginal or anal intercourse. These data raise the possibility that with such a high prevalence of hepatitis B and with such low levels of hepatitis B vaccination, substantial sexual transmission is occurring. More education and vaccination of drug users could reduce hepatitis B transmission among and from these respondents.

SOCIAL SUPPORT

“What sort of place are you living in now?”

The primary places of residence reported by Sydney respondents were rented accommodation (35%), state housing (28%), a refuge or shelter (11%) and living with family (7%) while the majority of respondents from other cities reported living in rented accommodation (56%) and with the family (15%). Frequency of responses are listed in Figure 31.

Figure 31. Place of residence



* $p < .001$

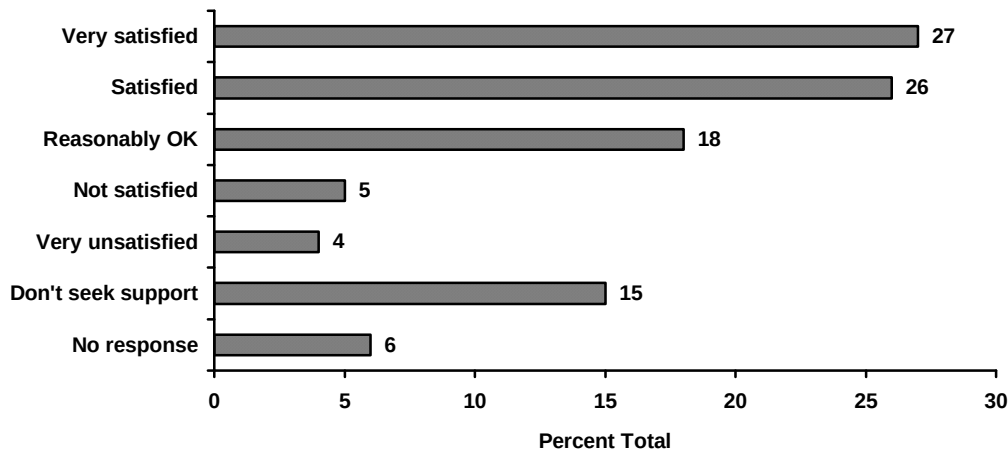
“About how many friends would you estimate that you have?”

“How many of your close friends have you known for more than six months?”

“How satisfied are you with the support you get from your friends?”

Respondents reported an average of 7 ± 10 friends with a range from none to 90. Over 70% of respondents reported one to seven friends. Similar numbers were reported for friends they had known for more than six months. A little more than half (52%) of the respondents reported being satisfied or very satisfied with their friends' support. Frequency of Sydney responses are listed in Figure 32. Respondents from other cities reported similar numbers and satisfaction with their friends.

Figure 32. Satisfaction with friends support



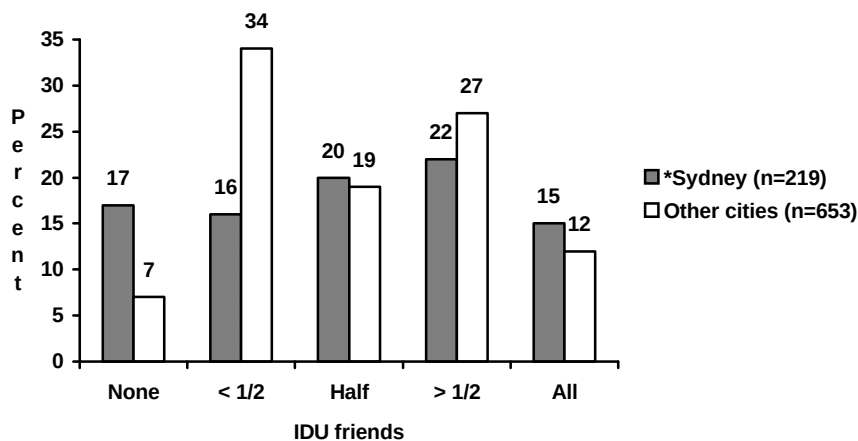
“

How much of the last month have you been sharing accommodation with anyone who injects drugs?”

“How many people you hang around with but don’t live with, inject drugs?”

Over half (51%) of the respondents reported sharing accommodation with users most or all of the time. There was a similar (46%) response in the other cities. Approximately a third (32%) did not share accommodation with other users. Responses about the number of users respondents spend time with were fairly evenly distributed between none and all. Slightly fewer respondents from other cities reported not spending time with other IDUs. Frequencies are provided in Figure 33.

Figure 33. Numbers of IDUs respondents spend time with



* $p < .001$

“How many injecting drug users do you know who have HIV/AIDS?”

“How many injecting drug users do you know who have died from AIDS?”

Eighty three (38%) respondents reported they did not know any IDUs who have HIV/AIDS. Respondents reported an average of 6 ± 13 IDUs that they knew had HIV with a range from zero to 90. This was significantly higher ($t_{205} = 4.84$, $p < .001$) than the average of 1 ± 3 IDUs (range 0 to 20) known by respondents in other cities to have HIV. One hundred and five (48%) respondents did not know any IDUs who

had died from AIDS. Respondents reported an average of 2 ± 4 IDUs that they knew had died from AIDS with a range from zero to 30. This was also significantly higher ($t_{233} = 4.76$, $p < .001$) than the 1 ± 2 IDUs (range 0 to 30) which respondents from other cities reported they knew had died from AIDS.

“How many injecting drug users do you know who have hepatitis C?”

“How many injecting drug users do you know who have hepatitis B?”

Only 44 respondents (20%) reported that they did not know any IDUs infected with hepatitis C. Respondents reported knowing an average of 14 ± 20 IDUs (range 0 to 80) who have hepatitis C. Seventy nine (36%) respondents stated they did not know anyone infected with hepatitis B. Respondents reported knowing an average of 6 ± 15 IDUs (range 0 to 80) infected with hepatitis B. This was significantly higher ($t_{191} = 3.36$, $p < .001$) than the average of 2 ± 7 IDUs (range 0 to 75) that respondents from other cities reported they knew were infected with hepatitis B.

“How many males do you know who inject drugs?”

“How many of these men are gay or have sex with other men?”

Respondents knew an average of 30 ± 25 males (range 0 to 98) who injected drugs. Among these, respondents knew an average of 6 ± 12 (range 0 to 60) men who were gay or had sex with other men. Respondents in other cities reported knowing a significantly lower number of male IDUs (MEAN= 3 ± 8 , $t_{196} = 2.65$, $p < .001$) who were gay or had sex with men.

“How many female injecting drug users do you know?”

“How many of these women are lesbian or have sex with other women?”

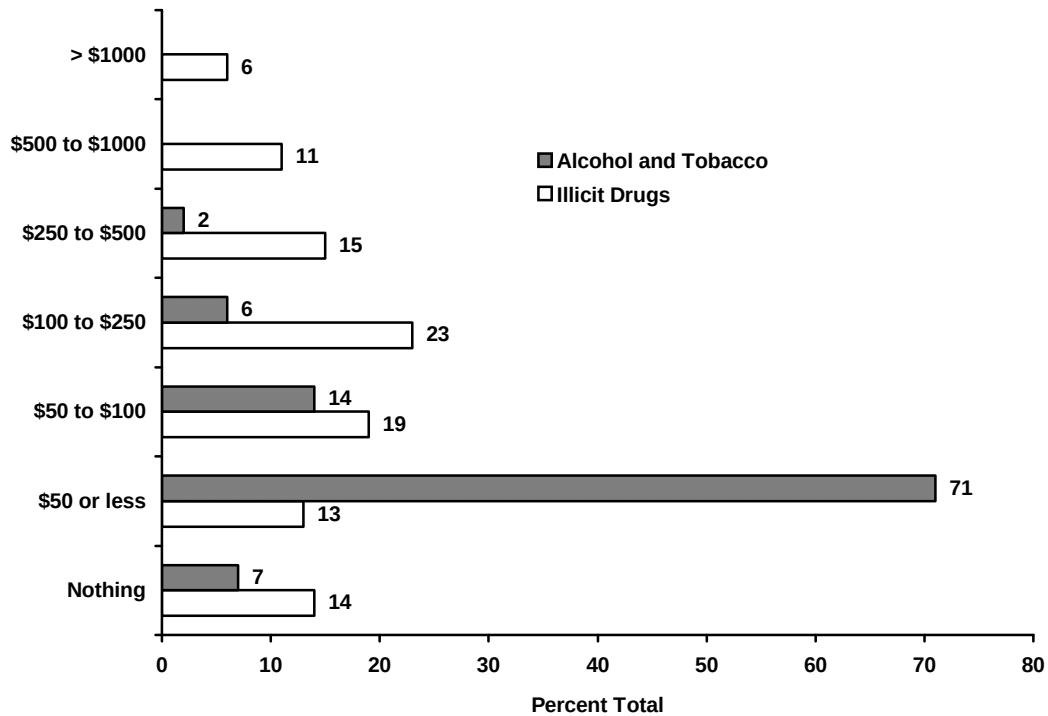
Respondents knew fewer women who injected drugs. They reported an average of 24 ± 24 female IDUs (range 0 to 98). Among the women, respondents knew an average of 6 ± 11 (range 0 to 50) who were lesbian or had sex with other women.

“How much did you spend on illicit drugs last week?”

“How much did you spend on alcohol and tobacco last week?”

Respondents reported spending a mean of $\$311 \pm 438$ on illicit drugs in the past week with a range from nothing to \$2500. This was slightly higher than the mean of $\$263 \pm 583$ for the other cities with a range from nothing to \$8500. Respondents reported spending much less on alcohol and tobacco. An average of $\$50 \pm 66$ was spent by respondents on alcohol and tobacco with a range from nothing to \$630. Respondents in other cities reported similar amounts with a mean of $\$46 \pm 53$. Figure 34 shows the frequency for amounts spent in the past week for Sydney respondents.

Figure 34. Amount spent on illicit and licit drugs in past week



“During the last week how much income did you get from....?”

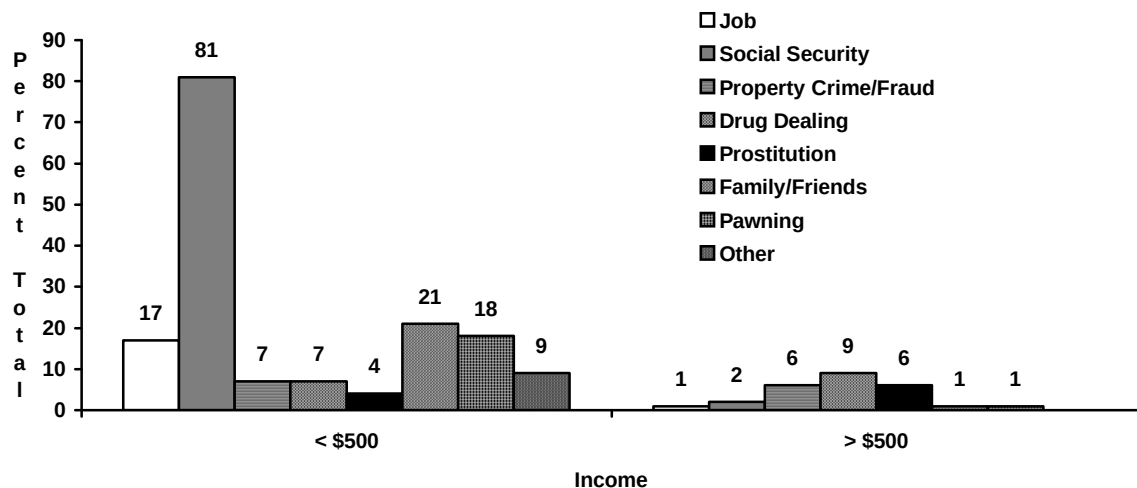
Respondents were asked to identify the source of their weekly income and how much money they gained from that source in the past week. Table 7 lists the average amount Sydney respondents and those respondents from other cities received from each of the sources.

Table 7. Average income received in past week

Source of Income	Sydney		Other cities	
	Average \$	Range \$	Average \$	Range \$
Job	52 ±136	0 - 800	103±209	0-1800
Social Security	199 ±153	0 - 1500	150±112	0-1080
Property Crime or fraud	118 ±618	0 - 8000	49±254	0-4000
Sale of drugs	105 ±447	0 - 5000	121±634	0-8500
Prostitution	84 ±372	0 - 3000	15±127	0-1600
Family/Friends	26 ±93	0 - 1000	38±117	0-1500
Pawning	22 ±81	0 - 900	22±73	0-1000
Other	12 ±47	0 - 300	24±192	0-4444
Total weekly income	696 ±1397	20 - 13000	522±749	10-8500

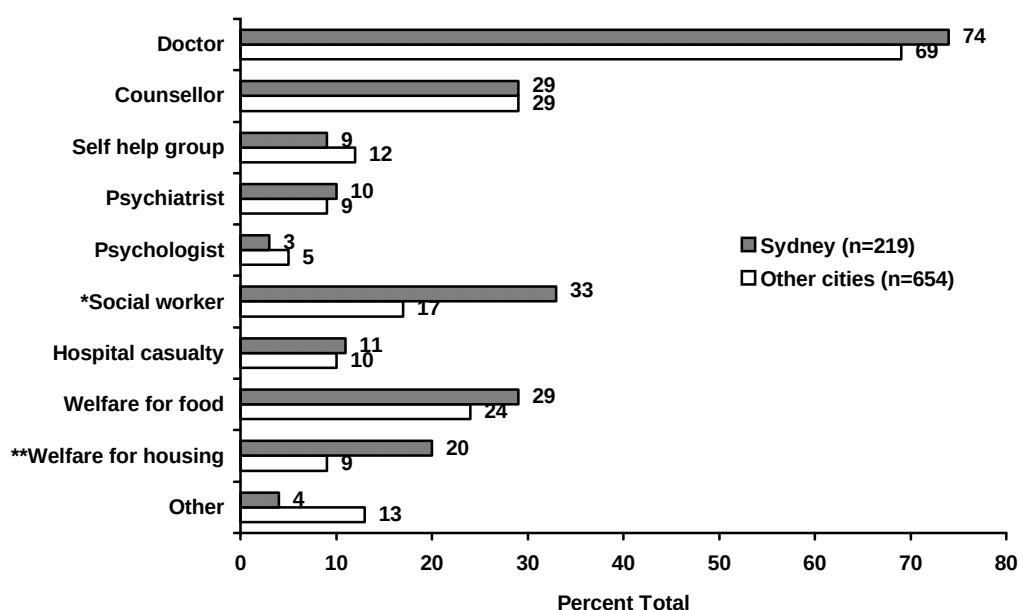
Only 39 respondents (18%) reported income from employment while 182 respondents (83%) reported receiving social security benefits. Higher incomes were reported for illegal activities such as property crime, drug dealing and prostitution although less than 20% of the sample reported receiving funds from each of these sources. A total annual income of approximately \$36,000 was calculated for Sydney respondents from the reported weekly income. Figure 35 illustrates the frequency of amounts reported by Sydney respondents for each category.

Figure 35. Income received in past week in Sydney



“In the last month, have you used any health and welfare services for yourself?”

Respondents were given a list of various health and welfare services in New South Wales and asked if they had attended them in the past month. The majority of respondents attended a doctor (74%), social worker (33%), counsellor (29%), welfare agency for food (29%) or a welfare agency for housing (20%). A similar percentage of respondents were reported for other cities. However, a slightly lower percentage of respondents from other cities reported attending a social worker or welfare agency for housing. Figure 36 outlines the percent of the sample who used the various services.

Figure 36. Use of health and welfare services in the past month

* OR=2.4, 95% CI=1.7-3.5, p<.001

** OR=2.8, 95% CI=1.8-4.3, p<.001

COMMENT

The data in this chapter indicates that most IDUs interviewed were living in difficult circumstances with almost two thirds living in rented accommodation or state housing. They appear to have supportive social networks although many of these are other IDUs. Compared with most studies of HIV/AIDS in IDUs, there is little exposure to cases of HIV/AIDS among IDUs. Links between these respondents and homosexual male IDUs are strong. This suggests that an epidemic of HIV spreading sexually among homosexual male IDUs could potentially spread through needle sharing to female and heterosexual male IDUs if prevention of HIV spread in this population had not been supported in the past or was withdrawn in the future.

In contrast most (80%) respondents knew many other IDUs with hepatitis C and a majority (64%) knew several IDUs with hepatitis B infection.

According to the figures provided by respondents, these 219 respondents spent over \$3.5 million on illicit drugs per year of a total income of about \$8 million of which \$2.7 million was derived from property crime, fraud and the sale of drugs. Average annual income per respondent was about \$36,000 of which about \$16,000 was spent on illicit drugs.

Almost three quarters had attended a doctor in the previous month and attendance at other health and welfare professionals was common.

TREATMENT HISTORY

“Has your use of drugs resulted in any problems?”

“Are you currently in treatment?”

“What is the main way you are currently getting treatment?”

One hundred and sixty respondents (73%, n=219) reported that their drug use had caused problems compared to 81% (n=653) of respondents from the other cities. One hundred and twenty four (57%) stated they were currently in treatment compared to 44% of respondents in other cities (OR=1.7, 95% CI=1.2-2.3, $p<.001$). Ninety percent of those in treatment were in a methadone program for maintenance or withdrawal. The remaining respondents were in counselling (7%), Narcotics Anonymous (1%) or some other type of unspecified treatment (2%). In comparison, only half of respondents from other cities were in methadone maintenance or withdrawal while one third were in either residential detoxification or counselling ($p<.001$).

Respondents currently in methadone treatment were also asked about their treatment history.

“When did you start methadone treatment this time?”

“Is this the first time you have received methadone treatment?”

Respondents reported starting methadone treatment an average of 29 ± 33 months previously (range from one month to sixteen years). Respondents from other cities averaged a slightly shorter time since starting methadone (21 ± 26 , range one month to nineteen years). Fifty nine (47%) of the Sydney respondents currently in methadone treatment reported this was the first time they had been in methadone treatment compared to 37% of respondents from other cities.

“What dose were you on when you started methadone treatment this time?”

“What dose of methadone are you on now?”

“What is the maximum dose you received this time?”

The average starting dose reported by Sydney respondents was 51 ± 28 mg (range from eight to 180). Respondents from other cities reported an average starting dose of 40 ± 19 mg (range from ten to 100 mg). The average current dose reported in Sydney was 66 ± 45 mg (range from five to 360 mg) and 52 ± 35 mg (range from one to 250 mg) in the other cities. The average maximum dose prescribed for respondents in Sydney during the current course of treatment was 88 ± 47 mg (range from 16 to 360 mg). The average maximum dose reported by respondents from the other cities was 70 ± 35 mg (range from ten to 250 mg).

“How many times have you been on methadone treatment before?”

“How long is it since you last received methadone treatment?”

Sixty five respondents reported being in methadone treatment an average of 3 ± 2 times (range from one to twelve times). The average time since they last received methadone treatment was 39 ± 36 months (range from two months to fifteen years). Respondents from other cities reported a similar experience.

“What is the maximum dose of methadone you have ever received?”

“How long were you on that dose?”

The average maximum dose of methadone ever received by Sydney respondents was 115 ± 45 mg (range from 45 to 260 mg). The maximum dose of methadone ever received by respondents from other cities was 87 ± 70 mg (range from 30 to 550 mg). The average time on the maximum dose was 12 ± 19 months (range from one month to ten years).

“Have you ever been on methadone treatment?”

“How many times in the past have you been on methadone treatment?”

“How long ago were you last on methadone treatment?”

Twenty six respondents who were not currently in methadone treatment reported having been in treatment in the past. The average number of times they had been in treatment was 2 ± 1 times (range from one to four times). The average number of months since they were last in treatment was 18 ± 29 months (range from one month to ten years).

COMMENT

Almost three quarters of respondents reported that their drug use had caused them problems. Over half were in treatment with 90% of these on methadone treatment for, on average, the last two and a half years. Another one third had previously been in methadone treatment. The reported doses of methadone received are in the effective range. These results all point to a major demand for treatment which is mainly met by methadone provided, at least in terms of dose, consistent with research recommendations. From an HIV prevention perspective, the rapid decline in injecting risk behaviour, the high utilisation of needle exchanges and pharmacies and the high level of uptake of methadone are very favourable findings. It remains to be seen whether these findings would be generalisable to IDUs recruited from other parts of Sydney and elsewhere in NSW. The high mobility of IDUs suggests that, at the very least, the risk practices data are generalisable.

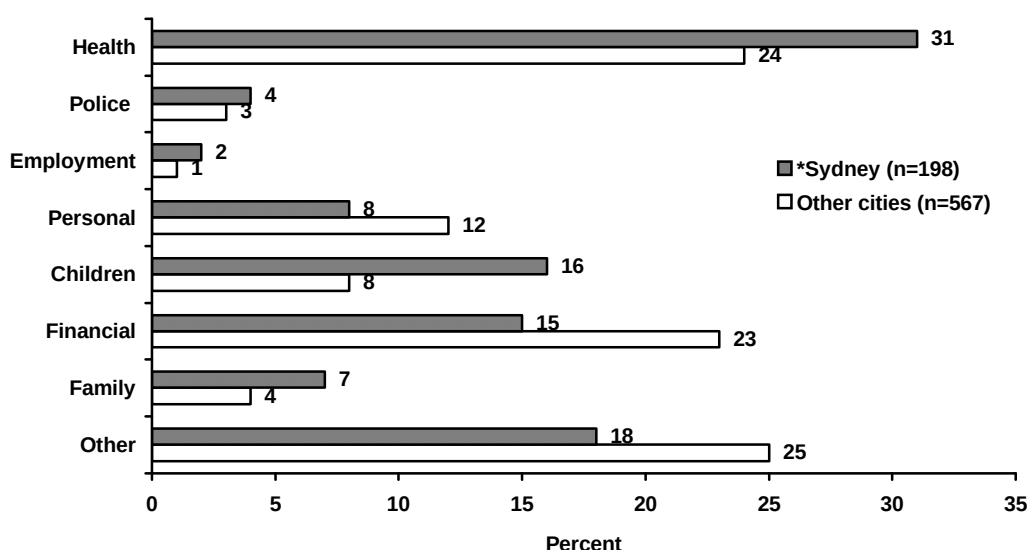
BARRIERS TO SEEKING TREATMENT

“Have you ever wanted to change your drug use?”

“What was the main reason you wanted to change your drug use?”

One hundred and ninety eight respondents (90%) stated they wanted to change their drug use. This was similar to the other cities in the study. The main reasons provided for wanting to change their drug use were health (31%), other reasons (18%), for their children (16%) and for financial reasons (15%). The reasons provided by Sydney respondents and those from the other cities are summarised in Figure 37.

Figure 37. Reasons to change drug use



* $p < .001$

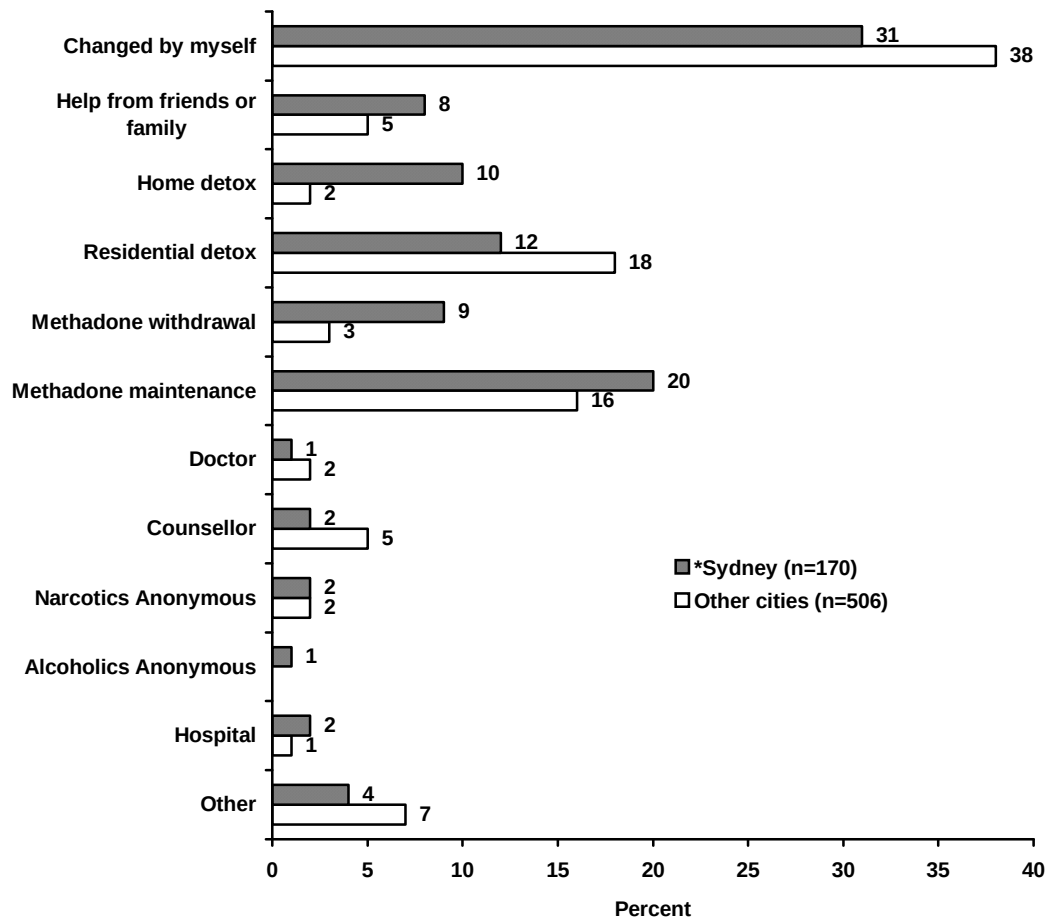
“On the last occasion you wanted to change your drug use did you actually try to do it?”

One hundred and seventy (86%) of the Sydney respondents who wanted to change their drug use actually tried to do so on the last occasion they made the decision.

“On the last occasion how did you try to do it?”

Among those who tried to change 39% tried by themselves or with friends or family help and 29% used methadone treatment. A similar distribution was seen for the other cities with slightly more indicating that they had tried residential detoxification programs. The treatment methods used by those trying to change are summarised in Figure 38.

Figure 38. Treatments used last time tried to change



* $p < .001$

“Did this method help you to stop using or cut down or control you use?”

“Are you still using this method?”

“How long has this method been successful for you?”

One hundred and thirty five of the respondents (80%) who tried to change felt the method they used helped them control their use. This was similar to the other cities. However, only 82 respondents (59%) were still using the same method compared with 72% of respondents from other cities (OR=0.6, 95% CI=0.4-0.9, $p < .01$). The average amount of time respondents had been using these methods was 18 ± 27 months with a range from one month to 12 years.

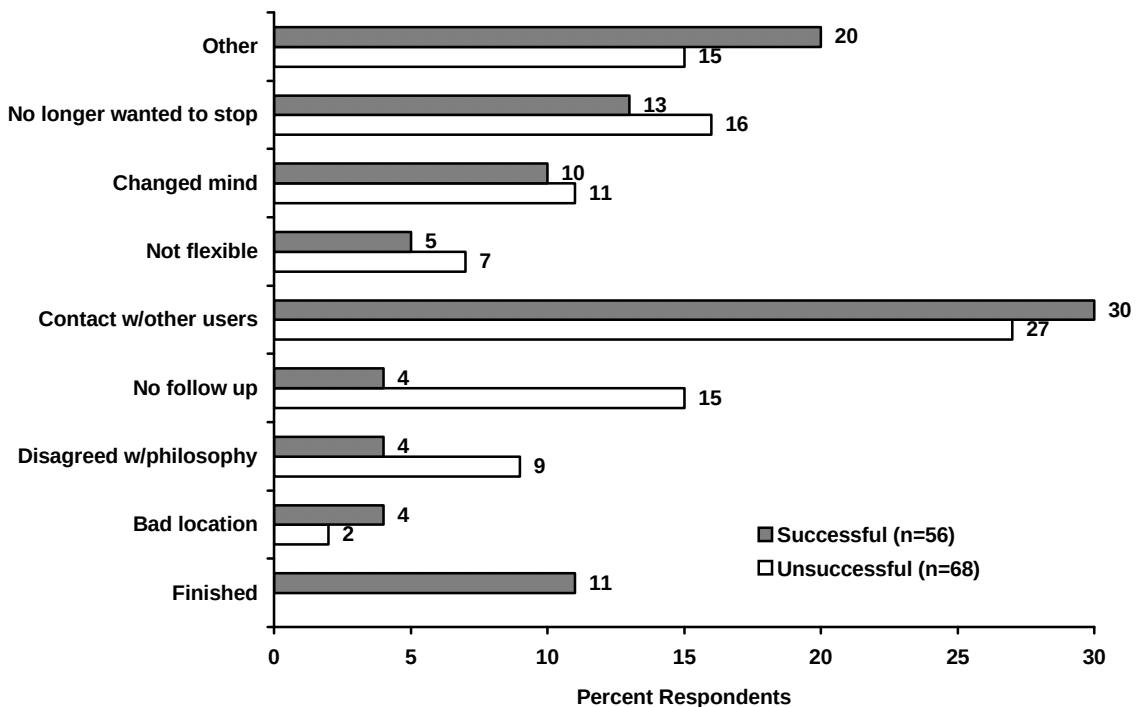
“What was the main reason you stopped using a successful treatment?”

“What was the main reason treatment was not successful?”

Fifty six respondents (25%) identified reasons for stopping the successful method of treatment. Seventeen (30%) reported there was too much contact with other users. The next most prevalent reasons were “no longer wanting to stop” (13%), “changed mind about participating” (10%), and “finished the treatment” (10%). These reasons differed with the responses from respondents in other cities ($p < .01$) who reported “no longer wanting to stop” (26%), “finished the treatment” (18%), and other reasons (34%) as the primary motivation to stop treatment.

Sixty eight respondents provided reasons why the last treatment they tried was not successful. Eighteen (27%) reported there was too much contact with other users. Eleven (16%) reported they no longer wanted to stop. Ten users (15%) reported no follow-up support was given. No longer wanting to stop (29%) and too much contact with other users (17%) were the prevalent responses from respondents in other cities ($p < .001$). Figure 39 compares the reported reasons to discontinue treatment for Sydney respondents who reported successful and unsuccessful outcomes.

Figure 39. Reasons to discontinue treatment



“Which treatment methods have you ever tried?”

Two hundred and one respondents reported the various treatment methods they had tried in the past. The four most frequent methods reported were “changing by themselves” (88%), “methadone maintenance” (68%), “home detoxification” (62%) and “changing with friends or family help” (53%). In comparison, respondents from other cities reported “changing by themselves” (89%), “changing with the help of family and friends” (51%), a “GP” (47%) and “counselling” (44%) as the four most prevalent methods ever tried. Frequencies for each treatment method are summarised in Table 8.

Table 8. Treatments ever tried

Treatments ever tried	Sydney (n=201) %	Other cities (n=601) %
Changed by themselves	88	89
Changed with friends/family help	53	51
Home detoxification*	62	40
Residential detoxification	44	41
Methadone withdrawal	37	22
Methadone maintenance**	68	38
Doctor	45	47
Counselling	45	45
Narcotics Anonymous	33	24
Alcoholics Anonymous***	24	11
Hospital	20	13
Other	7	13

* OR=2.5, 95% CI=1.8-3.5, p<.001

** OR=3.4, 95% CI=2.4-4.9, p<.001

*** OR=2.5, 95% CI=1.6-3.9, p<.001

COMMENT

Although 90% of respondents wanted to change their drug use, law enforcement seemed to provide little impetus to change as only 4 % identified police as a factor. An additional 13% identified "financial" which presumably represents high prices of street drugs (which tend to be raised if law enforcement is effective). It is impressive that 31% tried self help, 29% methadone maintenance and withdrawal and 22% have undergone detoxification. Almost one in ten sought help from family and friends. Five other options accounted for a total of 8% of respondents seeking help. Only 1% sought help from a doctor yet 75% had seen a doctor in the last month. Barriers to continue treatment were similar both for those who regarded treatment as successful as well as those who regarded treatment as unsuccessful.

Contact with other drug users was most commonly identified as the major factor for lack of success. As methadone treatment was the major treatment exposure, this suggests that increasing the provision of methadone from general practice and community pharmacies may improve retention in treatment as this decreases contact with other IDUs.

"No longer wanting to stop" and "changed mind" were nominated by a quarter of both groups. These responses represent the phenomenon of relapse. Lack of follow up was identified by one in six respondents as the major reason for their lack of success and is potentially remediable.

A large proportion of these IDUs are unhappy about using drugs and have tried many times and in many ways to bring their lives under control. It should be emphasised that this sample inevitably represents IDUs who have not managed to stop taking drugs. IDUs who were benefited by treatment and have not relapsed would not have been available for recruitment in this study.

OVERDOSE HISTORY

“Have you ever overdosed on any drug?”

“How many times have you ever overdosed?”

“Which drugs have you overdosed on?”

141 (65%) IDUs from the Sydney sample reported having ever experienced an overdose compared with 50% of respondents from the other cities. The majority (90%) of those with overdose experience reported a heroin overdose. Tranquillisers were the next most common (30%) drug reported as responsible for an overdose. A majority (77%) of respondents from the other cities in the study also reported experiencing a heroin overdose although more (12%) respondents reported amphetamine overdose. Figure 40 shows the percentage of those who had ever experienced an overdose according to drug types. Approximately a third (32%) of those reporting ever experiencing an overdose reported the experience on five or more occasions compared with 19% of respondents in the other cities. The frequency of overdoses are listed in Figure 41.

Figure 40. Type of drug responsible for overdose

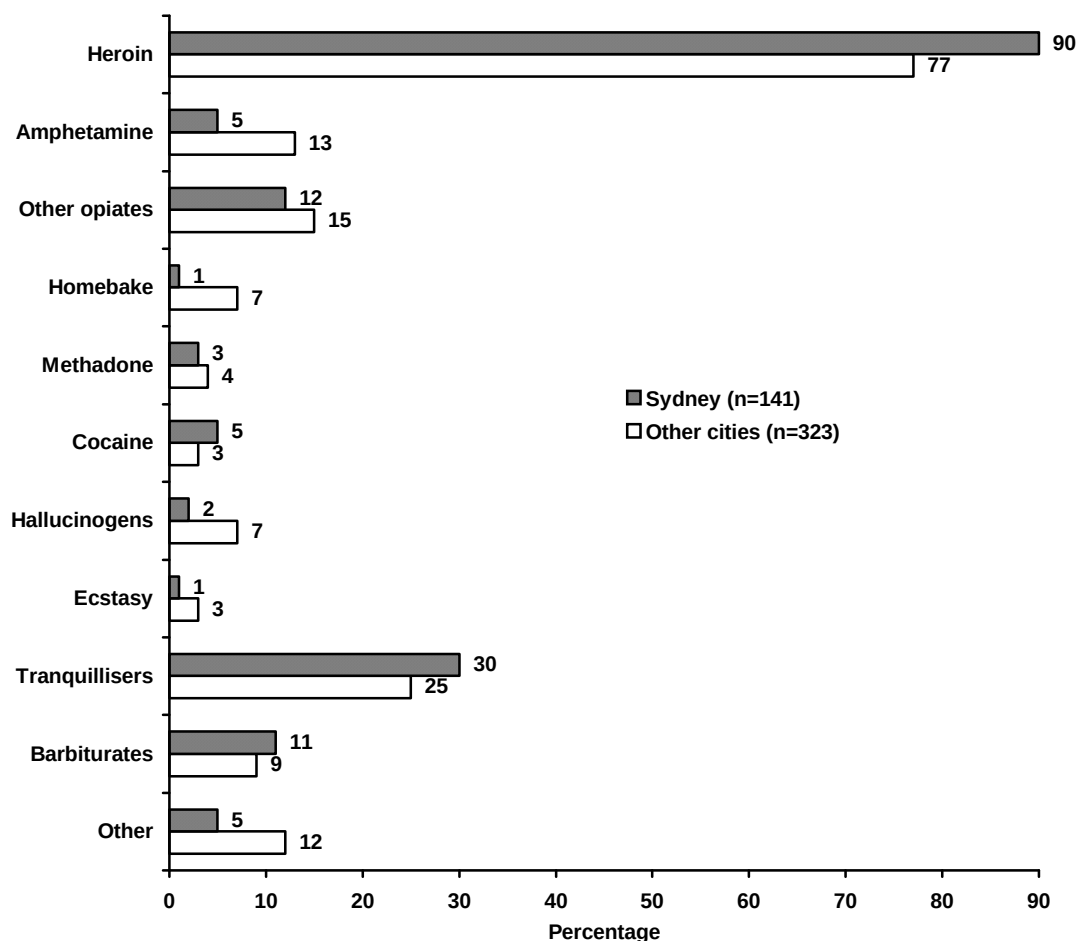
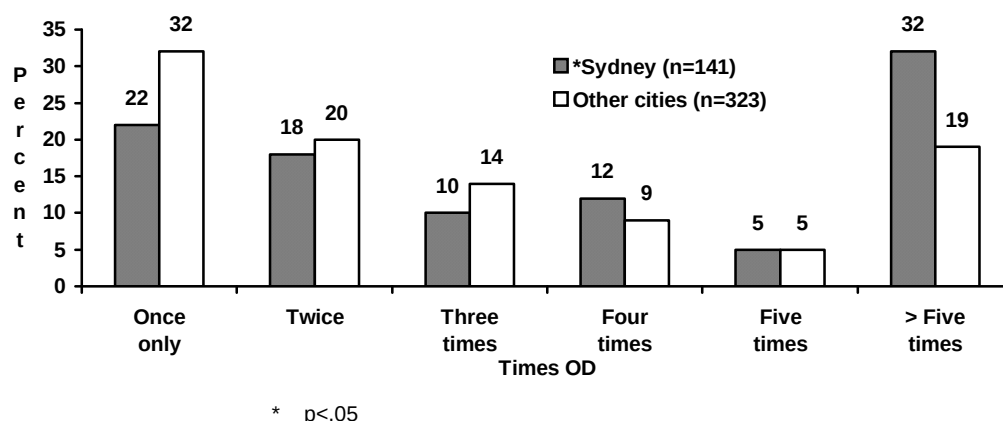


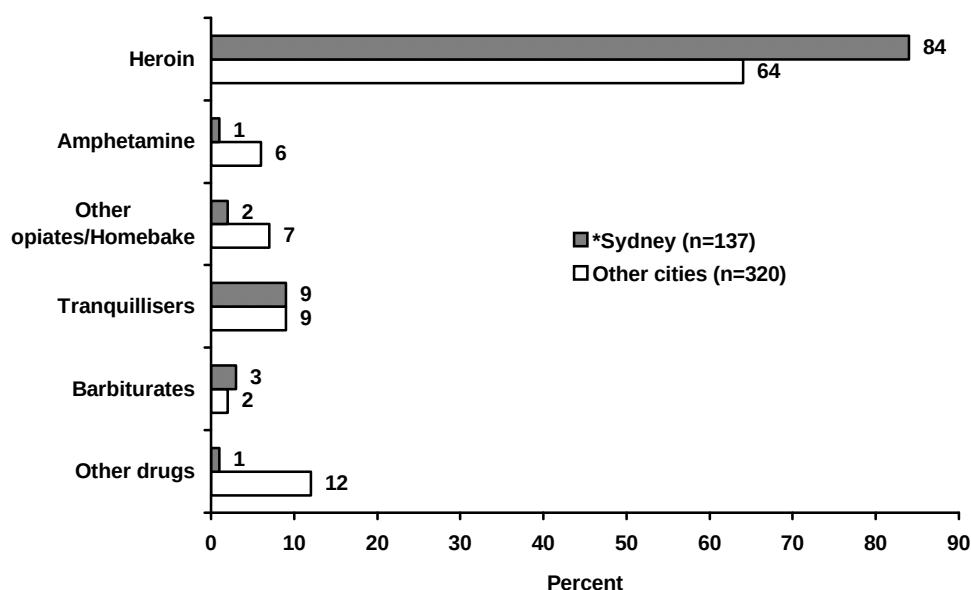
Figure 41. Number of times ever experienced an overdose

“On the last occasion, which drug did you overdose?”

“What was the main reason for the last overdose?”

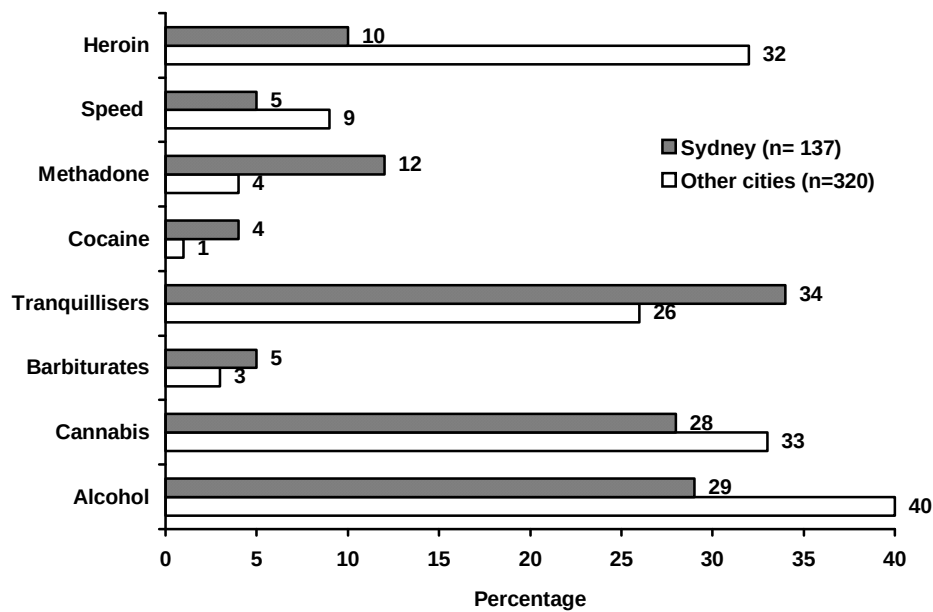
“What other drugs were you using at the same time as the last overdose?”

One hundred and nineteen respondents (84%) reported that their most recent overdose from heroin. The majority (64%) of respondents in the other cities also reported heroin as the main cause of their last drug overdose. Frequency for the various drug types are listed in Figure 42. The main reasons listed for the overdose were the variable purity of the drug (30%), use of other drugs (12%) and other reasons (38%). Among the other drugs listed by respondents as consumed during their last overdose, tranquillisers (34%), alcohol (29%) and cannabis (28%) were the most common drugs reported while a large percentage of respondents from the other cities also reported heroin. Figure 43 lists the other drugs reported.

Figure 42. Drugs responsible for most recent overdose

* p<.001

Figure 43. Other drugs used before most recent overdose



“What happened the last occasion you overdosed?”

“How long were you admitted to hospital for?”

“While you were in hospital did anyone talk to you about your drug use?”

Sixty respondents (42%) reported attending an hospital emergency centre or being admitted to the hospital after their last overdose. This was a higher percentage than reported in the other cities ($p<.001$). Forty four (31%) respondents reported being cared for by friends. Table 9 indicates the reported outcome of the most recent overdose.

Table 9. Response to last overdose

Response to Overdose	Sydney (n=141) %	Other cities (n=323) %
Admitted to hospital	26	19
Hospital - Emergency only	16	11
Friends looked after you	31	46
Ambulance attended	13	12
Narcan	7	3
Can't remember	1	2
Other	4	5

For the 37 respondents reporting being admitted to the hospital, the average duration of stay was 3 ± 4 days (range from one to fourteen days). Twenty two respondents (60%) reported staying in the hospital for one day. About 50% of those in hospital talked to someone about their drug use during their stay.

“Did you change the way you use drugs as a result of your last overdose?”

“How did you change after your last overdose?”

Sixty one respondents (43%, $n=141$) reported changing their patterns of drug use after their last overdose which was similar to other cities. The majority (41%) of respondents reported reducing the amounts of drug used or being more careful (30%) with other drugs used in a drug taking session. In comparison, one quarter (25%) of the respondents from the other cities stopped all drug use, stopped using the drug responsible for the overdose, or stopped injecting. Responses are recorded in Table 10.

Table 10. Changes after last overdose

Changes after overdose	Sydney (n=61) %	Other cities (n=155) %
Stopped using all drugs	2	3
Stopped using overdose drug	14	21
Stopped injecting drugs	0	1
More careful with other drugs during session	30	19
Entered treatment	6	3
Reduced amount of drug used	41	28
Other changes	6	24

“Have you ever been with anyone when they had a fatal overdose?”

“How many times have you been with someone when they had a fatal overdose?”

“Have you ever been with anyone when they had a non-fatal overdose?”

“How many times have you been with someone when they had a non-fatal overdose?”

Seventy three respondents (33%) reported ever being present at a fatal overdose which was a larger percentage than reported in other cities (OR=1.8, 95% CI=1.3-2.6, $p<.001$). These respondents reported being present at an average of 3 ± 4 fatal overdoses (range from 1 to 50). One hundred and seventy nine respondents (82%) reported being present at a non-fatal overdose which was a larger percentage of respondents than in other cities (OR=1.8, 95% CI=1.2-2.7, $p<.01$). These respondents were present at an average of 8 ± 11 non-fatal overdoses (range from 1 to 50).

COMMENT

As expected, heroin dominates the drugs held responsible by these respondents for their experience of overdose. Two thirds have experience of a previous overdose with almost half of these (49%) experiencing an overdose on four or more occasions. Only 3% attributed a previous overdose to methadone while many more attributed the overdose to alcohol. However, as is known from other sources, multiple drugs are usually taken at the time of an overdose although only one in eight attribute the overdose to polydrug use.

It is clear from these data that official statistics under-represent the actual total of overdoses as a considerable proportion are not reported. Although only 12% attribute previous overdoses to polydrug use, being more careful with other drugs is the second most commonly cited response to reduce the risk of a future overdose. It is surprising that only 6% decided to enter treatment. The proportion who stopped drug use or stopped use of the drug held responsible is likely to be an underestimate of the outcome of an overdose as only those IDUs in this category who had subsequently relapsed would have been eligible to be recruited in this study.

These data suggest that overdose is a common problem and that many IDUs have been present when a fatal or non-fatal overdose has occurred. The experience of an overdose seems to offer little incentive to discontinue further drug taking.

TRANSITIONS BETWEEN NON-INJECTING AND INJECTING

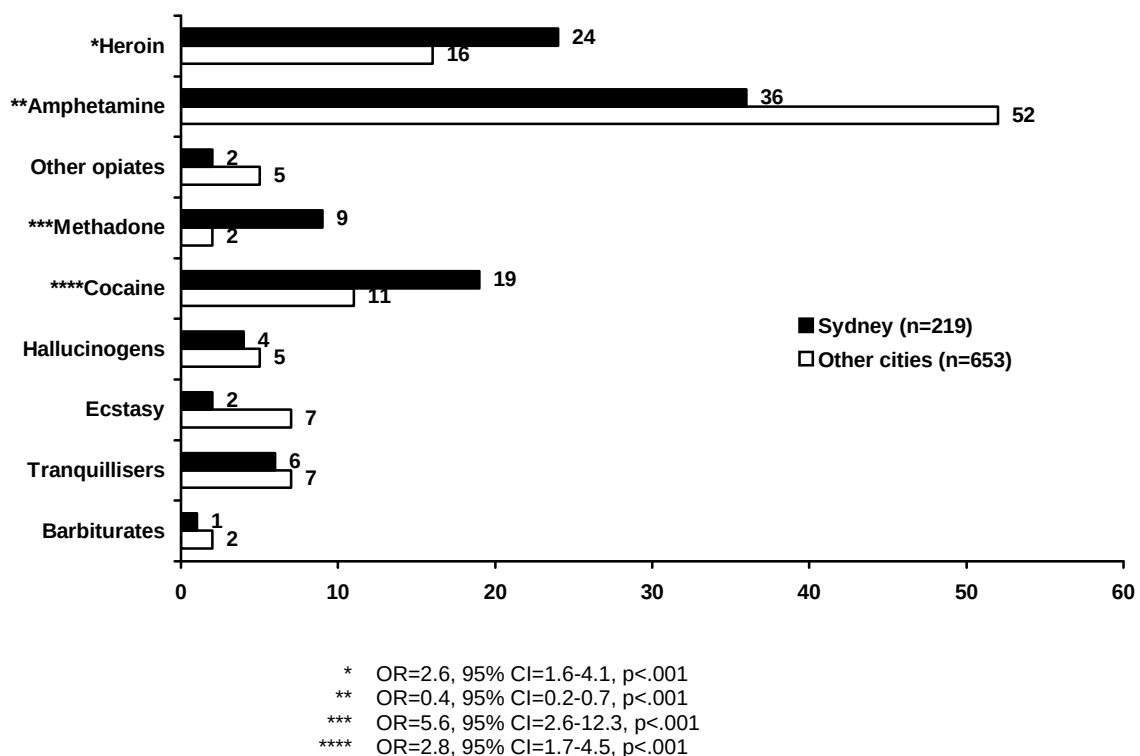
“Have you ever started injecting a drug that you used to only snort, smoke or swallow?”

“Which drugs did you change to injecting from snorting, smoking or swallowing?”

“What was the main reason you started injecting the drugs you originally snorted, smoked or swallowed?”

One hundred and fourteen (52%) of the Sydney respondents reported switching to injecting from snorting, smoking, or swallowing while 61% of the samples from other cities reported switching to injecting. The largest numbers reported making a transition to injecting for amphetamine (36%), heroin (24%), cocaine (19%) and methadone (9%). In comparison, a larger portion of IDUs from other cities reported the transition to injecting for amphetamine (52%), heroin (16%), cocaine (11%) and ecstasy or tranquillisers (7% each). Figure 44 reports the percentage of respondents who switched to injecting by drug type.

Figure 44. Transition to injecting by drug type



The frequent reasons reported for making a transition to injecting for all drug types were curiosity, better high and faster high. Table 11 lists reasons for transitions in Sydney by drug type.

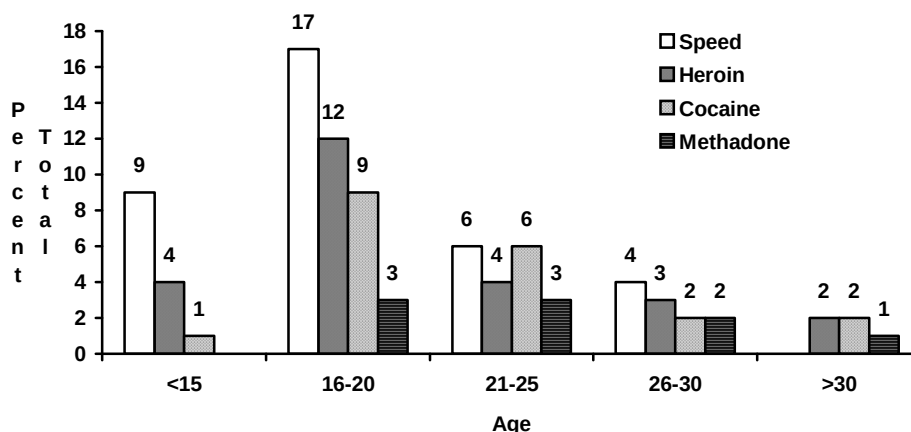
Table 11. Reasons for transitions to injecting by drug type in Sydney

Reason	Drug Type								
	Amphetamine	Heroin	Other Opiates	Methadone	Cocaine	Hallucinogens	Ecstasy	Tranquillisers	Barbiturates
	f	f	f	f	f	f	f	f	f
Availability	1	2	-	1	-	-	-	-	-
Price	2	7	-	-	2	-	-	-	-
Pressure from others	8	3	-	1	3	-	2	2	-
Better High	25	18	1	4	14	3	1	4	-
Faster High	16	7	2	5	12	3	2	1	1
Curiosity	21	12	1	5	7	2	-	6	2
Everyone else is doing it	1	3	-	1	1	-	-	-	-
Other reasons	4	1	1	1	3	-	-	-	-
TOTAL	78	53	5	18	42	8	5	13	3

“How old were you when you started to inject any drugs that you used to snort, swallow or smoke?”

The average age of transition for most drug types was the early twenties. The majority of Sydney IDUs using amphetamine and heroin made the transition before the age of twenty. Figure 45 shows the percentage of respondents who switched to injecting by age and the top four drug types.

Figure 45. Age when switched to injecting by drug type (n=219)



“Have you ever stopped injecting a drug and returned to smoking, snorting or swallowing?”

“What was the main reason you returned to smoking, snorting or swallowing a drug?”

Only 42 (19%) Sydney respondents reported returning to smoking, snorting or swallowing from injection while only 15% of the samples from other cities reported returning to smoking, snorting or swallowing. The most frequent reasons reported in Sydney for the change were general health reasons, bad veins and needles and syringes being unavailable. Table 12 summarises the reasons reported.

Table 12. Reasons for returning to smoking, snorting or swallowing

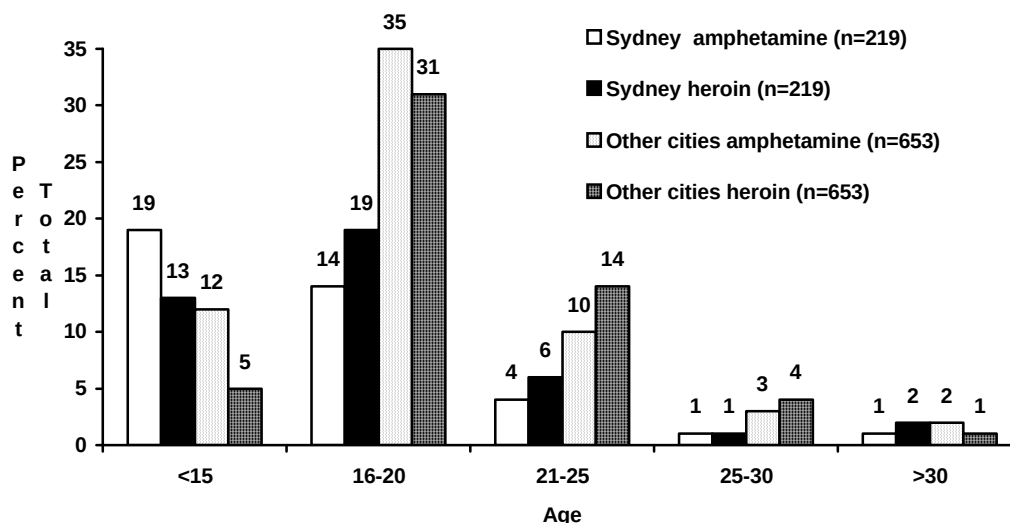
Reason	Sydney (n=42) f	Other cities (n=97) f
General health reasons	12	23
Bad veins	7	10
Needles and syringes not available	6	3
Avoid trouble with police	2	2
Pressure from partner	1	6
Concerned about risk of AIDS	1	
Concerned about risk of hepatitis C	1	
Other	12	53

“How old were you the first time you used amphetamine?”

“How old were you the first time you used heroin?”

Eighty seven (40%) Sydney respondents reported their age of first amphetamine use and 88 (40%) respondents reported their age of first heroin use. The average age of first amphetamine use was 17 ± 5 years (range 12 to 33) and first heroin use 18 ± 5 years (range 12 to 35). The average age reported by respondents in the other cities for first amphetamine use was 19 ± 5 years (range 11 to 49) and average age for first heroin use was 20 ± 4 years (range 9 to 48). While the majority of Sydney heroin (33%) and amphetamine (32%) users had tried the drugs before the age of twenty, a higher percentage of IDUs tried amphetamine before the age of 15 compared with heroin users. The 16 to 20 year old group had the highest percentage (19%) of first time heroin use. In comparison, the majority of respondents from the other cities reported first heroin and amphetamine use in the 16 to 20 year age range. Figure 46 compares the ages for first amphetamine and first heroin use.

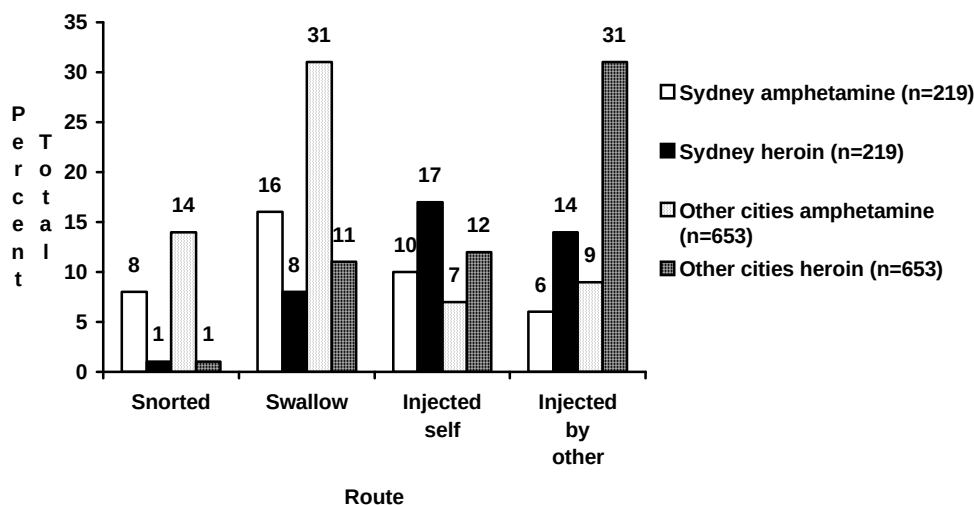
Figure 46. Age of first amphetamine use vs first heroin use



“The first time you used amphetamines how did you take it?”

“The first time you used heroin how did you take it?”

Fifty three Sydney IDUs reported snorting or swallowing amphetamine the first time they used the drug compared with 34 users who injected it the first time they tried it. However, 68 out of 88 Sydney IDUs reported injecting heroin the first time they used the drug. IDUs from other cities also reported injecting more frequently among heroin users the first time. Figure 47 shows the percentage of the total sample reporting how they first took both drugs.

Figure 47. First routes of administration for amphetamine and heroin

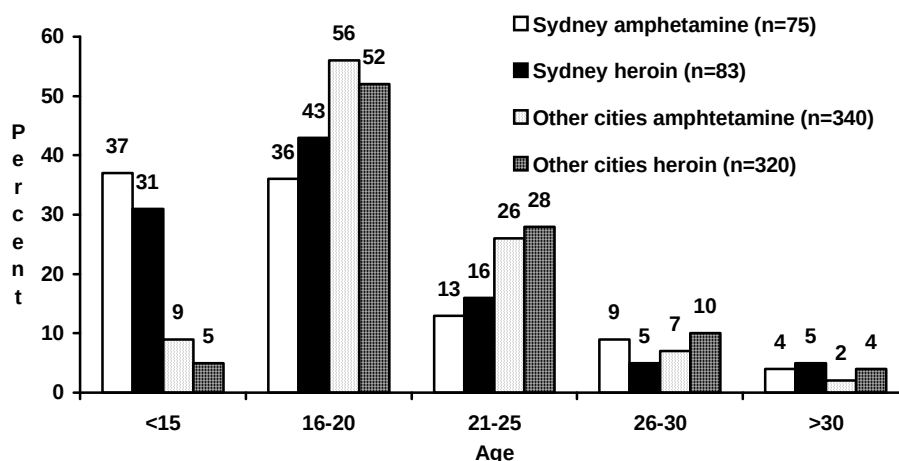
“Have you ever injected amphetamine yourself?”

“How old were you the first time you injected amphetamines yourself?”

“Have you ever injected heroin yourself?”

“How old were you the first time you injected heroin yourself?”

Approximately one third of the Sydney sample reported ever injecting amphetamine (33%) or heroin (37%) themselves. In comparison, 53% of the respondents from other cities reported self injection of amphetamine and 49% reported ever injecting heroin themselves. The average age for first injection for Sydney amphetamine and heroin users was 19 ± 5 years (range 12 to 35). Respondents from the other cities reported an mean age of 21 ± 6 years for first self administered injection of amphetamine (range from eleven to 45 years) and a mean of 21 ± 5 years for first self administered injection of heroin (range 9 to 50 years). Figure 48 illustrates the distribution across the age groups for first injecting amphetamine or heroin among Sydney respondents.

Figure 48. Age of first self injection for amphetamine and heroin

COMMENT

While over half the respondents had made the transition from non-injecting to injecting, only one fifth had made transition in the reverse direction. Achieving more impact and quicker onset of effect of the drug on the brain appears to be the dominant reason. It is interesting that price and peer pressure are accorded very little influence on this decision. Concern about HIV and hepatitis C plays a minor role in the decision to undertake a reverse transition although one quarter of respondents cited other health reasons and another quarter attributed the decision to other unspecified reasons. Less than 40% of respondents injected amphetamines the first time they took the drug compared with more than three quarters of first time heroin users.

Overall, these data suggest that the transition to injecting occurs early for most IDUs and that it is driven by powerful and readily identifiable factors. The reverse decision occurs much less frequently and the reasons for this decision are less readily identifiable.

IDU SUB-CULTURES

“Is there an IDU organisation or User’s Group in your area?”

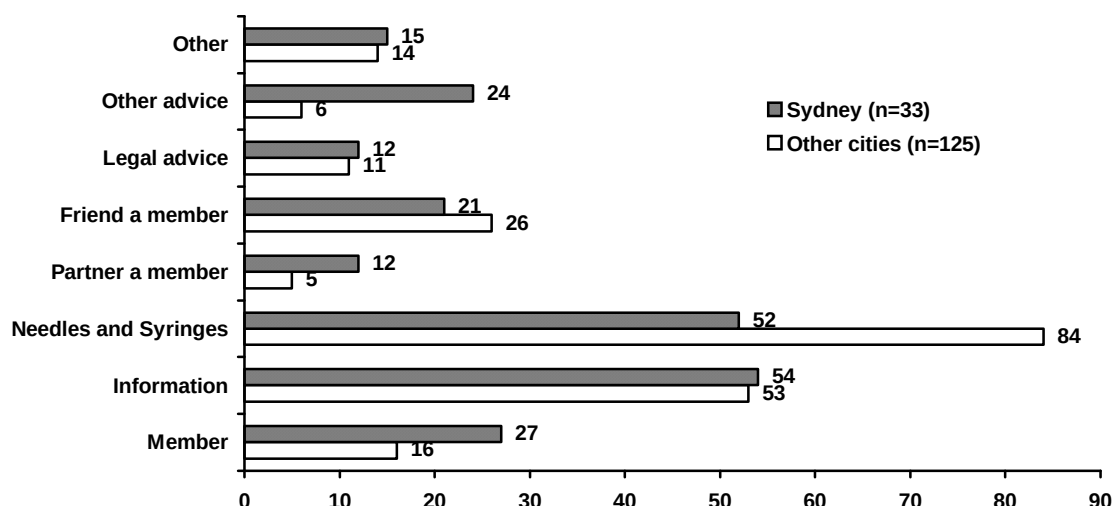
“Have you had any contact with this organisation?”

“What type of contact have you had?”

“Has your contact with this group helped you at all?”

Seventy three (33%) respondents stated there was an IDU organisation in their area. Thirty three (42%) respondents had had contact with the organisation. In contrast, only 28% of respondents from other cities had IDU organisations in their area but 64% of those respondents had made contact with a user organisation. The majority of contact was to exchange needles or to obtain information. A higher percentage from other cities used IDU organisations to exchange needles and syringes. Figure 49 summarises the type of contact which Sydney respondents had compared with other cities.

Figure 49. Type of contact with IDU organisations



Twenty five (78%) of the Sydney respondents reported their contact with the IDU groups had helped.

“If there was a user group in your area would you want to be involved?”

Only 61 respondents (28%) reported they would be interested in a user group if it were located in their area.

COMMENT

Only one in three respondents were aware of the existence of a users organisation and only one half of these had come into contact with the organisation. This suggests the need for more promotion of user organisations. It is encouraging that a very substantial proportion of IDUs who had come into contact with a user organisation had found them helpful.

PRISON

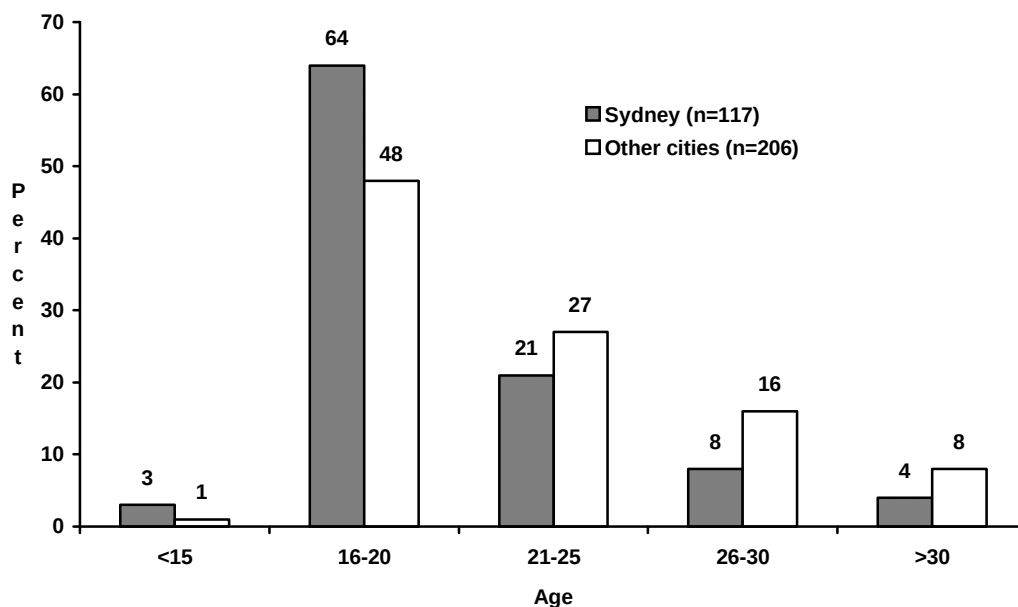
“Have you ever been in a youth training centre, juvenile justice centre, or detention centre?”

“Have you ever been in prison?”

“How old were you when you first went to prison?”

Eighty (36%) respondents reported having been in some type of juvenile justice centre compared with 18% of respondents from other cities (OR=2.6, 95% CI=1.9-3.8, $p<.001$). 117 (53%) reported a prison history compared with 32% of the respondents in other cities (OR=2.4, 95% CI=1.8-3.4, $p<.001$). All respondents with juvenile justice background also reported a later prison history. The average age of first entry to prison was 20 ± 4 years (range from 14 to 36 years) which was significantly lower ($t_{286} = -3.53$, $p<.001$) than the ages reported in other cities. The mean age of first entry to prison reported by respondents in the other cities was 22 ± 5 years. The majority (64%) of Sydney respondents reported first imprisonment in their late teens while approximately half of the respondents from other cities reported a prison history before the age of twenty. Figure 50 shows the frequency of reported ages for first imprisonment.

Figure 50. Age of first imprisonment



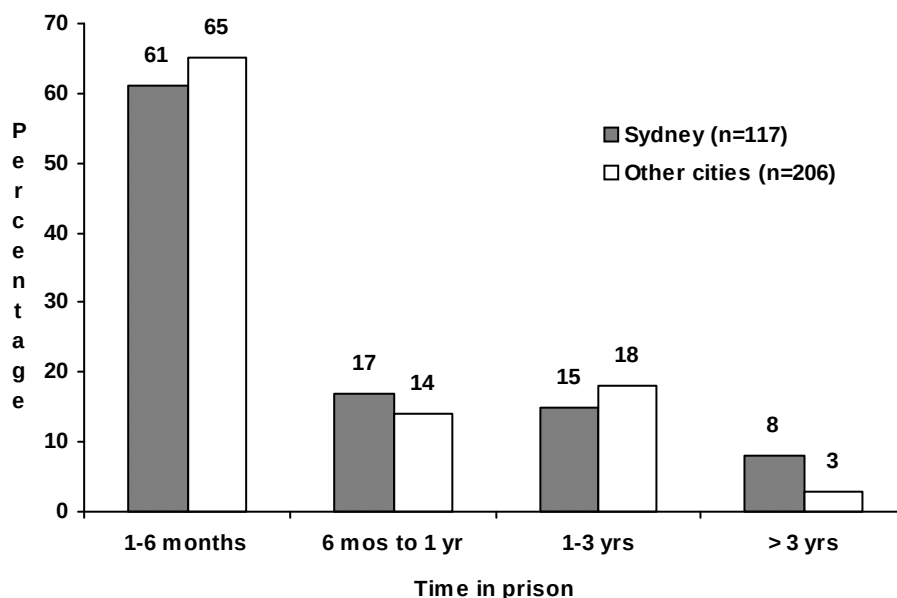
“How long is it since you were last released from prison?”

“How long were you in prison last time?”

Respondents reported an average of 38 ± 55 months since last imprisonment with a range from one month to 22 years. The average length of last imprisonment was 11 ± 17 months with a range from one month to seven years. Respondents from

other cities had a significantly longer ($t_{262} = -3.15$, $p < .005$) average time since last imprisonment (59 ± 62 months, range one month to 21 years) and shorter sentence length (9 ± 14 months, range one to 145 months). Over half of the Sydney respondents who went to prison served a sentence of less than six months. Figure 51 shows the distribution of duration of the last sentence.

Figure 51. Length of last incarceration



“The last time you were in prison was it for a drug offence?”

“Was the offence directly related to your drug use?”

“Was the offence indirectly related to your drug use?”

Sixty two (53%) respondents reported that their last time in prison was for a drug related offence. Approximately half of those reported the offence directly associated with drug use (e.g. drug possession, dealing, etc.). The other half were for offences indirectly related to drug use such as “breaking and entering” or shoplifting. Similar responses were recorded by respondents in the other cities.

“Were you on methadone last time you were in prison?”

“What dose of methadone were you on the last time you went to prison?”

“What dose of methadone were you on the last time you left prison?”

Forty-three (36%) respondents with a history of imprisonment reported being on methadone last time they were in prison which was a greater percentage than reported in other cities (13%, OR=3.4, 95% CI=2.2-7.2, $p < .001$). The average dose of methadone reported on entry was 77 ± 44 mg (range from 22 to 240 mg). In comparison, respondents from other cities who reported being on methadone in prison reported an average dose of 64 ± 34 mg (range from 20 to 150 mg). The average dose reported on exit from prison by Sydney respondents was 58 ± 54 mg (range from 0 to 280 mg). The average dose on exit from prison by respondents in other cities was 26 ± 30 mg (range from 0 to 85 mg).

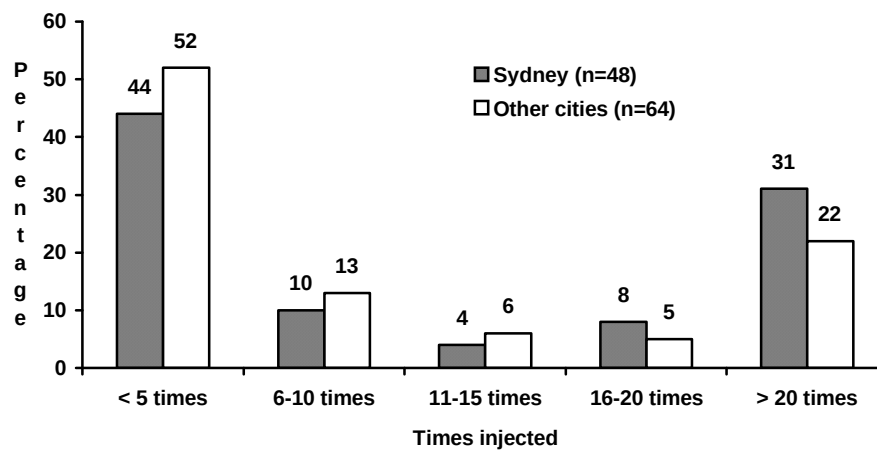
“Last time you were in prison did you inject drugs?”

“How many times did you inject drugs the last time you were in prison?”

“What percentage of the time did you share needles and syringes last time you were in prison?”

Forty-eight (41%) respondents reported injecting last time they were in prison. This was similar to the findings in the other cities (31%). Over half (54%) of those respondents injected ten times or less and approximately a third (31%) injected more than 20 times. Figure 52 shows the distribution of times injected. Twenty-one (44%) respondents reported never sharing while injecting. Sixteen (33%) reported always sharing. Similar distributions of responses were reported by respondents in other cities.

Figure 52. Number of times injecting when last in prison



“How often did you clean with bleach when you used needles and syringes last time in prison?”

“How easy was it to get bleach last time you were in prison?”

Among the 26 who reported sharing needles and syringes while in prison, 23 (88%) reported using bleach for cleaning compared with 49% of the 41 respondents who reported sharing needles in other cities ($p < .001$). However, only 30% of the respondents in other cities used bleach every time. Three remaining Sydney respondents never used bleach to clean. Seventeen (60%) respondents reported bleach was “easy to get” while seven (25%) reported it was “difficult to get.” Only one third of the respondents from other cities reported bleach was “easy to get.”

“Did you have any sexual contact last time you were in prison?”

“What type of sexual contact did you have last time in prison?”

Eleven (9%) respondents reported sexual contact when last in prison with a similar percentage of respondents reporting sexual contact in the other cities (8%). One of the other cities operates a conjugal visits program for inmates. Table 13 shows the type of sexual contact reported by these respondents.

Table 13. Type of sexual contact when last in prison

Sexual Contact	Sydney f	Other cities f
Vaginal intercourse with condom		3
Vaginal intercourse no condom	1	7
Anal sex with condom	2	1
Anal sex no condom	1	3
Oral sex with condom or dam	1	2
Oral sex no condom or dam	4	7
Masturbation with condom	3	1
Masturbation no condom	1	4
Rimming no dam		1
Fisting no glove		1
Sex toys with condom	1	
Sex toys no condom		1

“Were you tested for HIV when you last entered prison?”

“What were the results of your HIV test when you entered prison?”

“Were you tested for HIV when you last left prison?”

“What were the results of your HIV test when you left prison?”

Seven Sydney respondents reported being tested on entry to prison and again when they left prison. One respondent reported testing positive on entry and exit. One female respondent reported a negative HIV antibody test on entry and a positive HIV test when leaving prison.

COMMENT

Over half of the respondents reported experience of imprisonment. This dated from the age of 20 years on average, but over two thirds had experienced incarceration during or before their twentieth year. The last period in prison was (on average) almost one year. More than half had served a prison sentence for a drug related offence on the last occasion. The remainder served a sentence indirectly related to drugs. Over a third were on methadone on the last occasion in prison while more than 40% injected drugs their last imprisonment. While only 5% of respondents shared injection equipment in the community, one third of those who injected in prison shared. There was a bimodal distribution of injecting frequency: some injected on many occasions while a slightly larger number injected occasionally.

EXPERIENCE OF DRUG REWARD IN DEPENDENT OPIATE USERS

The following data was collected from Sydney respondents in addition to the questions outlined previously. Respondents were screened for heroin or methadone as their primary drug of choice. One hundred and forty one respondents reported opiates as their primary drug of choice. These respondents were asked an additional set of questions regarding patterns of opiate use and response to drug effects or craving. Sharon Dawe of the National Drug and Alcohol Research Centre has summarised the results from these questions.

SAMPLE

Of the 141 subjects who completed the Drug Reward section of the ASHIDU survey, 77 were currently on methadone maintenance, 75 reported that methadone was their primary drug of use and 63 reported that heroin was their primary drug of use. The remainder were coded as "other."

Using the Severity of Dependence Scale (SDS; Gossop et al, 1991) the mean score obtained for those who described their primary drug of use as methadone was 7.75 ± 2.91 (range 0 to 15). The mean score on the SDS for those who described heroin as their primary drug of use was 8.7 ± 3 (range 1 to 15).

The mean dose of methadone for those on methadone maintenance was 64 ± 33 mg (range 10 to 180 mg).

ADDITIONAL DRUG USE FOR THOSE ON METHADONE MAINTENANCE

Heroin

The most frequently used drug by those subjects currently receiving methadone maintenance was heroin (36; 47%). Of these subjects, 27 (75%) reported that they injected heroin intravenously while eight (22%) reported using heroin orally. The frequency of all heroin use is outlined in Table 14.

Table 14. Frequency of heroin use in methadone maintained clients (n=36)*

	Daily f	2 to 4 times per week f	Once per week f	Less than weekly f
Heroin use	7	11	13	2

* 3 missing cases

Cannabis

The next most frequently used drug was cannabis with 30 (40%) subjects reporting that they used it in addition to methadone. Table 15 details the frequency of Cannabis use.

Table 15. Frequency of cannabis use in methadone maintained clients (n=30)*

	Daily f	2 to 4 times per week f	Once per week f	Less than weekly f
Cannabis use	15	7	4	1

* 3 missing cases

Psychomotor stimulants

Cocaine was used by nine (12%) of the sample. All of these respondents reported intravenous injection. Amphetamine use was reported by seven (9%) of the sample respondents. All seven reported using by intravenous injection. Table 16 illustrates the frequency of cocaine and amphetamine use.

Table 16. Frequency of psychomotor stimulant use in methadone maintained clients

	Daily f	2 to 4 times per week f	Once per week f	Less than weekly f
Cocaine use	0	3	5	1
Amphetamine use	0	1	6	0

INJECTION OF METHADONE LINCTUS

“Have you ever injected methadone linctus?”

Sixty respondents (44%, n=137) reported that they had ever injected methadone linctus. Forty one (55%, n=75) respondents on methadone maintenance had injected compared with nineteen (30%, n=62) whose primary drug was heroin. This result is significantly different ($X^2 = 8.01$, $P < 0.002$).

Frequency of injecting methadone linctus

The majority (77%, n=60) of the sample reported injecting methadone less than once a week while a few (5%) reported injecting once a week and some (7%) reported injecting two to three times a week. Only one (2%) reported injecting methadone linctus on a daily basis. There was no significant difference between the frequency with which those on methadone maintenance injected methadone compared with those who were primarily heroin users.

THE "PATTERN OF DRUG USE QUESTIONNAIRE" (PODQ) AS A MEASURE OF DRUG REWARD

Experience of drug "rush" following methadone injection

Almost half (43%, n=60) of the respondents in the sample reported that they never experienced a "rush" while a minority (12%) reported that they occasionally or sometimes experienced a "rush". A few (5%) reported "often" experiencing a "rush" while the remaining 24 (40%) respondents reported that they always experienced a "rush". There was no significant difference in the experience of drug "rush" between those maintained on methadone and heroin users.

Experience of "withdrawal relief" following methadone injection

In response to the question "Did you experience a pleasant relaxed feeling after injecting methadone?", thirty one respondents (50%, n=60) reported that this always occurred. Two (4%) respondents reported that this occurred often. Six (10%) respondents reported that it occurred occasionally or sometimes and twenty (33%) reported that it never occurred. There was no difference between methadone maintenance subjects and heroin users.

"Control" and injection of oral methadone

In response to the question "Would you inject methadone if you were not withdrawing?", thirty nine (65%, n=60) respondents reported they would never inject methadone, nine (15%) respondents said that they would do this occasionally or sometimes, one (2%) respondents said often while only one subject reported always. There was no significant differences between methadone maintenance and heroin users on this question.

Finally, when subjects were asked the question "If you had more methadone than you needed to feel comfortable were you able to save some for use later?", twenty seven (45%, n=60) reported never, thirteen (22%) said that they would do this occasionally, one (2%) said often while 16 respondents reported always.

APPENDIX: EXECUTIVE SUMMARY FROM NATIONAL ASHIDU REPORT

(Note: The following Executive Summary is taken from the National report on the ASHIDU findings (Loxley et al, 1995). Discussion of background and methodology has been omitted for brevity.)

The typical ASHIDU respondent was a single man, aged 28, who had not completed secondary schooling, was unemployed, living on government entitlements, was Australian born and of English speaking background. Approximately 5% of respondents said they were of Aboriginal or Torres Strait Islander descent. Almost 10% said they spoke a language other than English at home.

Respondents reported first injecting at an average age of 18 and had a mean duration of injecting for eight years. The first injection was almost as likely to have been with an amphetamine as an opiod. These two drug types accounted for more than 90% of all first injections. Cannabis, heroin tranquillisers and amphetamines were the most commonly used illicit drugs. Approximately two thirds reported cannabis use, one half heroin use, 30% tranquilliser use and one quarter amphetamines use three or more times in the month preceding the interview.

Other drug use varied according to city: "homebake" use was almost exclusive to Perth; cocaine was almost non-existent in Perth and four times as prevalent in Sydney as in Melbourne which had the next highest prevalence; hallucinogen use was 60% more prevalent in Perth than in Adelaide which had the next highest prevalence and designer drug use was twice as common in Melbourne and Perth as in Adelaide and Sydney.

Both older and younger respondents who had been in treatment were more likely to have last injected opioids than those who had never been in treatment. One possible interpretation of this is that many treatment agencies have little to offer dysfunctional amphetamine users. Another explanation might be that opiod use hastens negative experiences of drugs, and hence entry into treatment.

One third of injectors were alone on their most recent injecting occasion and of those who were accompanied most were with only one or two other people. On the last injecting occasion over 90% reported using a sterile needle with another person at least once during the month preceding the interview. Most sharing on the most recent injecting occasion had taken place with a regular sexual partner. Younger respondents were less likely to have shared injection equipment on the most recent occasion than older respondents which suggests that new patters of injecting behaviour which do not include sharing may have become part of an emerging drug sub-culture. Alternatively, sharing may be more common among older respondents because they more commonly have a stable sexual relationship with sharing restricted to this relationship. Overall, these data represent a steady decline in the sharing of injection equipment compared to previous Australian studies.

Sixty five percent of the group were sexually active. Female and younger respondents were more likely than male and older respondents to have had at least one sexual encounter during the previous month. Two thirds of the last sexual

encounters took place with regular partners. Women were slightly more likely than men to have had sex with a partner who was an IDU. Fewer than one third of all respondents used barrier protection during this encounter. While this varied with age and the nature of the relationship (regular, casual or client), only half of those whose last contact was with a casual partner used barrier protection: This dropped to one in five in regular relationships, but almost 85% of those whose last sexual encounter was commercial used protection on that occasion.

Nearly 70% of respondents had only one sexual partner during the previous month. A further 15% had only had two partners. Fewer than one in four used protection on every occasion and about half never did so. Most of those who had penetrative anal or vaginal sex during the previous month did not use condoms consistently. Fewer than 10% of respondents had engaged in sex work during the previous month and while condoms were used consistently for sex work by 70% of those who had commercial sex, 9% of these never used condoms.

Three hundred and fourteen respondents (36%) had had at least one, and more usually two of the following sexually transmissible diseases: genital or anal warts; herpes; gonorrhoea; non-specific urethritis; hepatitis A; chlamydia; pelvic inflammatory disease; or syphilis.

About half (49.2%) of those who had injected during the previous month had attended a NSEP to obtain needles and syringes (N&S) during the month prior to interview. Those who had been in drug treatment, and bisexual and homosexual men and women were generally more likely to have used NSEP. Overall, NSEP were more frequently mentioned as a major source of N&S than pharmacies, but pharmacies were the major source of N&S for about 40% of respondents. As might be expected those who lived in inner city areas were more likely to obtain N&S from NSEP than those who lived in outer areas. The majority of respondents did not find it difficult to obtain sterile injecting equipment, but those who did, the most difficult times to obtain N&S were during early hours of the morning.

Eighty five percent of respondents reported disposing of used N&S in their own garbage bins, by returning them to NSEP or using N&S disposal bins. Most placed N&S in containers (generally FitPacks or sharps) unless they were being returned to NSEP. The use of NSEP was not seen as problematic by most respondents. Fear of identification as an IDU by police was, overall, the most frequently mentioned concern of the minority who identified problems.

A substantial proportion of respondents were uncertain about the meaning of positive antibody test for HIV, hepatitis C or hepatitis B. Nearly one fifth (18.3%) of respondents thought that a positive HIV test indicated AIDS; approximately 10% reported not knowing the meaning of a positive hepatitis (B or C) test; 5% did not know the meaning of a positive HIV test and a few believed that a 'positive' test meant the person tested had not been exposed to the virus.

Respondents were asked to assess their chance of contracting each of the three viruses. Although most thought - accurately - that they had a higher chance of contracting hepatitis C and/or hepatitis B than HIV, other responses indicated that it

was difficult to make these judgements numerically. More respondents expressed difficulty in assessing their risk of HIV than of hepatitis C or hepatitis B.

Most respondents (74%) had had multiple HIV tests (the average number of tests for those tested was 6, but the maximum reported was 60). The majority had been tested for all three viruses, although participation rates for hepatitis C testing were lower than for hepatitis B and HIV. Multiple questions regarding self reported HIV, hepatitis C and hepatitis B serostatus and hepatitis B vaccination produced inconsistent responses and in some cases were inconsistent with serology undertaken in this study.

Respondents generally overestimated the proportion of HIV, hepatitis C and hepatitis B seropositive IDUs in their city. Almost all respondents understood the risk of needle sharing for the transmission of hepatitis C and hepatitis B, but were less certain about the risk of penetrative vaginal or anal sex, although most thought these viruses could be transmitted sexually.

The social circumstances of the respondents in the study were relatively stable. About half were living in rented or owned accommodation. Only 14% were living in non-private accommodation such as boarding houses or hostels. Fewer than 1% reported living on the street. While around 15% of respondents claimed that they asked for no support from friends, most of the remainder were satisfied with the support they received. Nearly 60% of respondents reported that at least half of their friends were IDUs and most respondents had shared accommodation with other injectors at least some of the time during the previous 6 months. Individually, respondents knew very few other IDUs with hepatitis B, HIV or AIDS, or IDUs who had died of AIDS, but reported knowing 4-5 times as many IDUs with hepatitis C.

There was a wide range of reported expenditure on drugs during the previous week, with a median of \$120 for illicit drugs and \$35 for alcohol and tobacco. Incomes also varied widely, but the overall picture that emerged was of people who were neither earning large amounts of money nor spending large amounts of money on drugs.

Sixty three percent of all respondents currently in treatment for their drug use were in methadone maintenance or withdrawal programs. They had a median methadone starting dose of 40 mgs, a median current dose of 50 mgs and a median maximum dose of 70 mgs, with these medians varying slightly between cities. Fewer than half of this group were receiving methadone for the first time, and those who had been on methadone before had last received methadone an average of 2.5 years previously. The median highest methadone dose ever received was 95 mgs. Twenty percent of those who were not currently on methadone had been on methadone at a previous time.

Participation in drug treatment and in different treatment types varied between cities: These variations may have been a reflection of different drug use patterns (eg. in Perth, where more last injections were non-opioids a greater participation in non-methadone treatment was found), but also in differing availabilities of treatment modalities and places in different cities (eg. in Sydney where there was significantly higher proportion of respondents who reported being in methadone treatment). City specific recruitment strategies may also have biased these findings.

Almost all (88%) respondents reported that they had wanted to change (ie. reduce or control) their drug use at some period. This was primarily for health, family or financial reasons. Most, particularly older, respondents had attempted to change, usually by either self-help or formal treatment such as methadone programs or detoxification. Younger respondents were more likely to have tried self-help than formal treatment programs. Most of those who had tried to change their drug use reported that their chosen method was successful and able to be maintained. Those who were in methadone programs had sustained their attempt to change their drug use for the longest duration. Reasons for ceasing to use a drug treatment method varied. Apart from the completion of a program of treatment, the most common reasons were that respondents no longer wanted to reduce or control their drug use, or wanted to distance themselves from other drug users.

Over half (53%) of the respondents reported previously experiencing an overdose. Overdose was more common among those who had ever been in treatment. Respondents were overwhelmingly more likely to have had an overdose when using heroin than other drugs and only 6% claimed to have ever overdosed on amphetamines. One in three respondents gave high street drug purity as the major reason for their last overdose. Other reasons included the simultaneous use of other drugs, deliberate actions or carelessness. Heroin, again, was the most frequent drug reported involved in the last overdose and 'tranquillisers' (benzodiazepines) were the next most frequently cited drugs of overdose. Use of other drugs at the time of the last overdose was very common, with most using an average of two other drugs (most commonly alcohol, marijuana and/or tranquillisers) at the time.

Around 40% of those who had overdosed reported that they had been cared for by friends and another one third attended or were admitted to hospital for relatively short periods (median 1 day). Fewer than half of those who were admitted to hospital were questioned about their drug use by staff. Approximately half had changed their drug use in some way as a result of the overdose, usually reducing or stopping use of the overdose drug or being more careful with combined drug use. Very few stopped all drug use or entered drug treatment because of an overdose. One in four (24.8%) respondents had witnessed a fatal, and three in four (73.9%) a non-fatal, overdose.

Sixty percent of respondents had made a transition from non-injecting to injecting at least one drug; usually amphetamines. Approximately 30% of respondents first used amphetamines by injection while approximately 80% first used heroin by injection. Reasons for transitions to injecting were similar for the three main drug types involved: to obtain faster or better 'highs' or from curiosity. Only 16% of respondents had made reverse transitions (from injecting to non-injecting) and these were mainly for health reasons including problems with veins.

Approximately one in three (29.5%) respondents were aware of an IDU organisation in their area. Sixty percent of those who knew of such a group had made contact with it mainly for needle exchange or information. Most believed that the group was useful, and access through the group to N&S, health related information and advice and support was valued. Almost one third (27.3%) of respondents were interested in contacting such a group; again mainly for help and support. Those who did not want

contact either did not consider that they needed help, or did not want to have contact with other IDUs. Some said they preferred to keep their drug use private.

Almost one in four (22.5%) respondents had been incarcerated as a youth and 37.5% had served a custodial sentence in prison. Men had higher rates of incarceration than women, and there was an association between having been incarcerated and having been in treatment. First incarceration occurred, on average, at age 22. Around 40% of those who had been incarcerated had been released from their most recent imprisonment in the previous year. Most had served short sentences (less than 12 months). Half had served their most recent sentence for a drug-related offence. Only one in five was on methadone when they last entered prison. One third of those who had been incarcerated injected drugs while in prison, and 60% of those had shared needles when injecting: one third claimed to have shared on every injecting occasion while in prison. Half (53.8%) of those who had shared had used bleach on every occasion, but a third (33.8%) had never used bleach. A similar number said that they found it difficult to obtain bleach in prison. Fewer than 10% reported having sexual contact while they were in prison.

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