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**THE ILLICIT DRUG REPORTING SYSTEM (IDRS) TRIAL:
FINAL REPORT**

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LIST OF ABBREVIATIONS

ABCI	Australian Bureau of Criminal Intelligence
ADIS	Alcohol and Drug Information Service
AFP	Australian Federal Police
AOD	Alcohol and other drugs
ATSI	Aboriginal and Torres Strait Islanders
BBV	Blood-borne virus
CDHSH	Commonwealth Department of Human Services and Health
CDHFS	Commonwealth Department of Health and Family Services
CDHHLGCS	Commonwealth Department of Health, Housing, Local Government and Community Services
CARA	Clients at Residential Agencies database
COTSA	Clients of Treatment Service Agencies database
DEA	Drug Enforcement Agency
ESB	English speaking background
g	Grams
HCV	Hepatitis C virus
HBV	Hepatitis B virus
HSC	Higher School Certificate
IC	Inner city
IDRS	Illicit Drug Reporting System
IDU	Injecting drug users
KG	Kilograms
LE	Law enforcement
MCDS	Ministerial Council on Drug Strategy
MDMA	3,4-methylenedioxymethamphetamine
NA	Not available
NCA	National Crime Authority
NDARC	National Drug and Alcohol Research Centre
NDSC	National Drug Strategy Committee
NESB	Non-English speaking background
NIDA	National Institute of Drug Abuse (U.S.)
NIJ	National Institute of Justice (U.S.)
No.	Number
NSW	New South Wales
OD	Overdose
ONDCP	Office of National Drug Control Policy (U.S.)

SAS	Specialist Advisory Service
SW	Southwest
THC	delta-9-tetrahydrocannabinol
Yrs	Years

EXECUTIVE SUMMARY

In 1995, the National Drug and Alcohol Research Centre was commissioned by the Commonwealth Department of Health and Family Services to revise the Illicit Drug Reporting System (IDRS) first implemented in Australia in 1989. The revised system aimed to provide a co-ordinated approach to the monitoring of data associated with the use of opiates, cocaine, amphetamines and cannabis. This information was to act as an early warning indicator of the use, availability and related health problems of the main drug categories so that responses could be implemented before significant problems developed. Data needed to be sensitive enough to alert the existence of emerging problems of national importance rather than describe phenomenon in detail, given that the main audience was the Ministerial Council on Drug Strategy and the National Drug Strategy Committee. In addition to suggesting areas for more detailed data collection, it needed to provide data in a timely manner, collect comprehensive, comparable national data, include representative coverage of the relevant populations, be simple to operate, be linked to a mechanism which could commission the collection of more in-depth data and be cost effective.

NDARC conducted a 12 month trial in Sydney of four methods for a revised IDRS. These included: (1) qualitative key informant interviews with professionals working in the drug field and illicit drug users; (2) a quantitative survey of injecting drug users; (3) ethnographic research among heroin users in southwest Sydney; and (4) an examination of other early warning indicators. Issues such as drug of choice, route of administration, type and number of illicit drug users, intensity of illicit drug use, drug-related problems, manufacture and distribution of drugs, price and purity, and reactions to government strategies were considered. In addition, a number of methodological issues, such as the degree of convergent validity, feasibility, cost and time were examined to determine the most appropriate ways to measure trends in illicit drug use.

Key informant study

This component involved interviews with key informants who were illicit drug users both in and out of treatment, and professionals recruited from health, law enforcement, research and outreach. All had good knowledge of current trends in illicit drug use and first hand contact with illicit drug users. A targeted sampling framework was used to recruit a broad range of key informants, where information from secondary data sources, previous research on illicit drug use in Sydney and consultation with researchers currently in the field were used to identify areas from which key informants could be selected. Interviews were conducted with key informants in both groups and on an individual basis to compare the efficacy of these techniques. Forty-four key informants participated in one of five group discussions, 12 of whom were also interviewed individually by phone prior to the groups. Most participants (90%) were contacted in the two week period following the groups for evaluation purposes. In addition, a summary of the group findings were sent to participants to indicate the extent of their

agreement with the comments made. After revision, a second trial of key informant methods occurred from March to April 1996, to test the final methodology. It should be kept in mind that while attempts were made to substantiate key informant reports, these results are still a subjective profile of drug use and availability based on the perceptions of key informants.

There was general agreement among most key informants that the following changes in illicit drug use had occurred in Sydney during the previous 12 months:

Opiates

- Ⓒ The average age of heroin users had decreased;
- Ⓒ There had been an increase in heroin use among the inner city Aboriginal community;
- Ⓒ There had been an increase in heroin smoking in southwest Sydney among both Asian and non-Asian populations;
- Ⓒ Methadone clients and heroin injectors throughout Sydney were using increasing amounts of benzodiazepines, and inner city populations were using more cocaine;
- Ⓒ There was an increased risk of overdose among heroin injectors related to concurrent alcohol and other drug use;
- Ⓒ An increase in methadone injection had occurred;
- Ⓒ There was an increased risk of HCV transmission;
- Ⓒ The availability of heroin had increased in southwest Sydney;
- Ⓒ More people were travelling to Cabramatta to purchase heroin.

Stimulants

- Ⓒ Amphetamine injection had increased;
- Ⓒ There was an indication that some primary amphetamine users were making a transition to regular heroin use;
- Ⓒ The purity and price of amphetamine had decreased and its availability had increased;
- Ⓒ There had been an increase in cocaine injection among some inner city injectors, and intranasal use had increased among inner city professionals;
- Ⓒ There were more cocaine-related problems including health problems and violence;
- Ⓒ The price of cocaine had decreased and its availability had increased;
- Ⓒ The availability of MDMA had increased.

Cannabis

- Ⓒ The popularity of hydroponically grown cannabis had increased, with equipment being cheaper, more available and of a higher quality;
- Ⓒ The quality and supply of cannabis had become more consistent with the increased use of hydroponics.

Survey of injecting drug users

Injecting drug users (IDU) were targeted in the survey as they are a sentinel group for drug trends. Quantitative interviews with 152 injecting drug users from the inner city (IC) and south western Sydney (SW) were conducted. Entry criteria was having injected at least monthly in the 6 months prior to the interview. Subjects were recruited using multiple methods including advertisements in rock magazines and via needle exchange outlets. They were interviewed at places convenient to them, such as coffee shops and hotels.

Several points arise from this survey that deserve mention. First, subjects from both the inner city and southwest Sydney were clearly polydrug users, familiar with a wide range of drugs and drug trends. The mean age of both samples was lower than in previous studies, which is consistent with the perception of subjects that there are more younger heroin users entering the market. The higher proportion of female injectors in the inner city sample also merits mention. Traditionally, samples of IDU have been approximately two thirds males. The data may indicate a trend towards more female injecting, which is consistent with the perceptions of the inner city sample themselves.

A finding that has major implications is the large proportion of subjects from both areas who had made a transition from amphetamine injecting to heroin injecting. This may well be the source of the new, younger heroin users. The high rates of the injection of "non-injectables", methadone syrup and benzodiazepines, among both samples should also be noted.

Ethnographic study

In-depth ethnographic interviews and observational fieldwork designed to elicit information in relation to drug use patterns, local drug market conditions and emerging trends were undertaken in Cabramatta, Sydney, over a three month period between September and December 1995. A total of forty subjects participated in a tape-recorded interview and observational data in the form of field notes were collected on each subject and on the nature, type and level of interactions between subjects in the study. In addition, subjects were required to complete a short structured questionnaire on local drug market conditions.

The principal findings concern a relatively hidden group of young, recent initiates to heroin use, the emergence of a street-based injecting culture in the study area and the apparent resilience of the local drug market to pressures from law enforcement. Specifically, the results of this preliminary study suggest that heroin users in Cabramatta may be significantly younger, have lower levels of education and higher levels of unemployment, be more likely to be female, less likely to be Anglo-Australian, more likely to have initiated heroin use by smoking rather than parenteral use, more

likely to be involved in crime (including drug distribution and sales activity), more likely to engage in high risk injecting episodes and to have little or no experience of treatment, than those encountered in the literature.

Other indicators

A range of early warning indicators available on an annual basis were sought which would complement and validate the original data, including general and special population survey data, and health and law enforcement data. Ideally, these indicators also needed to: be nationally available, be in an accessible format, not require any special collections, include 50 or more cases, be brief, be collected in the main study site, and include details on the main illicit drug types. Except for AOD telephone advisory data and law enforcement statistics, few indicators were collected annually, satisfying the early warning criteria. The following summary of indicators was thus expanded to include data which met the remaining criteria and improved our understanding of the illicit drug situation.

In terms of previous survey findings, the national household surveys indicate that cannabis and amphetamine have remained the most popular illicit drugs during the 1990s, particularly among males and young adults. Cocaine and heroin were less commonly used by the general population. An increase in MDMA use was noted between 1991-1993. Targeted surveys of homeless and detained youth found that they were large consumers of illicit drugs, more so than secondary school students. Persons from non-English speaking backgrounds were unlikely to use most illicit drugs. Cannabis use was higher among Aboriginal persons compared to the general population. Injecting drug users were consistently found to be large polydrug users.

Data on the characteristics of clients presenting to drug treatment agencies in NSW and nationally show significant increases for those with primary cannabis and amphetamine problems. However, opiates remained the most frequently reported illicit drug problem. Heroin overdose, both fatal and non-fatal, was relatively common and was often related to concurrent polydrug use. The Alcohol and Drug Information Service received the most number of phone inquiries relating to cannabis during 1995, followed by heroin then amphetamine. The number of phone calls by clinicians to the Specialist Advisory Service fluctuated during 1995, although cannabis, heroin then amphetamines were again the most common purpose of calls. A national review of risk behaviours for HIV infection found that the self-reported rate of IDUs sharing needles remained consistently low (below 50%) since 1989, dropping to below 20% in 1994. The proportion of prisoners reporting a history of injecting was around 50%, and the considerable risk behaviour that occurs in these environments was not declining. Higher rates of HCV and HBV were found, compared with HIV, particularly among IDU populations.

From NSW police statistics, large fluctuations in the quantity of cannabis leaf and heroin seized by the DEA were recorded during 1995. Fewer and more consistent seizures were made of cocaine, amphetamine and MDMA. Mean purity levels of around 50% for both cocaine and heroin were

recorded during 1995, with some fluctuations. Purity levels were lower and more stable for MDMA (28%) and amphetamines (5%). According to DEA price statistics, decreases in gram and ounce purchases of heroin, and gram purchases of cannabis heads occurred during 1995. Increases in the price of gram purchases of cocaine, street gram purchases of amphetamine, and ounce purchases of cannabis heads and leaf were also noted.

Areas requiring further investigation

Overall, the four studies in the IDRS trial highlighted the need for further investigation of the main illicit drug types and several high risk populations. These included:

1. Patterns of *heroin use*, such as changes in the characteristics of users (age, gender, ethnicity, geographical location), transitions between drugs (amphetamine, heroin) and routes (smoking, injecting); the availability of heroin and changes in the market; interventions for those injecting benzodiazepines and methadone, and to reduce the incidence of overdose and the transmission of blood-borne viruses such as HCV;
2. Patterns of *psychostimulant use*, such as increased cocaine injection in the inner city, transitions between amphetamine and heroin injection, and patterns of MDMA use; changes in the availability of stimulants; harms related to psychostimulant use; and appropriate interventions for populations at-risk of or experiencing stimulant-related problems;
3. Interventions for those with *cannabis-related* problems;
4. Illicit drug use among *high risk populations*, including inner city Aboriginals, the southwest Sydney Asian community, inner city sex workers, street youth, detained youth and adult prisoners.

Excluding research currently in progress, the following topics still require further investigation: transitions from amphetamine to heroin injection; HCV transmission; patterns and harms associated with the use of MDMA; psychostimulant drug markets; developing interventions for psychostimulant problems; developing interventions to reduce benzodiazepine and methadone injection; and examining illicit drug use and related harms among inner city ATSI and street youth.

A comparison of methods

The feasibility of the four methods tested in the trial differed, with each having various strengths and weaknesses. For the key informant study, individual interviews worked better than groups in that they allowed greater flexibility, participation, time for discussion and substantiation of information. Data from individual interviews were also easier to transcribe and to analyse. Collecting trend data from key informants who were illicit drug users proved problematic. They were less able to conceptualise drug trends than professionals working in the area, less likely to substantiate sources of information, more

difficult to recruit, to organise into groups and to follow-up over time. The most efficient and valid way to collect information from illicit drug users was to individually ask them about recent, personal behaviours, as was done in the survey component. The key informant study was useful in that it allowed valuable and timely input on drug trends from a wide range of professionals working in the drug field. It utilised rapid qualitative research methods which provide an overview of issues requiring more in-depth research.

Problems with the IDU survey involved inadequate sampling of some populations due to time and cost constraints, issues easily resolved in future monitoring studies of IDU. As expected, IDU appeared well placed as a sentinel group for trends over a wide variety of drug classes. In particular, accessing non-treatment populations of IDU as was done in the present study will allow appropriate responses to be implemented before serious problems develop. This component represents a central element of a monitoring system as few comparable surveys of IDU are undertaken on a regular basis in Australia.

The ethnographic research tapped into an existing ethnographic study of drug use and economic behaviour among heroin users in southwest Sydney, thereby minimising both the usual delays involved in gaining access and establishing relations of trust and credibility with subjects, and costs involved in conducting such research. While in-depth information on drug practices in this area was obtained, overall the study was time consuming and expensive, and required skilled field staff dedicated to penetrating and immersing themselves in this environment, issues not insignificant in assessing the feasibility of an ethnographic monitoring component to an IDRS.

Few additional indicators were useful from an early warning perspective. Some work is needed to establish the regular collection of other early warning indicators, such as methadone and arrestee urinalysis data, emergency room drug mentions, ambulance data on overdoses and some police data.

Some types of IDRS data were best collected in particular formats. Overdose data, treatment admissions, drug prices and purity data were more reliable from existing indicator sources, specialist studies and the survey of IDU, rather than from key informant reports. The ethnographic component and some key informants (such as covert police officers) were able to provide most information on the manufacture and distribution of illicit drugs. Ethnography provided the most detail on reactions to government strategies such as law enforcement.

Finally, a degree of convergent validity was noted between the four methods, particularly on heroin trends in southwest Sydney, an area measured by all methods. Overall, the IDU survey, key informant study and analysis of existing indicator data were the cheapest and easiest to conduct and covered a broader range of illicit drug use in comparison with the ethnographic study.

Recommendations for a revised IDRS

Given that multiple methodologies are preferable for measuring drug trends, the following qualitative and quantitative measures combining drug user, health, outreach, law enforcement and research perspectives are recommended for a revised IDRS:

- (1) Key informant interviews with health, law enforcement, outreach and research professionals;
- (2) A survey of IDU who represent a sentinel population of illicit drug users;
- (3) Analysis of early warning indicators from surveys, health and law enforcement data.

Ethnographic research is optional depending upon the need and the availability of resources.

Results from the trial suggest that both the survey of injecting drug users and key informant study could be conducted consecutively on an annual basis. This would provide greater confidence in the identified drug trends, ensuring that they are not just transitory observations and are potentially of national significance. It would also allow information from a range of sources to be obtained. Quarterly summaries of existing health and law enforcement data would allow trends to be tracked during the year. A national IDRS could be implemented in a selection of different sized capital cities, as these are places where illicit drug users tend to congregate. A national IDRS report would summarise trends in each State, providing individual State reports as attachments, and be presented annually to the NDSC and MCDS.

In addition, National Drug Trends conferences need to be resumed to allow further discussion of the issues raised in the IDRS, including prioritising future research topics, identifying areas of national significance and discussing other potential responses.

Overall, the revised IDRS would provide a more accurate, efficient and standardised system of data collection than has previously occurred. While the present trial represents a simplified version of an early warning monitoring system, these methods can be further expanded and refined over time to achieve a greater level of sophistication. While similar data collection systems currently exist in North America, it is imperative that a comprehensive early warning monitoring system be established in Australia to allow prompt responses before the development of serious drug problems. Such a system would also provide a more cost-effective mechanism for addressing Australia's drug problems.

1.0 INTRODUCTION

In 1995, the National Drug and Alcohol Research Centre was commissioned by the Commonwealth Department of Health and Family Services (CDHFS) (formerly Commonwealth Department of Human Services and Health) to revise the Illicit Drug Reporting System (IDRS) first implemented in Australia in 1989. The original system provided "a co-ordinated approach to the monitoring of data associated with the use of opiates, cocaine, amphetamines and cannabis" (Wardlaw, 1994, p2). It produced regular *Illicit Drugs Situation Reports* which included quantitative and qualitative data relating to health and welfare aspects of drug use as well as law enforcement data on arrest, seizure and availability statistics. The two main components were a key informant study and compilation of existing indicator sources. A number of limitations were noted with the original system, such as the failure to recruit knowledgeable and representative key informants and the failure to identify key indicators that could lead to policy or practical outcomes (Wardlaw, 1994). It was eventually discontinued in 1992.

Following this, the CDHFS commissioned a report reviewing options for an improved IDRS (Wardlaw, 1994). As with the original system, this information was to act as an early warning indicator of the availability and use of the main drug categories and related health problems. Responses such as further research, prevention and early intervention programs could be implemented before significant problems developed. Recommendations were made to focus on strategic information as the main audiences for the information were the Ministerial Council on Drug Strategy (MCDS) and the National Drug Strategy Committee (NDSC). It was agreed that any data from a revised IDRS needed to be sensitive enough to alert the existence of emerging problems of national importance rather than describe phenomenon in detail. It would also need to suggest areas for more detailed data collection, as well as provide data in a timely manner, collect comprehensive data nationwide, ensure that the data were comparable, include representative coverage of the population, be simple to operate, be linked to a mechanism which could commission the collection of more in-depth data and be cost effective.

It was initially proposed that NDARC conduct a pilot study to evaluate key informant focus groups as a method for an IDRS. This was expanded to test other potentially useful methods, including quantitative survey data and ethnography. The feasibility of monitoring existing early warning indicator data was also examined. Issues such as drug of choice, routes of administration, type and number of illicit drug users, intensity of illicit drug use, drug-related problems, manufacture and distribution of drugs, price and purity, and reactions to government strategies were considered.

1.1 STUDY AIMS

The specific aims of the current study were:

- i To determine the most feasible, valid and cost effective ways to monitor trends in illicit drug use from an early warning perspective;
- ii To identify strategically important trends in the use of heroin, amphetamines, cocaine and cannabis that require further investigation.

2.0 METHODOLOGY

2.1 STUDY COMPONENTS

A summary of the four components trialed in the IDRS are outlined below. These include a key informant study, a survey of injecting drug users (IDU), an ethnographic study of heroin users in Sydney's southwest and an analysis of other indicators. Further details can be found in separate reports of the ethnographic study (Maher, 1996a) and other components (O'Brien, Darke and Hando, 1996).

2.1.1 Key informant study

This component involved interviews with key informants who were illicit drug users and professionals working in the field. All key informants had first hand contact with illicit drug users and a good knowledge of current trends. Procedures were adapted from a World Health Organisation key informant study of cocaine use (Hando, Flaherty & Rutter, 1997).

A targeted sampling framework was used to recruit a more representative sample of key informants into the study. This is a "purposeful, systematic method where lists of specified populations within geographical districts are developed and detailed plans are designed to recruit adequate numbers of cases within each of the targets" (Watters and Biernacki, 1989, p420). Information from secondary data sources, previous research on illicit drug use in Sydney and consultation with researchers currently in the field were used to identify areas from which key informants could be selected. Professionals from health, law enforcement, research and outreach, and users both in and out of treatment were included to represent the range of illicit drug use patterns (Table 1).

Key informants were chosen from the inner city and southwest Sydney as two key areas in which illicit drug use occurs in Sydney (eg. Darke, Hall and Swift, 1993; Hando and Hall, 1993). Previous research notes comparatively little illicit drug use among non-English speaking communities (Bertram and Flaherty, 1992a, 1992b; Everingham, Martin and Flaherty, 1994; Everingham and Flaherty, 1995). However, heroin use among the southwest Sydney Vietnamese community was noted by research in progress. Other groups who were more likely to use illicit drugs included males and young adults (CDHHLGCS, 1993), homeless (CDHHCS, 1992) and detained youth (Hando, Howard & Zibert, in press), adult prisoners (Stathis et al., 1991) and injecting drug users (Darke et al., 1994a, 1994b).

Other representatives were chosen who could report on special populations such as women and Aboriginals. The sampling frame was continuously adjusted throughout the study to include participants from key areas.

Professionals were recruited into the study via referral from their peers or supervisors (52%), direct contact from an NDARC research officer (31%) or advertisements in AOD newsletters/ magazines (Centrelines/Connexions) (17%). Drug users were recruited through NDARC personnel currently conducting research among illicit drug users (50%) and AOD services (50%). Interviews were conducted with key informants in both groups and on an individual basis to compare the efficacy of these techniques. Forty-four key informants participated in one of five group discussions. Most were screened beforehand and selected for their above average level of knowledge of illicit drug use and at least weekly first-hand contact with illicit drug users during the previous four months. They included professionals working with opiate (30%), cannabis (16%) and stimulant users (20%), as well as opiate users (20%) and cannabis users (14%) . No stimulant users attended their pre-organised group discussion. The overall response rate for group attendance was 79%.

Table 1: Demographic details of key informants

N	Professionals 29	Users 12	Total 41*
Type of informant (no.):			
User in treatment	-	4	4
User not in treatment	-	8	8
Treatment professional	12	-	12
Outreach worker	7	-	7
LE professional	7	-	7
Researcher	3	-	3
% Males	62.1	66.7	63.4
% ESB	96.6	75.0	90.2
% NESB	3.4	25.0	9.8
Age (yrs)	mean 36.1 range 22-64	mean 27.5 range 17-38	mean 33.6 range 17-64
Education (mean yrs)	14.5	12.1	13.8

* screening information was not available for three user participants;

LE = law enforcement; ESB = English speaking background; NESB = non-English speaking background

The format of the groups involved a semi-structured discussion on the main topics of interest. An attempt was made to validate key informant responses by asking them to specify: the time period changes occurred in, the number of users involved, the source of their knowledge, how common the behaviour was and its significance. Key informants were asked to report trends in the previous 4 months. However, trends occurring over different time intervals were often reported. Ethical considerations were outlined to participants, including a detailed description of the study and its implications, and the confidentiality of responses. Groups were co-facilitated by two researchers and lasted on average 1.5 hours. They were taped and later transcribed.

Over a quarter (29%, n=12) of the group participants were also interviewed on an individual basis by phone prior to the group. Nine of these participants reported on heroin use, five on amphetamines, six on cocaine, four on cannabis and one on steroids (key informants could discuss more than one drug type). The same questions were asked as in the group discussions. Notes were taken and later typed up in full. Interviews took approximately 20 minutes.

Most participants (90%) were contacted in the two week period following the groups to evaluate the study. In addition, a summary of the group findings were sent out to 37 recontactable participants to indicate the extent of their agreement with the comments made. Two-thirds (n=24) responded to this request, and these results have been incorporated into the summary of the group findings.

An additional round of key informant interviews was conducted between March and April 1996 to trial a revised key informant methodology. Thirty-two key informants were individually interviewed by phone, including 14 treatment workers, 7 outreach workers, 6 police and 5 researchers. Half (16) were male. Twenty-two had participated in the first trial. Additional participants were recruited through peer referral. Everyone was screened to determine continued eligibility, the criteria for which was at least weekly contact with illicit drug users in the past 6 months and/or contact with 10 or more illicit drug users during this time. A revised, structured interview schedule was administered. Most key informants had extensive knowledge and contact with at least one type of illicit drug user and were able to substantiate their reports. Five key informants reported on two types of illicit drug use. Eighteen key informants reported on heroin use, six on cannabis, five on amphetamines, three on cocaine, four on steroids and one on MDMA. Again, most key informants reported drug use in the inner city and south west Sydney. They nominated the drug type they knew the most about, and reported trends in the previous 6 months. Interviews took approximately 20 minutes to conduct.

Both group and individual interviews were analysed using the computer data analysis program Q.S.R. NUD-IST Version 3.0 (Weitzman and Miles, 1995). Data were summarised according to the extent of

agreement between key informants on features and trends in illicit drug use. It should be kept in mind that while attempts were made to substantiate key informant reports, these results are still a subjective profile of drug use and availability based on the perceptions of key informants, and should be read in conjunction with reports from the IDU survey and other indicators. The key informant methodology utilises rapid qualitative methods and is intended only to provide an overview of key issues requiring more in-depth, substantiated research.

2.1.2 Survey of injecting drug users

Injecting drug users (IDU) were targeted in the survey as they are a sentinel group for drug trends. Research conducted at NDARC has repeatedly shown the polydrug using nature of IDU (eg. Darke et al., 1994a, 1994b; Darke and Hall, 1995). They provide an excellent window into drug use patterns, and changes in those patterns that may reflect changes in the availability of illicit drugs.

The survey involved quantitative interviews with 152 injecting drug users from inner and south western Sydney, between October 1995 and February 1996. Entry criteria was having injected at least monthly in the 6 months prior to the interview. Subjects were recruited using multiple methods including advertisements in rock magazines, needle exchanges and snowball methods. They were interviewed at places convenient to them, such as coffee shops, hotels and at NDARC. Interviews took 20-30 minutes to complete. Subjects received \$20 compensation.

The structured interview schedule was based upon extensive previous work at NDARC (eg. Darke et al., 1992, 1994a). In addition to closed option questions, the interview included some open ended questions. Areas covered were parallel to the key informant component. As in all NDARC studies of IDU, strict confidentiality applied. Descriptive data analyses were conducted using SYSTAT (Wilkinson, 1990).

2.1.3 Ethnographic research

In-depth ethnographic interviews and observational fieldwork designed to elicit information in relation to drug use patterns, local drug market conditions and emerging trends were undertaken in Cabramatta, Sydney, over a three month period between September and December 1995. Informants were selected from subjects recruited for an ethnographic study in the area. Initial ethnographic mapping identified geographic and social locations in which drug use and distribution occurred, dominant drug use patterns, drug acquisition and drug consumption sites, social networks and demographic characteristics of the target population (Bluthenthal and Watters, 1995). Mapping data were collected through direct observation, informal conversations, systematic walk throughs. and the coding of locations. The map of the street-level drug using population was used to develop a targeted sampling plan using the time-by-location method (Clatts et al., 1995). Within this frame., efforts were made to secure a study sample that provided some representation of all the major segments of the street-level population.

Potential subjects were approached and the purpose of the study was explained to them. Five potential subjects declined or were unable to participate in the research. Subjects were required to read and sign an informed consent outlining the possible risks and benefits of participating in the study. A total of forty subjects participated in an in-depth tape-recorded interview which covered a range of topics including demographics, childhood and family background, education and work history, drug use experience (including routes of administration, transitions and overdose), current drug use, social networks, knowledge of distribution and sales activities, income generation and criminal activity, impact of law enforcement, injecting practices, knowledge of HIV and other blood-borne viruses, and experiences of treatment and/or quitting. Observational data in the form of field notes were also collected on each subject and on the nature, type and level of interactions between subjects in the study. In addition, each subject was also administered a short questionnaire on local drug market conditions, and the last occasion on which they purchased heroin. Subjects were paid \$20 for each interview.

Transcribed tape-recorded interviews and typed field notes were analysed using Folio Views, an American hypertext software package. Since drug users talk in a metaphoric language and coin words that do not mean anything to people who do not belong to their culture. (Manwar et al., 1994, p291), the analysis and interpretation of ethnographic data relied heavily on the researcher's understanding of the study site and the target population.

2.1.4 Indicator data

A number of previous reports have examined the composition and feasibility of various illicit drug data sets in Australia (Tebbutt et al., 1990; Pedic and Flaherty, 1991; Jones and McAllister, 1986; Pedic, undated; Mugford, 1989; McDonald, 1989). For the IDRS, a range of early warning indicators available on an annual basis were sought which would complement and validate original data obtained from other study methods. This data needed to be nationally available, in an accessible format (such as computerised) and not require any special collections.

Only sources with a large number of cases (>50) have been included in an attempt to measure significant changes in drug trends (Pedic and Flaherty, 1991). While qualitative research often brings a wealth of information on illicit drug use patterns, it contains too much in-depth information to be analysed and presented in the brief form required for an IDRS (Wardlaw, 1994) and is usually based on small sample sizes. Such information is included in a more succinct form in the key informant and ethnographic studies.

Data collected in both Sydney and NSW have been included for the pilot study, and national data when this is not available. Information on the four main illicit drugs, plus other drugs (such as MDMA, hallucinogens, steroids, inhalants, illicit benzodiazepine and methadone use) was included when available.

For the purposes of this study, early warning (or "leading") indicators were defined as data available within 12 months of collection. While it was preferable that such data be available on a regular basis and have a reliable and stable baseline, less regular studies, single studies not repeated over time and reviews have been included when they meet the remaining criteria and improve our understanding of the illicit drug situation.

Summary of criteria for indicator data:

- i Available at least annually (or provide unique data);
- ii Include 50 or more cases;
- iii Provide brief details of illicit drug use;
- iv Collected in the main study site (Sydney or NSW for the present study);
- v Include details on the four main illicit drugs.

2.2 METHODOLOGICAL ISSUES

A number of methodological issues were examined to determine the most appropriate ways to measure trends in illicit drug use. These included:

- i A comparison of key informant procedures to determine the best format (eg. sources of key informant information, key informant ratings, consistency of responses, type and number of key informants, interview format and time intervals);
- ii Ways to access a range of subjects in a survey of injecting drug users;
- iii Methodological issues relevant to an ethnographic component;
- iv The availability of existing early warning indicators;
- v A comparison of the four methods on the degree of convergent validity, feasibility, cost and time.

3.0 RESULTS

3.1 STUDY FINDINGS

Further details of the survey and key informant results are presented in the *Drug Trends* report (O'Brien, Darke and Hando, 1996). The ethnographic study is also reported more fully elsewhere (Maher, 1996a).

3.1.1 Key informant study

Key informant results on current patterns of illicit drug use and trends are summarised by drug type (heroin, amphetamine, cocaine, cannabis, other illicit drugs). They combine the results from the group discussions and phone interviews. Unless otherwise specified, most of the trends occurred at some stage during the previous 12 month period.

Heroin

Key informants reported that heroin was the main injectable drug used in southwest Sydney (eg. Cabramatta, Fairfield, Bankstown), with its use also noted in inner suburbs such as Newtown and Kings Cross. Varying proportions of males and females were noted to use heroin, although professionals working in the drug field agreed that males were more likely to present to needle exchange outlets and residential treatment services than females. Ages of users ranged from the mid teens to the forties. The majority of inner city users were believed to be from an English-speaking background, with a minority of Aboriginal users identified. Greater ethnic diversity was noted among southwest Sydney users, Vietnamese persons nominated as one of the main groups. Others included people from Eastern Europe, Pacific Islands, Arabic, English-speaking and other Asian countries, as well as some Aboriginals.

Most heroin users were reported to have low education levels and be unemployed. However, some inner city heroin users employed as professionals were reported to use heroin on a recreational basis. While the majority of heroin users in Sydney were reported to inject the drug, a substantial minority of southwest Sydney Asian users inhaled heroin vapours (ie. "chased the dragon"). Polydrug use was common. Cocaine was reported to be used among mainly inner city heroin users, while other drugs (eg. illicit benzodiazepines, cannabis, amphetamines, alcohol and street methadone) were used by heroin users throughout Sydney.

Few key informants were able to report confidently on the price, purity and availability of heroin. Those that did (mainly police) reported inner city prices of \$50-60/cap and \$400/gram. Southwest Sydney

prices were slightly cheaper at \$30-40/cap and \$300/gram. Purity was rated as 40-50% in the inner city and up to 75% in southwest Sydney. Heroin was considered widely available.

The main heroin-related trends that were reported to have occurred during the 12 months preceding the interview included: a decrease in the average age of heroin users to the early to mid twenties which was noted among southwest Sydney injectors and methadone clients, prisoners and residential treatment clients with a primary heroin problem; an increase in heroin use among inner city Aboriginal populations; an increase in heroin smoking in southwest Sydney among Asians and non-Asian speaking persons who have contact with Asian smokers; the use of increasing amounts of benzodiazepines by methadone clients and heroin injectors throughout Sydney, perceived to have resulted in more health problems and crime; increased cocaine use among inner city heroin injectors; an increased risk of overdose from concurrent heroin, alcohol and other drug use; an increase in methadone injection practices; increased risk of HCV transmission from unsafe injecting practices; and an increase in the availability of heroin in southwest Sydney, as well as more people travelling to Cabramatta to purchase heroin.

Amphetamines

Key informants agreed that amphetamine users were a demographically diverse group residing throughout Sydney, with a range of ages (from early teens upwards), ethnic backgrounds, education levels, occupations and sexual identities. They included young offenders, homeless youth, adult prisoners, inner city injectors, methadone clients, sex workers, gay and lesbian users, bikers and primary cannabis users. Users were reported to inject, swallow or snort amphetamines. Polydrug use was perceived as common and varied according to particular drug preferences. Again, few key informants were able to comment on amphetamine availability. Those that could (usually police) reported prices ranging from \$800-1000/ounce, and cheaper prices in southwest Sydney. Quality was rated as poor (eg. around 2% pure) and it was considered widely available.

The main amphetamine-related trends included: an increase in amphetamine injection, particularly among sex workers and gay users; a transition among some users in their late teens and early twenties to regular heroin use; a decrease in the purity of amphetamines due to changes in the diluants; decreases in the price of amphetamines; and increased availability of the drug throughout Sydney.

Cocaine

The majority of cocaine injectors noted by key informants resided in the inner city, and included female sex workers, methadone clients and primary heroin injectors who injected cocaine. A group of inner city professionals who used cocaine intranasally on a recreational basis were also identified. These users were predominantly male, aged 14-50 years and from English-speaking backgrounds, although some

Aboriginal users were noted. Other than the group of professionals, education levels were generally low and most were unemployed, sex workers or low level drug dealers.

There were fewer reports of cocaine use and availability in western or southwest Sydney, although bikers, young stimulant users and male prisoners were noted from these areas. Key informants agreed that those using cocaine often did so on an intermittent basis and in conjunction with other drugs. Street cocaine was rated as 40-50% pure, with ounces approximately 75% pure. It was considered easy to obtain in the inner city.

For cocaine-related trends, key informants generally agreed that: there had been an increase in cocaine injection among some inner city injectors (including sex workers, methadone clients and heroin injectors) and intranasal use had increased among inner city professionals, and other groups such as prisoners, bikers and primary cannabis users; there were consequently more cocaine-related problems including health problems and violence; and that the price of cocaine had decreased and its availability and purity had increased, particularly in the inner city.

Cannabis

Cannabis users were perceived as a demographically diverse group who reside throughout Sydney. About two-thirds of users were reported to be male, with some key informants suggesting that women were less likely than men to maintain heavy, regular cannabis use over time. They were aged in their teens and upwards. Occupations ranged from students and unemployed persons to those employed in a wide range of jobs. Most users were perceived to be from an English-speaking background, although a minority of users from Middle Eastern and other backgrounds were noted. Education levels ranged from high school to tertiary education. Other subgroups of users included inner city female sex workers, methadone clients and prisoners.

The most common method of use among regular users was smoking cannabis with a "bong" (ie. a water pipe). Sometimes users smoked cannabis in a "joint", particularly when in public settings. Most key informants agreed that those using cannabis usually had some intermittent experience with other drugs such as amphetamines, LSD, MDMA and sometimes cocaine. Older users were reported to have used cannabis on a stable basis, along with alcohol and tobacco, with few problems. Key informants reported prices of \$20-25/bag (0.5-1.0g) and \$350-500/ounce, varying according to whether it was leaf or heads (the latter considered more potent and thus more expensive). The strength was rated as high overall. It was considered widely available and easy to obtain.

The most notable cannabis-related trends were: an increase in the popularity of hydroponically grown cannabis; hydroponic equipment becoming more advanced, cheaper, easier to use and more available; and a more consistent quality and supply of cannabis with the increased use of hydroponics.

Other illicit drugs

Key informants agreed that the availability of MDMA had increased, along with the number of marketing ploys used by dealers to promote the drug. Some key informants also noted a trend towards injecting MDMA. One key informant noted an increase in steroid use among gay men preparing for large dance parties.

3.1.2 Survey of injecting drug users (IDU)

Sample characteristics

The mean ages of the inner city (IC) and southwest (SW) IDU¹ was younger than reported in previous studies which used similar recruitment methods (IC 27.1, SW 25.4) (Table 2). This may be indicative of an influx of younger IDU. The proportion of females in the IC sample was higher than in previous samples in this region, a possible indicator of more female IDU recruitment. The samples were predominantly IDU who were not currently enrolled in treatment. In terms of employment and education, the samples were similar to previous samples of Australian IDU. The high proportion of SW subjects who had been imprisoned should be noted.

Table 2: Demographic characteristics of IDU

N	Inner city 76	Southwest 76
Mean age (years)	27.1	25.4
% Male	47	62
Employment: (%)		
Not employed	59	87
Full time	11	7
Part time/casual	18	3
Student	12	4
Home duties	0	0
School education (mean years)	12.3	10.5
Tertiary education: (%)		
None	74	72
Trade/technical	11	25
University/college	16	3
% Prison history	8	63

¹Two subjects from the SW sample were regular heroin smokers

% Currently in treatment	22	11
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Drug use history

The mean age at initial injection was in the late teens (IC 19.6 years, SW 17.6 years). Nearly half of both samples (IC 49%, SW 43%) injected amphetamine on their first injection occasion. Given the almost universal exposure to heroin among the samples (IC 95%, SW 100%), a substantial proportion thus first injected amphetamine and subsequently injected heroin.

Polydrug use was the norm among the sample (Tables 3 and 4). The median number of drug classes ever used by subjects was 11 among the IC sample and 9 among the SW sample, with 7 and 6 classes respectively having been used in the preceding 6 months. As expected, IDU are well placed as a sentinel group for trends over a wide variety of drug classes.

The high prevalence of methadone injection among both samples, as well as the widespread use and injection of benzodiazepine tablets should be noted.

Forms of drugs used

The forms of drug classes used in the preceding 6 months are presented in Table 5. Of those who had purchased heroin in the preceding six months, rock heroin was widely purchased (IC 79%, SW 100%). The amphetamine used in the last six months by the subjects who used during that period was predominantly in powder form, with liquid amphetamine use rare.

The overwhelming majority of those using cocaine in the last six months used it in a powder form, with small minorities reporting using crack cocaine (IC 5%, SW 3%).

The main form of cannabis used in the last six months by the subjects was marijuana (86%), although substantial minorities of both samples reported using hash (IC 24%, SW 12%).

Table 3: Drug use history of inner city IDU (N=76)

Drug class	Ever used %	Ever injected %	Injected last 6 months %	Ever smoked %	Smoked last 6 months %	Ever snorted %	Snorted last 6 months %	Ever swallow %	Swallow last 6 months %	Use last 6 months %	Days used last 6 months*
Heroin	95	95	86	54	13	36	5	25	7	86	77
Methadone	67	34	20	-	-	-	-	65	50	42	5 #
Other opiates	91	41	16	25	8	9	3	88	65	66	11
Amphetamine	99	96	62	17	7	87	26	71	20	67	12
Cocaine	83	68	33	16	5	62	21	8	1	40	3
Hallucinogens	100	45	21	8	3	11	5	100	46	54	4
Benzodiazepines	96	38	13	11	4	9	3	95	74	75	10
Barbiturates	32	15	0	3	0	1	0	28	1	1	4
Alcohol	100	-	-	-	-	-	-	-	-	93	51
Cannabis	100	-	-	-	-	-	-	-	-	87	51
Inhalants	84	-	-	-	-	-	-	-	-	30	3
Tobacco	99	-	-	-	-	-	-	-	-	95	180
Polydrug use (Median drugs)	11	4	2	-	-	-	-	-	-	7	-

* Median number of days used in last 6 months by those subjects using the drug class in that period

Illicit use only

Table 4: Drug use history of southwest Sydney IDU (N=76)

Drug class	Ever used %	Ever injected %	Injected last 6 months %	Ever smoked %	Smoked last 6 months %	Ever snorted %	Snorted last 6 months %	Ever swallow %	Swallow last 6 months %	Use last 6 months %	Days used last 6 months*
Heroin	100	96	96	57	24	22	4	17	5	100	180
Methadone	70	43	21	-	-	-	-	65	50	43	4 #
Other opiates	50	30	11	13	4	3	0	32	26	30	4
Amphetamine	90	83	25	16	4	63	8	46	11	29	3.5
Cocaine	68	57	37	17	4	41	8	9	3	42	3.5
Hallucinogens	79	16	3	0	0	0	0	78	30	29	1
Benzodiazepines	84	17	7	7	1	0	0	84	66	66	6
Barbiturates	15	4	0	1	0	0	0	15	1	1	3
Alcohol	96	-	-	-	-	-	-	-	-	63	6
Cannabis	97	-	-	-	-	-	-	-	-	84	60
Inhalants	45	-	-	-	-	-	-	-	-	9	2
Tobacco	100	-	-	-	-	-	-	-	-	100	180
Polydrug use (Median drugs)	9	3	2	-	-	-	-	-	-	6	-

* Median number of days used in last 6 months by those subjects using the drug class in that period

Illicit use only

Table 5: Forms of drugs used by IDU in the preceding 6 months

Drug type	Inner city %	Southwest %
Heroin:		
Powder	72	57
Rock	79	100
Methadone:		
Syrup	42	43
Physeptone	5	4
Amphetamine:		
Powder	67	28
Liquid	4	1
Cocaine:		
Powder	36	41
Crack	5	3
Hallucinogens:		
LSD	42	25
MDMA	38	9
Cannabis:		
Marijuana	86	84
Hash	24	12

Price, purity and availability

Heroin

The majority of the IC sample (61/76) and all SW subjects could comment on heroin. The median price was similar for both areas (Table 6), at approximately \$100 a gram and \$30-\$35 a "cap" (caps are small amounts of heroin wrapped in foil, and sealed in plastic balloons). The majority of IC subjects (72%) viewed prices as having remained stable, as did the largest proportion of SW subjects (47%).

Purity was considered medium-high by both samples, the largest proportions estimating purity as 'medium'. Almost all subjects in both samples regarded heroin as either easy or very easy to obtain (IC 93%, SW 96%), the availability having remained stable over the preceding 6 months.

Amphetamines

Due to the small number of SW subjects who could comment on amphetamines, comments from these subjects have not been included. This may partly be a reflection of sampling procedures which did not access regular amphetamine users in the SW.

The price of amphetamines was estimated at \$100/gram, with most IC amphetamine users (87%) reporting the price as having remained stable in the preceding 6 months. The majority of IC subjects regarded the purity of amphetamines as low (59%), with 50% of these subjects believing purity had decreased in the preceding 6 months (Table 6).

Amphetamines were estimated by IC subjects to be easy or very easy to obtain (81%), availability having remained stable in the preceding 6 months (63%).

Cocaine

The small proportions of subjects who could comment on cocaine may be taken as an indication of its relatively low availability, as well as limited sampling procedures which did not access users known to exist in the IC. While large numbers of subjects had used the drug, such use was sporadic (see Tables 3 and 4). The small number of IC subjects who were able to report on the purity and availability of cocaine are too small to draw conclusions, and have been omitted.

The price of cocaine was estimated at approximately \$200/g in both samples (Table 6), subjects reporting the price as having remained stable over the preceding 6 months. There was disagreement among the SW sample on the purity of cocaine, and whether purity had changed in the preceding 6 months.

The majority of SW subjects able to comment on cocaine reported the drug as easy or very easy to obtain, and that availability had remained stable over the preceding 6 months.

Table 6: Price, purity and availability of drug types by area

	Heroin		Amphetamine		Cocaine		Cannabis	
N	Inner city 61	Southwest 76	Inner city 32	Southwest 5	Inner city 8	Southwest 15	Inner city 50	Southwest 43
Median price: (\$)								
Gram	400	390	100	100	210	200	25	20
"Cap"	35	30	-	-	-	-	-	-
Ounce	-	-	-	-	-	-	400	400
Price changes: (%)								
Increasing	10	22	13			21	28	33
Stable	72	47	87			79	70	60
Decreasing	15	27	0			0	0	2
Fluctuating	3	4	0			0	2	5
Purity: (%)								
High	21	8	6			40	74	65
Medium	48	57	13			20	16	30
Low	21	33	59			40	6	2
Fluctuating	10	3	22			0	4	2
Purity changes: (%)								
Increasing	21	14	3			33	20	30
Stable	44	24	16			40	64	56
Decreasing	16	51	50			20	8	12
Fluctuating	19	11	31			7	8	2

	Heroin		Amphetamine		Cocaine		Cannabis	
N	Inner city 61	Southwest 76	Inner city 32	Southwest 5	Inner city 8	Southwest 15	Inner city 50	Southwest 43
Availability: (%)								
Very easy	66	71	25			33	46	26
Easy	28	25	56			33	38	56
Difficult	7	4	19			27	16	19
Very difficult	0	0	0			7	0	0
Availability changes: (%)								
More difficult	14	18	28			14	22	21
Stable	71	74	63			57	60	77
Easier	16	8	3			29	18	2
Fluctuates	0	0	6			0	0	0

Cannabis

Consistent with the widespread use of cannabis among the samples, most subjects were able to comment on the drug. An ounce of cannabis was valued at \$400 in both samples, with gram bags ranging from \$20-\$25 (Table 6). The majority of both samples believed the price had remained stable in the preceding 6 months. The potency of cannabis was rated as high (IC 74%, SW 65%), with the majority of subjects stating that potency had remained stable, or was increasing.

The overwhelming majority of both samples reported cannabis was easy or very easy to obtain (IC 84%, SW 82%), and that availability of cannabis had remained stable in the preceding 6 months.

Drug-related problems

Crime was widespread among both samples (Table 7), with the majority of subjects having committed criminal acts in the month preceding interview (IC 59%, SW 85%). Crime was more prevalent among SW subjects in all areas except fraud.

Both samples believed there had been an increase in police activity in the preceding 6 months, this being more widely felt among SW subjects (IC 66%, SW 79%). A higher proportion of subjects in the SW sample believed that more of their friends had been arrested over the preceding 6 months (IC 31%, SW 55%).

Consistent with previous research, overdose was common among heroin users, both ever (IC 43%, SW 51%) and in the preceding 6 months (IC 25%, SW 34%). Narcan had been administered to 45% of subjects, compared to 19% of the IC sample, a possible indicator of more severe overdoses in the SW.

Subject perceptions of general trends

Most IC subjects (65) made comments on perceived new trends relating to drug use in the preceding six months. Comments overwhelmingly related to heroin use (49). It was believed that heroin was more common (28 comments), more fashionable (16), and more appealing to younger users (15) and females (14). Four comments were received that people were making a transition from amphetamine injecting to injecting heroin, which is consistent with the drug use history data.

Among SW subjects, 53 commented on perceived new trends. Comments overwhelmingly related to *heroin* use and the south western suburb of *Cabramatta*, 49 subjects spontaneously commenting on the drug, the area or both. The most common observation made concerned police activity, 19 subjects reporting police presence and/or activity had increased in Cabramatta in the last six months. Seven

comments were received that more people were coming to Cabramatta to score heroin in the last six months. As in the IC, heroin use was reported as more common (6), with the users being younger (8).

Table 7: Drug-related problems of IDU

N	Inner city 76	Southwest 76
Crime (% in last month):		
Property crime	34	76
Fraud	36	20
Dealing	28	38
Violent crime	3	13
Any crime	59	85
Heroin overdose (%)*:		
Ever	43	51
Last year	25	34
Administered Narcan	19	45
Narcan last year	9	27
Witnessed an overdose	67	82
Police activity (%):		
More activity	66	79
Stable	33	12
Less activity	1	7
Fluctuating	0	1
Arrests (%):		
More arrests	31	55
Stable	69	43
Less arrests	0	1

* Proportion of subjects who had ever used heroin (IC 72/76, SW 76/76)

3.1.3 Ethnographic study

Sample Characteristics

Just over half of the sample (55%) were male, and the majority were under 25 years of age (85%). With the exception of Indo-Chinese respondents, the range of ethnic backgrounds represented by the sample approximated the major segments of the street-level population (Table 8). While the sample was dominated by Anglo-Australians and Indo-Chinese, it contained a reasonable representation of Aboriginal Australians. The representation of other ethnic groups, most notably young Serbian-Australians and Latin-Americans, reflected the population demographics of the Fairfield Local Government Area.

Table 8: Demographic characteristics of the ethnographic sample

N	Male 22	Female 18	Total 40
Mean age	20.6	19.3	20.0
Ethnicity (%):			
Anglo-Australian	32	44	38
Indo-Chinese	27	22	25
Serbian	14	11	12
Koori	9	17	12
Pacific Islander	9	6	8
Latin-American	9	0	5
School education (mean years)	8.7	8.2	8.7
% Unemployed	96	89	93
Current residence (%):			
Cabramatta	27	50	38
Other SW	37	28	33
Inner city	18	5	12
Other Sydney	9	17	12
Outside Sydney metro	9	0	5

The sample had received little formal education, with 68% having completed less than ten years of schooling. A third (33%) had less than eight years of formal education, and only two subjects reported completing high school. The majority of the sample (93%) were unemployed at the time of the study. Approximately 70% of subjects came from the southwest Sydney area and 38% described themselves as residents of Cabramatta.

Drug Use Patterns

Subjects reported using a wide range of drugs, including opiates other than heroin, cocaine, amphetamines, benzodiazepines, hallucinogens, cannabis, inhalants, tobacco and alcohol. The

most frequently reported drugs that were currently being used were heroin, benzodiazepines, cannabis and tobacco. Several subjects reported experience of injecting drug use prior to heroin use. These were ex-amphetamine users from Fairfield, Liverpool and Canley Vale.

All subjects currently used heroin, and had done so for a mean 3.2 years (range two months to 17 years). The majority were injectors (88%). Only 12% currently smoked heroin, but the majority (55%) reported having made a transition from smoking heroin to intravenous use (Maher 1996b). Since most were relatively new to injecting drug use and many had smoked heroin prior to injecting it, these findings suggest that there is a cohort of young people whose patterns of heroin use may be significantly different to that documented by previous research.

Subjects began "smoking" heroin either by inhaling the vapours or fumes of heroin heated on foil, or by smoking a mixture of heroin and cannabis (known as a .snow cone. or .harry cone.). The first method was most common among Indo-Chinese while Anglo-Australians were more likely to report the second initial method of use. Most Serbian-Australians from the surrounding area reported initiating heroin smoking by the foil method, suggesting a process of .micro-diffusion. (Grund and Blanken 1993; Pearson and Gilman 1994). None of the heroin smokers were familiar with the terms .chasing the dragon. or .chasing.. They referred to it as .smoking. or "spotting. heroin and, less frequently, .foiling..

A number of factors suggest that heroin smoking may be a recent phenomenon. Firstly, there has been an increase in the purity and a decrease in the price of heroin at the street-level in recent years (ABCI, 1995; Weatherburn and Lind, 1995). Secondly, those who reported having smoked heroin came from a range of cultural backgrounds including Indo-Chinese (45%), Serbian-Australian (23%), Anglo-Australian (18%), Latin-American (9%) and Pacific Islander (5%). With one exception, they were under 25 years of age and most came from southwest Sydney. Like most young drug users, they were introduced to the drug by friends.

Diffusion of methods of use was not always from Indo-Chinese to others, since some young Indo-Chinese were clearly influenced by non-Indo-Chinese in initiating injecting drug use. There was a very strong anti-injecting sentiment amongst the Indo-Chinese community and especially amongst Vietnamese in Cabramatta. Many keep their injecting drug use secret and some feel considerable confusion and guilt about it (Maher 1996b).

Fieldwork and interviews suggest that many young people experience a rapid transition from smoking heroin to intravenous use which increases the risk of overdose and the transmission of blood-borne viruses (Griffiths et al. 1994; Gossop 1995). The rapidity of this transition may be due to the pharmacological properties of the heroin since the heroin available in Cabramatta appears to be a salt which is less suitable for smoking because it yields a considerably lower recovery rate than heroin base (Huizer 1987; Griffiths, Gossop and Strang 1994).

Local Drug Market Conditions

Most recent heroin purchases in Cabramatta (70%) were of small units packaged for individual sale as .caps.. These were typically wrapped in a small piece of foil, often taken from the inside lining of a cigarette packet, and sealed in small plastic water balloons. The remaining 30% of purchases involved half-weights.

The mean purchase price for a cap of heroin was \$30, with a range of \$20 to \$40. The mean purchase price for a half-weight was \$169 with a range of \$150 to \$200. Buyers purchased an average of 2.0 caps and an average of 1.1 half-weights.

Contrary to fieldwork observations and other interviews most subjects reported paying in cash (87%), with only 13% reporting that trading or swapping an item in return for heroin. Just under half the subjects (43%) reported that they did not contribute all the money or goods, with women more likely than men to be involved in collective drug purchases.

Subjects reported that the quality or purity of heroin was reasonably consistent. Slightly less than half the subjects (43%) described the purity of the heroin purchased on this occasion as .normal.. One third (35%) described the purity of their purchase(s) as .more than normal. and the remaining 22% described their most recent purchase as being of .less than normal. purity.

Research on heroin markets is dominated by .price. and .purity. but street-level heroin users in Cabramatta were more concerned about .size.. In a market place with stable prices and consistent purity according to consumers, the size of the deal may be what matters most. Size was a strong determinant of perceived value for money.

The term .rock. is a poor description of most of the heroin sold at street-level in Cabramatta. Some older users have suggested that heroin is cut (diluted) and recompressed or baked in a microwave to make it look like .rock.. Most of the heroin observed during fieldwork appeared to be rather soft and powdery in texture.

There appeared to be several types of half-weights for sale in Cabramatta. .Asian halves., which were reserved for Asian customers (usually dealers), consisted of 0.5g - or very close to it because many Asian customers used their own scales to weigh the deal. .Aussie halves. typically weighed between 0.3 and 0.4g. The higher price and lower weight of .Aussie halves. no doubt reflected the risks (as perceived by Asian weight dealers) in selling to .Aussies.. "Tripper's halves" which were reserved for non-Asian, non-regulars and non-locals were the most expensive and could weigh less than 0.2g.

Despite the increased police presence in Cabramatta during the study period, only a minority of subjects (30%) reported that police activity had affected their access to heroin. While some mentioned delays and difficulties in accessing their .regular. dealers, these delays were measured in minutes or seconds, rather than hours.

Drug Distribution and Sales Activities

Contrary to media reports, street-level heroin distribution in Cabramatta is a freelance market dominated by Indo-Chinese user-sellers. Fieldwork suggests that it is not .controlled. or monopolised by the 5T, or anyone else. Heroin is primarily distributed under a freelance model by individuals and multiple units of small entrepreneurs (mostly user-dealers) rather than by mega-organisations or businesses. Entrepreneurial participation is relatively easy to accomplish, but often sporadic and short-lived.

While the market primarily operates as a freelance system, the domination by Asians structures the participation of non-Asian sellers.

I think basically its what you call a freelance situation but if you start taking too much business then I think the Asians will come down on you. But as far as a little bit of say personal use money you're pretty right to sell. But if you're gonna be making big dollars, well, you're taking it off those Asians and you take money off the Asians, that's what talks and they'll end up snuffing you out you know ... They'd be jumpin' down your throat. They wouldn't let it go on too long. (John, 27 year old Anglo-Australian male)

Interviews and observations to date suggest that involvement in drug distribution and sales activity enables some Indo-Chinese young people, and young Indo-Chinese women in particular, to avoid involvement in income generating crime such as robberies and burglaries.

On the last occasion on which subjects purchased heroin in Cabramatta most (77%) described the seller of their heroin as .Asian. but 20% reported buying from an .Aussie.. Almost half (48%) reported buying from a person aged between 20 and 30 years of age. Most (85%) also reported selling or helping others to sell heroin in the week prior to interview.

Subjects were asked how often they bought heroin from the dealer they used on the most recent purchase occasion. Just under half (47%) reported that they either .always. or .usually. bought heroin from this person. It wasn't so much quality that was sought in a regular dealer but consistency. The other half (53%) had either .never. or only .occasionally. purchased heroin from the dealer. This suggests that while most attempt to buy from regular dealers, the dynamic nature of the marketplace means that most consumers are reluctant to rely upon a single dealer.

Subjects were also asked where the dealer had retrieved the heroin from on the last purchase. The majority reported that the dealer had retrieved the heroin from his or her mouth (58%), or from his or her nose (10%). Most dealers then were storing heroin in body cavities increasing the risk of transmitting tuberculosis as well as blood-borne viruses if the buyer then places the purchase in his or her own mouth. The remainder (32%) reported that dealers retrieved heroin from other places including pockets (17%) and inside buildings, underneath tables, packages or wrappers on the ground, underclothes, tracksuit linings and mobile phones (15%).

The Emergence of Street-Based Injecting

The emergence of a street-based injecting culture in Cabramatta is evidenced by discarded syringes, spoons and other injection paraphernalia littering streets, alley-ways and stairwells. This culture has emerged for a number of reasons including homelessness, the need to conceal drug use from other household members, individual need or craving for drugs and the fear of arrest (Ouellet et al., 1991; Koester, 1994; Klee and Morris, 1995). The relatively young age of new injectors means that many conceal their drug use from parents and caretakers. More significantly the large open air drug market and street scene provides a focal point for young people to meet. Few have enough income (legal or illegal) to purchase desired quantities of heroin, and collaborative criminal activity frequently results in collective drug purchasing and collective injecting. Street-based injecting has also been encouraged by fear of overdose and the inability to self administer.

Most (83%) subjects consumed their most recent heroin purchase within 15 minutes of buying the drug, with 78% using the drug in public or semi-public settings, and 43% using other locations. Just over half (55%) used in the company of at least one other person.

High Risk Practices

Drug Acquisition Routines

Crime was the most common means of acquiring funds or goods with which to purchase heroin. Most subjects engaged in income generating crime, principally high-frequency low-volume shoplifting, other commercial thefts (eg. .run-outs. and .searches.), domestic burglaries, and drug distribution and sales activities. The high level of demand for stolen goods in Cabramatta (especially brand-name sportswear, gold, mobile phones) made it possible for street-level users to support their heroin use by direct exchanges.

Young people were more likely than older users to commit these crimes with their peers. Collaborative criminal activity typically led to collective drug purchasing. For many young people drug acquisition and consumption were social activities. The group situations in which many young people - for whatever reasons - found themselves also placed some under pressure to commence injecting drug use.

Collective Injecting Episodes

Almost all injectors in this study reported using a syringe after someone else, most often during their initial period of injecting drug use. During this period, user's perceptions of risk appear to be conditioned by perceptions of their own good health and that of their peers. Most perceived that it was .OK. to share injecting equipment with their (regular) sexual partners: "Well, we sleep together so if I'm going to get something, I've already got it." (Kylie, 17 year old Anglo-Australian female)

Young people were more likely than older people to decide whether to share injecting equipment on the perceived health status of the sharer. For many young people this was no more than a .feeling. that the person was .clean. or .didn't have anything.. Some felt that a reluctance to lend or pass on a syringe was a .good. sign that indicated that the person with whom they were .sharing. did not normally share injecting equipment. While most young people were aware of the health implications of contracting HIV/AIDS (known colloquially as .the dreaded.), many did not perceive HBV and HCV to present serious health risks.

The likelihood of sharing a syringe was also affected by the reluctance of many users to carry syringes, their difficulty in accessing clean syringes, and their need or desire for heroin. Many users were unaware that the possession of needles and syringes is not a crime in New South Wales. Many feared coming to police attention because they were carrying a syringe, and then being taken into custody after checks for outstanding warrants. For many young injectors, the fear of detection extended to parents, while for young Indo-Chinese injectors, there was the additional fear of detection by their peers (Maher 1996c).

The availability of clean injecting equipment in Cabramatta was largely restricted to business hours. During business hours, sterile injecting equipment could be obtained at varying cost from one of four chemists, or free of charge from one of two local agencies which provide needle and syringe exchange. There was also an outreach bus service in Cabramatta on Friday and Saturday evenings. During the week, between the hours of 9.00pm and 9.00am users in Cabramatta were at risk of sharing or re-using previously used injecting equipment.

Many young people reported that they simply could not afford to purchase a clean syringe. The influence of economic factors and drug dependence on risk behaviours was most apparent when

users were hanging out, or withdrawing from heroin. Then users often saw themselves as having little or no choice when faced with an opportunity to use heroin.

Collective injecting more often involved sharing filters, spoons and rinse/mix water than the direct sharing, or the transfer of the contents, of syringes (Koester 1989; Koester and Hoffer 1994; Needle et al. 1994). On occasion there was also syringe-mediated drug sharing which involved sharing drug solution that has been in direct contact with injecting equipment (i.e. backloading).

Collective injecting episodes also involved simultaneous administration. In this scenario two or more individuals simultaneously drew up heroin solution from a spoon with their syringes in what one user described as pigs in a trough. (Maher 1996c). The fear of being interrupted or busted by the police also encouraged collective injecting practices. Other factors influencing collective preparation, distribution and administration of heroin solutions included a lack of injecting experience and the fear of overdose. The data suggest that young women were less willing or able to self administer and more reluctant to go first. Young injectors who were aware that they had been infected with a blood-borne virus (typically HCV) were reluctant to disclose their health status to other users.

Use Settings

Heroin users in Cabramatta injected in a variety of private, semi-private and public settings. Private settings include residential addresses and motel rooms. Semi-private settings include motor vehicles and abandoned houses. Public settings include the walkways, stairwells and gardens of local flats, abandoned houses, public toilets, trains, bus shelters and outdoor locations such as parks, underpasses and car parks.

Collective injecting was more likely to occur in public settings. Most of these were well known to IDUs, local residents and the police, and so provided little, if any, privacy. Conditions were unsanitary and poorly lit and ventilated. With the exception of public toilets, they had no running water, and they were littered with injecting paraphernalia, including discarded syringes. Many of these can be characterised as free shooting galleries in that they provided a space where IDUs regularly gather to inject drugs but where there is no admission fee. (Ouellet et al. 1991). While the vigorous policing of such locations may have reduced the number of users who used these public settings, it may also promote the use of less desirable and possibly more hidden settings.

There was also at least one taste gallery operating in an abandoned house in Cabramatta. Conditions in Cabramatta appear conducive to the development of commercially-oriented galleries where people provide places for others to inject for a fee (either in drugs or money). The presence of abandoned/condemned houses meant that there was no shortage of suitable premises. While the establishment of commercial galleries may provide gatekeepers, and the potential for safe using norms and safe disposal, research in the United States indicates that some types of shooting galleries can serve as vectors for the transmission of HIV and other blood-borne viruses (Des Jarlais et al., 1986; Marmour et al., 1987; Des Jarlais and Friedman, 1990; Ouellet et al., 1991).

Law Enforcement Practices

During the study period Cabramatta was the site of high profile, intensive and sustained street level policing. While the complex and often contradictory effects of drug law enforcement on particular

markets is addressed elsewhere (Weatherburn and Lind, 1995; Moore, 1990; Dorn et al., 1992; Collison, 1995; Manning, 1980), it is important to note that some types of policing may have the potential to do more, rather than less, harm. While the presence of uniformed beat police, mobile patrols, officers on horseback and dog teams appears to have had little impact on the drug market, it has contributed to a number of undesirable public health outcomes. Firstly, it encouraged both the oral and intranasal storage and transfer of heroin. Second, it may have increased the incidence of high-risk injecting since injectors who used public settings were fearful of being interrupted by police either during preparation or actual administration. They were anxious to get on, and get away as soon as possible, a situation that did not encourage safer injecting practices or safe disposal of equipment. Such street-based injectors were also less likely to carry injecting equipment, less likely to use tourniquets and less likely to swab before and after injecting. They were also more likely to engage in collective injecting episodes, unsafe drug preparation and backloading, and more likely to share needles, use discarded needles and to leave paraphernalia behind (Maher, 1996c).

Heroin-Related Fatalities

In 1995, more than 30 heroin overdoses were recorded by police in Cabramatta. Three young people who participated in this study died during the study period, two of suspected overdoses. One of these fatalities involved a 15 year old girl whose death attracted considerable media attention, and the other was a young man aged 19. These deaths provided an opportunity to assess users views as to the causes of these overdoses.

The sudden increase in heroin purity was not a popular explanation. A more popular view was that those who overdosed didn't know their habits, because of their youth and inexperience. Many who knew the young woman attributed her death to inexperience, but those who knew the young man were puzzled because "He knew what he was doing..

Some of those who were close to the young woman claimed that she was murdered - i.e. that someone had deliberately given her a fatal dose or an adulterated dose (a hotshot.). Perhaps the only way in which they could cope with such premature deaths was to pathologise the actions of the deceased user, or invoke conspiracies. There was no evidence that the young people studied modified their own drug use in the wake of these deaths.

Some of those who knew the young woman claimed (probably accurately) that her death was the result of using heroin and benzodiazepines. In fact, she had described an earlier overdose, in which she had taken 15 rohypnol before injecting heroin. Two young people claimed that for them, the fear of being arrested with drugs in their possession had led them to use more than they would have ordinarily, resulting in overdoses..

3.1.4 Indicator data

Survey data

Table 9 outlines the most recent sources of survey data collected since 1990 among various populations. Most of this data has been collected more than 12 months ago but will provide a useful baseline for ongoing surveys. Some survey data cannot be included due to incomparable measurements over time. Only brief details of these findings are provided here. More detail can be obtained directly from each reference.

Cannabis (31%) and amphetamines (6%) remain the most commonly used illicit substances among the general population in 1995, with use declining slightly since 1993 (34% and 8% respectively) (CDHHLGCS, 1993; CDHFS, 1996). The use of cocaine and heroin was relatively low (1-3%), however these figures should be interpreted with caution as they are probably too low to be reliable. Males and those aged 20-34 were more likely to use all illicit drugs and to inject. Homeless and detained youth, as well as a sample of young illicit drug users, participated in greater illicit drug use than similarly aged youth such as secondary school students (CDHHCS, 1992; Zibert et al., 1994; Cooney et al., 1993; Spooner et al., 1993).

The prevalence of illicit drug use was generally low among persons from non-English speaking backgrounds (Greek, Vietnamese, Spanish and Chinese speakers) compared to the general population (Everingham et al., 1994; Bertram and Flaherty, 1992a, 1992b; Everingham and Flaherty, 1995). However, illicit drug use among Aboriginal and Torres Strait Islanders was comparable to the general population with the exception of the use of cannabis which was higher among Aboriginals (CDHFS, 1996).

A Sydney sample of 219 injecting drug users tended to be polydrug users with a preference for heroin (Rutter et al., 1996). Drug-specific surveys among regular amphetamine, cocaine, MDMA and heroin users also found high levels of polydrug use (Darke et al., 1994a, 1994b; Hall et al., 1991; Solowij et al., 1992). Prisoners were also more likely to use illicit drugs (Stathis et al., 1991).

In terms of the use of other illicit drugs, an increase in MDMA use (from 1% to 3%) between 1991-1993 was noted among the general population, although this appeared to stabilise in 1995 at 2% (CDHHLGCS, 1993; CDHFS, 1996). The prevalence of hallucinogen use (such as LSD) was similar to amphetamines (7%). Inhalants were used by 2% of the population, representing a decline since 1993 (4%). Steroids were used by 1% of the general population. The use of MDMA, hallucinogens, inhalants and steroids were more popular among NSW secondary school students (3%, 9%, 25% and 2%, respectively). These other illicit drugs were also more commonly used by at-risk groups such as homeless and detained youth (CDHHCS, 1992; Zibert et al., 1994), and regular illicit drug users (eg. Darke et al., 1994a, 1994b).

Table 9: Surveys of illicit drug use among general and special populations (a)

Population	Year (b)	Place	Sample size	Heroin (%)		Cocaine (%)		Amphetamine (%)		Cannabis (%)		Injecting drugs (%)	
				Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use
General population ^{1,2}	1993	Aust	3500	2	NA	2	1 *	8	2 *	34	13 *	2	1 *
	1995	Aust	3850	1	0 *	3	1 *	6	2 *	31	11 *	1	1 *
NSW ²	1995	NSW	600	1	<1 *	4	1 *	5	3 *	32	13 *	2	1 *
Males ¹	1993	Aust	-	2	NA	3	NA	9	NA	41	NA	2	NA
Males ²	1995	Aust	1786	2	0 *	4	1 *	7	2 *	37	15 *	2	1 *
Females ¹	1993	Aust	-	1	NA	2	NA	6	NA	28	NA	1	NA
Females ²	1995	Aust	2064	1	0 *	3	0 *	4	1 *	24	8 *	1	0 *
NESB:													
Greek ³	1994	Syd	450	0	0 *	1	<1 *	2	<1 *	12	4 #	1	NA
Vietnamese ⁴	1992	Syd	341	1	0 *	<1	0 *	0	0 *	4	<1 *	1	NA
Spanish ⁵	1993	Syd	436	<1	0 *	1	<1 *	3	1 *	17	3 #	1	NA
Chinese ⁶	1994	Syd	NA	<1	NA	1	NA	1.5	NA	4	NA	0.5	NA
ATSI ²	1995	Aust	2943	3	<1 *	2	<1 *	6	2 *	48	21 *	3	2 *
Youth:													
14-19 yrs ²	1995	Aust	350	1	0 *	1	1 *	6	2 *	35	23 *	2	1 *
20-34 yrs ²	1995	Aust	1171	3	1 *	6	2 *	19	5 *	56	23 *	3	1 *
35-54 yrs ²	1995	Aust	1293	1	0 *	5	NA	13	0 *	29	5 *	0	0 *
Students ⁷	1992	NSW	3828	4	1 #	5	2 #	6	3 #	25	15 #	1	NA
Young illicit drug users ⁸	1990	Syd	581	25	12 #	40	11 #	75	36 #	98	85 #	28	28 ##
Homeless ⁹	1991	Aust	82	45	NA	59	NA	82	NA	96	NA	62	NA
Detained ¹⁰	1993	NSW	279	19	10 #	15	7 #	33	18 #	90	75 #	24	NA
Injecting drug users ¹¹	1994	Syd	219	NA	95 #	NA	30 #	NA	32 #	NA	NA	100	94 #
Prisoners ¹²	1990	NSW	182	40	28 *	27	19 *	43	25 *	77	60 *	NA	NA

Population	Year (b)	Place	Sample size	Heroin (%)		Cocaine (%)		Amphetamine (%)		Cannabis (%)		Injecting drugs (%)	
				Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use	Ever tried	Recent use
Drug specific surveys:													
Amphetamine ¹³	1993	Syd	301	68	61 **	66	35 **	100	100 **	100	93 **	68	62 #
Cocaine ¹⁴	1989	Syd	499	34	NA	100	NA	74	NA	89	NA	NA	NA
MDMA ¹⁵	1990	Syd	100	16	NA	77	NA	83	NA	99	NA	NA	NA
Heroin ¹⁶	1994	Syd	329	100	24 **	81	24 **	95	42 **	99	84 **	99	91 **

use in past month; ## use in past 3 months; ** use in past 6 months; * use in past year;

NESB = non-English speaking background; ATSI = Aboriginal and Torres Strait Islander;

(a) Data based on latest year/s available; (b) Year study was conducted;

1 CDHHLGCS (1993); 2 CDHFS (1996); 3 Everingham et al. (1994); 4 Bertram and Flaherty (1992a); 5 Bertram and Flaherty (1992b); 6 Everingham and Flaherty (1995);

7 Cooney et al. (1993); 8 Spooner et al. (1993); 9 CDHHCs (1992); 10 Zibert et al. (1994); 11 Rutter et al (1996); 12 Stathis et al. (1991); 13 Darke et al (1994a); 14 Hall et al (1991);

15 Solowij et al. (1992); 16 Darke et al (1994b);

Health data

The two main sources of information on admissions to AOD treatment services were the CARA (Clients at Residential Agencies) (Darke et al., 1996a) and the COTSA (Clients of Treatment Service Agencies) (Torres et al., 1996) databases. The CARA database collected information up to 1992 from all 23 NSW non-government residential treatment agencies funded by the Drug and Alcohol Directorate. It shows that opiates remained the major problem drug with admissions, however there was a trend for agencies to deal with a wider range of polydrug problems. The proportion of admissions reporting opiates as their primary problem drug decreased in recent years, and significant increases were noted among those with primary amphetamine and cannabis problems (Table 10).

The COTSA is a national census of clients of treatment service agencies which provide face-to-face specialist AOD treatment (excluding methadone maintenance and telephone advisory services). The COTSA is conducted every 2-3 years. In 1995, 458 agencies participated, representing a 92% response rate. Outpatient counselling and therapeutic communities were the most common treatment modalities. While opiates were the most frequently reported illicit problem drug, significant increases since 1992 were noted amongst those presenting with primary amphetamine and cannabis-related problems (Table 10). Similar figures were noted in NSW.

Table 10: Primary drug problems among AOD treatment admissions

	Year	Sample size	Heroin	Cocaine	Amphetamine	Cannabis
% Drug problem:						
NSW ¹	1988	854	81	<1	8	4
NSW ¹	1992	1311	65 *	2	16 #	9 #
NSW ²	1995	2187	39	1	5	6
National ²	1992	5259	33	<1	4	6
National ²	1995	4775	33	<1	7 #	7 #

1 Clients at Residential Agencies (Darke et al., 1996a)

2 Clients of Treatment Service Agencies (Torres et al., 1996)

* Represents a significant decrease from the previous survey

Represents a significant increase from the previous survey

Information on drug overdoses has been collected in specialist research projects (Darke et al., 1996b; Zador, Sunjic and Darke, 1996), and continues to be monitored among primary heroin users by NDARC. There were 152 heroin deaths in NSW during 1992 (Zador et al., 1996). Among a sample of

329 primary heroin injectors interviewed in 1994, 68% reported a non-fatal heroin overdose (Darke et al., 1996b). In both studies, the majority of heroin overdoses occurred in conjunction with the use of other substances.

The NSW Alcohol and Drug Information Service (ADIS) received 51,017 phone inquiries during 1995, mostly from the general public. The number of cannabis mentions were highest (total=4,155), followed by heroin (2,774), amphetamines (1,816), cocaine (396) and MDMA (332) (Figure 1).² Media attention on all of these drugs during 1995, as well as an ongoing national amphetamine campaign may have contributed to the number of calls. Of the 141 phone inquiries by clinicians to the NSW Specialist Advisory Service (SAS) during 1995, 38% were for cannabis, 37% for heroin, 22% for amphetamines and 3% for cocaine problems (Figure 2).

A national review of over 100 studies of risk behaviours for HIV infection among injecting drug users and prison inmates during the last 10 years was conducted by Crofts et al (1996). They note that there is no firm evidence of trends in the size of the IDU population, although there was some suggestion of an increase during the 1980s, partly in relation to amphetamine use. The self-reported rate of IDUs sharing needles has remained consistently low (below 50%) since 1989, dropping to below 20% in 1994. While most IDUs cleaned re-used injection equipment, the preferred method was still water rather than bleach. There was some evidence that rates of needle sharing was higher among IDU based in rural areas. While men who had sex with men and inject drugs were less likely to share injecting equipment than equivalent heterosexual IDU, rates of HIV were higher among this group because of their sexual behaviour. The proportion of prisoners reporting a history of injecting was around 50%. Crofts et al. note that considerable risk behaviour occurs in prisons and that the high levels are not declining.

As less than 50 new cases of HIV relating to injecting drug use are reported in NSW each year, the reader is referred to quarterly summaries of the Australian HIV Surveillance Report for further information (National Centre in HIV Epidemiology and Clinical Research, 1996). Other research (Crofts et al., 1993; CDHSH, 1995) suggests that rates of HCV and HBV are higher than for HIV, particularly among IDU populations. For example, during the last quarter of 1995, the national prevalence of HCV among methadone clients was 63%, compared to 2.6% for HIV and 48% for HBV (CDHSH, 1995).

²Up to three drug mentions could be recorded per call

FIGURE 1:
ADIS drug mentions, 1995

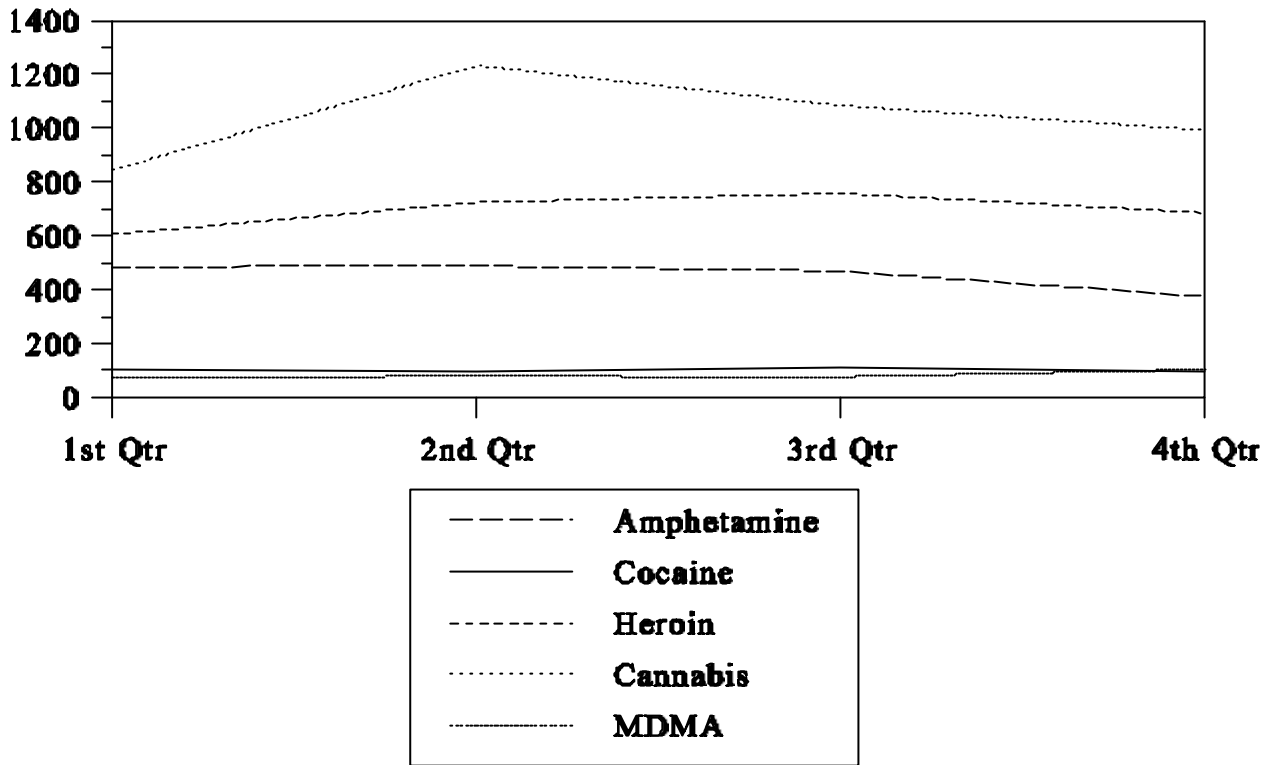
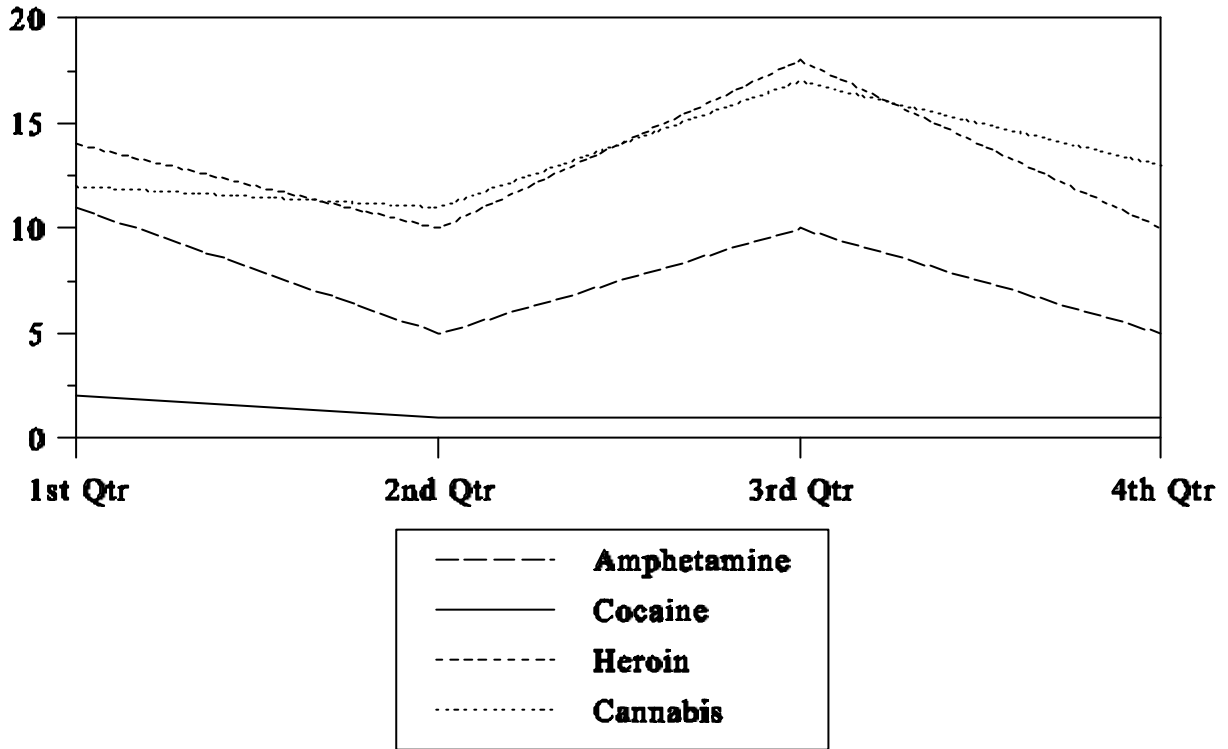


FIGURE 2:
Phone inquiries to SAS, 1995



Law enforcement data

Statistics are provided on the purity of drug seizures from the two main government analytical laboratories in NSW³, and drug prices⁴ and seizures from the NSW DEA, for which complete data was available.

Large fluctuations in the quantity of cannabis leaf (a total of 146 kilos) and heroin (106 kilos) seized by the DEA occurred during 1995 (Table 11 and Figure 3). Less cocaine (1 kilo), amphetamine (18 kilos) and MDMA (<1 kilo) were seized. Other seizures for 1995 included cannabis seeds (12.4g), cannabis resin (3.4 kilos), cannabis plants (50,716 plants), cannabis oil (360ml) and LSD (13,237 trips). Complete data on the number of DEA seizures by drug type was not available.

Table 11: Quantity of drugs seized by the NSW DEA by quarter, 1995 (kilos)

	1st quarter	2nd quarter	3rd quarter	4th quarter	TOTAL
Amphetamine	4.6	5.2	3.3	4.8	17.9
Cocaine	0.4	0.14	0.4	0.2	1.1
Heroin	63.6	16.3	22.8	3.3	106.0
Cannabis leaf	27.6	30.0	27.7	60.7	146.0

³ Does not include information on adulterants or cutting agents; not all local seizures were analysed

⁴ Based on information from arrests, seizures, covert operations and police informants

**FIGURE 3:
Quantity of drugs seized by DEA 1995**

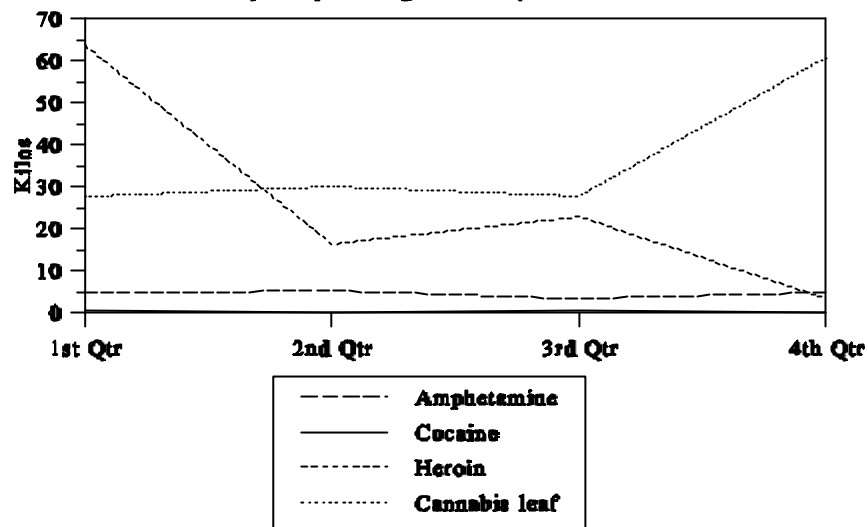


Table 12 and Figure 4 show mean purity levels for the main drug types. Of the 231 heroin seizures analysed, a mean purity of around 50% was recorded (range 2-80%), with some fluctuation (12%) occurring between quarters. Few differences were noted between imported and street seizures of heroin. Mean purity levels of around 5% (range <1-69%) were recorded for amphetamine⁵ during 1995, with little fluctuation (2%) between quarters. Of the 187 seizures analysed, most were

⁵ Includes methamphetamine unless otherwise specified

methamphetamine (79%) and street seizures (96%). Mean purity levels were the same for imported and street seizures of amphetamine, and street seizures of methamphetamine. One imported seizure of methamphetamine which was 69% pure was noted.

Of the 64 seizures of cocaine which were analysed during 1995, a mean purity of around 50% was recorded (range 2-85%), with some fluctuation (18%) between quarters. Little difference in mean purity was found between imports (57%) and street seizures (46%) of cocaine. Figures on the potency of cannabis were not available from the government analytical laboratories. The mean purity of 54 seizures of MDMA and related drugs (MDA, MEA, MDEA and MBDB) was 28% (range 4-57%), with some fluctuation (9%) between quarters. Little difference in mean purity of these drugs was noted for imports (31%) compared to street seizures (25%). Just over half of the seizures analysed were imports (59%).

Table 12: Purity of NSW drug seizures by quarter, 1995*

Drug type	1st quarter			2nd quarter			3rd quarter			4th quarter		
	Total no.	Mean purity (%)	Purity range (%)	Total no.	Mean purity (%)	Purity range (%)	Total no.	Mean purity (%)	Purity range (%)	Total no.	Mean purity (%)	Purity range (%)
Amphet (a)	34	6	<1-69	46	4	<1-22	65	5	<1-18	42	6	1-15
MDMA (b)	11	32	4-43	6	34	16-57	13	28	5-54	24	25	7-52
Cocaine	10	44	19-74	11	62	31-85	17	54	2-85	26	44	26-77
Heroin	44	47	22-79	54	42	14-78	72	54	2-80	61	46	9-80

* total weights cannot be recorded due to inconsistent reporting procedures between the two laboratories

(a) Includes methamphetamine and amphetamine

(b) Includes MDMA, MDA, MEA, MDEA, MBDB

Table 13 and Figures 5-8 list mean DEA drug prices by different quantities between the 2nd-4th quarter 1995. There was a decrease in the average price of heroin powder when purchased in street grams (\$375 to \$325), grams (\$450 to \$375), ounces (\$9,100 to \$7,850) and kilos (\$312,500 to \$175,000) during 1995. No change was noted for the average price of heroin pounds (\$105,000). Heroin was the most expensive drug compared to the other drug types. No change in the average price of gram (\$105), ounce (\$1,000), pound (\$11,000) or kilo (\$25,000) purchases of amphetamines were noted during 1995. However, an increase in the mean price of street grams occurred (\$80 to \$105). Increases in the average price of street grams (\$200 to \$210), grams (\$200 to \$210) and pounds (\$550,000 to \$625,000) of cocaine were recorded, and a decrease in the price of kilos (\$120,000 to \$117,500). No change in the mean price of ounce purchases of cocaine were noted (\$4,250). A small decrease in the

mean price of cannabis heads when purchased in grams (\$50 to \$40), and an increase for ounce (\$500 to \$550) and pound purchases (\$4,000 to \$4,250) occurred. Kilo purchases of cannabis heads remained stable (\$9,500). As expected, cannabis leaf was cheaper at \$30-35/gram. An increase in ounce (\$225 to \$275) and pound purchases (\$1,250 to \$1,850) of cannabis leaf were noted. The price of cannabis plants remained stable at \$2,000 each. The mean price of MDMA also remained stable during 1995, at \$85 per tablet (range \$70-100). LSD tablets were cheaper, at \$15 per tablet (range \$10-20) for purchases of up to 1,000 tablets.

**FIGURE 4:
Purity of NSW seizures 1995**

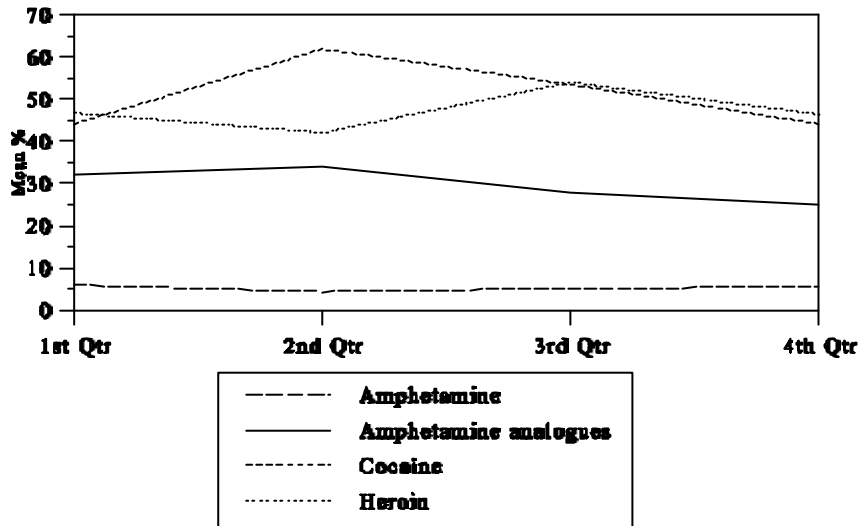


Table 13: NSW DEA estimates of drug prices by quarter, 1995 (\$) *

	2nd quarter		3rd quarter		4th quarter	
	Mean	Range	Mean	Range	Mean	Range
Amphetamine:						
Grams	105	90-120	105	90-120	105	90-120
Ounces	1000	800-1200	1000	800-1200	1000	800-1200
Pounds	-	-	11000	9000-13000	11000	9000-13000
Kilos	25000	20000-30000	25000	20000-30000	25000	20000-30000
Cocaine:						
Grams	200	200	210	180-240	210	180-240
Ounces	4250	4000-4500	4250	4000-4500	4250	4000-4500
Pounds	55000	50000-60000	62500	60000-65000	62500	60000-65000
Kilos	120000	110000-130000	117500	105000-130000	117500	105000-130000
Heroin:						
Grams	450	400-500	375	300-450	375	300-450
Ounces	9100	6200-12000	7850	6200-9500	7850	6200-9500
Pounds	105000	85000-125000	105000	85000-125000	105000	85000-125000
Kilos	312500	285000-340000	175000	150000-200000	175000	150000-200000
Cannabis heads:						
Grams	50	50	40	30-50	40	30-50
Ounces	500	400-600	550	400-700	550	400-700
Pounds	4000	3500-4500	4250	3500-5000	4950	3500-6400
Kilos	-	-	9500	7000-12000	9500	7000-12000
Cannabis leaf:						
Grams	-	-	-	30-35	-	30-35
Ounces	225	200-250	275	250-300	275	250-300
Pounds	1250	1000-1500	1850	1500-2200	1850	1500-2200

	2nd quarter		3rd quarter		4th quarter	
	Mean	Range	Mean	Range	Mean	Range
Kilos	-	-	3250	2500-4000	3250	2500-4000

* Data not available for first quarter

FIGURE 5:

Mean DEA prices (gram purchase) 1995

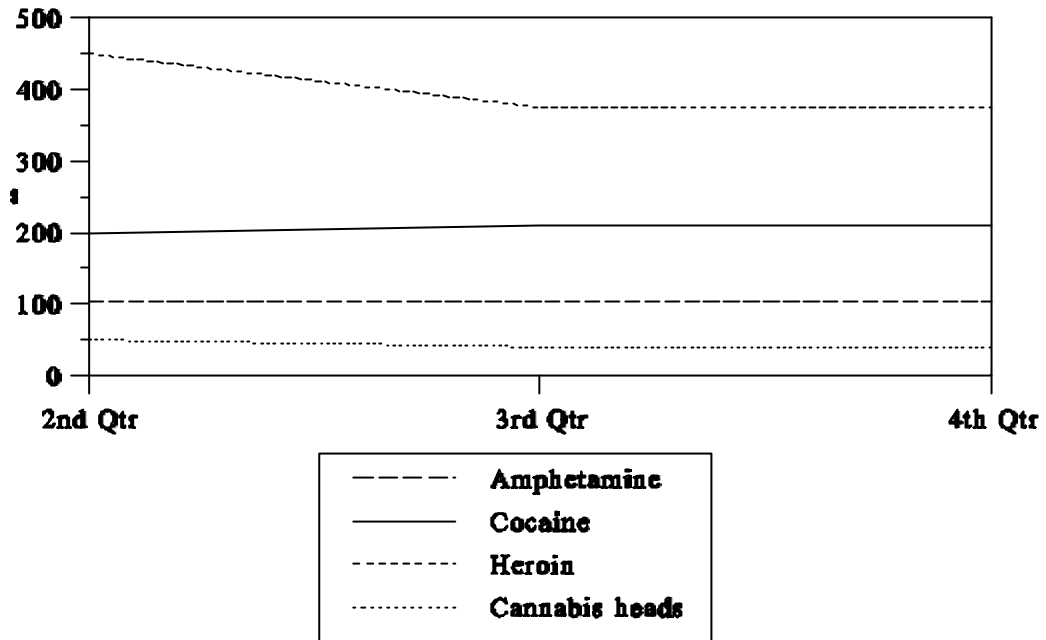


FIGURE 6:

Mean DEA prices (ounce purchase) 1995

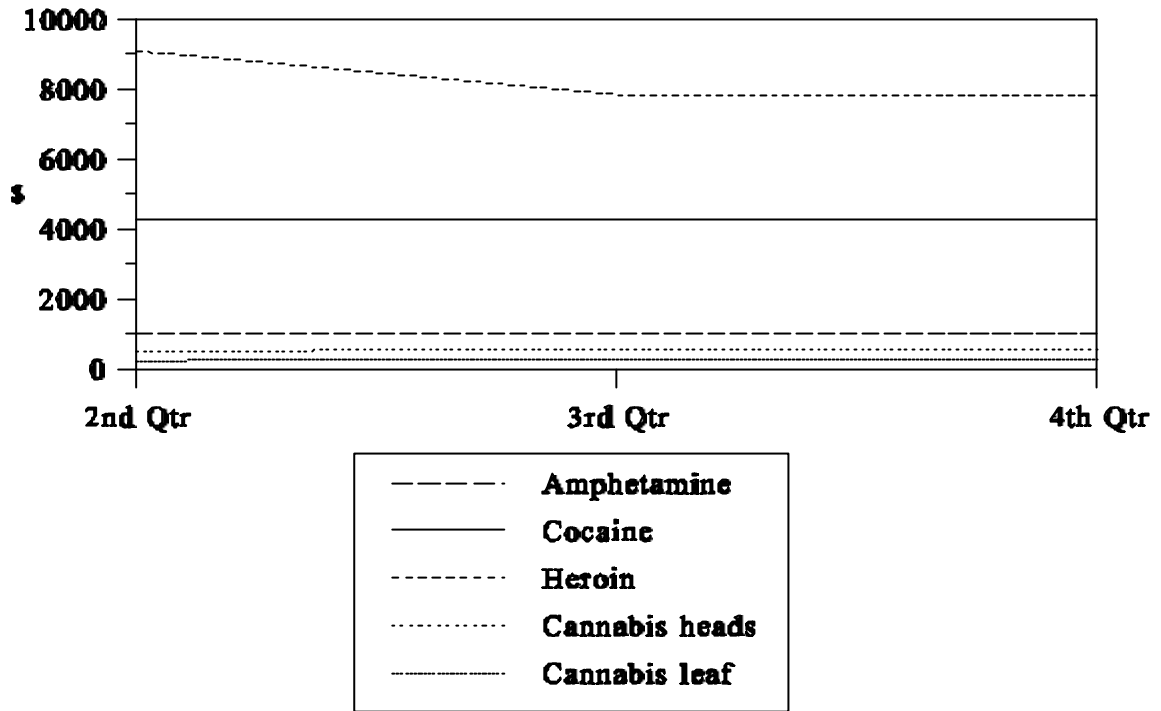


FIGURE 7:

Mean DEA prices (pound purchases) 1995

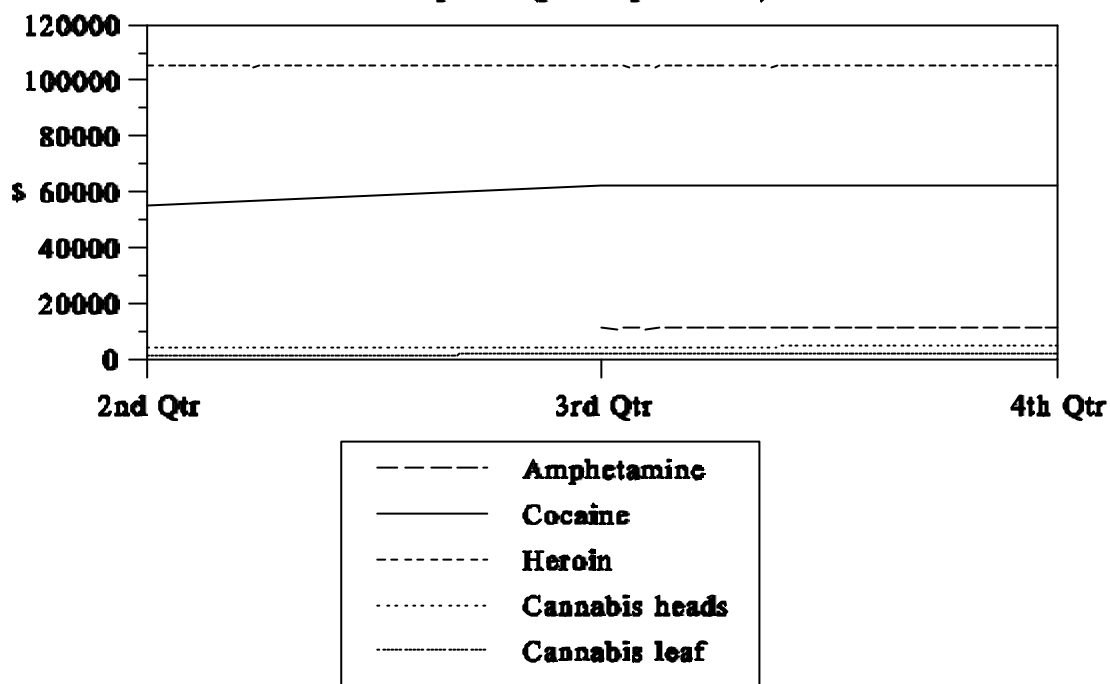
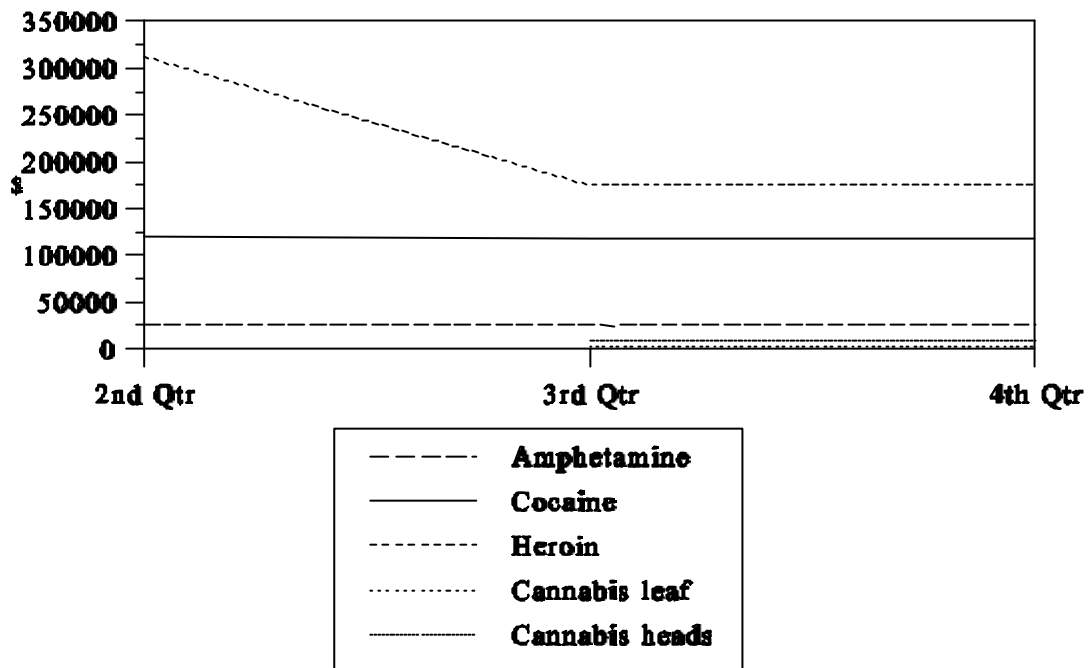


FIGURE 8:
Mean DEA prices (kilo purchases) 1995



3.2 METHODOLOGICAL ISSUES

3.2.1 Key informant procedures

A comparison of group and individual interviews with key informants were trialed in the first phase of the key informant study. For groups, several limitations were noted. There were a number of difficulties recruiting some types of key informants into the groups, including Aboriginal participants, stimulant users and professionals working with stimulant users in western Sydney. While recruitment of equal numbers of professional and user key informants was attempted, twice as many professionals (n=29) as users (n=15) actually participated in the study. Some users were hesitant about attending groups for fear of being identified by other group members. Others had difficulty attending a set time and place, especially groups which were some distance from their residence or workplace.

The feasibility of conducting "pure" versus "mixed" groups was investigated. Other research has found homogeneous focus groups to be more successful (Krueger, 1988; Morgan, 1989). However, one of the main aims of the key informant groups was to encourage debate on drug trends between key informants. Key informants were asked prior to the groups whether they had any objection to attending mixed groups which included police. While health professionals concurred with this suggestion, there was general consensus among users that police presence would inhibit their participation. The police also had reservations about this arrangement. As a result, mixed groups of health, law enforcement and research professionals were conducted, with users participating in separate groups. This was successful, with 68% of participants reporting positive outcomes such as the opportunity to hear other perspectives and learn new information. In particular, 26% of the professionals noted the value of police participation in their group.

However, other problems with groups were noted. Time limitations during the groups meant that topics were often limited to a brief discussion of issues and accounts of drug trends were unable to be fully substantiated (such as noting the number of users and source of information). In addition, there was a great deal of variability in contributions made during the group discussions, even though most participants had above average knowledge of drug trends. This was measured by the proportion of text contributed by each member. Overall, individual contributions during group discussions varied from 1% to up to 33% of the text (Table 14). Women were less likely to contribute than men in most group discussions, a finding only partly explained by their lower representation in the groups.

Other problems included limitations on the size of the groups, and thus the representativeness of the sample, problems not easily resolved due to the logistical difficulties in organising groups. The extent of agreement among key informants was also limited during groups. Previous research that has validated focus group findings against prevalence surveys (eg Smart and Liban, 1982) found that group consensus was higher among small, homogeneous groups. The groups in the present study were mostly large (>7

participants) and heterogeneous, which may explain the lack of consensus. When individually asked to rate their agreement with a summary of the group statements after the group, a different pattern emerged (Table 15). There was agreement for the majority of statements on current patterns of illicit drug use (range 61-77%). Half or more also agreed with statements on changes in illicit drug use (range 48-63%). The remainder reported limited knowledge of an issue (17-51%) rather than disagreement (0-13%).

Table 14: Contribution during groups by gender

Group	Males		Females		Total
	No. contributions (% text)	Sample size	No. contributions (% text)	Sample size	Range % text
Opiate users	59 (50%)	7	51 (39%)	2	1-33%
Opiate professionals	41 (54%)	7	38 (38%)	6	1-21%
Stimulant professionals	29 (82%)	6	11 (10%)	3	1-19%
Cannabis users	35 (42%)	3	31 (40%)	3	5-22%
Cannabis professionals	20 (63%)	5	6 (8%)	2	7-19%

Table 15: Extent of agreement with group statements

	No. statements	Agree No. (%)	Disagree No. (%)	Don't know No. (%)
Amphetamine:				
Current patterns	16	55 (61)	6 (7)	29 (32)
Changes	22	63 (48)	1 (1)	68 (51)
Cocaine:				
Current patterns	14	51(61)	2 (2)	30 (36)

Changes	17	64 (63)	0 (0)	38 (37)
Heroin:				
Current patterns	27	144 (67)	17 (8)	54 (25)
Changes	36	174 (60)	11 (4)	103 (36)
Cannabis:				
Current patterns	36	194 (77)	17 (7)	42 (17)
Changes	25	111 (63)	22 (13)	42 (24)

Overall, many of the limitations of the group process were not found when key informants were interviewed on an individual basis. Individual interviews allowed greater flexibility, participants had more time to contribute and substantiate their knowledge and interviews were conducted over the phone at a convenient time for everyone. This was further confirmed in the revised key informant trial where phone interviews were conducted on an individual basis.

Some degree of convergent validity was noted between findings from the individual and group interviews. However, not all topics were routinely discussed in both formats, due to the semi-structured nature of the interview schedule, differing expertise of the participants, fewer key informants participating in individual interviews compared to groups, the impact of group dynamics and the different amounts of time available to respond. Transcription and analysis of data also varied by format, with taped group discussions more difficult and time consuming to transcribe and analyse compared to notes from individual interviews.

A further problem with the key informant methodology was the collection of data involving perceptions of trends rather than personal behaviours from illicit drug users. While user key informants had as much or even more contact with illicit drug users compared to professionals, analyses of the transcripts showed that users were less able to report on drug trends, often referring to personal behaviours and 'war stories'. In addition, they were less likely than professionals to substantiate sources of information. They were also more difficult to recruit, organise into groups and follow-up over time. It appears that the most efficient and valid way to collect information from drug users is to individually ask them about recent, personal behaviours, as was done in the survey component. This is also supported by previous research findings (Hays and Huba, 1988; Maisto, McKay and Connors, 1990; Nurco, 1985).

It is often difficult to obtain representative information on illicit drug use due to the illegal and sensitive nature of the behaviour. Samples will always be limited to drug users who are visible during the

recruitment efforts, are aware of the research and who choose to participate in the study (Watters and Biernacki, 1989). The use of targeted sampling procedures improves representativeness by allowing a broad range of key informants to participate. It is flexible enough to respond to new information during data collection, thus eliciting information on the main areas of illicit drug use. In the present study, a sampling limitation with professionals working in the field was the fact that most only see users who are arrested or in treatment. Thus, few were able to report on some types of illicit drug use such as psychostimulant use. An attempt to recruit equal numbers of outreach workers and researchers as other types of key informants may redress this.

Appropriate time intervals between key informant interviews were also examined. Most key informants recommended time intervals other than the initial four month period as they thought this was too short a window period to be able to confidently report on trends. While a six month interval was the most common recommendation, during the interviews most key informants referred to a range of time intervals during the past 12 months, with some reporting trends that occurred more than 12 months ago. The revised key informant trial tested a 6 month time interval and found that few key informants were able to report trends with certainty within this time frame, and there was little overlap between key informant reports. This suggests that a 12 month time interval between key informant interviews would be adequate, allowing greater consensus and confidence in the reporting of drug trends.

Other issues such as the appropriate number of participants in a key informant study were tested. In the revised trial, thirty-two key informants were able to provide information on the broad range of illicit drug use in Sydney, the largest city in Australia. Twenty-two of the original 29 professional key informants participated in the revised key informant trial (no users participated in this trial), representing a follow-up rate of approximately 75%, and the presence of a stable, core group of participants over time. The main reason for non-participation was a lack of continued contact with illicit drug users. Repeated screening of key informants to ensure they meet the entry criteria appeared an adequate selection process of key informants over time.

Finally, some general comments regarding key informant methods should be noted. In the present trial, these methods achieved the aim of providing an overview of key issues requiring more detailed, substantiated research. As part of a range of early warning monitors, their benefit lies in providing quick snapshots of the current illicit drug scene and new trends. Valuable and timely input on drug issues from a range of key informants were able to be obtained, allowing descriptions from multiple perspectives. Measures to substantiate reports were further refined in the last round of key informant interviews, and a more structured interview schedule was developed, thereby improving the level of confidence in this rapid qualitative technique.

3.2.2 Recruitment of injecting drug users

Logistical problems such as financial and time constraints prevented adequate sampling of a broad range of Sydney injectors in the survey component. Samples of inner city heroin and amphetamine users readily responded to advertisements in local entertainment papers, and southwest Sydney heroin users were recruited via a needle exchange outlet and ethnographic research in Cabramatta. While all subjects were regular injectors, most also had good knowledge of trends in cannabis use. However, few inner city cocaine or western Sydney amphetamine IDU were accessed. Ideally, IDU should be recruited from at least four different locations in each city in order to obtain a broad range of subjects. The use of multiple methodologies such as advertising in local papers, snowball procedures and recruitment at needle exchanges would assist with this.

Overall, however, IDU appeared well placed as a sentinel group for trends over a wide variety of drug classes. In particular, accessing non-treatment populations of IDU as was done in the present study will allow appropriate responses to be implemented before serious problems develop. This component represents a central element of a monitoring system as few comparable surveys of IDU are undertaken in Australia on a regular basis.

3.2.3 Ethnographic issues

The ability to tap into hidden populations is one of the principal benefits of street ethnography. While the focus of this component has been on young injectors, the use of targeted sampling has ensured that a small number of heroin smokers and older users, as well as several subjects from areas outside southwest Sydney, were also included in the study.

Access to the group of young, relatively new heroin users described in this study was only possible because of existing fieldwork in Cabramatta. This fieldwork has formed the basis for several projects including a study of drug use and economic behaviour and a cross-cultural comparison of HIV risk practices. Therefore, the usual problems and delays involved in gaining access and establishing relations of trust and credibility with subjects were avoided by using an existing research project already engaged in recruiting, interviewing and observing street-level drug users in the area. The establishment of a field site in Cabramatta also yielded benefits for the IDRS project in assessing the validity of these data.

It is important to note that the costs of this component of the IDRS project do not reflect the costs involved in conducting ethnographic research. They covered direct payments to subjects and travel expenses but not any of the indirect costs of ongoing ethnographic research such as salaries, storefront rental, equipment costs, and transcribing (which were absorbed by existing funding). The ethnographic study of drug use and distribution is time consuming and expensive. It requires professional ethnographers and field staff dedicated to penetrating and immersing themselves in the worlds of their subjects.

The issues raised here are significant in assessing the feasibility of including an ethnographic monitoring component in the proposed IDRS. It may be that future ethnographic contributions to the IDRS will only be possible where there are ethnographers already in the field. An alternative for ensuring at least some ethnographic input into the IDRS would be to interview ethnographers as part of the key informant component (ONDCP, 1995). However, if the proponents of such a

system are serious about seeking to develop a comprehensive drug monitoring system, the potential benefits of street ethnography in contributing to the success of this endeavour cannot be ignored.

3.2.4 Early warning indicator data

Previous attempts to monitor exiting indicator sources have occurred in Australia, few of which have been successfully maintained (one exception is the ABCI's National Drug Intelligence Assessments). The feasibility of collecting early warning trend data was explored in some detail by Pedic and Flaherty (1991) and contributed to the present trial. Criteria included examining datasets with 50 or more cases by the four main illicit drugs, on a regular, annual basis. Relevant survey, health and law enforcement data was collected with varying amounts of success.

In NSW, regular and single surveys of populations at-risk of illicit drug use have been conducted since 1990, providing a rich and useful source of information for monitoring purposes. This has included research on persons from various non-English speaking backgrounds (Greek, Vietnamese, Spanish, Chinese), Aboriginal and Torres Strait Islanders, prison populations, homeless persons, secondary school students, young illicit drug users, injecting drug users (including regular amphetamine and heroin users) and other illicit drug users (eg. MDMA, cocaine). Limitations of this data include the delay before it becomes publicly available and the fact that often these surveys are not repeated over time, or if they are, a timelag of 2 or more years exists in between surveys. National household survey data is also limited by a small and often under-represented sample of illicit drug users.

Early warning health indicators were less available. By their very nature most are lagging rather than leading indicators due to both the delay it takes to compile such data and the period of time it takes for drug users to present to health services with problems. Regular national and NSW data on admissions to AOD treatment agencies, AOD telephone advisory data (ADIS), studies of heroin overdose and a review of HIV risk-taking behaviour among IDU was available, although few except the ADIS data were collected annually, thus satisfying the early warning criteria. Access to other useful early warning indicators such as ambulance data, emergency room data, drug-related deaths referred to the Coroner and urinalysis results from methadone clients and arrestees were not available, and may take some time to establish. Quarterly information on the number of new HIV/AIDS cases is monitored elsewhere (National Centre in HIV Epidemiology and Clinical Research, 1996). Here, the number of new cases in NSW is often small (<50 cases), particularly among IDU. Estimates of more common blood-borne viruses (such as HCV) are difficult to determine because testing is not compulsory. Regular monitoring of other BBVs needs to occur because of their frequency among IDU (Crofts et al., 1993). Lagging sources such as drug-related deaths (other than fatal heroin overdoses) and hospital separations have not been included due to extensive time delays (3+ years) before this data becomes available. There are also very few illicit drug-related deaths other than heroin.

Finally, quarterly law enforcement data including the purity of NSW police seizures (from government analytical laboratories), drug prices and the quantity of drug seizures (from the NSW DEA) were analysed for the present report. Information on prices was based on arrests, seizures, purchases, undercover information and police informants. Other data from the NCA and AFP could not be analysed due to incomplete data sets. Information from the "COPS" database which lists all NSW seizures and arrests was not in an accessible format for the present study. However, a focus on DEA statistics in the present study may be adequate given the concentration of this organisation on drug seizures and arrests in NSW, work which covers a range of drug offender levels (Green and Purnell, 1996). The NCA tend to work in collaboration with other police organisations, with statistics often recorded in records of the latter. The AFP focus only on barrier seizures and arrests, in conjunction with the Australian Customs Service. Monitoring such information is obviously desirable in an IDRS, but cannot occur until complete data sets are provided by the relevant agencies.

An additional problem with police statistics, noted also by Green and Purnell (1996), was the use of inconsistent definitions and counting methods between regions and organisations. For example, arrest data by drug type could not be analysed because measurements focused either on the number of charges or the number of people arrested, or were not available. This problem is currently being addressed by the relevant bodies so that a standardised set of drug statistics can be established.

Purity figures from the government analytical laboratories appear overall to provide the most comprehensive and accurate estimates of this variable, compared to other currently available reports. Most seizures in NSW are analysed by either of these two laboratories. They represent a broad range of sizes, from less than a gram to 10 or more kilos. A disadvantage is that the two laboratories use different counting methods and consequently the total weight of seizures in NSW cannot be reported. Also not all street seizures are analysed, and information on adulterants and cutting agents is not available. Minimal fluctuation occurred in the purity of the drug types during 1995, the largest being an 18% change in the purity of cocaine. While no distinct trends in the purity of drugs emerged for 1995, they do warrant continued monitoring over time.

A qualification needs to be added about the use of police statistics to monitor illicit drug trends. While such information is useful, trends may reflect other factors such as enforcement practices or the visibility of certain populations rather than actual changes in drug availability (Wardlaw and Deane, 1986; Stevens et al., 1988). Often the exact relationship between police statistics and drug use and availability remains unclear. For example in the present study, two major police operations targeting drug dealing and illegal "shooting galleries" in the Kings Cross area, and street level drug activity in the Cabramatta area occurred. Such operations commenced just prior to the study period and were believed to result in increased arrests and seizures of heroin in these areas compared with previous periods. These reports were confirmed by key informants. However, other research (Weatherburn and Lind, 1995) has found

little impact of police activity on heroin price, purity and availability at the street level. While the present trial demonstrated that more efficient and timely collection and analysis of law enforcement data is possible, such information should be analysed in conjunction with other indicators for the purposes of an IDRS to increase our confidence in these statistics.

Table 16 summarises the eligibility of various data sources for a revised IDRS. Overall, few sources were available on an annual basis. Other sources have been included when they meet the remaining criteria and improve our knowledge of the illicit drug situation.

3.2.5 A comparison of methods

The degree of convergent validity between the four methods was examined. It was difficult to directly compare results from the indicator sources with other findings due to inconsistent time frames and geographical locations. Similarly, comparisons between the remaining methods were limited because heroin was the only drug class examined by all three methods.

Generally consistent responses on heroin features and trends between the different studies were noted. In addition to the trends listed in Table 17, there was agreement about the demographic characteristics of heroin users in southwest Sydney and the current availability of heroin. Similar prices were reported in the inner city (\$35-50/cap; \$400-500/gram) and southwest (\$30-35/cap; \$300-500/gram). Only police could report prices of drug purchases weighing more than ounces. Both the survey and laboratory analyses indicated medium purity (around 50%) of heroin which seems best measured by these two methods. Reports from the survey participants of increased police activity in the inner city and southwest were confirmed by police reports of increased activity in these areas just prior to and during the study period.

In terms of a comparison of procedures, the ethnographic and key informant studies recruited subjects using targeted sampling procedures which generally provide a more accurate representation of the target population than opportunity samples. Multiple methodologies were used to recruit IDU in the survey, which also has success in accessing a range of illicit drug users (eg. Hando and Hall, 1993). The survey and key informant studies were the easiest to conduct, required the least skills and took similar amounts of time for data collection (Table 18). They both provided relatively brief details of a range of patterns of illicit drug use in Sydney which were quick to analyse. The indicator data was time consuming to set up, however once established required little time to monitor. The survey accessed a sentinel group of illicit drug users, while the revised key informant study accessed professionals in contact with illicit drug users.

Table 16: Eligibility of indicator sources for a revised IDRS

Source	By drug type	Sydney/ NSW based	Brief	Available annually	50+ cases
<i>Surveys:</i>					
National Household	T	T	T		T
ATSI	T	T	T		T
NESB	T	T	T		T
School students	T	T	T		T
Young illicit drug users	T	T	T		T
Detained youth	T	T	T		T
Homeless youth	T	T	T		T
IDU	T	T	T		T
Prisoners					
<i>Health data:</i>					
Treatment admissions	T	T	T		T
Fatal heroin OD	T	T	T		T
Non-fatal heroin OD	T	T	T		T
HIV risk behaviours	T	T	T		T
New HIV/AIDS cases #	T	T	T	T	T
ADIS calls	T	T	T	T	T
SAS calls	T	T	T	T	
Drug-related deaths #					
<i>Police data:</i>					
Quantity of seizures	T	T	T	T	T
Arrests #		T	T	T	T
Purity of seizures	T	T	T	T	T
Drug prices	T	T	T	T	T

Not included in the revised IDRS;

In comparison, the ethnographic study required a very skilled and experienced researcher. In-depth, taped interviews were difficult and time consuming to transcribe. While the ethnographic project was no more time intensive in collecting data than the survey and key informant study, this was because it was able to link in and utilise the resources of a similar ethnographic project in the field, reducing the amount of time needed to identify and recruit subjects. This study produced a rich, in-depth account of patterns of drug use among one little known population of illicit drug users. However, the specific aims of the

IDRS were to obtain information on trends requiring further investigation rather than conduct in-depth research on illicit drug use.

To this end, it may be more appropriate and cost effective to involve ethnographers as key informants in an IDRS, rather than conduct a separate in-depth research project on one subpopulation of illicit drug users. Given that the remaining three methods (IDU survey, key informant study and indicator data) collect different types of information (quantitative and qualitative) from different populations (IDU, professionals, other illicit drug users) on a range of illicit drugs, it seems worthwhile including all three in a revised IDRS.

Table 17: Cross-validation of drug trends by study type

Drug type	Key informants	IDU survey	Ethnography	Indicator data
<i>Heroin:</i>				
Increased heroin use generally		X		
Mean age of heroin users decreased	X	X	X	
More females using heroin		X	X	
Increased use among Aboriginals in IC	X			
Increased use by non-Anglo Aust. groups	X		X	
Increased heroin inhalation in SW	X		X	
Changes from inhaling to IDU in SW	X	X	X	
Increased benzodiazepine use	X			
Increased cocaine use in IC	X		X	X
Increased risk of OD from polydrug use	X	X		
Increased methadone injecting			X	
Increased risks of HCV transmission		X	X	
Increased risks of HIV transmission in SW	X		X	
Increased crime in SW	X	X	X	
Heroin availability increased in SW				X
More people travelling to SW to buy heroin		X	X	
Reduced prices for grams, ounces, kilos		X		
Increased police activity				
More users arrested in SW				
<i>Amphetamines:</i>				
	X			

Drug type	Key informants	IDU survey	Ethno-graphy	Indicator data
Increased injection Injectors changing to heroin	X	X		X
Increased no. primary users in treatment	X			
Price of grams decreased	X	X		
Purity decreased	X			
Availability increased				
<i>Cocaine:</i>				
Increased injection in IC	X			
Increased snorting in IC	X			
Increased cocaine-related health problems	X			
Increased cocaine-related crime	X			
Price decreased for grams				X
Price increased for grams and pounds	X			
Availability increased				

Table 17 (continued)

Drug type	Key informants	IDU survey	Ethno-graphy	Indicator data
<i>Cannabis:</i>				
More hydroponically grown cannabis	X			
Hydro. equipment better quality, cheaper and more available	X			X
Increased no. primary users in treatment		X		
Quality of cannabis more consistent	X			
Availability more consistent	X			X
Decreased price of heads (grams)				X
Increased price of leaf (ounces and pounds)				
<i>Other:</i>				
Availability of MDMA increased	X			X

Note: only the main trends have been reported here

Table 18: A comparison of methods in the IDRS trial

	Key informant study	Survey of IDU	Ethnographic research	Indicator data
Expertise required	Graduate level	Graduate level	Postgraduate level	Graduate level
Sampling frame	Targeted sampling	Multiple methods	Targeted sampling	Varied
Study approach	Qualitative	Quantitative	Qualitative	Quantitative
Data collection	Semi-structured interviews and groups	Structured interviews	Structured and semi-structured interviews and observation	Analysis of existing databases
Sample size	44 (1st phase) 32 (Revised phase)	152	40	50+ cases per database
Time for data collection	2 months ¹	4 months	3 months ²	2 weeks ³
Time for data entry/analysis	2 weeks	1 month	2 months	2 weeks
Report style	Brief	Brief	In-depth	Brief
Estimated cost per study⁴	\$6,269 ⁵	\$15,538 ⁶	\$16,908 ⁷	\$2,808 ⁸

1 Based on individual interviews with established key informants. Extra time may be needed to recruit initial key informants;

2 If an existing ethnographic project is utilised. Several more months would otherwise be required;

3 Once indicators are available.

4 These are proposed costs rather than actual costs incurred in the trial which involved slightly different tasks (eg. evaluation component). Salary oncosts which may vary between organisations have not been added, nor have supervisory costs in each State (if applicable), report printing costs or the costs involved in national co-ordination of the project. These estimates also do not include setting up costs involved in the initial stages of the project (eg. training, time to establish key informant contacts, set up databases).

5 Based on 40 individual phone interviews with professionals. Includes 10 weeks employment (@ Research Assistant salary \$30,000 per annum), plus \$500 misc. costs (eg phone);

6 Based on 150 interviews, 20 weeks employment (@ Research Assistant salary), \$3000 subject payment (@ \$20/interview), \$500 transport costs, \$500 misc. costs;

7 If an existing ethnographic project is utilised. 40 subjects participate in 2 interviews each. Includes 16 weeks employment (@ Senior Research Officer salary \$40,000 per annum), \$1600 subject payment (@ \$20/interview), \$2000 transcription (@ \$50/taped interview), \$500 transport, \$500 misc. costs;

8 Based on 4 weeks employment (@ Research Assistant salary) plus \$500 misc. costs. Other costs may be needed to set up health and law enforcement indicators.

4.0 DISCUSSION

4.1 SUMMARY OF DRUG TRENDS

There was general agreement among most **key informants** that the following changes in illicit drug use had occurred in Sydney during the last 12 months:

Opiates

- Ⓒ The average age of heroin users had decreased;
- Ⓒ There had been an increase in heroin use among the inner city Aboriginal community;
- Ⓒ There had been an increase in heroin smoking in southwest Sydney among both Asian and non-Asian populations;
- Ⓒ Methadone clients and heroin injectors throughout Sydney were using increasing amounts of benzodiazepines, and inner city populations were using more cocaine;
- Ⓒ There was an increased risk of overdose among heroin injectors related to concurrent alcohol and other drug use;
- Ⓒ An increase in methadone injection had occurred;
- Ⓒ There was an increased risk of HCV transmission;
- Ⓒ The availability of heroin had increased in southwest Sydney;
- Ⓒ More people were travelling to Cabramatta to purchase heroin.

Stimulants

- Ⓒ Amphetamine injection had increased;
- Ⓒ There was an indication that some primary amphetamine users were making a transition to regular heroin use;
- Ⓒ The purity and price of amphetamine had decreased and its availability had increased;
- Ⓒ There had been an increase in cocaine injection among some inner city injectors, and intranasal use had increased among inner city professionals;
- Ⓒ There were more cocaine-related problems including health problems and violence;
- Ⓒ The price of cocaine had decreased and its availability had increased;
- Ⓒ The availability of MDMA had increased.

Cannabis

- Ⓒ The popularity of hydroponically grown cannabis had increased, with equipment being cheaper, more available and of a higher quality;

C The quality and supply of cannabis had become more consistent with the increased use of hydroponics.

Several points arise from the **survey of injecting drug users** in the inner city and southwest that deserve mention. First, subjects from both areas were clearly polydrug users, familiar with a wide range of drugs and drug trends. The mean age of both samples was lower than in previous studies, which is consistent with the perception of subjects that there are more younger heroin users entering the market. The higher proportion of female injectors in the inner city sample also merits mention. Traditionally, samples of IDU have been approximately two thirds males. The data may indicate a trend towards more female injecting, which is consistent with the perceptions of the inner city sample themselves.

A finding that has major implications is the large proportion of subjects from both areas who had made a transition from amphetamine injecting to heroin injecting. This may well be the source of the new, younger heroin users. The high rates of the injection of "non-injectables", methadone syrup and benzodiazepines, among both samples should also be noted.

The **ethnographic component** of this trial gained access to a relatively hidden group of recent initiates to heroin use, the majority of whom were still in their teens. This group is not well represented in treatment populations or in the research literature but they are beginning to appear in the criminal justice system (eg. see Cain, 1994). They illustrate the diverse ethnic backgrounds of those involved in heroin use in southwest Sydney.

Heroin users in Cabramatta differed from the heroin users encountered in the research literature (eg. Darke et al., 1990, 1992, 1996b; Loxley et al., 1995) in that they were significantly younger, had lower levels of education and higher levels of unemployment, were more likely to be female, less likely to be Anglo-Australian, more likely to have initiated heroin use by smoking rather than parenteral use, more likely to be involved in crime (including drug distribution and sales activity), more likely to engage in high risk injecting episodes and to have little or no experience of treatment. The prevalence and incidence of heroin use is probably such as to indicate a new cohort of heroin users, many of whom have initiated use through smoking.

Many of the factors identified in Cabramatta, including drug acquisition routines, collective injecting episodes, use settings and law enforcement practices, represent components of a neighbourhood risk environment which is highly conducive to the transmission of HIV and other blood-borne viruses. The development of a large open air drug market has led to the emergence of a street-based injecting culture which draws heavily on young people from the local area. The density of these networks and their convergence in collective injecting episodes may have important implications for public health.

Finally, **indicator data** from surveys, health and law enforcement sources show various trends. The national household surveys indicate that cannabis and amphetamines have remained the most popular illicit drugs during the 1990s, particularly among males and young adults. Cocaine and heroin were less commonly used by the general population. An increase in MDMA use was noted between 1991-1993.

Targeted surveys of homeless and detained youth found that they were large consumers of illicit drugs, more so than secondary school students. Persons from non-English speaking backgrounds were unlikely to use most illicit drugs. Cannabis use was higher among Aboriginal persons compared to the general population. Injecting drug users were consistently found to be large polydrug users.

Data on the characteristics of clients presenting to drug treatment agencies in NSW and nationally show significant increases for those with primary cannabis and amphetamine problems. However, opiates remained the most frequently reported illicit drug problem. Heroin overdose, both fatal and non-fatal, was relatively common and was often related to concurrent polydrug use. The Alcohol and Drug Information Service received the most number of phone inquiries relating to cannabis during 1995, followed by heroin then amphetamine. The number of phone calls by clinicians to the Specialist Advisory Service fluctuated during 1995, although cannabis, heroin then amphetamines were again the most common purpose of calls. A national review of risk behaviours for HIV infection found that the self-reported rate of IDUs sharing needles remained consistently low (below 50%) since 1989, dropping to below 20% in 1994. The proportion of prisoners reporting a history of injecting was around 50%, and the considerable risk behaviour that occurs in these environments was not declining. Higher rates of HCV and HBV were noted, compared with HIV, particularly among IDU populations.

From NSW police statistics, large fluctuations in the quantity of cannabis leaf and heroin seized by the DEA were recorded during 1995. Fewer and more consistent seizures were made of cocaine, amphetamine and MDMA. Mean purity levels of around 50% for both cocaine and heroin were recorded during 1995, with some fluctuations. Purity levels were lower and more stable for MDMA (28%) and amphetamines (5%). According to DEA price statistics, decreases in gram and ounce purchases of heroin, and gram purchases of cannabis heads occurred during 1995. Increases in the price of gram purchases of cocaine, street gram purchases of amphetamine, and ounce purchases of cannabis heads and leaf also occurred.

Areas requiring further investigation

Overall, the four studies in the IDRS trial highlighted the need for further investigation of the main illicit drug types and several high risk populations. These included:

1. Patterns of *heroin use*, such as changes in the characteristics of users (age, gender, ethnicity, geographical location), transitions between drugs (amphetamine, heroin) and routes (smoking, injecting); the availability of heroin and changes in the market; interventions for those injecting benzodiazepines and methadone, and to reduce the incidence of overdose and the transmission of blood-borne viruses such as HCV;
2. Patterns of *psychostimulant use*, such as increased cocaine injection in the inner city, transitions between amphetamine and heroin injection, and patterns of MDMA use; changes in

- the availability of stimulants; harms related to psychostimulant use; and appropriate interventions for populations at-risk of or experiencing stimulant-related problems;
3. Interventions for those with *cannabis-related* problems;
 4. Illicit drug use among *high risk populations*, including inner city Aboriginals, the southwest Sydney Asian community, inner city sex workers, street youth, detained youth and adult prisoners.

A number of NDARC and other research projects examining some of these issues are already in progress or have recently been completed. These include: an ethnographic study of economic behaviour, HIV risk taking practices and transitions in heroin use among SW Sydney heroin users; the nature of cannabis and amphetamine dependence; neurological effects of long-term cannabis and amphetamine use; treatment needs of amphetamine users and inner city cocaine users; the nature of benzodiazepine and methadone injection practices and related harm; fatal and non-fatal heroin-related overdose; appropriate treatments for cannabis dependence; pharmacotherapies for heroin problems; and drug use among prisoners, detained youth and illicit steroid users.

Excluding research currently in progress or recently completed, the following topics still require further investigation: transitions from amphetamine to heroin injection; HCV transmission; patterns and harms associated with the use of MDMA; psychostimulant drug markets; developing interventions for psychostimulant problems; developing interventions to reduce benzodiazepine and methadone injection; and examining illicit drug use and related harms among inner city ATSI and street youth.

4.2 A REVISED IDRS

The feasibility of the four methods tested in the trial differed, with each having various strengths and weaknesses. For the key informant study, individual interviews worked better than groups in that they allowed greater flexibility, participation, time for discussion and substantiation of information. Data from individual interviews were also easier to transcribe and to analyse. Collecting trend data from key informants who were illicit drug users proved problematic. They were less able to conceptualise drug trends than professionals working in the area, less likely to substantiate sources of information, more difficult to recruit, to organise into groups and to follow-up over time. The most efficient and valid way to collect information from illicit drug users was to individually ask them about recent, personal behaviours, as was done in the survey component. Nonetheless, key informant interviews played an important role in the IDRS, allowing quick consultation with a wide range of professionals who have regular and substantial contact with illicit drug users, and are aware of problems as they arise. Key informants were able to highlight key issues requiring more detailed research. While they often reported more subjective perceptions of trends, an attempt was made to substantiate their reports, and standardised instruments and procedures were used, thereby improving the validity of this component.

Problems with the IDU survey involved inadequate sampling of some populations due to time and cost constraints, issues easily resolved in future studies of IDU. As expected, IDU appeared well placed as a sentinel group for trends over a wide variety of drug classes. The focus was on IDU not in treatment as they are more likely to reflect the broader population of IDU. This design also potentially allows responses to occur before serious problems emerge.

The ethnographic research tapped into an existing ethnographic study of drug use and economic behaviour among heroin users in southwest Sydney, thereby minimising the usual delays involved in gaining access and establishing relations of trust and credibility with subjects. The establishment of a field site in Cabramatta also yielded benefits for the IDRS project in assessing the validity of these data. Thus, the costs of this component of the IDRS project do not reflect the costs involved in conducting ethnographic research, which would otherwise be an expensive and unfeasible activity for an IDRS.

Few existing indicator sources were collected on a regular basis, providing an early warning perspective. Exceptions to this were AOD telephone advisory data and some law enforcement indicators. Other less regular indicators and single studies contributed valuable information about illicit drug trends and have been included for this reason. Several potential early warning indicators were not available, such as methadone and arrestee urinalysis data, emergency room drug mentions, ambulance data and arrest data by drug type. Some work is needed to establish the regular collection of these indicators.

Some types of IDRS data were best collected in particular formats. Overdose data, treatment admissions, drug prices and purity were more reliable from existing indicator sources, specialist studies and the survey of IDU, rather than from key informant reports. The ethnographic component and some key informants (such as police officers) were able to provide most information on the manufacture and distribution of illicit drugs. Ethnography provided the most detail on reactions to government strategies such as law enforcement.

While each study focused on different aspects of illicit drug use and used different methods, a degree of convergent validity was noted between them. A number of researchers have argued that the use of multiple methodologies to measure trend data in the drug field is preferable, allowing a more complete assessment of drug trends (Flaherty, Kotranski and Fox, 1983, 1986; Riley, Wagenfeld and Sonnad, 1981; Rootman, 1988; Greene et al., 1975; NIDA, 1995; Pennell, Curtis and Tayman, 1991; Hartnoll et al., 1985). Indeed, one of the original aims of the IDRS was "to collect and integrate information from a number of sources to reveal trend data which could serve as an early warning indicator" (Wardlaw, 1994, p2). Given that the IDU survey, key informant study and analysis of indicator data were the cheapest and easiest to conduct and together covered a broad range of illicit drug use, in comparison with the ethnographic study, the following qualitative and quantitative measures combining a range of perspectives are recommended for a revised IDRS:

- (1) Key informant interviews with health, law enforcement, outreach and research professionals;
- (2) A survey of IDU who represent a sentinel population of illicit drug users;

(3) Analysis of early warning indicator sources (surveys, health and law enforcement data).

The revised methods improve upon the original system by: emphasising trend data which is strategically important; recruiting key informants who are better informed, have direct access to the illicit drug scene, and are more representative and consistent; recruiting IDU who represent a sentinel population of illicit drug users; verifying quantitative information with survey and other data; collecting data according to common criteria and methods; and avoiding an over-reliance on clinical, law enforcement and population surveys which may not be as sensitive to change among smaller, at-risk groups of illicit drug users. Overall, it is anticipated that this revised system would provide a more accurate, efficient and standardised system of data collection which serves an early warning function. The product would be brief, timely, comparable and high quality data from which national policy decisions could be made. While such methods represent a simplistic national early warning monitoring system, these methods can be further expanded and refined over time to achieve a greater level of sophistication.

It is suggested that a selection of different sized Australian capital cities participate in a national IDRS, rather than all cities. This would allow better management of both the amount and timing of data, as well as reduce the overall costs of the project. As Wardlaw (1994) argues, capital cities are areas where most illicit drug users congregate and so trends of national importance will be more reliably detected in these areas. Furthermore, a 12 month reporting period for the revised IDRS is preferable as it would allow emerging trends of national significance to be identified rather than transitory observations which are difficult to substantiate. Within this 12 month time frame, one key informant study and a survey of IDU would be conducted, and health and law enforcement indicator data could be analysed quarterly to detect trends during the year.

In order to assist in identifying and prioritising trends of national significance requiring further investigation, regular National Drug Trends conferences need to be re-established in Australia. This would allow more detailed information about trends in illicit drug use to be shared between jurisdictions and discussion of the IDRS findings. This process has been successfully conducted in the United States and Canada for several years (Adlaf, 1995; NIDA, 1995). It was also trialed in Australia during the late 1980s (Wardlaw, 1989; Stevens et al., 1988).

Additional tasks involved in developing a national IDRS would include: the development of a national procedure manual and training program, overseeing and supervising national data collection and analysis, co-ordination of a National Drug Trends conference, processing national data and preparation of annual reports to NDSC/MCDS. Given that the majority of the revised IDRS procedures involve collection of original data, it would be appropriate for someone with research expertise to co-ordinate a national IDRS. National and State representatives from health and law enforcement could continue to oversee the project and assist with data collection. At a State level, original data collection would also best be conducted by research groups as they are likely to have more expertise in this area, more

contacts and a position of neutrality. In addition to the research costs involved in conducting the IDRS at a State level (listed in section 3.2.5), the overall co-ordination of a national IDRS could be carried out by a senior researcher. Additional costs involved in setting up health and law enforcement indicator data may be required.

Information from a revised IDRS could be presented annually to the NDSC and MCDS to inform national policy, and also contribute to local and State/Territory decision-making. A national IDRS report would summarise key findings and areas of commonality between States, including State reports as attachments for further information. Similar monitoring systems already exist in North America (Adlaf, 1995; NIDA, 1995; NIJ, 1991; ONDCP, 1995; US Department of Justice, 1992; Caulkins et al., 1995) and Asia (Centre for Drug Research, 1995) and are being established in Europe (Hartnoll, 1994). While attempts in Australia have not been successfully maintained over time (Stevens et al., 1988; Pedic and Flaherty, 1991; Tebbutt et al., 1990; Wardlaw, 1989; Makkai et al., 1994), the revised IDRS represents a cost-efficient way to monitor national trends in illicit drug use, allowing prompt responses before the development of serious drug problems.

4.3 SUMMARY OF RECOMMENDATIONS

The present trial demonstrated that a more efficient and effective IDRS would involve:

- (1) Key informant interviews with health, research, outreach and law enforcement professionals;
- (2) A quantitative survey of injecting drug users;
- (3) Early warning indicator data from epidemiological, health and law enforcement sources.

Ethnographic research is optional depending upon the need and the availability of resources.

Results from the trial suggest that both the survey of injecting drug users and key informant study be conducted consecutively on an annual basis. This would provide greater confidence in the identified drug trends, ensuring that they are not just transitory observations and are potentially of national significance. It would also allow information from a range of sources to be obtained. Quarterly summaries of existing indicator data would allow trends to be tracked during the year.

In addition, National Drug Trends conferences need to be resumed to allow further discussion of the issues raised in a revised IDRS, including prioritising future research topics and identifying areas of national significance.

The revised IDRS reflects a more accurate, efficient and standardised system of data collection. It needs to be applied nationally, on a regular basis to provide strategic early warning of trends and problems in the illicit drug environment. It is suggested that externally based research organisations are best placed

to co-ordinate an on-going national IDRS, and collect data at a State/Territory level. While similar data collection systems exist in the North America and Asia, such information is yet to be routinely collected in Australia.

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