The Socio-Economic Impact of Amphetamine Type Stimulants in New Zealand

Final Report

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Preface

This report presents the findings of research on the socio-economic impact of Amphetamine Type Stimulants (ATS) in New Zealand. The work presented draws on a number of innovative research approaches and methodologies, many of which were tried for the first time in New Zealand during the project. The central aim of the research was to inform the policy response, best practice and strategic planning by New Zealand Police and other relevant government agencies with regard to the recent rise in the use and manufacture of ATS drugs. However because many agencies other than the Police deal with drug problems, the findings reported here have relevance for any organisations responding to ATS problems. Two other reports, produced around the same time as this work was being carried out, also provide information relevant to New Zealand's response to ATS. The first was the full report of the secondary analysis of ATS drug use from the 2001 National Drug Survey (Wilkins et al. *Amphetamine Type Stimulant Drug Use in New Zealand*) (Wilkins et al., 2004c). This was presented to Police earlier this year as part of the ATS project. The second piece of research was the full report of the one-site pilot of the New Zealand Arrestee Drug Abuse Monitoring System (Wilkins et al., *A Local Pilot of the New Zealand Arrestee Drug Abuse Monitoring System (NZ-ADAM)* (Wilkins et al., 2004b).

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Executive Summary

This report presents a large amount of new research on Amphetamine Type Stimulant (ATS) drug use in New Zealand, much of it employing research methodologies never used before in New Zealand. ATS are a group of synthetic illicit drug types which include methamphetamine, ecstasy and crystal methamphetamine (known as 'ice'). This section summarises the main findings of the research. The report includes new analysis of data from the 2001 National Drug Survey, a survey of frequent methamphetamine users in Auckland, key informant surveys of drug enforcement officers and drug treatment workers, analysis of drug treatment statistics related to ATS, and a local pilot study of the drug use of arrestees conducted in police watch-houses.

The research in this report demonstrates that ATS are now serious drugs of abuse in New Zealand. In 2001, one in ten New Zealanders aged 18-29 had used an ATS drug in the last year. The level of amphetamine use among 15-19 year olds may be higher in New Zealand than in Australia. The illicit trade in ATS drugs in New Zealand is of the equivalent dollar value as the illicit trade in cannabis and may have effectively doubled the dollar value of the illegal trade in drugs in New Zealand in less than ten years. In the case of methamphetamine the proceeds are likely to be concentrated among a relatively small number of local organised criminal gangs who were instrumental in the introduction of methamphetamine manufacture to New Zealand.

The secondary analysis of the National Drug Survey findings highlighted the greater risks and harms associated with frequent ATS use and identified the risk that increased ATS use may pose in terms of the spread of intravenous drug use and the enhancement of the demand for other 'hard' drug types. Attention was also drawn to users of crystal methamphetamine as the ATS drug users with the highest levels of daily use, poly drug use, intravenous drug use and opioid use. These findings suggest law enforcement and other agencies should focus on frequent ATS and crystal methamphetamine users as priorities in the effort against ATS.

Many frequent users of methamphetamine reported pre-existing mental health problems including tendencies to self-harm. Use of methamphetamine increased these individuals' levels of psychological problems such as 'anxiety', 'mood swings', 'short temper', 'paranoia', and 'depression' and the level of suicidal thoughts and attempts. These findings suggest frequent methamphetamine users should be approached with caution and reassurance to avoid

triggering any violent defensive or self-harm response. Methamphetamine users' increased propensity for self-harm should also be taken into account when they are detained in custody.

The arrestees studied were many times more likely to use methamphetamine and crystal methamphetamine than the general population. Twenty-one percent of arrestees had used amphetamines in the last month and 9% had used these just before committing an offence. Arrestees reported that the use of these drug types was a factor in their criminal offending and increased their likelihood of becoming angry. About a quarter of the arrestees who recently used amphetamines considered their use of these drugs to have played a major part in the activities they were subsequently arrested for. Amphetamines, along with alcohol, were the drugs most likely to make arrestees feel angry. Arrestees carried out some of their driving while under the influence of ATS drugs. However, cannabis followed by alcohol was the drug most often combined with driving. The high level of drug use among arrestees and the potential for their drug induced actions to impact on others, through violent crime and intoxicated driving, make them an appropriate target group for drug counselling and drug treatment services. Every effort should be made to provide such advice and ensure access to drug treatment institutions for those arrestees who are willing to undertake programmes. Contact with drug counselling may be able to be arranged while the arrestee is in the criminal justice system but this service should be provided independent of Police and Corrections.

Frequent methamphetamine users were often involved in other illegal activities such as drug dealing and drug manufacture. One third of the frequent methamphetamine users interviewed had sold methamphetamine and about one in five had manufactured it or exchanged it for stolen property. Measures which impact upon frequent methamphetamine users within the community (for example, either incarceration or referral into drug treatment) are therefore likely to have a disproportionately greater impact on overall drug use, drug harm and drug trafficking.

The rise of ATS drug use may be transforming the nature of the sale of illicit drugs in New Zealand. About half of amphetamine buyers contacted their drug dealers by mobile phone or texting, while nearly two thirds of cannabis buyers visited a house or flat. The amphetamine market was smaller and more secretive and insulated than the cannabis market. Only 5% of the arrestees purchasing amphetamine, compared to about half of the arrestees purchasing cannabis, purchased their respective drugs from drug or 'tinny' house. All the amphetamine sellers reported selling only to 'close friends and family members', whereas cannabis sellers sold at least 'some' of their cannabis to 'casual acquaintances' and 'complete strangers'. Drug

enforcement tactics may need to be adapted to more effectively impact on these more clandestine markets.

The new groups of methamphetamine users identified in the key informants surveys are consistent with the diffusion of methamphetamine use from the 'originator' sub-cultures, such as the dance party community and motorcycle gangs, to broader society which includes lower socio-economic groups and Maori and Pacific peoples. The reports of increased drug dealing by methamphetamine users and a greater cross section of people selling the drug are consistent with the spread of methamphetamine to wider sections of society. The sale of smaller weights of methamphetamine at lower prices and reported sales of methamphetamine from cannabis drug houses, suggest marketing strategies aimed at lower socio economic groups, teenagers and traditional cannabis users. These groups may be less able to control their drug use and more likely to impose costs on family, friends and the wider community than middle class users. The demographic characteristics of the ATS using population are an important determinate of the social impact of ATS and should be continued to be monitored.

There was some evidence that law enforcement is now impacting on ATS. Sixty percent of frequent methamphetamine users noticed more law enforcement activity directed against methamphetamine in the last six months. A third of frequent users reported more arrests of other users they knew. Ten percent of frequent users felt law enforcement had made it more difficult to obtain methamphetamine in the last six months. Continued law enforcement pressure is required to suppress this trade and to separate methamphetamine from the traditional cannabis market and in particular prevent its sale from cannabis 'tinny' houses.

The levels of violence reported to be associated with methamphetamine use, and the high levels of violence associated with the illicit manufacture and trade in this drug, justify the targeting of methamphetamine over the traditional trade in cannabis and LSD. The rapidity with which ATS drugs have emerged and become entrenched in New Zealand indicates the need for an ongoing research capacity which can act as an early warning of the rise of a new illicit drug type and the nature of harms to expect, such as increased intravenous administration or the greater use of other drug types. Research is also required to provide some understanding of the impact an illicit drug may have on violence and general criminality. The Office of the Commissioner of New Zealand Police has made important progress in establishing research programmes to meet these requirements.

There may also be a need to challenge the new economic power of the gangs and drug dealers involved in the manufacture and sale of ATS drug types in order to effectively control

organised crime. For example, consideration may need to be given to stronger asset confiscation laws around drug manufacture and drug dealing.

Key findings

Prevalence of ATS use

About one in ten New Zealanders aged 18-29, or about 100,000 people nationwide, had used an ATS drug in the last year. About one-third of these users were frequent users (i.e. monthly or more often).

The level of ATS drug use in New Zealand was similar or slightly lower than in Australia. This was particularly the case for ecstasy while the level of amphetamine use between the two countries was closer. The level of amphetamine use among 15-19 year olds appeared to be higher in New Zealand than in Australia.

Patterns of use

Poly drug use was common among ATS drug users in New Zealand. ATS users were many times more likely than the general population to use high potency cannabis, LSD, magic mushrooms, cocaine, GHB (Gamma-hydroxybutyrate), Ketamine, Rush and tranquillisers. Ice users exhibited the highest level of poly drug use, including relatively high levels of opioid use.

Intravenous drug use was also many times higher among the ATS using population than the general population. One in five frequent methamphetamine users (i.e. monthly or more often) had injected methamphetamine in the last six months.

Two thirds of the frequent methamphetamine users interviewed reported binging on methamphetamine in the last six months (i.e. using continuously for 48 hours or more). The average frequency of binging was once a fortnight. A binge could last for many days on end.

Demographics of the ATS using population

As with other drug using populations ATS drug users were disproportionately male and aged 18-29, with the heaviest use among 20-24 year olds. However, several characteristics of the ATS using population set them apart from other illicit drug using populations. ATS drug users

had high levels of full time employment, came from a range of occupational backgrounds including professionals, earned mid-level incomes and had relatively high levels of educational achievement. Large numbers of ATS drug users, including frequent users, were European. Disproportionately more ATS users lived in urban settings, in the upper half of the North Island and in Auckland.

Harms from the use of ATS drugs

Approximately one third of those who had used an ATS drug in the last year reported experiencing harm in at least one area of their lives from the use of these drug types. About half of the frequent methamphetamine users interviewed reported harm in the areas of 'friendship and social life' (55%), 'health' (55%), and 'energy and vitality' (53%) from their methamphetamine use. The harms that frequent methamphetamine users most often rated as 'very serious' or 'extremely serious' were in the areas of 'work and work opportunities', 'outlook on life', and 'friendship and social life'.

The most serious problems reported by frequent methamphetamine users were psychological rather than physical. About 40% of frequent methamphetamine users reported pre-existing psychological problems. Levels of psychological problems increased after using methamphetamine with about two-thirds of frequent methamphetamine users reporting 'anxiety', 'mood swings', 'short temper', 'paranoia', and 'depression'. Twenty-one percent of frequent methamphetamine users reported 'suicidal thoughts' and 13% 'suicide attempts' after using the drug.

Ninety-three percent of the frequent methamphetamine users interviewed considered methamphetamine to be 'more harmful' or 'much more harmful' than cannabis.

ATS and drug treatment services

The questions on dependency indicated that about one-fifth of frequent methamphetamine users were having difficulty controlling their methamphetamine use. However, about half of frequent methamphetamine users reported no difficulties with their methamphetamine use or ability to stop or go without.

Amphetamine was found to be impacting on alcohol and drug treatment services in New Zealand to the extent that about one in five patients now cite amphetamine, alone or in combination with other drugs, as their main substance use problem. This confirms that increases in amphetamine use in the general population are now translating into a sizeable increase in treatment demand for this drug type.

The size of the illicit market for ATS

The estimates of the dollar value of the illicit markets for amphetamine and ecstasy calculated here suggest that the combined value of these markets, approximately $168.3 million, approaches the dollar value of the entire illicit market for cannabis in New Zealand.

The seizure rates calculated for amphetamine and ecstasy indicate the authorities are seizing less than 10% of the trade in both drugs.

ATS and criminal offending

Amphetamine/methamphetamine and crystal methamphetamine were the ATS drug types most commonly used by arrestees (41% and 11% used in the last year respectively). Twenty-one percent of arrestees had used amphetamine/methamphetamine in the last month and 9% had used it just before committing their offence.

About a quarter of the arrestees who had used amphetamine/methamphetamine in the 48 hours before being arrested indicated that the use of this drug had contributed entirely to the activities they were subsequently arrested for. Amphetamine/methamphetamine and crystal methamphetamine (along with alcohol) were the drugs most likely to make arrestees feel angry. Crystal methamphetamine and amphetamine/methamphetamine were the ATS drug types most likely to be combined with driving, with 34% and 16% of arrestees respectively doing 'some' of their driving while under the influence of these drugs respectively.

More arrestees had had a friend arrested for an amphetamine offence than for a cannabis offence in the last month (17% vs. 14%).

The illicit amphetamine market was the illicit drug market which arrestees most clearly identified as violent.

Procurement of ATS drugs

The typical dollar amount spent on amphetamine by arrestees was $350 compared to only $20 for cannabis. Those arrestees purchasing amphetamine purchased the drug less frequently, used a smaller number of sellers, and took longer to complete a purchase than arrestees purchasing cannabis. Only 5% of the arrestees purchasing amphetamine, compared to about half of the arrestees purchasing cannabis, purchased their respective drugs from a 'tinny house'. The arrestees purchasing amphetamine were more likely to purchase from a 'private house' or 'outdoor area'. About half of the arrestees buying amphetamine contacted their

sellers by mobile phone or texting, while nearly two thirds of the arrestees purchasing cannabis visited a house or flat. All the amphetamine sellers reported selling only to 'close friends and family members', whereas cannabis sellers sold at least 'some' of cannabis to 'casual acquaintances' and 'complete strangers'.

One third of the frequent methamphetamine users interviewed had sold methamphetamine and about one in five had manufactured, or exchanged, it for stolen property at some stage. About 40% of the frequent methamphetamine users had earned income from illegal activities in the last six months with drug dealing the most common type of illegal activity. The average dollar amount earned from illegal activities was $24,000.

Recent trends in methamphetamine use

The majority of all three key informant groups surveyed (i.e. drug enforcement, drug treatment and regular methamphetamine users) reported there had been an increase in, either the use of methamphetamine or the demand for methamphetamine treatment in the last six months. However, the regular methamphetamine user key informants placed the greatest qualification on this picture of increasing use, with 22% reporting 'no change' and 21% reporting a 'decrease' in methamphetamine use (58% reporting an 'increase').

The new methamphetamine user groups most commonly reported by all three KI groups were 'teenage users' and 'business people'. User key informants also noted more 'young women', 'lower socio-economic' and 'Maori/Polynesian' users. Treatment key informants commonly noticed more 'young women' users.

There was strong agreement among all three key informant groups that 'smoking' was the most common mode of methamphetamine administration, with 'snorting' and 'injecting' the next most common. All three key informant groups reported more 'smoking' and more 'intravenous' methamphetamine use.

The overwhelming majority from all three groups described the availability of methamphetamine as either 'very easy' or 'easy'. Three-quarters of drug enforcement and over half of drug treatment key informants believed the availability of methamphetamine had become 'easier' in the last six months. User key informants were much more circumspect with only 26% indicating that the availability of methamphetamine had become 'easier' in the last six months and most saying availability was the 'same' compared to six months ago. Eighteen percent of user key informants thought the availability of methamphetamine had become 'harder'.

All three key informant groups noted more of a 'cross section' of people now selling methamphetamine. Many user (47%) and drug enforcement (24%) key informants reported the 'repackaging' of methamphetamine into smaller weights at lower prices.

Both user and drug treatment key informants were most likely to report the 'same' level of arrests for methamphetamine offences. However, about one-third of both key informant groups indicated that 'more' of the methamphetamine users they know of had been arrested in the last six months.

All three groups of key informants were most likely to report increased 'violent crime' and increased 'property crime' by methamphetamine users. Enforcement key informants also reported increases in 'burglary', 'domestic violence' and 'fraud' by methamphetamine users.

The reports of the key informants suggest that the greater vigilance now exercised over the sale of pseudo-ephedrine based flu products from chemists has reduced the attractiveness of this source of amphetamine precursors and created a need for alternative strategies.

Enforcement key informants indicated high levels of involvement by organised criminal groups in the importation, manufacture and sale of methamphetamine in New Zealand. Apart from importation, where 'Asian triads' were identified as a leading group, three local and established gangs (the 'Mongrel Mob', 'Black Power' and the 'Tribesmen') were identified as the groups most often involved in the methamphetamine trade in New Zealand. The 'Hells Angels' and 'Headhunters' were also commonly mentioned.

Chapter 1: Introduction

Background

Amphetamine Type Stimulants (ATS) are a group of synthetic illicit drug types, which includes methamphetamine, ecstasy and crystal methamphetamine (United Nations Drug Control Programme, 2001, United Nations Office on Drugs and Crime, 2003). Over the last five years New Zealand has experienced dramatic increases in seizures of Amphetamine Type Stimulant (ATS) drugs and detections of clandestine amphetamine laboratories (Horne, 1997, New Zealand Police, 2002, Ministerial Action Group on Drugs, 2003, New Zealand Customs Service, 2002, Wilkins et al., 2002b). Annual detections of amphetamine laboratories by New Zealand Police increased from just one in 1998 to over 200 in 2003 (Ministerial Action Group on Drugs, 2003). Seizures of ecstasy made by the New Zealand Customs Service increased from less than 3,000 tablets in 1998 to 167,000 tablets in 2002 (New Zealand Customs Service, 2002). The increasing use of ATS drugs in New Zealand has been implicated in a range of social and public health problems including violent crime, mental illness, domestic violence, drug addiction, relationship breakdown, robbery, burglary and car conversion (Stevens, 2002, New Zealand Police, 2002, Ministerial Action Group on Alcohol and Drugs, 2002).

New Zealand Police recognised that an informed policy response to the rise in ATS drug use required a more representative and detailed understanding of ATS than could be gained from agency statistics, such as the number of legal prosecutions or hospital admissions. These statistics provide only a partial picture of the extent of the ATS problem, as they are collected from sub-groups of the user population who have either been arrested or have sought medical treatment in one way or another (Wilkins et al., 2002b). Agency statistics are also limited by their focus on core agency performance measures and reporting obligations, and consequently do not collect sufficiently detailed data on the use and harm of ATS drugs to adequately inform appropriate policy responses. Prior to the research reported here, there was a lack of information on levels of intravenous administration, whether ATS drugs were being used in combination with other drugs, the types of harms users were experiencing from using ATS drugs, current conditions of availability and prices, and the demographic characteristics of the ATS user group.

New Zealand Police also required information on the size and dollar value of the illicit markets for ATS drugs, the seizure rates currently been achieved for these drug types, and the relationship between the use of ATS drug types and criminal offending. Police were also interested in the role organised criminal groups are playing in the trade in ATS drug types and the economic impact ATS was having on local organised criminal groups. Finally, Police wanted to know about the emerging trends in ATS drug use such as new user groups and new ways of selling these drugs, and the level of ATS drug amongst the arrestee population being processed at Police watch-houses.

Police were seeking a deeper understanding of ATS drug use in New Zealand to inform the appropriate law enforcement response, Police 'best practice' and the development of strategy and policy around ATS drug types in New Zealand. SHORE researchers, led by Dr. Chris Wilkins, were contracted by the Police to carry out the research and their findings are reported here.

Approach

The central aim of the project was to produce primary research on ATS in New Zealand. The primary research approach, as opposed to summarising existing statistics or drawing analogies from the experience of ATS overseas, was taken for a number of reasons. First a number of reports summarising the statistics and secondary knowledge related to ATS drug use in New Zealand had already been produced (Horne, 1997, New Zealand Police, 2002, New Zealand Police, 2001, New Zealand Customs Service, 2002), including most recently the Methamphetamine Action Plan (Ministerial Action Group on Drugs, 2003). Reports summarising secondary material on ATS drug use had also been released recently in Australia (e.g. Drugs and Crime Prevention Committee, 2003). The authors recommend these resources as background information to the research presented here, but there was no point in repeating this work so soon.

Second, there was very little existing primary research on Amphetamine Type Stimulant drug use in New Zealand. This reflected the recent emergence of ATS drugs in New Zealand and the absence of an established ongoing research capacity which regularly collected data on drug use trends, such as the Illicit Drug Reporting System (IDRS) and DUMA (Drug use Monitoring in Australia) in Australia. The National Drug Survey is the principal source of primary data on drug use in New Zealand. However, the National Drug Survey has a population health focus and is only completed every two to three years. While data had been

collected on ATS drug types from the National Drug Survey, additional analysis was required to examine specific issues related to these drug types.

Third, while other countries had also experienced increases in ATS drug use either before or around the same time as New Zealand, there was good reason to believe that the impact of ATS in New Zealand may be quite different. Unlike many other countries, New Zealand had little popular experience of heroin or cocaine. Historically, the principal illicit drugs used in New Zealand were cannabis and LSD (Black and Casswell, 1993, Field and Casswell, 1999a). It follows that the emergence of ATS drugs in New Zealand was likely to have a greater impact than in countries where cocaine and heroin had created large populations of serious drug users and related illicit markets. Consequently, it would not suffice to summarise other countries' past experience with ATS drug use and apply these findings to New Zealand today. A range of primary research was required to obtain a fuller picture, both of what was currently happening in New Zealand with respect to ATS drug use and what may be the expected in the immediate future.

The lack of an ongoing research capacity for studying trends in illicit drug use in New Zealand meant there were considerable gaps in our understanding of ATS use and related impacts. Consequently a wide scope for the research was adopted. The focus was on producing practical research rather than achieving absolute scientific rigour. A broad range of research was conducted in preference to pursuing a narrow in-depth statistical analysis. A positive spin-off of the completed work was to demonstrate the value of several research programmes as extensions to New Zealand's capacity for researching drug use; including the collection of short term indicator data on trends in illicit drug use and the study of the drug use of the arrestee population. The authors of this report acknowledge the important role officials from the Office of the Commissioner of New Zealand Police have played in the advancement of research in this area including taking the lead role in the completion of this present work.

This report is intended as a resource, for use by the Police and other relevant agencies, to guide the development of best practice for dealing with ATS drug use and related problems. This consideration permeated every aspect of the research design. The completed work draws together information on practical aspects of methamphetamine use, which can then be applied by the Police and other agencies concerned with this problem. This includes information on the types of harm users were experiencing and level of criminal offending related to ATS drugs, as well information on the mechanics of the illicit market for methamphetamine, the dollar amounts users are spending on these drugs, and where and how users purchase these

drugs. The development of best practice resources in response to ATS drug use is most appropriately completed by members of the respective organisations, drawing on the research evidence presented here and elsewhere. The SHORE researchers involved in this project would be pleased to contribute to this process in any way they can.

It is important to note that methamphetamine, rather that other ATS drug types such as ecstasy, was the focus of many of the project's components. The focus on methamphetamine was taken because it is the ATS drug type which has most commonly been identified with violence, anti-social behaviour and mental health problems in New Zealand. Methamphetamine is also the ATS drug manufactured locally in New Zealand and its manufacture and sale are closely linked to local organised criminal groups.

Organisation of this report

The report is organised into nine chapters. This first chapter outlines the background and organisation of the report.

The second chapter presents a summary of the secondary analysis of ATS drug use in New Zealand, from the 2001 National Drug Survey. The full report of this work was presented to New Zealand Police earlier this year. Findings are presented from the National Drug Survey on ATS use patterns, intravenous and poly drug use, harms experienced from ATS drugs, the availability and prices of ATS drugs, and the demographic characteristics of the ATS using group.

Chapter three compares the levels of ATS drug use in New Zealand with the level of ATS use in Australia, based on the findings of their respective national household drug surveys. Comparisons are made between New Zealand and Australia for the general population aged 15-45. Comparisons are made for the combined ATS category and individually for amphetamine and ecstasy.

Chapter four calculates estimates of the total dollar value of the illicit markets for amphetamine and ecstasy in New Zealand. The dollar expenditures by individual users for amphetamine and ecstasy are presented. A detailed analysis of the prices paid for ATS drug types is also included. Seizure rates for amphetamine and ecstasy are estimated based on data collected by enforcement agencies on the quantities of these drugs seized.

Chapter five presents the findings of a survey of frequent methamphetamine users conducted in Auckland in 2004. The purposive sample of frequent methamphetamine users was recruited by advertising and snowballing in the Auckland area. Participants were asked detailed questions about use patterns, including modes of administration and levels of binge use. The frequent methamphetamine users were also asked detailed questions about harms, including whether they had experienced any of a list of 26 physical, and 13 psychological, problems from the use of methamphetamine. Finally the frequent methamphetamine users were asked about their procurement of methamphetamine, including all the different ways they obtained the drug, where they purchased it and their relationship to their methamphetamine seller.

Chapter six investigates the impact of rising amphetamine use on drug treatment services in New Zealand from research completed from 2000-2003. This data was collected by the National Addiction Centre (NAC) which conducts annual surveys of alcohol and drug treatment workers. Additional questions were added to the 2003 drug treatment worker survey, in collaboration with SHORE researchers, to more clearly identify amphetamine as the main problem among patients attending these services, and to determine the level of recent use of amphetamine among the treatment population.

Chapter seven presents the findings of key informant surveys with drug enforcement officers, drug treatment workers and regular methamphetamine users on how the use and supply of methamphetamine changed over six months in late 2003 and early 2004. The changes examined in this chapter include: (i) trends in use – whether use is increasing and if there are any new user groups; (ii) characteristics of use – the type of methamphetamine being used, the mode of administration and any changes in the mode of administration; (iii) trends in the black market – changes in availability, price, purity and selling practices; (iv) trends in law enforcement and criminality – changes in the level of law enforcement activity and arrests, changes in the level of criminality of methamphetamine users; and (v) and the role organised crime is playing in methamphetamine manufacture, distribution and sale.

Chapter eight summarises the findings from the local pilot of the New Zealand Arrestee Drug Abuse Monitoring (ADAM) system completed in mid 2004 at the Papakura police watch-house. The data from this study of the drug use of arrestees is used to illuminate the relationship between ATS drug use and criminal offending. Data is presented on the three ways ATS use may be related to criminal offending: (i) psychopharmacological – an intoxicated drug user commits a violent crime, such as homicide or domestic violence; (ii) economic-compulsive – a drug user engages in criminal offending and violence to obtain money to purchase drugs, such as street robbery or car theft; and (iii) systemic – violence is

used as part of the process of carrying out 'business' in the illicit drug market, such as threatening drug debtors or assaulting rival drug dealers

The last chapter comprises an overall summary and conclusions.

Chapter 2: Amphetamine Type Stimulants (ATS) in New Zealand: Secondary Analysis of the 2001 National Drug Survey

Introduction

This chapter summarises the in-depth analysis of Amphetamine Type Stimulants (ATS) drug use in New Zealand from the 2001 National Drug Survey. The full report of this work was presented to New Zealand Police in March 2004 (Wilkins et al., 2004c). This chapter presents the findings for the combined ATS category and for the separate drug types that make up the ATS category (i.e. amphetamine/methamphetamine, ice [crystal methamphetamine] and ecstasy).

The data collected in the National Drug Survey data offers two main strengths compared to the statistical series which are routinely collected by government and non-government agencies, such as number of arrests and admissions to hospital or admissions to drug treatment services. First, the National Drug Survey collects a representative national sample, which means the ATS users interviewed are not restricted to those who are arrested, seek medical care or have entered drug treatment. Second, the National Drug Survey involves a comprehensive interview of respondents about their drug use, including questions concerning patterns of drug use, perceptions of drug availability, prices paid for drugs, the harms experienced from drug use and general demographic data including occupation, income and geographical location.

Method

The 2001 National Drug Survey interviewed approximately 5,800 people aged 13-45 nationwide about their drug use, using a Computer Assisted Telephone Interview (CATI) system. Telephone numbers were selected using a stratified random digit dialling method so that each household nationwide, of a particular stratum, had an equal chance of being called. The country was divided into thirty-three strata to represent the different socio-economic characteristics of the population. A proportionate sample from each stratum was then taken. Within each household one person was randomly selected for an interview. Each telephone number was tried at least ten times in an effort to reach those seldom at home. Respondents

were informed that the study was being conducted on behalf of the Ministry of Health and that everything they said would be confidential and their name and details would not be used. Respondents under the age of 16 required parent or guardian permission to complete the interview. This was requested over the telephone by asking the minor to put their parent or guardian on the line. An appointment to call the household back was made if the parent or guardian was not available to give permission for an interview at that time. The questionnaire was designed so that the telephone interview would remain private from anyone who may be in the room with the respondent while the interview was being conducted. Questions asked over the telephone could only be heard by the respondent and responses generally only required single word responses, such as yes/no, higher/lower, or all/most/some/hardly any. Only one person from each household was interviewed. Interviewers received intensive training at the beginning of the survey and a supervisor was present during each CATI shift, to monitor the quality and consistency of interviewing and to handle any special problems. The response rate achieved was 80%. Further details of the methodology can be found in Wilkins et al (2002c). Three separate drug types from the 2001 National Drug Survey combine to make up the broader ATS category: amphetamines (uppers/speed/methamphetamine), ecstasy (MDMA) and ice (crystal methamphetamine).

Analysis

The analysis in this report is presented in two ways: (1) prevalence levels (i.e. proportions of the population aged 13-45 who use a drug); and (2) the demographic characteristics of the user group (i.e. proportion of users who exhibit a particular demographic characteristic). The error bars shown on the graphs illustrate where the true population proportion lies with 95% certainty. Complete certainty is not possible in a sample survey because the answers would change depending on which particular sample is randomly selected. However, if a large number of samples were randomly selected and interviewed in the same way used for this survey, these error bars indicate a range that would cover the true population value for 95% of the samples chosen. In technical terms, they show 95% confidence intervals for the figures in the graphs. They only account for random sampling variability, and do not allow for possible skews due to non-response or other non-sampling errors. The confidence intervals were calculated using the SAS procedure SURVEYMEANS to account for the stratification and weighting procedures used in the 2001 National Drug Survey. If the error bars for two separate groups of people do not overlap, this means that there is a statistically significant difference between the two groups (at the 95% confidence level). However the difference may still be statistically significant if the error bars overlap slightly. Chi-squared tests were carried out in marginal cases, adjusting by a factor of 1.255 for the weighting effect.

Limitations

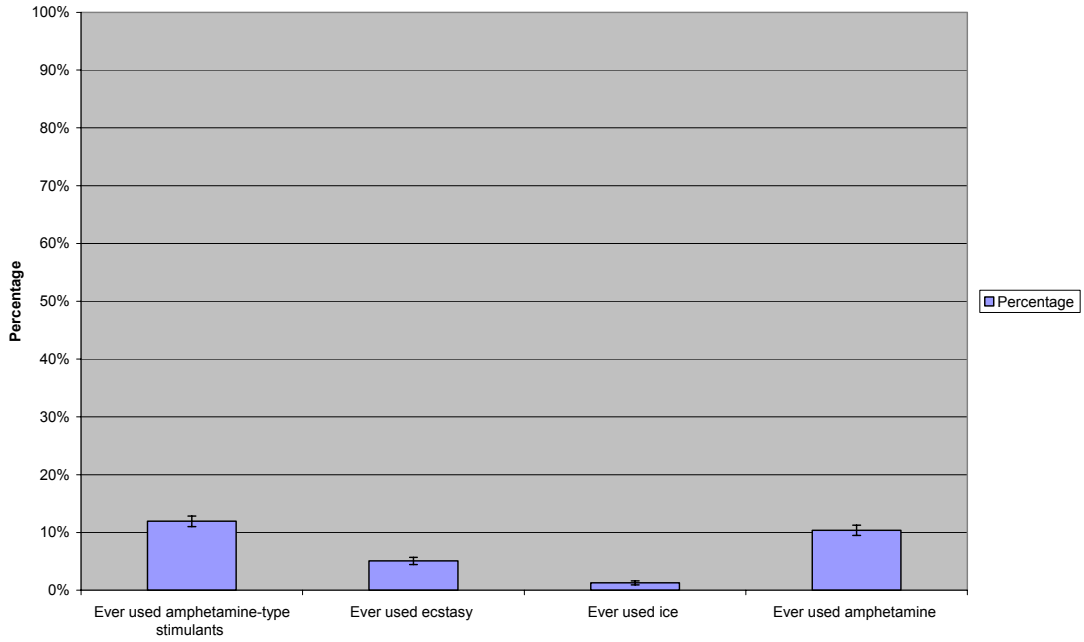
Illicit drug users are a particularly hard-to-reach population for research purposes. It is likely that any survey of illicit drug usage in a general population will under estimate the true number of users to some extent. The validity of the National Drug Survey is strengthened by the level of telephone ownership in New Zealand, which is high by international standards (i.e. 96% of households in the 2001 Census) and the high response rates achieved by successive waves of the survey (e.g. 80% in 2001). Overseas research indicates that telephone and face-to-face surveys report similar levels of drug usage at a general population level (McAuliffe et al., 1998). The National Drug Survey provides a broad representative picture of the ATS drug using population in New Zealand, including experimental and occasional users. While the CATI methodology employed for the survey involves extensive use of call backs to households (i.e. at least 10 times), on different days and at different times in an effort to reach those seldom at home, the household sample frame may mean that some heavy problematic users who are living on the streets or living particularly erratic lifestyles are not included in the sample. The findings presented here are therefore best thought of as providing reliable but conservative estimates of drug use in New Zealand.

Results

Prevalence of ATS drug use

Overall 12% of New Zealanders aged 13-45 years old had ever tried an ATS drug and 6% had used an ATS drug in the last year. Figure 2.1 presents the proportion of the sample who had ever tried an ATS drug, broken down by the type of drug tried. Amphetamines (10%) were the most commonly tried, followed by ecstasy (5%) and ice (1%). For last year use, amphetamines were again the most commonly used (5%), followed by ecstasy (3%) and ice (1%).

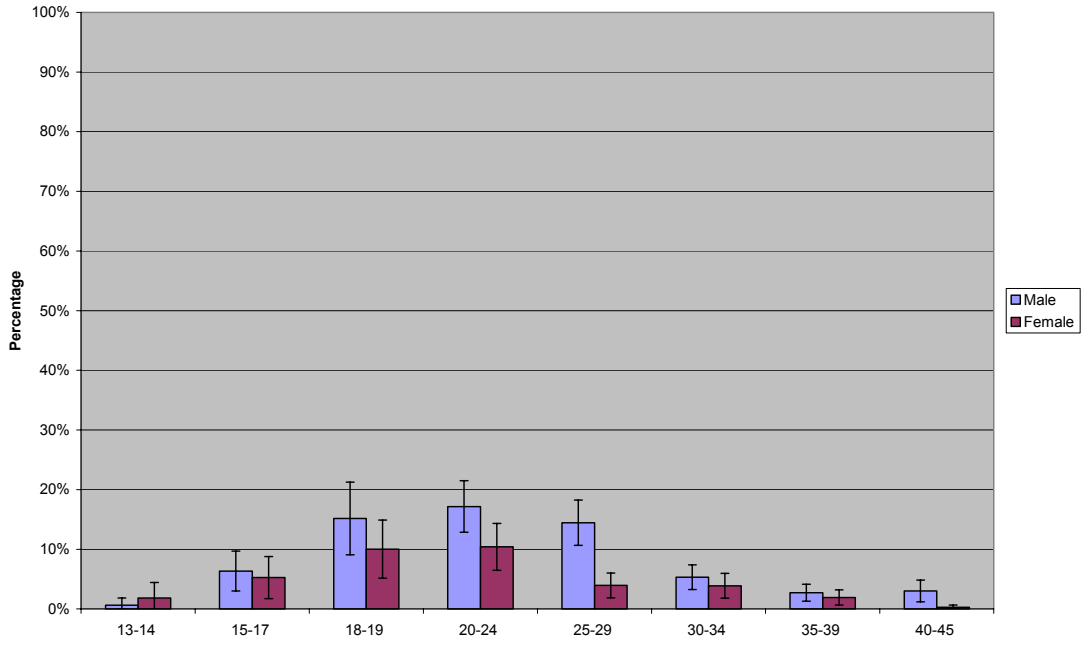
Figure 2.1: Ever used ATS drugs



About two-thirds of ATS drug users were male. More men than women had, ever tried ATS drugs (14% vs. 9%), tried ecstasy (6% vs. 4%), and tried amphetamine (12% vs. 8%). More men than women had used ATS drugs in the last year (8% vs. 4%), used ecstasy in the last year (4% vs. 2%) and used amphetamine in the last year (6% vs. 3%).

Figure 2.2 illustrates the concentration of last year ATS use among men and women aged between 13 and 45 years. Fifteen percent of men aged 18-19, 17% of men aged 20-24 and 14% of men aged 25-29 had used an ATS drug in the last year.

Figure 2.2: Last year use of ATS by age and sex



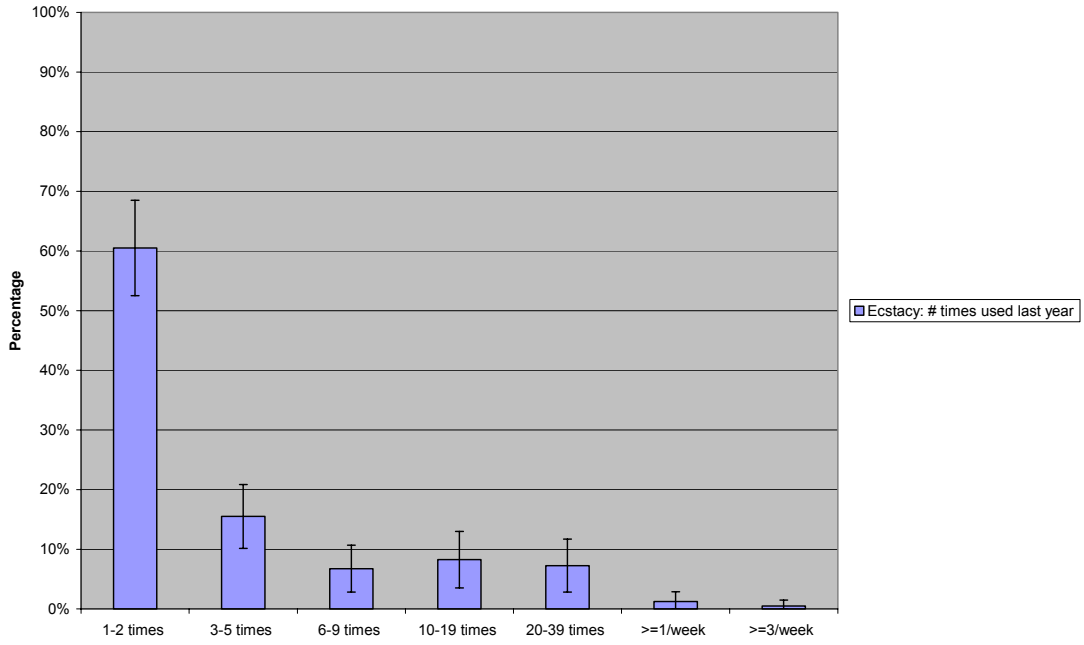
The highest level of ecstasy use was among men aged 20-24 (13%) and men aged 25-29 (9%). For amphetamine, the highest level of use was among men aged 18-19 years (15%), 20-24 years (13%) and 25-29 years (11%). Ice use was highest among 20-24 year olds and concentrated in the 15-29 year age-bracket.

Frequency of ATS drug use

Figures 2.3, 2.4 and 2.5 present the frequency of ecstasy, amphetamine and ice use respectively in the last year. Approximately two-thirds of users had used these drugs less than five times in the previous year.

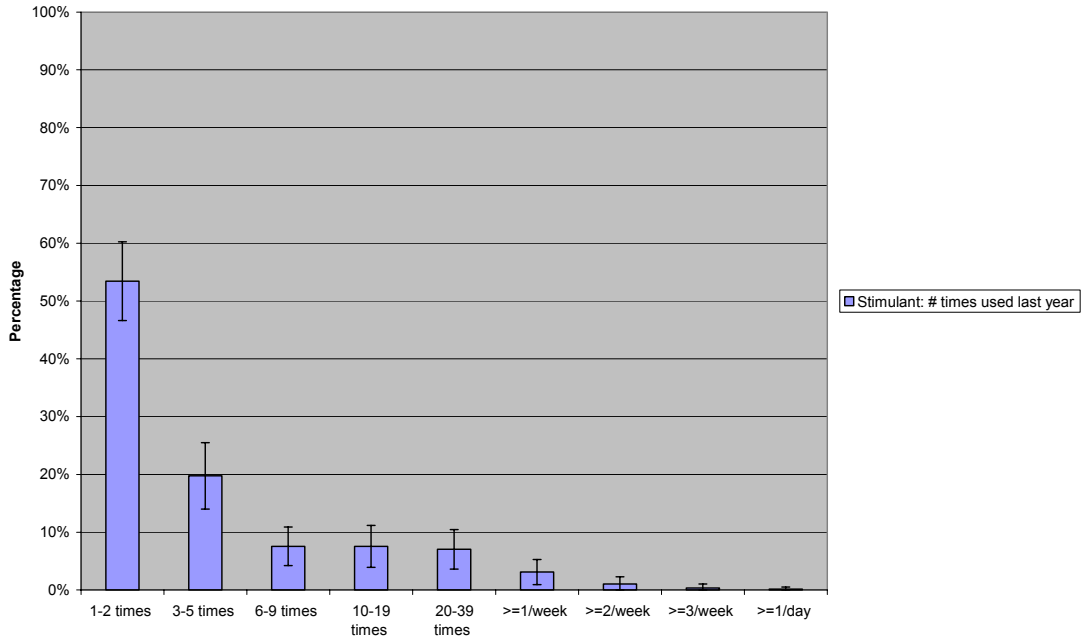
More ecstasy users (61%) reported using ecstasy 1-2 times in the last year, than any other frequency of use (Figure 2.3). Seventeen percent of ecstasy users had used ecstasy 10 times or more in the last year (approximately monthly or more often). The highest frequency of ecstasy use reported was three times a week or more by 0.5% of users.

Figure 2.3: Frequency of last year ecstasy use



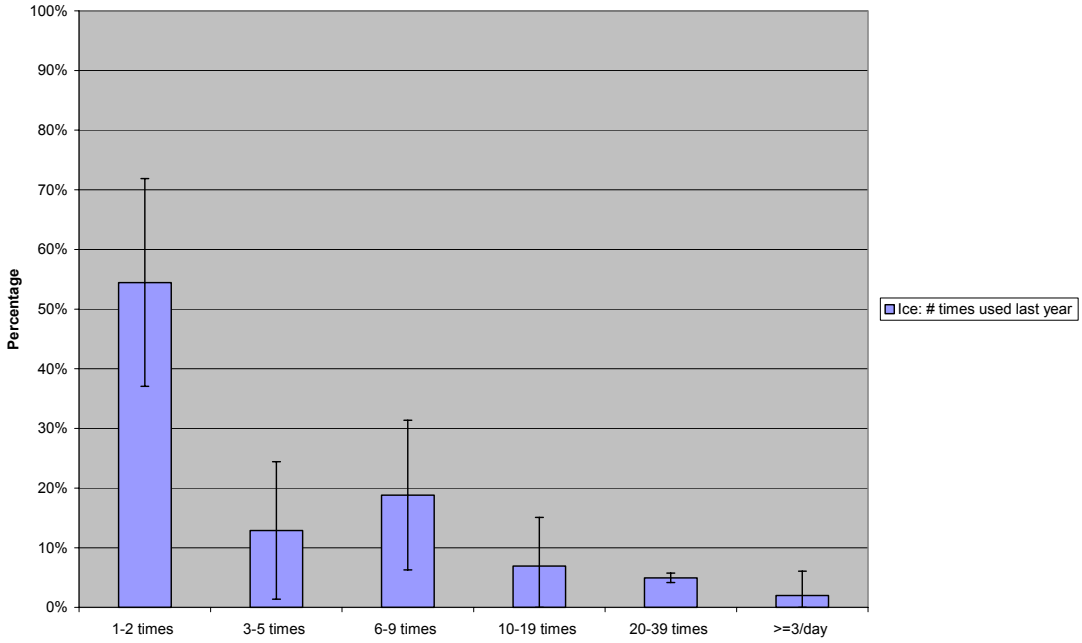
More amphetamine users reported using amphetamine 1-2 times in the last year (54%), than any other frequency of use (Figure 2.4). Nineteen percent of amphetamine users had used amphetamine 10 times or more in the last year. The highest frequency of amphetamine use reported was once a day or more often by 0.2% of users.

Figure 2.4: Frequency of last year amphetamine use



For ice the most common frequency of use was 1-2 times (55%) in the last year (Figure 2.5). Fourteen percent of ice users had used ice 10 times or more in the last year. The highest frequency of ice use was three times a day or more by 2% of users.

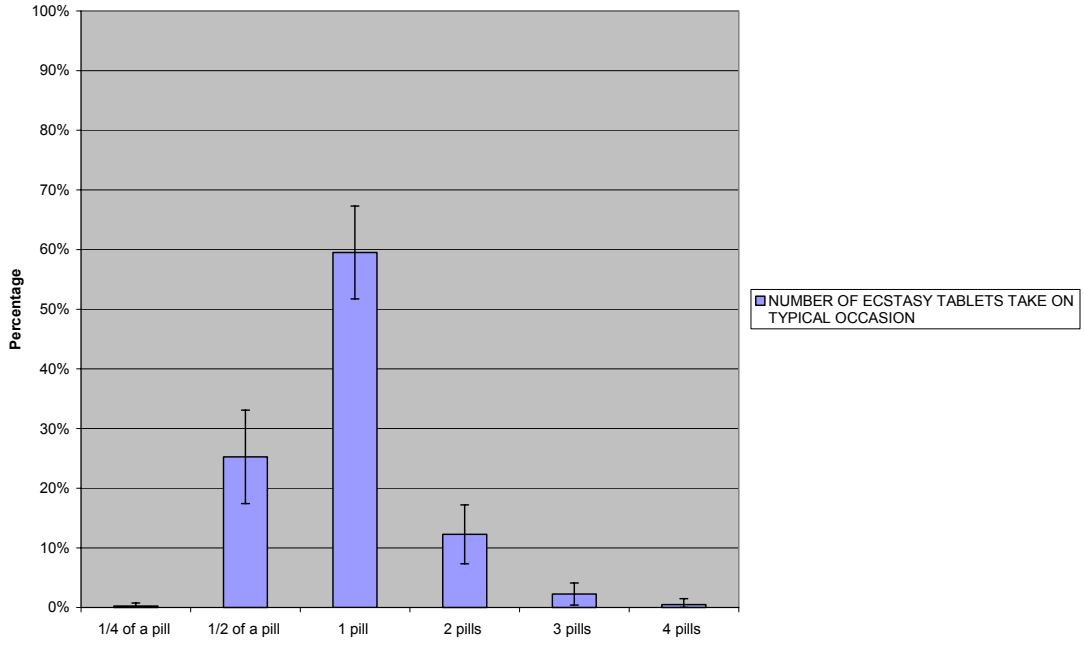
Figure 2.5: Frequency of last ice ecstasy use



Quantity of ATS drugs used

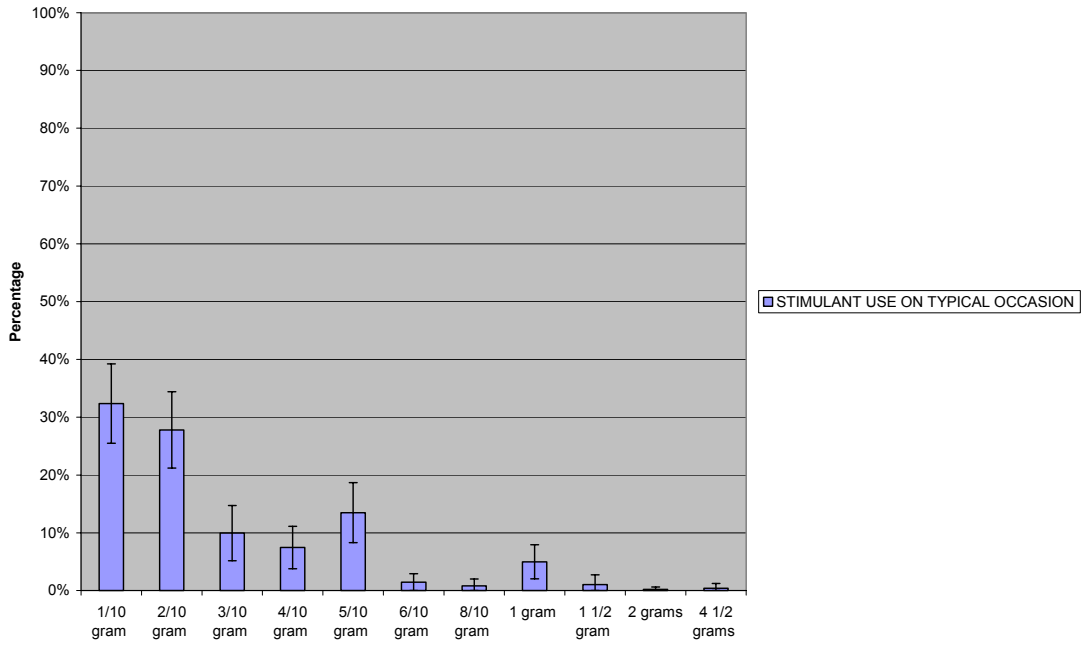
Last year ecstasy and amphetamine users were asked how much of the drug they used on a typical occasion. This question was not asked of ice users. More ecstasy users used one pill (60%) on a typical occasion, than any other quantity (Figure 2.6). The next most popular quantity of ecstasy used was 1/2 a pill (25%).

Figure 2.6: Number of ecstasy tablets taken on typical occasion



For amphetamine, more users used 1/10 gram (27%) or 2/10 gram (23%) than any other quantity (Figure 2.7). Users were then equally likely to use 3/10 gram (10%), 4/10 gram (7%), 5/10 gram (13%) or one gram (5%) on a typical occasion. Interpreting the quantities of amphetamine consumed is complicated by the different types of amphetamine used, as traditional powder amphetamine is sold in grams while pure or 'P' is sold in points of 1/10 gram.

Figure 2.7: Quantity of amphetamine taken on typical occasion



Poly-drug use by ATS users

Tables 2.1, 2.2 and 2.3 present the other drug types used by last year ecstasy, amphetamine and ice users. The list includes alcohol and tobacco and 21 other drug types. The prevalence for use of these drug types within the population as a whole is presented by way of broad comparison. The average number of drug types used by each of the user groups is also calculated.

The other drugs ecstasy users reported most often using in the last year were alcohol (98%), cannabis (79%), tobacco (68%), amphetamine (64%), skunkweed (62%), LSD (47%) and magic mushrooms (28%) (Table 2.1). Last year ecstasy users had tried an average of nine drug types in their lifetimes, used an average of seven drug types in the last year, and used an average of four drug types in the last 30 days. The number of drug types ever tried by last year ecstasy users ranged from 2-20; the number used in the last year ranged from 1-17; and the number used in the last 30 days ranged from 0-13.

Table 2.1: Poly drug use of last year ecstasy users

Drug Type	Ever used %	All people %	Used last year %	All people %	Used last month %	All people %
Amphetamine	74	10	64	5	24	2
Alcohol	98	84	98	83	95	74
Tobacco	90	61	68	33	61	27
Ice (crystal methamphetamine)	18	1	15	1	5	0
Cannabis	94	49	79	19	58	10
Ecstasy	100	5	100	3	27	1
Cocaine	27	3	14	1	1	0
Crack	4	0	2	0	0	0
Heroin	5	1	2	0	1	0
Ketamine	16	1	11	0	3	0
LSD	67	9	47	3	12	0
Mushroom	52	9	28	2	8	1
Tranquillisers	18	2	6	0	3	0
Needle	3	1	3	0	1	0
GHB (gamma-hydroxybutyrate)	21	1	14	1	2	0
Homebake heroin	11	1	5	1	2	0
Morphine	9	1	3	0	1	0
Poppies	15	2	3	0	1	0
Rush (amyl/butyl-nitrate)	32	4	13	1	5	0
Skunkweed	75	13	62	9	36	5
Solvents	6	2	1	0	0	0
Other opiates	9	1	5	0	2	0
Kava	35	9	18	3	2	0
Other hallucinogens	11	2	5	0	3	0
Average number of above drugs used	8.91	2.75	6.67	1.68	3.54	1.22

The other drugs amphetamine users reported most often using in the last year were alcohol (93%), cannabis (86%), tobacco (73%), skunkweed (66%), LSD (44%), ecstasy (44%) and magic mushrooms (27%) (Table 2.2). Last year amphetamine users had tried an average of nine drug types, used an average of six drug types in the last year, and used an average of four drug types in the last 30 days. The number of drug types ever tried by last year amphetamine users ranged from 1-20; the number used in the last year ranged from 1-17; and the number used in the last 30 days ranged from 0-13.

Table 2.2: Poly drug use of last year amphetamine users

Drug Type	Ever Used %	All people %	Used last year %	All people %	Used last month %	All people %
Amphetamine	100	10	100	5	32	2
Alcohol	93	84	93	83	88	74
Tobacco	91	61	73	33	66	27
Ice (crystal methamphetamine)	18	1	15	1	4	0
Cannabis	98	49	86	19	65	10
Ecstasy	50	5	44	3	16	1
Cocaine	20	3	10	1	1	0
Crack	4	0	2	0	0	0
Heroin	4	1	1	0	1	0
Ketamine	12	1	9	0	2	0
LSD	69	9	44	3	8	0
Mushroom	52	9	27	2	7	1
Tranquillisers	19	2	7	0	3	0
Needle	6	1	3	0	1	0
GHB (gamma-hydroxybutyrate)	15	1	11	1	2	0
Homebake heroin	12	1	7	1	3	0
Morphine	7	1	3	0	1	0
Poppies	14	2	3	0	1	0
Rush (amyl/butyl-nitrate)	35	4	14	1	4	0
Skunkweed	78	13	66	9	46	5
Solvents	12	2	2	0	1	0
Other opiates	8	1	5	0	1	0
Kava	29	9	13	3	2	0
Other hallucinogens	11	2	6	0	2	0
Average number of above drugs used	8.57	2.75	6.41	1.68	3.57	1.22

The other drugs ice users reported most often using in the last year were alcohol (91%), cannabis (91%), skunkweed (89%), amphetamine (84%), tobacco (73%), LSD (61%), ecstasy (61%), magic mushrooms (36%), kava (27%) and homebake heroin (25%) (Table 2.3). Last year ice users tried an average of eleven drug types in their lifetimes, used an average nine drug types in the last year, and used an average of five drug types in the last 30 days. The number of drug types tried by last year ice users ranged from 7-18; the number used in the last year ranged from 4-17; and the number used in the last 30 days ranged from 0-10.

Table 2.3: Poly drug use of last year ice users

Drug Type	Ever Used %	All people %	Used last year %	All people %	Used last month %	All people %
Amphetamine	88	10	84	5	41	2
Alcohol	92	84	91	83	82	74
Tobacco	92	61	73	33	67	27
Ice (crystal methamphetamine)	100	1	100	1	26	0
Cannabis	100	49	91	19	77	10
Ecstasy	62	5	61	3	20	1
Cocaine	27	3	19	1	0	0
Crack	13	0	7	0	0	0
Heroin	7	1	3	0	0	0
Ketamine	28	1	24	0	2	0
LSD	78	9	61	3	16	0
Mushroom	62	9	36	2	12	1
Tranquillisers	32	2	17	0	8	0
Needle	12	1	11	0	2	0
GHB (gamma-hydroxybutyrate)	29	1	24	1	5	0
Homebake heroin	29	1	25	1	10	0
Morphine	18	1	9	0	0	0
Poppies	35	2	21	0	10	0
Rush (amyl/butyl-nitrate)	40	4	18	1	4	0
Skunkweed	93	13	89	9	62	5
Solvents	4	2	0	0	0	0
Other opiates	14	1	10	0	2	0
Kava	39	9	27	3	4	0
Other hallucinogens	12	2	6	0	3	0
Average number of above drugs used	11.08	2.75	9.04	1.68	4.52	1.22

Intravenous drug use by ATS users

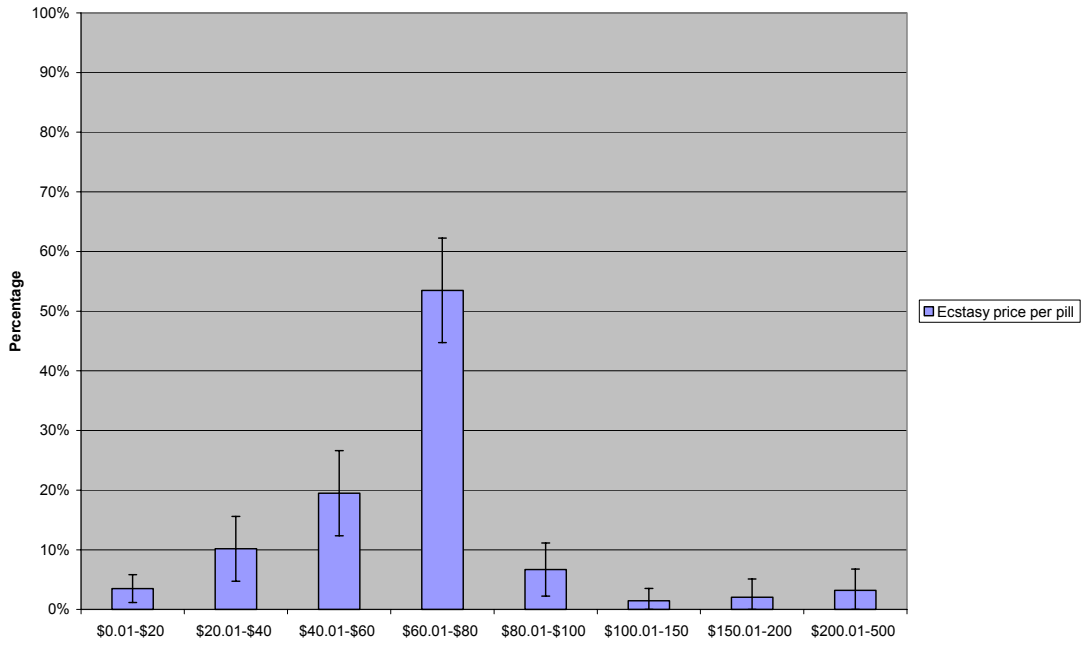
The 2001 National Drug Survey did not ask respondents directly what drug types they had injected. Rather respondents were asked whether they had ever used a needle to inject *a drug* for recreational purposes and how recently they had done so (i.e. lifetime, last year, last 30 days). The drug types used by a respondent can be identified from their responses to other parts of the interview. What is reported here then is intravenous drug use by ATS users rather than intravenous ATS use. Three percent of ecstasy users, 3% of amphetamine users and 11% ice users had also used a needle to inject a drug in the last year.

Prices paid for ATS drugs

Amphetamine and ecstasy users were asked how much they typically spent on these drugs and the quantity of the drug purchased. This data allowed the calculation of the average price paid per pill of ecstasy or gram of amphetamine. These average prices take into account any quantity discounts a user might receive. For example, those buying 10 pills of ecstasy are likely to pay less per pill than those purchasing just one pill or less at a time. The price questions were not asked of ice users.

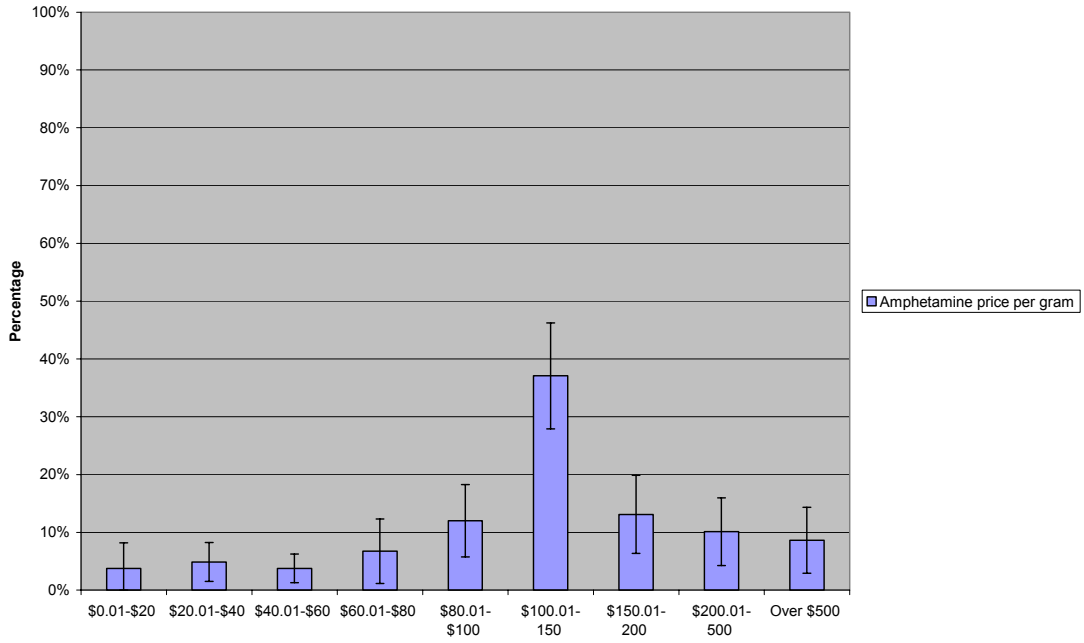
Figure 2.8 presents the average prices paid for a pill of ecstasy. Overall, the most common average price paid per pill of ecstasy was $60-$80 (54%) followed by $40-$60 (19%).

Figure 2.8: Average price paid for a pill of ecstasy



For amphetamine, the most common average price paid per gram was $100-$150 (37%) followed by $150-$200 (13%) and $80-$100 (12%) (Figure 2.9).

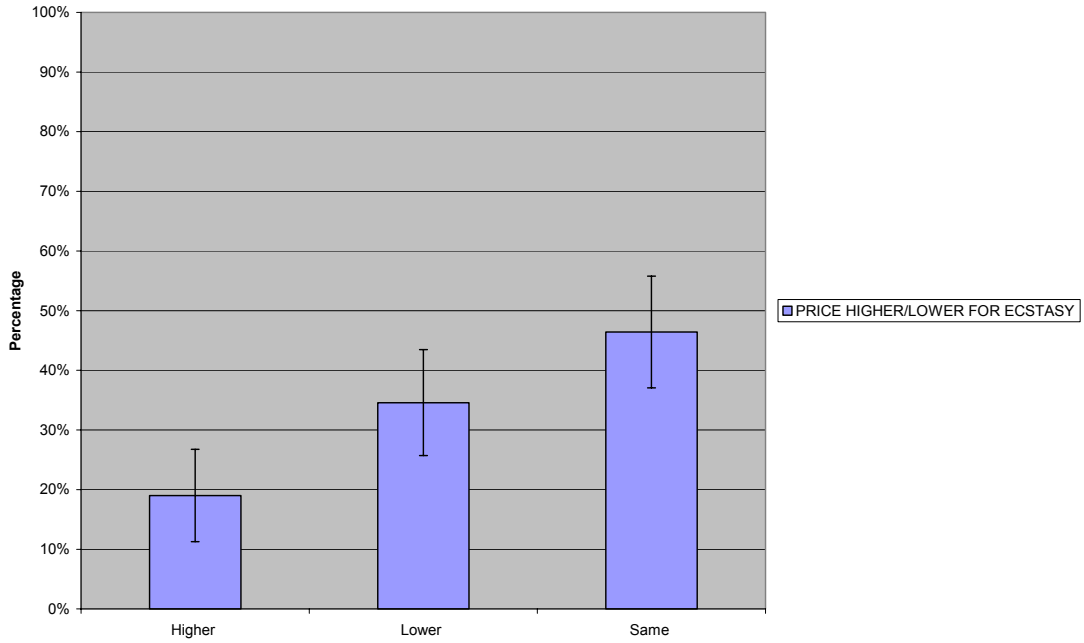
Figure 2.9: Average prices paid for a gram of amphetamine



Last year users of ecstasy and amphetamine were also asked about the price paid for these respective drugs compared to a year ago. While most users reported the prices were the same, 35% of ecstasy users indicated the price of ecstasy was lower.

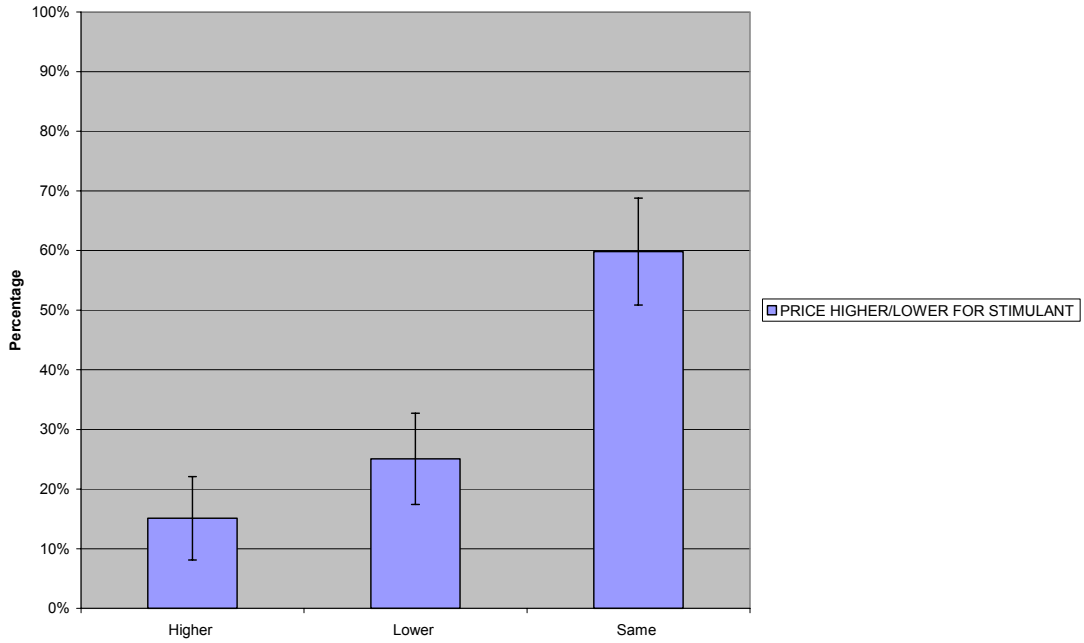
There was no statistical difference among last year ecstasy users between those who thought the price of ecstasy was the 'same' (46%) and those who thought the price was 'lower' (35%) (Figure 2.10).

Figure 2.10: Change in the price of ecstasy compared to a year ago



For amphetamine, more users thought the price of amphetamine was the 'same' (60%) than any other answer (Figure 2.11).

Figure 2.11: Change in the price of amphetamine compared to a year ago

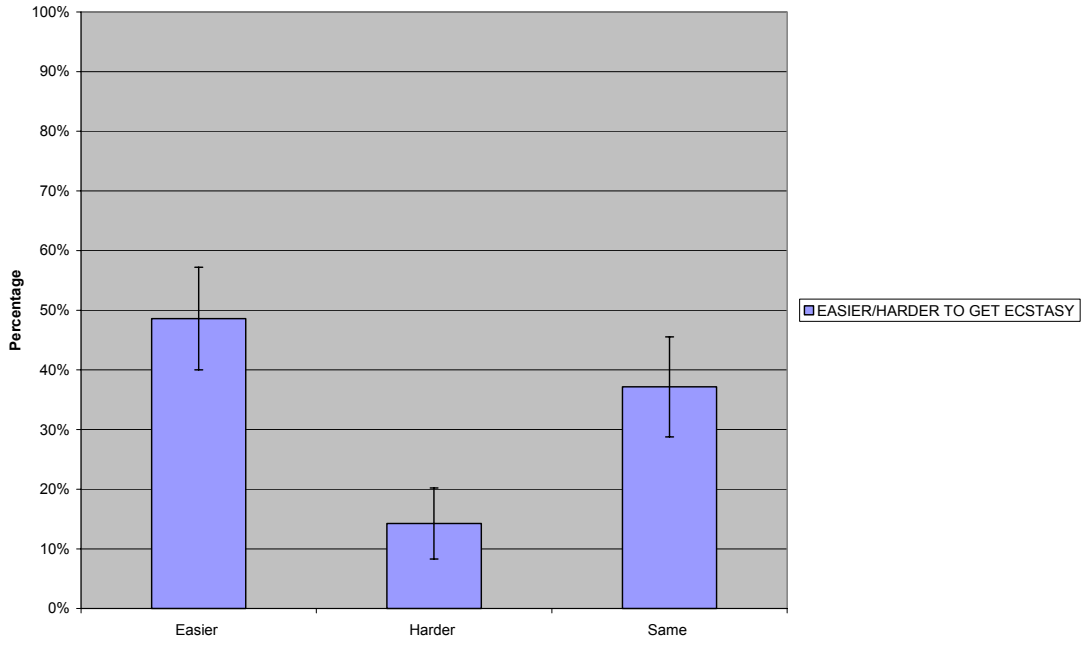


Availability of ATS drugs

Last year users of ecstasy and amphetamine were asked whether the availability of these drugs had changed compared to a year ago.

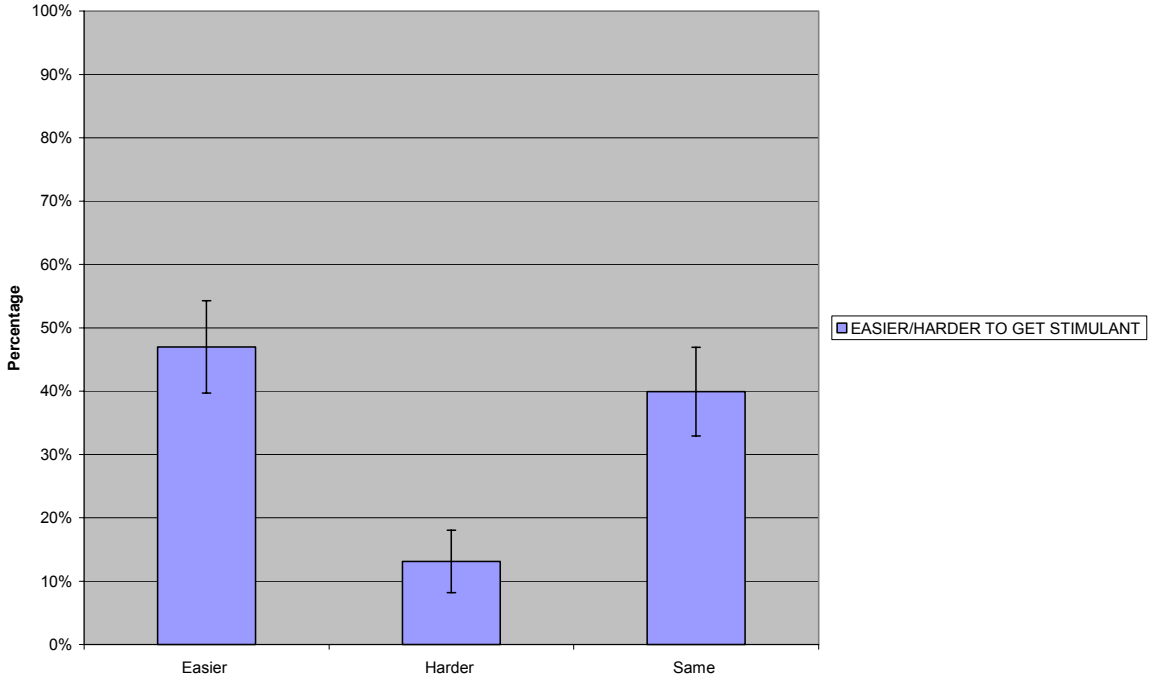
More ecstasy users thought the availability of ecstasy was 'easier' (49%), or the 'same' (37%), than 'harder' (14%) (Figure 2.12).

Figure 2.12: Availability of ecstasy compared to a year ago



Similarly, more amphetamine users thought the availability of amphetamine was 'easier', (47%) or the 'same' (40%), than 'harder' (13%) compared to a year ago (Figure 2.13).

Figure 2.13: Availability of amphetamine compared to a year ago

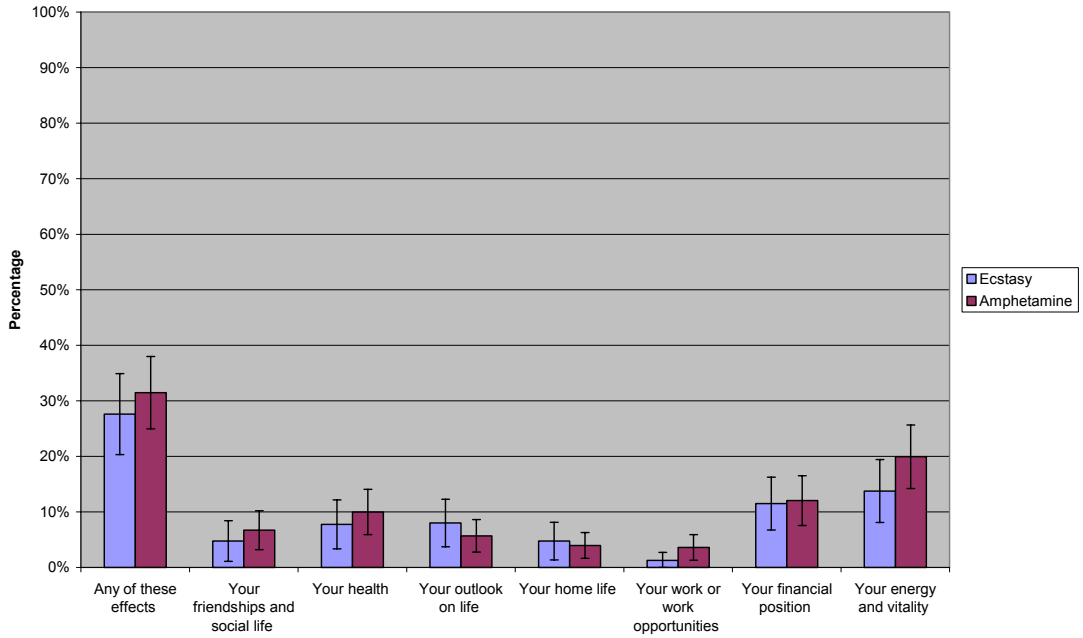


Self-reported harms from ATS drug use

Those who had used amphetamine and ecstasy in the last year were asked if the use of these drugs had harmed any of seven areas of their life in the last 12 months. The areas asked about were 'Friendship and social life'; 'Health'; 'Outlook on life'; 'Home life'; 'Work and work opportunities'; 'Financial position'; and 'Energy and vitality'. Ice users were not asked these questions.

Figure 2.14 presents the proportion of amphetamine and ecstasy users who indicated they had experienced harm in these seven areas of life, from the use of these drugs in the last year. Nearly one third of ecstasy and amphetamine users experienced harm in at least one of the seven areas of life, from the use of these drugs (28% and 32% respectively). The most commonly cited harm for both ecstasy and amphetamine was to 'energy and vitality' (14% and 20% respectively), followed by 'financial position' (12% for both), 'health' (8% and 10%), 'outlook on life' (8% and 6%) and 'friendship and social life' (5% and 7%).

Figure 2.14: Harmful effects from ecstasy and amphetamine use

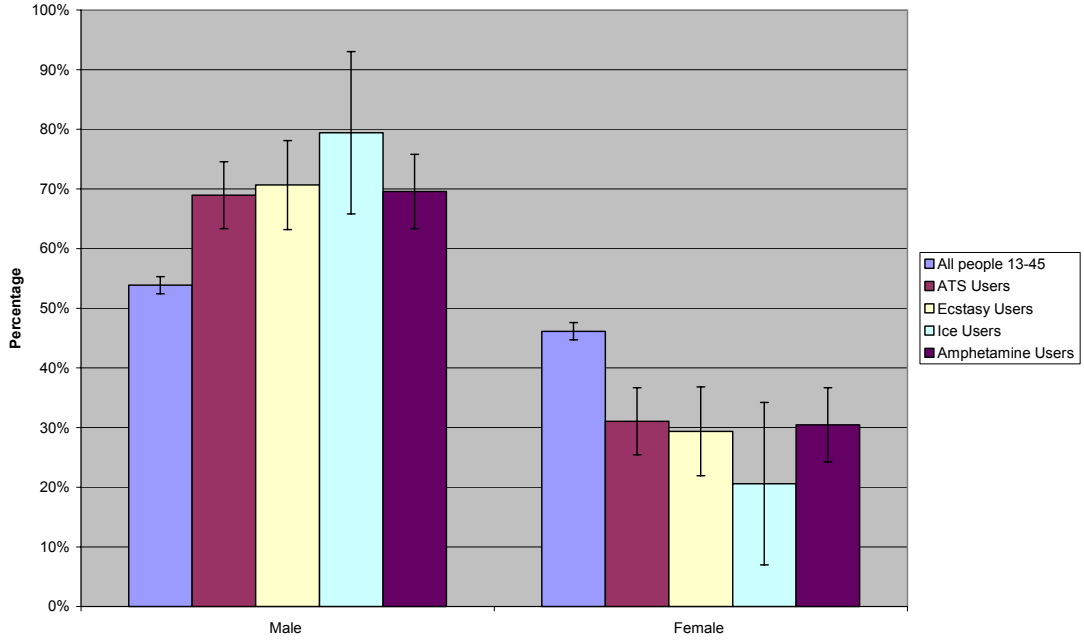


Demographics

Gender

As indicated in the previous sections about two-thirds of ATS drug users were male. Statistically more ATS users than the general population were male (69% vs. 54%), and this was also the case for ecstasy users (71% vs. 54%), amphetamine users (70% vs. 54%) and ice users (79% vs. 54%) (Figure 2.15).

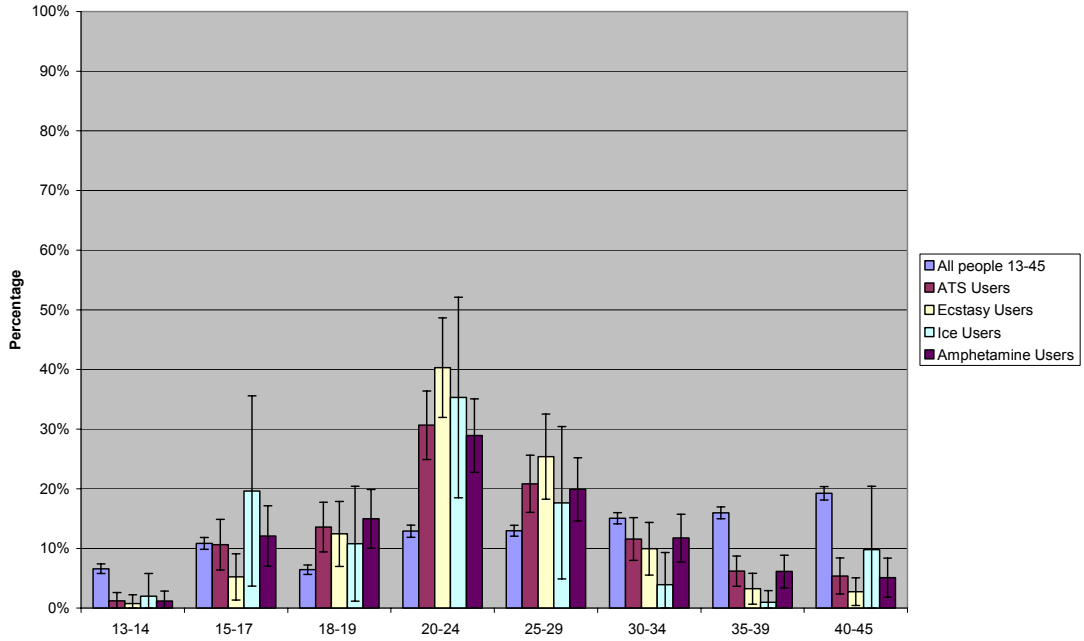
Figure 2.15: Last year users of ATS drugs by sex



Age

Again, as seen in the previous chapter, ATS drug use was concentrated in the 18-29 year old age group. More ATS users than the wider population were 18-19 year olds (14% vs. 6%), 20-24 year olds (31% vs. 13%) and 25-29 year olds (21% vs. 13%). Less ATS users than the wider population were aged 13-14 (1% vs. 7%), aged 35-39 (6% vs. 16%) and aged 40-45 (5% vs. 19%). More amphetamine users were 18-19 year olds than in the wider population (15% vs. 6%).

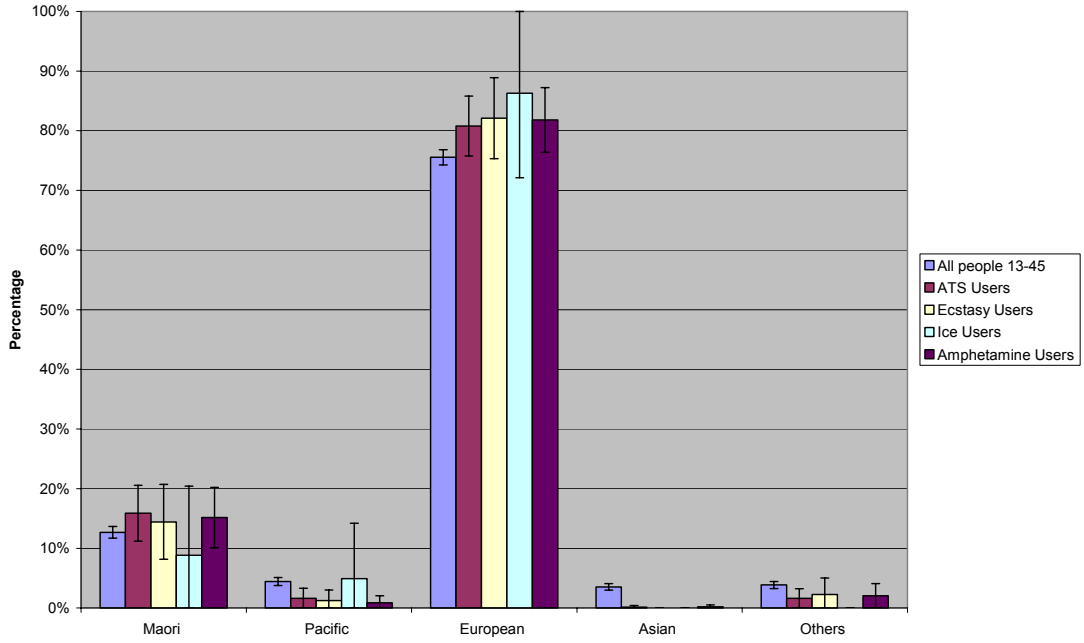
Figure 2.16: Last year ATS users by age



Ethnicity

The ethnicity of last year ATS drug users broadly matched that of the major ethnic groups in New Zealand (Figure 2.17). Eighty-one percent of ATS users were European, 16% were Maori, 2% Pacific Island and 2% some other ethnicity. Less ATS users were Pacific Islanders than their share of the general population (2% vs. 4%) except in the case of ice (5% vs. 4%). The relatively high level of ice use among Pacific Islanders is consistent with experience of widespread use of ice within these ethnicities in Hawaii and the West Coast of the United States (Joe-Laidler and Morgan, 1997, Joe, 1995). Less than 1% of Asians reported use of ATS drugs although they make up 4% of the population.

Figure 2.17: Last year ATS users by ethnicity



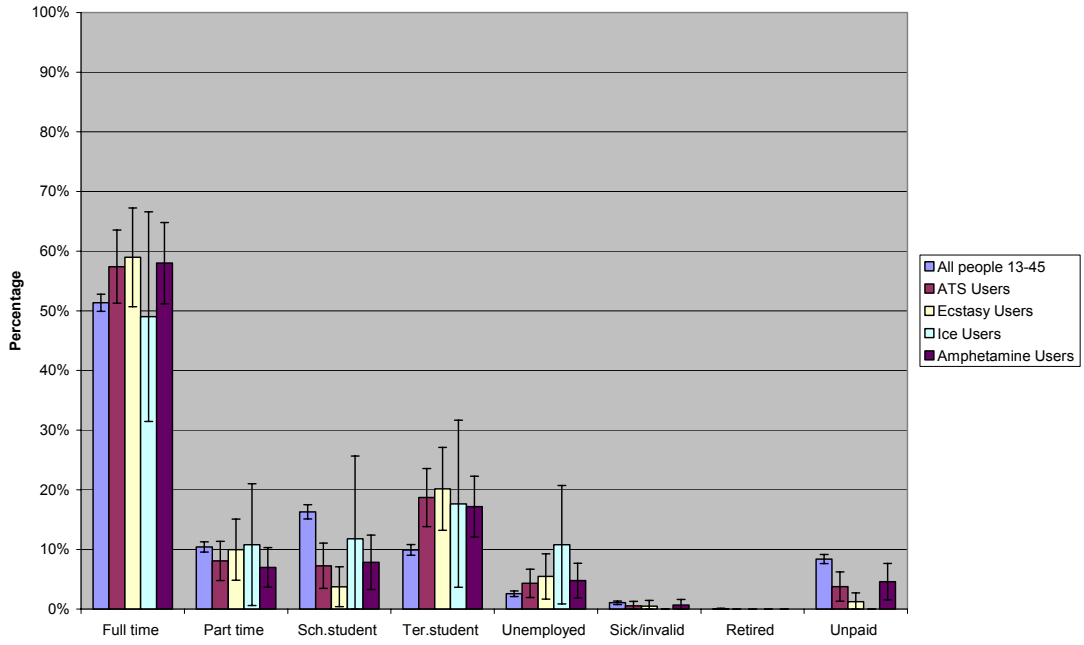
Marital status

Last year ATS users were more likely than the general population to be single (65% vs. 43%) and more likely to be separated (11% vs. 6%). Less ATS users were living with a partner than the general population (25% vs. 51%).

Employment status

Sixty-five percent of ATS drug users were in paid employment (i.e. full-time or part-time), 7% were school students, 19% tertiary students, 4% unemployed, 1% sickness beneficiaries and 4% in unpaid work (e.g. caring for children) (Figure 2.18). Less ATS users were school students than the general population (7% vs. 16%) and less were unpaid care givers (4% vs. 8%). More ATS users were tertiary students than the general population (19% vs. 10%).

Figure 2.18: Last year ATS users by employment status



Occupation

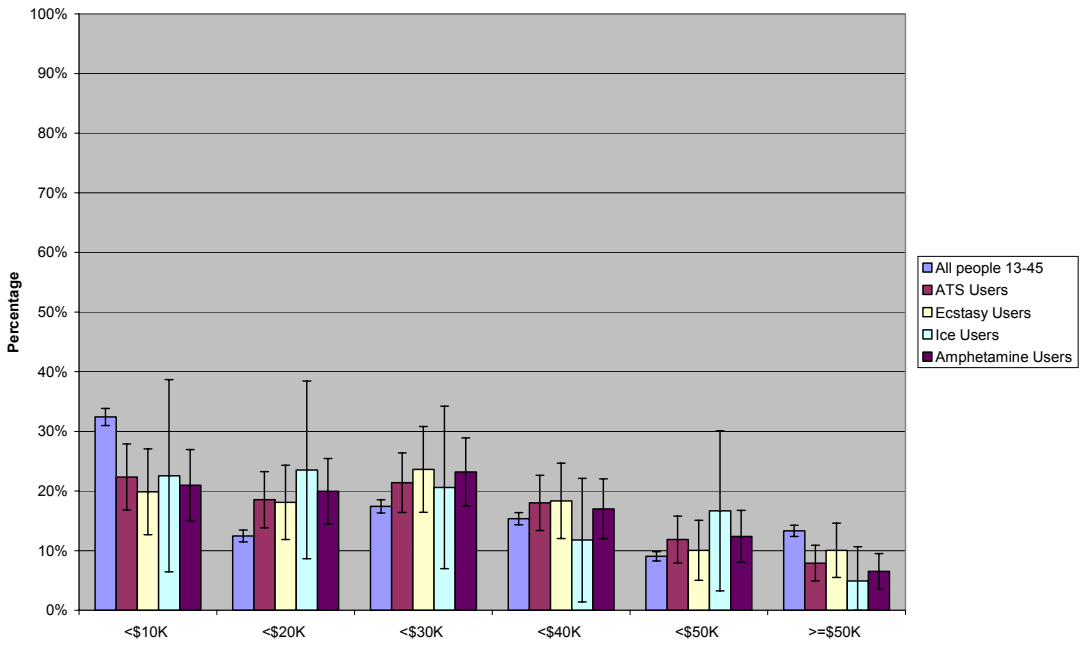
The 2001 National Drug Survey classified the occupations of respondents by twelve broad socio-economic categories, rather than by specific job titles. Eighteen percent of ATS users were professionals or managers, 37% were in clerical positions, 42% in skilled or manual work, and 3% other (e.g. retired, homemaker).

Gross annual income

ATS users earned a range of incomes reflecting their high levels of employment and range of occupational categories (Figure 2.19). Twenty-two percent of ATS users earned less than $10,000, 19% earned between $10,000-$19,999, 21% earned $20,000-$29,999, 18% earned $30,000-$39,999, 12% earned $40,000-$49,999 and 8% $50,000 or more.

ATS users were less likely to earn $50,000 or more than the general population (8% vs. 13%). The exception was for ecstasy where the same proportion earned $50,000 or more (10% vs. 13%). ATS users were more likely to earn $10,000-$19,999 than the general population (19% vs. 12%). ATS users were less likely to earn less than $10,000 than the general population (22% vs. 32%).

Figure 2.19: Last year ATS users by gross annual income



Education

Respondents were asked about their highest level of education or job qualification. Thirteen percent of ATS users had no school qualifications, 16% School Certificate, 14% University Entrance, 11% Bursary, 26% Trade or Technical qualification, 1% Teachers Certificate, and 19% some university papers or a completed degree.

ATS users were less likely to have no school qualifications than the general population (13% vs. 21%). While ATS users were more likely to have completed some university papers than the general population (9% vs. 5%) they were less likely to have completed a degree (10% vs. 15%).

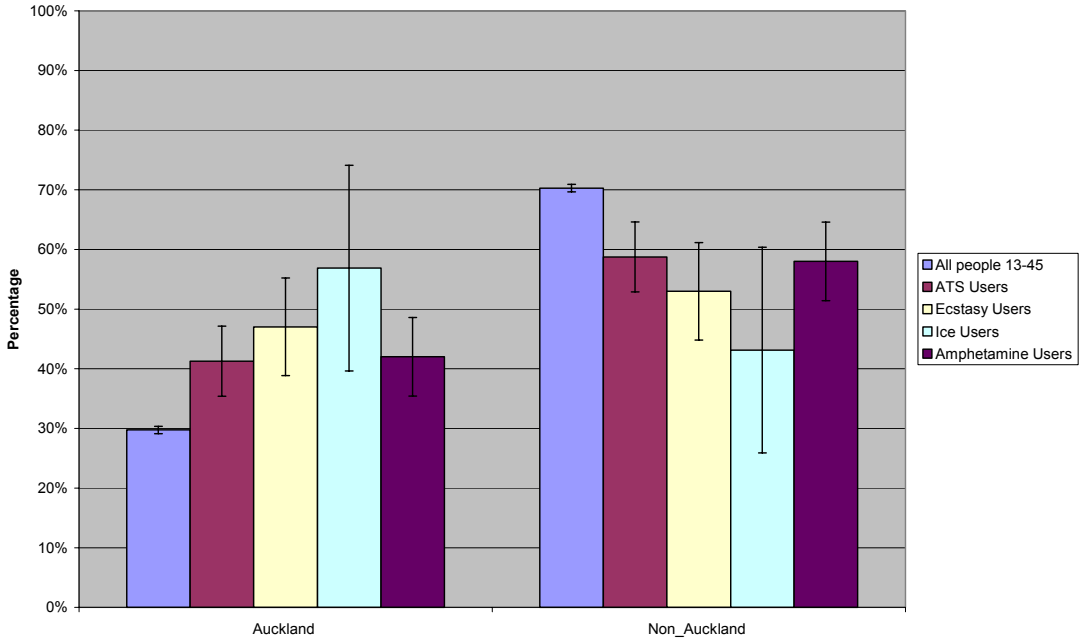
Ecstasy users were somewhat different with more having completed some university papers than the general population (13% vs. 5%) and the same proportion, as the general population, having completed a degree (12% vs. 15%). This may reflect the older age of ecstasy users, and hence their higher likelihood of having completed a degree, rather than any negative impact on educational achievement caused by amphetamine use.

Geographical location

Data from the 2001 National Drug Survey was collected from thirty-three areas nationwide, based on regional telephone exchanges. This location tag allows the findings to be analysed by specific geographical area. The low numbers in some areas meant some level of geographical aggregation was required to make reliable statistical assertions. The geographical comparisons chosen for analysis were: Auckland versus non-Auckland; urban versus rural; and four broad regions, i.e. Northern, Midland, Central and Southern. The four regions were aggregations of Police Districts in each respective part of the country. The thirty-three areas used for the 2001 National Drug Survey provided a good fit with the boundaries of Police Districts (see Appendix 2). The Northern Region consisted of the Northland, North Shore, Waitakere, Rodney, Auckland City and Counties Manukau Police Districts. The Midland Region consisted of the Waikato and Bay of Plenty Police Districts. The Central Region was made up of the Eastern, Central and Wellington Police Districts. The Southern Region was made up of the Tasman, Canterbury and Southern Police Districts. There was only one instance where the boundaries of the telephone exchanges could not be closely matched to the boundaries of Police Districts. This occurred in the Midland Region where a small part of the lower King Country had to be included in this region rather than the Central Region. The proportion of the New Zealand population aged 13-45 within the four regions is as follows: Northern (36%); Midland (17%); Central (24%) and Southern (24%).

More ATS users lived in Auckland than the general population (41% vs. 30%) which was also true for ecstasy (47% vs. 30%), amphetamine (42% vs. 30%) and ice (57% vs. 30%) (Figure 2.20).

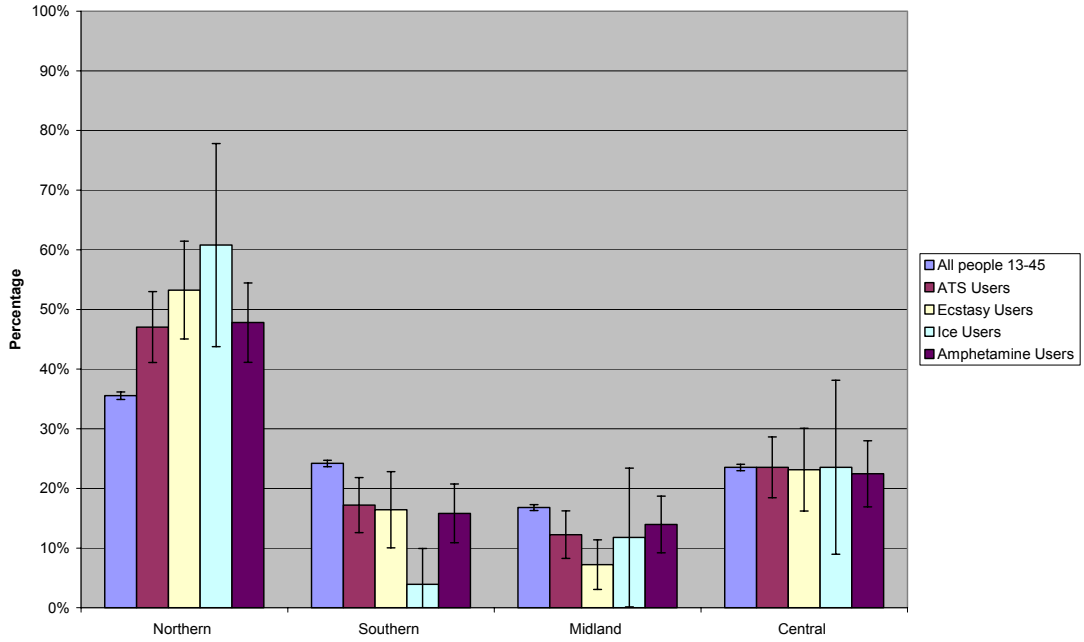
Figure 2.20: Last year ATS by metropolis and provincial



More ATS users lived in urban areas than the general population (81% vs. 74%) and this was the case for ecstasy (84% vs. 74%), amphetamine (81% vs. 74%), and ice (94% vs. 74%).

More ATS users lived in the Northern Region than the proportionate population (47% vs. 36%) as was the case for ecstasy (53% vs. 36%), amphetamine (48% vs. 36%) and ice (61% vs. 36%) (Figure 2.21). Less ATS users lived in the Southern Region than the proportionate general population (17% vs. 24%) and this was also the case for ecstasy (16% vs. 24%), amphetamine (16% vs. 24%) and ice (4% vs. 24%). Less ecstasy users lived in the Midland Region than the proportionate general population (7% vs. 17%).

Figure 2.21: Last year ATS users by four main regions



Discussion

About one in ten New Zealanders aged 18-29, or about 100,000 people nationwide, had used an ATS drug in the last year in 2001. About one-third of these users were frequent users (i.e. monthly or more often). A small proportion of ATS drug users were daily or more frequent users. Approximately one third of those who had used an ATS drug in the last year reported experiencing harm in at least one area of their lives from the use of ATS drugs. Frequent ATS use greatly increased the likelihood of users reporting problems.

Overseas research has suggested that using half a gram or more of amphetamine on a typical occasion significantly increases the user's risk of experiencing problems such as amphetamine psychosis, violent behaviour and addiction (Hall and Hando, 1994, Hall et al., 1996). About one in five of those who had used amphetamine in the last year, used half a gram or more of amphetamine in a typical session. Forty-four percent of frequent amphetamine users, compared to 14% of occasional amphetamine users, used quantities of amphetamine at this level.

The ATS supply conditions of easier availability and stable prices identified by ATS users indicate suppliers of these drugs are likely to be earning strong profits. The opportunities to earn high returns are likely to attract new entrants both at the domestic and international levels. This is evidenced by the continuing rise in the number of amphetamine laboratories detected by Police and the increase in seizures of amphetamine and its precursors at the

border by Customs. Lower prices for ecstasy are likely to indicate improving conditions of supply, or lower costs of supply, rather than any reduction in demand for ecstasy. Seizures of ecstasy continue to increase at a rate which is inconsistent with a reduction in consumer demand for this drug.

Poly drug use was common amongst ATS drug users. Ice users exhibited the highest level of poly drug use including relatively high levels of opioid use. Alcohol, tobacco, high potency hydroponics cannabis, LSD and magic mushrooms were the non-ATS drug types most commonly used by ATS drug users. The mixing of other drug types with ATS drugs and the use of other substances to recover from the effects of ATS use increase the risk these users will experience problems from their drug use, including drug psychosis, violent behaviour and addiction (Darke and Hall, 1995, Baker et al., 2001, Darke and Ross, 1994). Drug treatment programme designed for ATS users may need to take into account the level of poly drug use within this population and the possibility of addiction to a number of substances, including legal drugs such as alcohol. Secondary analysis of the recent DUMA findings in Australia by Weierter and Lynch (Weierter and Lynch, 2002) found detainees who were dependent on amphetamine were also commonly dependent on alcohol and cannabis as well.

The high levels of poly drug use among ATS drug users should also act as an early warning of the potential for increased ATS use to enlarge the demand in New Zealand for other illicit drug types, such as cocaine, LSD and opioids, as well as popularising new illicit drug types such as GHB and ketamine. This feature of ATS drug use would seem to justify a higher priority being placed on restricting the availability and supply of ATS drugs, above and beyond that warranted by the immediate harms of the ATS drugs themselves. Ice would receive the highest drug enforcement priority on the basis of poly drug use.

Intravenous drug use was relatively higher among ATS drug users and in particularly among ice users. Overseas studies of amphetamine users have found that increases in amphetamine use have led to increased intravenous drug use, particularly among young drug users (McAllister and Makkai, 2001, Peters et al., 1997, Klee, 1992, Hando and Hall, 1994). In New Zealand, a rise in ATS drug use could lead to more intravenous drug use via two developments: (1) heavy ATS drug users may switch to intravenous means of administration in response to a growing tolerance to the effects of the ATS drugs they take; and (2) the traditional intravenous opioid using population (e.g. homebake heroin) may increasingly use ATS drugs in response to their greater availability and spread intravenous drug use within the ATS scene, through example and association. Close monitoring of the ATS using population in New Zealand is required to identify the emergence of these consequences. Such monitoring

should draw on the range of agencies which have contact with ATS drug users including law enforcement, drug treatment, and health and youth services.

The targeting of resources and development of agency strategies to combat the rise in ATS drug use can be informed by the demographic features and geographic location of the ATS drug using population in New Zealand. As with other drug using populations ATS drug users were disproportionately male and aged 18-29, with the heaviest use among 20-24 year olds. However, several characteristics of the ATS using population are likely to set them apart from other illicit drug using populations. ATS drug users had high levels of full time employment, came from a range of occupational backgrounds including professionals, earned mid-level incomes and had relatively high levels of educational achievement. Large numbers of ATS drug users, including frequent users, were European. Disproportionately more ATS users lived in urban settings, in the upper half of the North Island and in Auckland.

Chapter 3: ATS in Australia

Introduction

Australia is close to New Zealand both geographically and culturally. This closeness provides a good opportunity for comparison with respect to the level of ATS drug use and this is the theme of this chapter.

However, despite the closeness between New Zealand and Australia, there remain a number of important and persistent differences in illicit drug use and illicit drug markets between the two countries. These persistent differences should serve as a caution against drawing too ready conclusions about what is likely to occur in New Zealand from what has happened in Australia. The first major difference between Australia and New Zealand, is the lower level of heroin and cocaine use in New Zealand (Field and Casswell, 1999b). The widely accepted explanation for this state of affairs is the effectiveness of New Zealand's border controls and internal drug enforcement (New Zealand Customs Service, 2002). Historically, New Zealand's remoteness and small size has enhanced the effectiveness of interdiction efforts. A second difference is the higher high level of LSD use in New Zealand compared to Australia (Field and Casswell, 1999b). New Zealand has historically had high levels of LSD use by world standards (Australian Bureau of Criminal Intelligence, 2001) and this may reflect the ease with which this drug can be concealed and hence avoid New Zealand's otherwise effective border controls. The third difference between the two countries is the higher level of intravenous drug use in Australia. The higher level of intravenous drug use in Australia is limited not only to heroin users but is also seen in amphetamine (Hall and Hando, 1994) and ecstasy (Topp et al., 1999) users. New Zealand, in contrast, appears to have a cultural tradition of smoking illicit drugs, largely as a result of the dominance of cannabis use here. This may have been a factor in the ease with which (smoking) amphetamine was taken up in New Zealand.

This chapter compares the ATS drug use findings from New Zealand and Australia's 2001 National Household Drug Surveys. In addition to the historical differences around illicit drug use discussed above, there are also methodological differences in how the national household drug surveys in New Zealand and Australia are conducted. Australia's National Drug Survey uses a mixture of three sampling methods: drop and collect, face-to-face and computer assisted telephone interview (CATI) (Australian Institute of Health and Welfare, 2002). The

Australian survey samples the population aged 14 years and over (Australian Institute of Health and Welfare, 2002). New Zealand's National Drug Survey is a telephone only CATI survey and samples the population aged 15-45. Australian researchers were asked to truncate their results to match the 15-45 year age range of the New Zealand survey, making possible the comparisons presented here. The Australian survey did not collect separate figures for ice (crystal methamphetamine) so no comparisons can be made for this drug type. As we saw from the first chapter, use of ice in New Zealand is fairly low level so this does not create a big distortion.

The comparisons presented in this chapter are descriptive only. The differences in the methodologies used to collect the samples in each country limit the validity of any statistical comparison. As the international comparisons were intended only as a small component of the wider project, they did not justify the resources required to complete detailed statistical analysis. A detailed statistical analysis had already been completed for New Zealand (see Chapter 1 and (Wilkins et al., 2004c). The full tables used to create the figures in this chapter can be found in Appendix 1.

Results

Ever tried ATS

Twelve percent of New Zealanders aged 15-45, compared 17% of Australians aged 15-45, had ever tried an ATS drug type. More men than women in both countries had tried an ATS drug. Fewer women had ever tried an ATS drug in New Zealand, than in Australia (9% vs. 14%). The situation was similar for men, with lower use among New Zealand than Australian men, but the gap was less pronounced. Figure 3.1 compares the proportion of men in New Zealand and in Australia who had ever tried an ATS drug by age group. Among 15-17 and 18-19 year olds, the proportion of men who had ever tried an ATS drug was identical for New Zealand and Australia.

Figure 3.1: Proportion of males ever tried an ATS drug in New Zealand and Australia by age

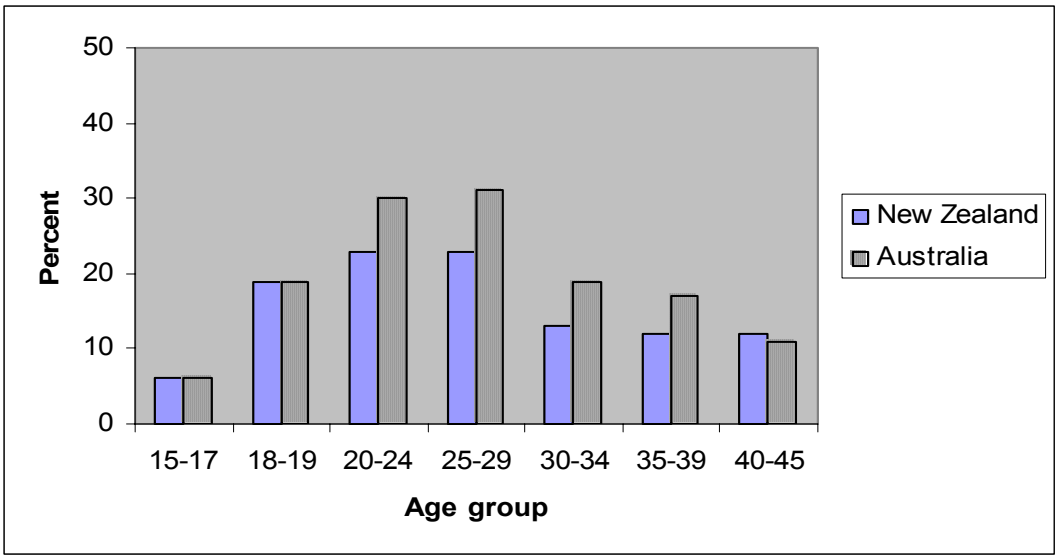
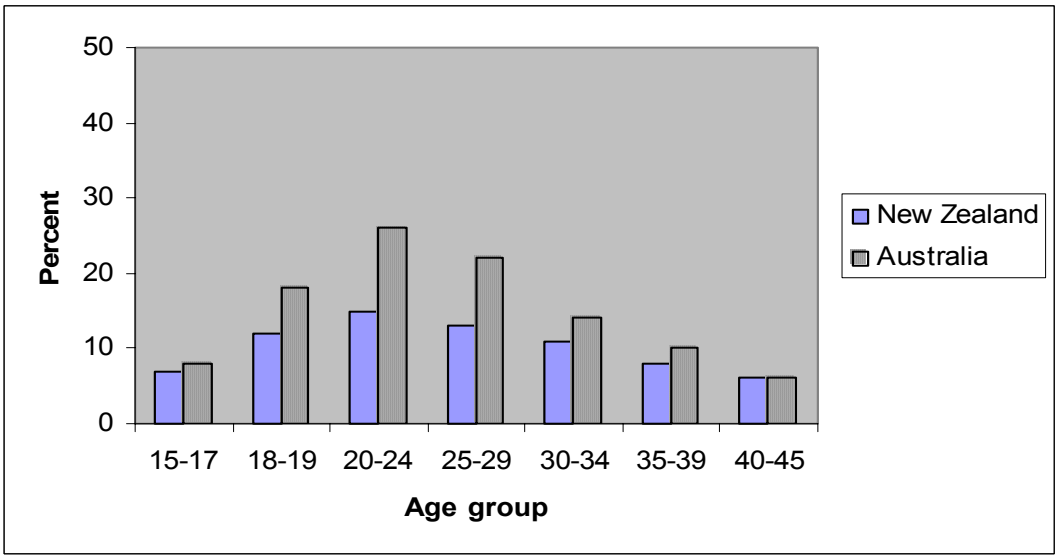


Figure 3.2 shows that the proportion of women who had tried an ATS drug is consistently lower in New Zealand than Australia.

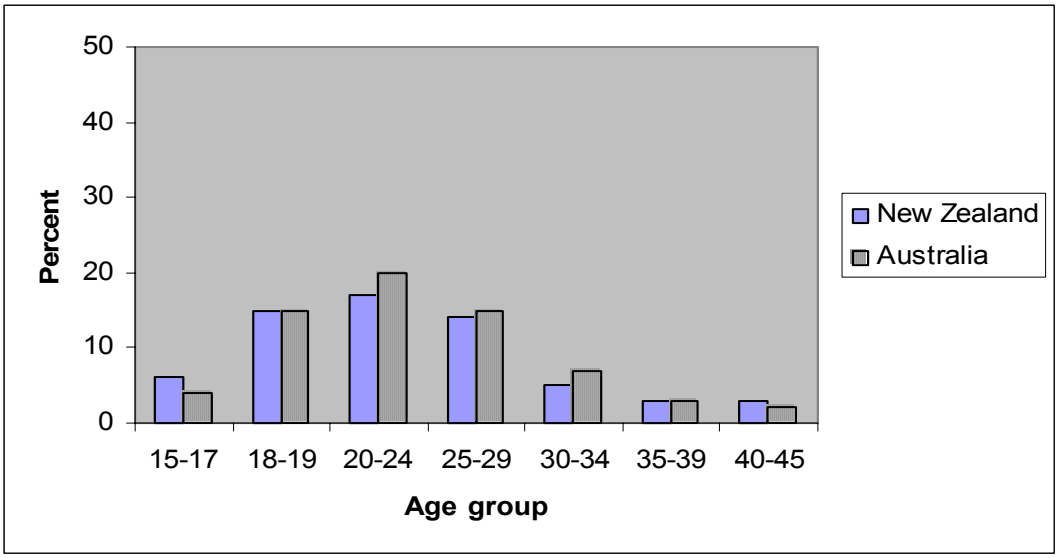
Figure 3.2: Proportion of females ever tried an ATS drug in New Zealand and Australia by age



Last year use of ATS

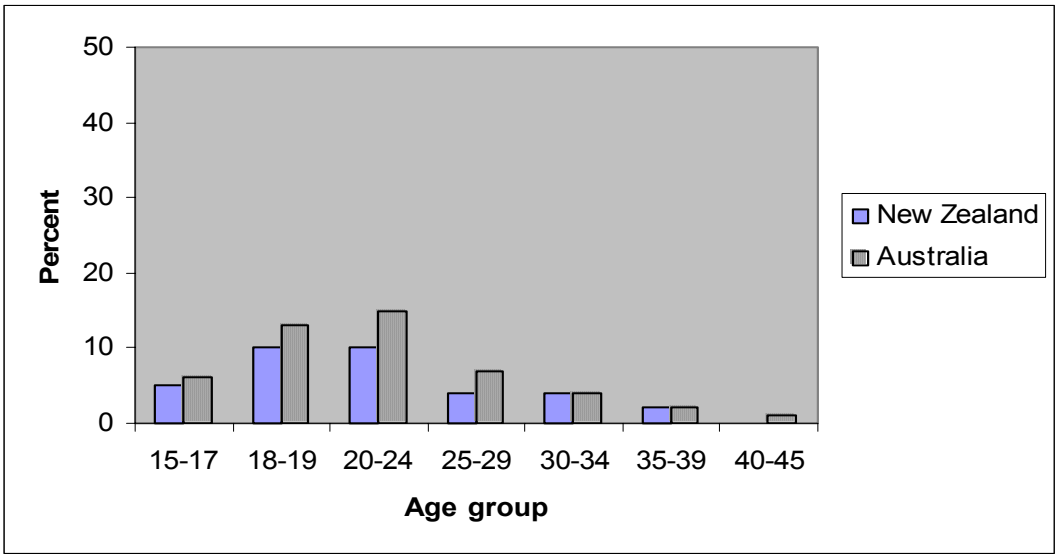
Six percent of New Zealanders, compared to 8% of Australians aged 15-45, had used an ATS drug in the last year. Again Australian levels are higher than New Zealand but less so among men. Eight percent of New Zealand men, compared to 9% of Australian men, had used an ATS drug in the last year. The differences between the countries become even closer when the last year use of ATS by men is examine by age group (Figure 3.3). Within the 15-17 year old age group, more New Zealand than Australian men had used ATS in the last year (6% vs. 4%). Levels of ATS use were identical between the two countries in the 18-19 age group.

Figure 3.3: Proportion of males used an ATS drug in the last year in New Zealand and Australia by age



Among females, New Zealand women more clearly had lower levels of last year use than Australian women, except in the youngest age group (Figure 3.4).

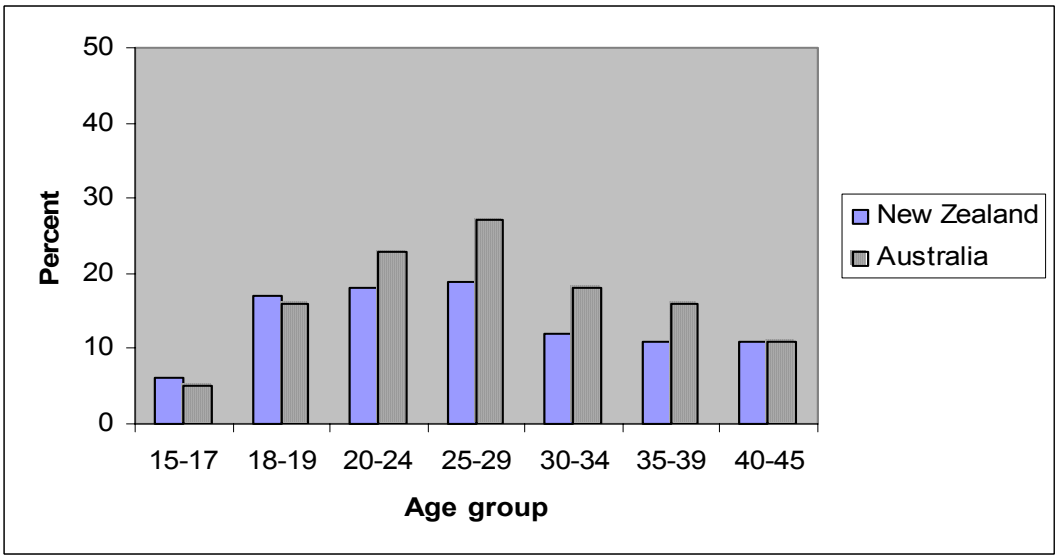
Figure 3.4: Proportion of females used an ATS drug in the last year in New Zealand and Australia by age



Ever tried amphetamine

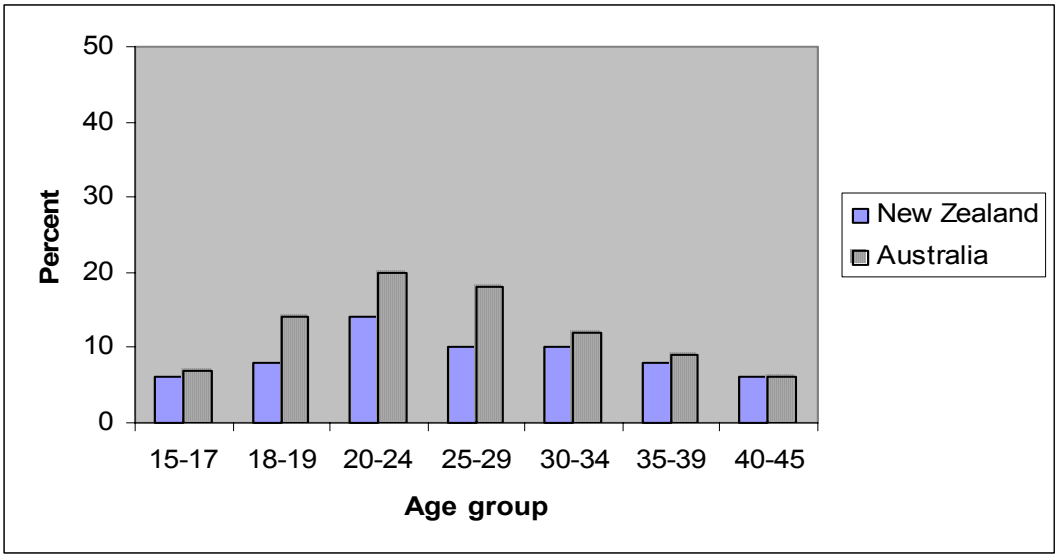
Ten percent of New Zealanders aged 15-45, compared to 14% of Australians aged 15-45, had ever tried amphetamine. More men than women in both countries had ever tried this drug. Twelve percent of men in New Zealand, compared to 17% of men in Australia, had tried amphetamine. For women, 8% of New Zealanders compared to 12% Australians had tried amphetamine. Figures 3.5 and 3.6 compare the ever used ATS levels of males and females between New Zealand and Australia by age group. Among 15-17 and 18-19 year olds, slightly more New Zealand than Australian men had tried amphetamine.

Figure 3.5: Proportion of males ever tried amphetamine in New Zealand and Australia by age



Consistently lower proportions of New Zealand women than Australian women had tried amphetamine (Figure 3.6).

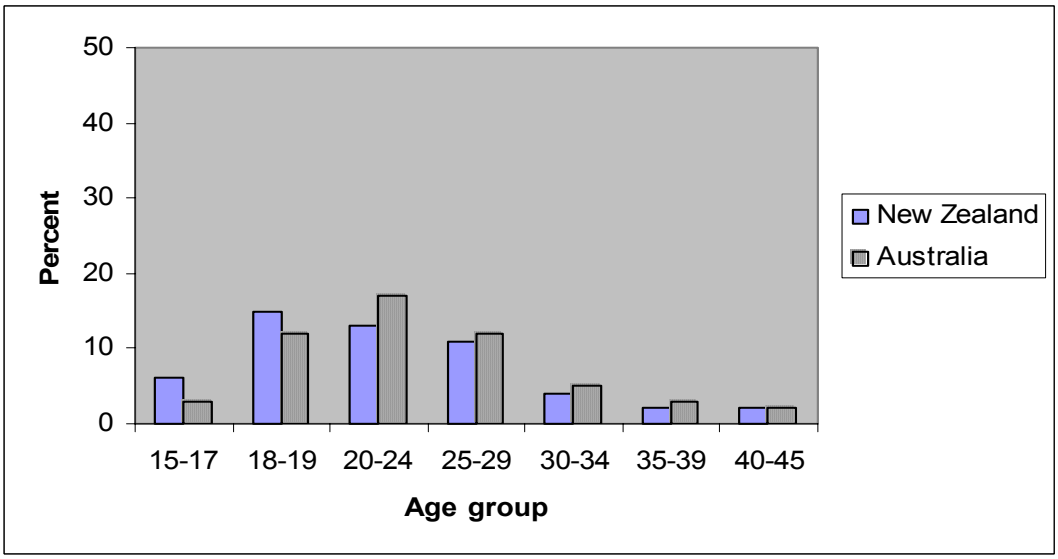
Figure 3.6: Proportion of females ever tried amphetamine in New Zealand and Australia by age



Last year use of Amphetamine

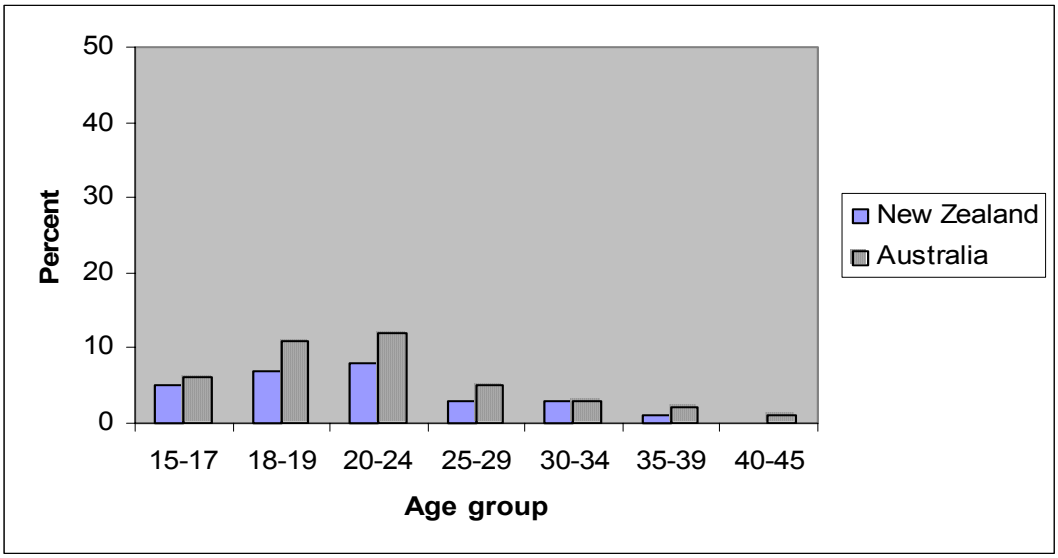
Five percent of New Zealanders, compared to six percent of Australians aged 15-45, had used amphetamine in the last year. Last year use among men in New Zealand was fairly similar to Australia (6% vs. 7%). Last year use of amphetamine by women in New Zealand was lower than in Australia (3% vs. 5%). When the last year use of amphetamine by men is examined by age group, higher levels of use are found among 15-17 year olds and 18-19 year olds in New Zealand than Australia (Figure 3.7).

Figure 3.7: Proportion of males used amphetamine in the last year in New Zealand and Australia by age



Last year use of amphetamine by women by age group shows consistently lower levels of use in New Zealand than Australia (Figure 3.8).

Figure 3.8: Proportion of females used amphetamine in the last year in New Zealand and Australia by age



Ever tried ecstasy

Five percent of New Zealanders aged 15-45, compared to 10% of Australians aged 15-45, had ever tried ecstasy. Ecstasy use was lower in New Zealand than Australia in every age group for both males and females (Figures 3.9 and 3.10).

Figure 3.9: Proportion of males ever tried ecstasy in New Zealand and Australia by age

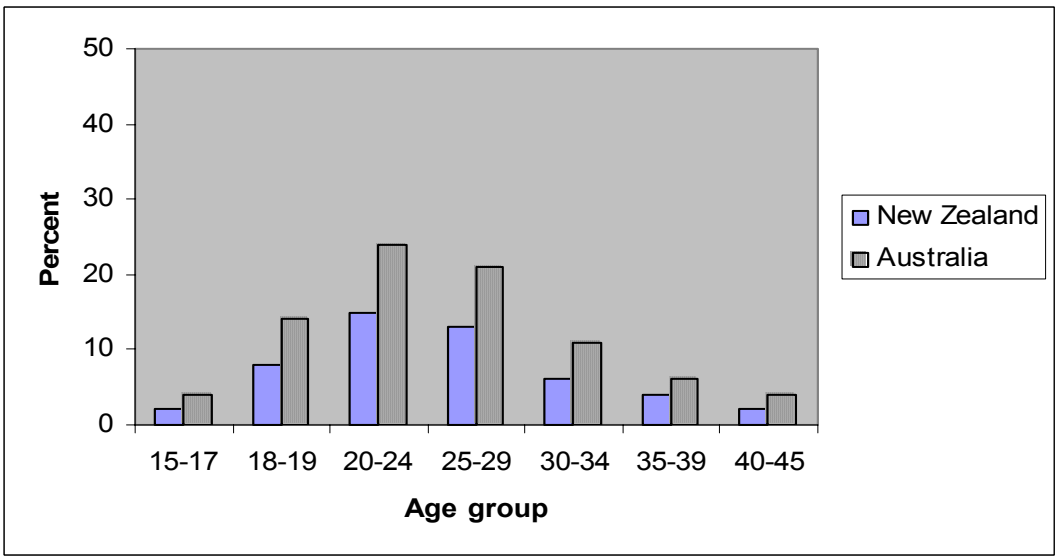
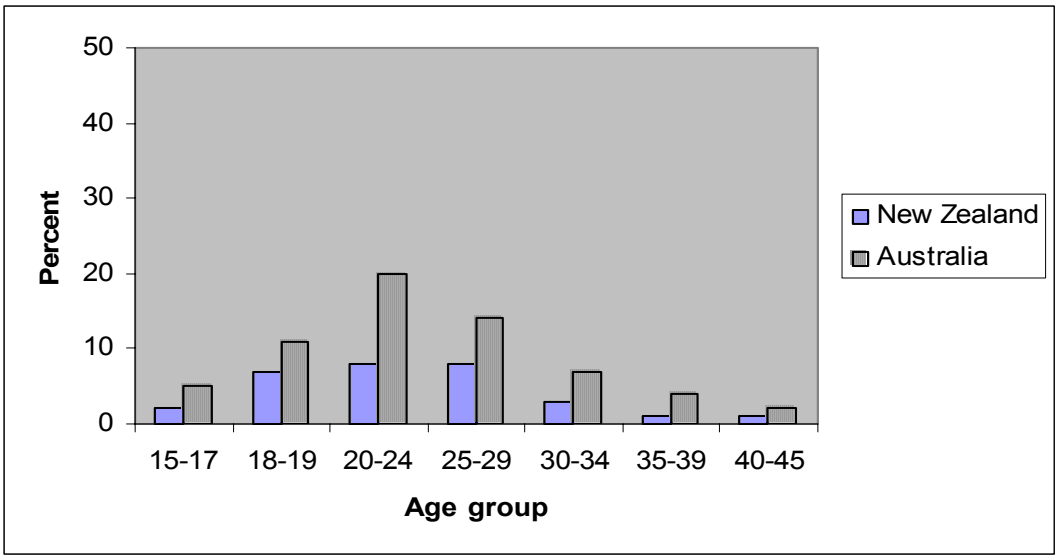


Figure 3.10: Proportion of females ever tried ecstasy in New Zealand and Australia by age



Last year use of ecstasy

Three percent of New Zealanders aged 15-45, compared to five percent of Australians aged 15-45, had used ecstasy in the last year. In both countries, men had higher levels of last year use of ecstasy than women. Last year use of ecstasy for men, broken down by age group shows levels in Australia were consistently higher than in New Zealand across all age groups. A similar pattern of higher last year use among women in Australia, compared to New Zealand, is also evident in nearly all age groups.

Figure 3.11: Proportion of males used ecstasy in the last year in New Zealand and Australia by age

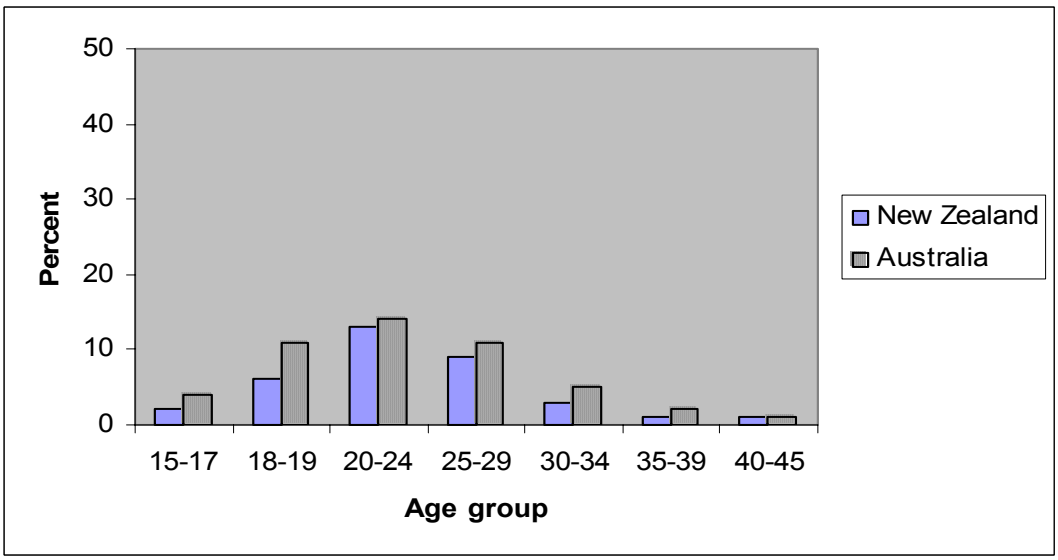
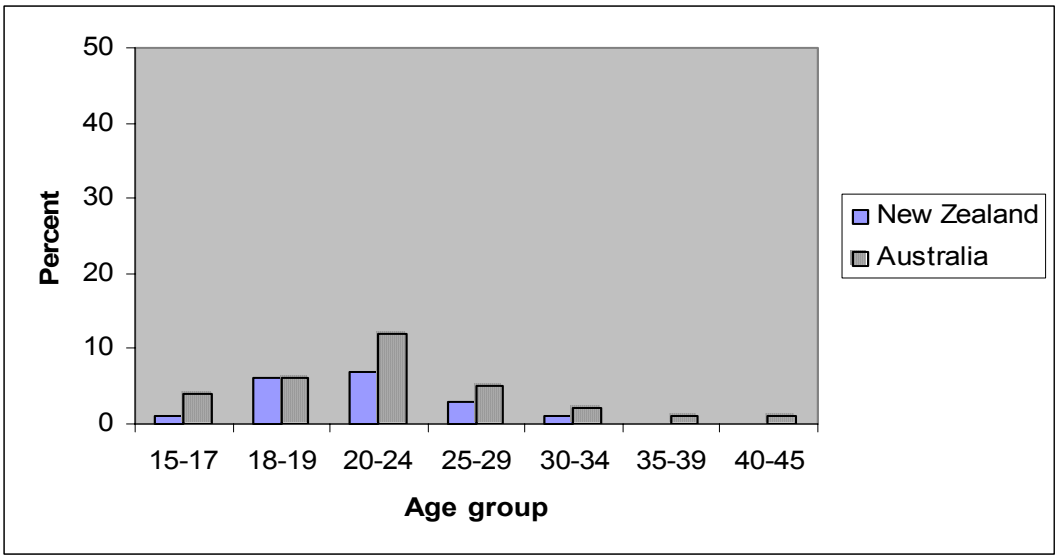


Figure 3.12: Proportion of females used ecstasy in the last year in New Zealand and Australia by age



Conclusions

Overall ATS use appeared to be slightly lower in New Zealand than in Australia. The lower proportion of the population who had ever tried an ATS drug in New Zealand, compared to Australia, may reflect the relatively recent widespread use of ATS drugs in New Zealand. Once last year use was examined, the level of use between the two countries became much closer. This appears to be largely due to the similar levels of amphetamine, rather than ecstasy, use in New Zealand compared to Australia. In the younger age groups, New Zealand appeared to have higher levels of amphetamine use than Australia. This result should be tested statistically to confirm that the difference is real and not just due to sample variation. Levels of ecstasy use were more clearly lower in New Zealand than Australia.

Chapter 4: The dollar value and seizure rates of the illicit markets for ecstasy and amphetamine in New Zealand

Introduction

This chapter estimates the dollar value and seizure rates for the illicit markets for amphetamine and ecstasy in New Zealand. These calculations are made using new data on amphetamine and ecstasy purchase, collected for the first time in the 2001 New Zealand National Drug Survey. Understanding the dollar value of the ATS market in New Zealand is important as the profit which can be earned from ATS drug types has been identified as a principal factor in the global spread of these drug types (Klee, 2001, United Nations Drug Control Programme, 2001). The gross profit margins available from the manufacture and trafficking of methamphetamine and ecstasy have been shown to exceed those of cocaine and heroin in a number of countries (Pietschmann, 1997). It is the pursuit of these profits which motivates international drug smugglers and local drug manufacturers and drug dealers to traffic in these drug types. High profits from the sale of an illicit drug also draw in others from the general criminal fraternity and population to manufacture and supply the drug, which further fuels the spread of the drug through the community.

The role that the income from illicit markets is likely to be playing in the development and entrenchment of organised crime in New Zealand provides the second reason for examining the dollar value of ATS markets.. New Zealand Outlaw Motorcycle Gangs (OMG), with affiliations with criminal networks overseas, are thought to have played a leading role in the establishment of the domestic manufacture of methamphetamine in New Zealand (Horne, 1997, New Zealand Police, 2002, Australian Bureau of Criminal Intelligence, 2001). While these groups may no longer hold a complete monopoly over the manufacture and trade in methamphetamine, they remain dominant suppliers (see Chapter 7). The scale of illegal income available to organised criminal groups has important implications for the extent and scope of their activities (Caulkins, 1994, Caulkins and Reuter, 1996, Reuter and Kleiman, 1986). Illegal income enhances a group's ability to insulate itself from enforcement pressure, raises the group's prestige, thereby enhancing its ability to attract new members, and provides the monetary funds necessary to seek to influence and corrupt governance agencies and

processes (Caulkins, 1994, Caulkins and Reuter, 1996, Reuter and Kleiman, 1986). It follows that robust estimates of the dollar value of the illicit drug markets, in which organised criminal groups are involved, provide valuable intelligence concerning the threat these groups may pose.

Estimates of the dollar value of the illicit trade in ATS drugs also illustrate the general impact the trade in these drug types is having on local communities and the country as a whole (Caulkins, 1994, Caulkins and Reuter, 1996, Reuter and Kleiman, 1986). These estimates can also be used to calculate the financial burden that the use of ATS drugs is having on users and their dependants, and the level of acquisitive crime which may be committed by users to obtain money to support use.

Seizure rates provide a broad measure of how successful the authorities have been in disrupting the supply of an illicit drug (Wilkins et al., 2002a). While seizure rates are neither a perfect nor complete measure of enforcement effectiveness, they are an improvement on relying on total quantities of a drug seized. Seizure rates indicate the percentage of the entire supply of a drug intercepted by the authorities. The calculations of seizure rates require robust estimates of the total quantity of a drug supplied and these estimates are calculated here.

Method

The 2001 National Drug Survey interviewed approximately 5,800 people aged 13-45 nationwide about their drug use, using a Computer Assisted Telephone Interview (CATI) system. Each telephone number was tried at least ten times at different dates and times in an effort to reach those seldom at home. One respondent was chosen at random from each selected household. Respondents were informed that the study was being conducted on behalf of the Ministry of Health and that everything they said would be confidential and their individual details not be used. The response rate of the survey was 80%. Further details of the methodology have been reported elsewhere (Wilkins et al., 2004a).

The 2001 National Drug Survey included expanded sections on amphetamines and ecstasy. Those who had used amphetamine or ecstasy in the last year were asked how much they spent on these drugs on a typical occasion and how much of the drug they could purchase for that amount. This data allowed the calculation of the price paid per pill of ecstasy or per gram of amphetamine. New questions were also asked about the quantity of these drugs used on a typical occasion. Coded responses for the quantity of amphetamine used were provided in

grams of amphetamine, with conversion amounts for the equivalent in 'lines' of powder or 'points' of crystallised amphetamine (1/10 th gram). Respondents could also indicate if they only used 'pills/tablets' or 'liquid' amphetamine. For ecstasy, coded responses for the amount used were provided in number of pills down to 1/5 th of a pill. The purchase of fractions of pills described situations where a group of users had pooled their money to purchase a single pill of ecstasy and then shared it. Respondents could also indicate if they only used 'powder' ecstasy.

To calculate the market estimate for amphetamine and ecstasy we multiplied the quantity of the drug consumed by the price paid, for each last year consumer. The total quantity consumed per user was calculated by multiplying the quantity used per typical occasion by the number of times that drug was used in the last year[1]. This was multiplied by the price paid per pill or gram to estimate the dollar amount spent during the last year. Ideally, these dollar amounts would then be totalled across the sample to estimate the total dollar value of the market.

However, some users reported receiving their drugs for free (27 last year ecstasy users and 121 last year amphetamine users), and the amount spent (by them or by other people) to purchase the drugs they consumed could not be calculated directly. A substantial proportion of users 'did not know' or 'refused' to state the amount they typically purchased, the price paid, or the amount consumed. At least one of these variables was missing for 13 last year ecstasy users and 97 last year amphetamine users. In total, 155 of the 265 last year amphetamine users and 29 of the 178 last year ecstasy users did not provide sufficient information to directly calculate the amount spent on the drugs they consume. If these users were omitted from our calculations, the sample size would be substantially reduced, making the results less reliable. There could also be significant bias due to possible differences in drug usage and expenditure between these users and other last year users. Additional steps were therefore required to incorporate these users into the market calculations.

These difficulties were handled by generating plausible values for the missing data values based on a statistical process known as imputation. The imputation technique used here was

[1] The number of times a drug was used in the last year was recorded in ranges such as "20-39 times". For very heavy users, it would be recorded as the number of times a day (e.g. "2 times a day", "3 times a day", "More than 3 times a day"), but there were no such users in this sample. The midpoint of each range was used in these calculations.

multiple imputation[2]. This technique involves imputing multiple values for each missing value. It increases the reliability of the results, and can reduce the bias and enable the calculation of sampling errors that account for the imputation process. Imputation was conducted separately for each of the component variables, as described below.

When a user reported receiving drugs for free or the price paid per pill/gram was missing, the price paid per pill/gram was imputed based on a regression model for the logarithm of this quantity, with age by gender and the logarithm of the amount typically paid (when available) as predictor variables. When the quantity consumed over the last year was missing, it was imputed based on a regression model for the logarithm of the quantity consumed with the logarithm of the number of times the drug was used in the last year as a predictor variable. One hundred imputed values were generated for each missing value.

The total quantity used during the last year and the price paid per pill or gram in the imputed datasets were multiplied together to predict the amount spent on the drugs consumed during the last year. These amounts were then totalled across the sample, taking respondent weights into account (survey weights are needed to adjust for the selection of one respondent from each household). Because the survey weights add to the sample size, the total was multiplied by the ratio of population to sample size (1906000/5782), to calculate an estimate of the market size for each imputed dataset. The estimate of the market size (unadjusted for underestimation of drug use) was the average of these estimates. Rubin's (1987) standard combining rules were used to calculate variances and 95% confidence intervals for this estimate.

The level of survey underestimation of drug use in the National Drug Survey has previously been approximated to be 10%-30% (Wilkins et al., 2002c). This was based on a comparison of the findings from the National Drug Survey, concerning the last year prevalence of cannabis use, with the last year prevalence of cannabis use found by two New Zealand longitudinal surveys of city birth cohorts (Poulton et al., 1997, Fergusson and Horwood, 2000). A middle level of the approximated survey underestimation of 20% was used to produce the main estimates reported. The figures produced are therefore middle level estimates. Unadjusted figures are also presented to allow the application of alternative underreporting scenarios.

[2] Multiple imputation was developed by Rubin (1987). The imputed values used here were generated based on parameter values drawn from the asymptotic distribution of the maximum likelihood estimates, an asymptotically proper imputation method described by Little and Rubin (2002).

The seizure rate is calculated by dividing the amount of a drug seized divided by total amount of the drug supplied. The total amount supplied is the sum of the amount seized plus the amount not detected. The amount not detected is the quantity sold and consumed and subsequently reported in the survey.

Analysis

As many of the distributions were highly positively skewed, the median and mode as well as the mean results are reported. When distributions are greatly skewed the median result is the best representation of the typical user. The range of some variables is also reported; this does not include imputed values. Appropriate weights were applied throughout the analysis to account for the sample design, and in particular the selection of one respondent per household.

Results

Prevalence

Five percent of the sample (3.9, 5.6) had used amphetamines in the last year and 3.2% (2.5, 3.9) had used ecstasy in the last year.

Frequency consumed in previous year

The frequency of amphetamine use in the last year ranged from 1 to 355 times. The frequency of ecstasy use in the last year ranged from 1 to 155 times. Both frequency distributions were positively skewed. The mean frequency of amphetamine use in the last year was 10.1 times (median 1.5 times, mode 1.5 times). The mean frequency of ecstasy use in the last year was 6.9 times (median 1.5 times, mode 1.5 times).

Typical quantity consumed

The quantity of amphetamine used on a typical occasion ranged from 0.1 to 4.5 grams. The mean quantity of amphetamine used on a typical occasion was 0.3 grams (median 0.2 grams, mode 0.1 of a gram).

The number of ecstasy pills used on a typical occasion ranged from 0.25 of a pill to 4 pills. The mean number of ecstasy pills taken on a typical occasion was 1.1 (median 1, mode 1 pill).

Consumption per user

The total amount of amphetamine and ecstasy consumed in the last year by the sample was 27,416 grams and 65,054 pills respectively. The distributions of amphetamine and ecstasy consumption per user in the last year were both positively skewed. The mean amount of amphetamine consumed per user in the last year was 4.7 grams (median 0.6, mode 0.2, range 0.2-354.5 grams). The mean quantity of ecstasy consumed per user in the last year was 11.3 pills (median 1.5, mode 1.5, range 0.4-618 pills).

Total consumption

The total amount of amphetamine consumed by the population was 429,000 grams (225,000-632,000 grams). Adjusting for a middle level of survey underestimation this increases to 536,250 grams (281,250-790,000 grams). The total amount of ecstasy consumed by the population was 695,000 pills (289,000-1,102,000 pills). Adjusting for a middle level of survey underestimation, this increases to 868,750 ecstasy pills (361,250-1,377,500 pills).

Prices paid

Table 4.1 summarises the prices paid for a gram of amphetamine broken down by the quantity of amphetamine purchased. The median price is the best representation of what a typical buyer paid for amphetamine. The average prices are affected by outliers where buyers have reported extreme prices.

Table 4.1: Prices paid for amphetamine by weight purchased

Total grams of amphetamine purchased	Median ($)	Mode ($)	Mean ($)	Lower 95% CI ($)	Upper 95% CI ($)
All purchases	145.86	150	245.25	193.15	297.34
Less than one gram	148.44	150	260.954	201.90	320.01
One gram	142.40	150	172.307	0	411.52
More than one gram	132.06	-	169.435	0	399.56

Table 4.2 summarises the prices paid for a pill of ecstasy broken down by the number of pills purchased. Again, the median price is the best representation of what a typical buyer paid for ecstasy.

Table 4.2: Prices paid for ecstasy by quantity purchased ($NZ)

Total number of pills purchased	Median ($)	Mode ($)	Mean ($)	Lower 95% CI ($)	Upper 95% CI ($)
All purchases	70.05	80	77.71	66.92	88.49
Less than one pill	79.63	80	75.35	61.12	89.57
One pill	71.90	80	83.23	66.68	99.77
More than one pill	59.43	50	59.70	49.77	69.63

Market estimates

The unadjusted total annual dollar value of the retail amphetamine market was $98.0 million dollars ($32.2-$193.9 million). The unadjusted total annual dollar value of the retail ecstasy market was $36.6 million dollars ($23.7-$49.4 million). Adjusting for a middle level of survey underestimation the total annual dollar value of the retail markets for amphetamine and ecstasy increase to $122.5 million ($40.25-242.4 million) and $45.8 million ($29.6-$61.8 million) respectively.

Expenditures by users

The distributions of the dollar amounts spent on amphetamine and ecstasy consumed per user in the previous year were both positively skewed. The mean dollar amount spent on amphetamine in the previous year was $1085 (median $96, mode $45, range $72-$35,450). The mean amount spent on ecstasy in the previous year was $592 (median $120, mode $120, range $22.5-$6,195).

Seizure rates

In 2001, the authorities seized 19.9 kilograms or 19,900 grams of amphetamine. The total amount of amphetamine supplied in 2001 was 556,150 grams which calculates to a seizure rate of 4% (2%-7%). For ecstasy, the authorities seized 73,000 ecstasy pills in 2001. The total amount of ecstasy supplied in 2001 was 941,750 pills, yielding a seizure rate of 8% (5%-17%).

Conclusions

The estimates of the dollar value of the illicit markets for amphetamine and ecstasy calculated here suggest the combined value of these markets, approximately $168.3 million, approach the dollar value of the entire illicit market for cannabis in New Zealand. The value of the illicit market for cannabis has previously been estimated at $168.9 million in 1998, using a similar methodology as here and data from the 1998 National Drug Survey. The last year prevalence of cannabis use did not change in 2001 compared to 1998 (20% in both waves) and so it is reasonable to believe that the 1998 cannabis market estimate will approximate the value of the cannabis market in 2001. The illicit markets for amphetamine and ecstasy therefore represent substantial new sources of illegal revenue for criminal groups involved in the sale of these illicit drug types. The revenue from the ATS drug types may have effectively doubled the total illegal revenue available from the sale of illicit drugs in New Zealand in less than ten years. In the case of the locally manufactured amphetamine, the proceeds of this trade are likely to be concentrated within a small number of gangs who were instrumental in introducing the manufacture of this drug from overseas.

The seizure rates calculated for amphetamine and ecstasy indicate the authorities are seizing less than 10% of the trade in both drugs. This finding is unlikely to surprise the officers involved in this work. However, several interesting points can be drawn from the seizure calculations. The first is that the seizure rate for ecstasy is approximately double that achieved for amphetamine. Amphetamine is largely produced locally in New Zealand, while it is believed that ecstasy is entirely smuggled into the country from overseas. This result therefore appears to confirm that New Zealand's border controls still pose a difficulty to international drug traffickers. The comparison of the seizure rates of amphetamine and ecstasy is not a measure of the relative efficiency of Customs versus Police but rather it reflects natural differences between the two types of drug enforcement. Customs may face the slightly easier task as their drug enforcement efforts are conducted in a structured institutional environment (i.e. border entry points), while Police faces the more difficult task of locating drug manufacturers in the wider community. This understanding requires further investigation. The central conclusion that should be drawn from the relative seizure rates is that illicit drugs manufactured locally in New Zealand are more difficult to combat, when compared to the drug types which must be smuggled across the border.

The seizures rates for ATS drugs also appear lower than the seizure rate which has previously been calculated for the cannabis crop eradication operation. The seizure rate for the cannabis

crop eradication programme was calculated to be 26-31% using data from the 1998 National Drug Survey (Wilkins et al., 2002a). The probable reasons for the high seizure rate achieved by the cannabis crop eradication operation are relevant, when considering the case of ATS drug types. The reasons cited for the success of the cannabis crop eradication operation include the bulky and visible nature of cannabis plants and plantations compared to powder drugs, and the concentration of cannabis cultivation in known areas of the country such as Northland and the Bay of Plenty (Wilkins et al., 2002a). Amphetamine can be manufactured anywhere in the country, and its manufacture and the drugs themselves are easily concealed within buildings and cars, making this drug more difficult to detect and combat in comparison with cannabis.

Chapter 5: A survey of frequent methamphetamine users in Auckland

Introduction

It is widely accepted that population household drug surveys are likely to under-estimate the true level of drug use to some extent. This is largely due to the difficulties of reaching frequent drug users, who may be living particularly erratic lifestyles or not living at any permanent fixed abode. Studying frequent drug users is informative as they are more likely to experience problems from their drug use, be involved in the manufacture and sale of illicit drugs, and to recruit others to drug use through example and social networking (Kleiman, 1992). Frequent drug users therefore tend to be sentinel populations in regard to the problems related to the use of a drug, the characteristics of the illicit market for the drug, and perceptions of the drug.

This chapter presents findings of a study of frequent methamphetamine users in the Auckland area. The aim of the study was to collect detailed data on use patterns, means of administration, perceptions, harms and the black market for methampehtamine in Auckland. The focus of the study was on methamphetamine as it is the ATS drug type most commonly associated with violence, anti-social behaviour and mental health problems in New Zealand.

Method

The sample of frequent methamphetamine users was recruited using purposive sampling and snowballing in the Auckland area. A range of start points for recruitment were generated from profiles of different types of methamphetamine users and the places and venues they were likely to visit in the central Auckland area. The criteria used to select people were use of methamphetamine at least monthly over the last six months and residence in the Auckland region for at least the last six months. Study participants were recruited through the use of flyers and posters placed in bars, clubs, cafes, music shops, gyms and at events methamphetamine users were likely to attend. Large posters were placed in public spaces where music and youth events are advertised. Those interested in participating in the study were asked to call the advertised free 0800 number and arrange to meet an interviewer for a

face-to-face interview in a public space or venue of their choosing, such as a café. Participants were screened for eligibility and provided with information about the study and participation during this initial telephone enquiry. Those interviewed were provided with an information sheet which they could take away with them. All participants were given a $20 food or music voucher to compensate them for their time. The interviews were conducted from late December 2003 to early March 2004. Fifty-three interviews were successfully completed during the study, achieving a response rate[3] of 69%.

Results

Demographics

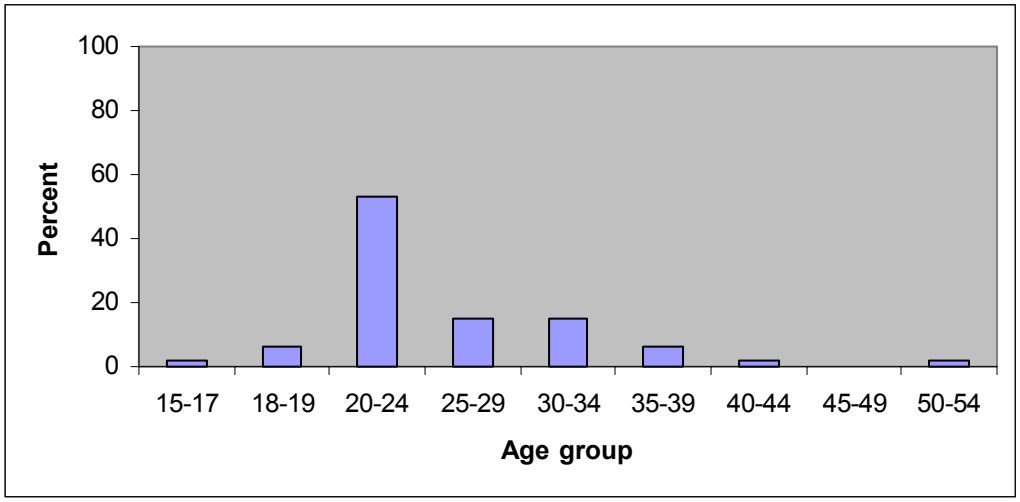
Gender

Seventy-four percent of the sample was male.

Age

The age range of the sample ranged from 15-54 years (Figure 5.1). Fifty three percent of the sample was aged 20-24. The average age was 26 years.

Figure 5.1: Age of frequent methamphetamine users

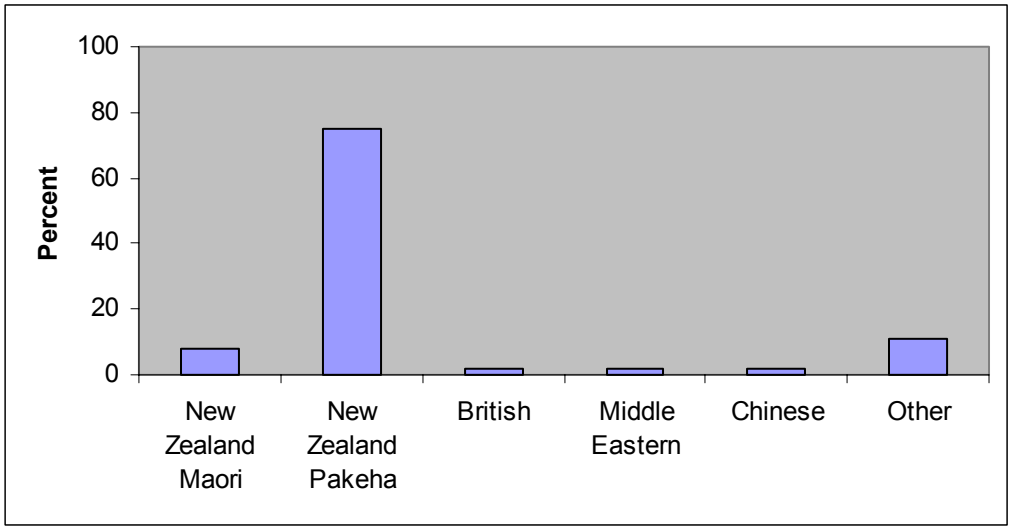


[3] The response rate refers to the proportion of the respondents who initially contacted the interviewers by phone with an enquiry who went on to complete a face-to-face interview. A telephone enquiry may not result in a completed interview for a number of reasons. The respondent may have concerns about confidentiality, may not want to be interviewed face-to-face in public or may not to turn up to the pre-arranged venue.

Ethnicity

The ethnicity of the sample is presented in Figure 5.2. Seventy-five percent were European and eight percent were Maori.

Figure 5.2: Ethnicity of frequent methamphetamine users



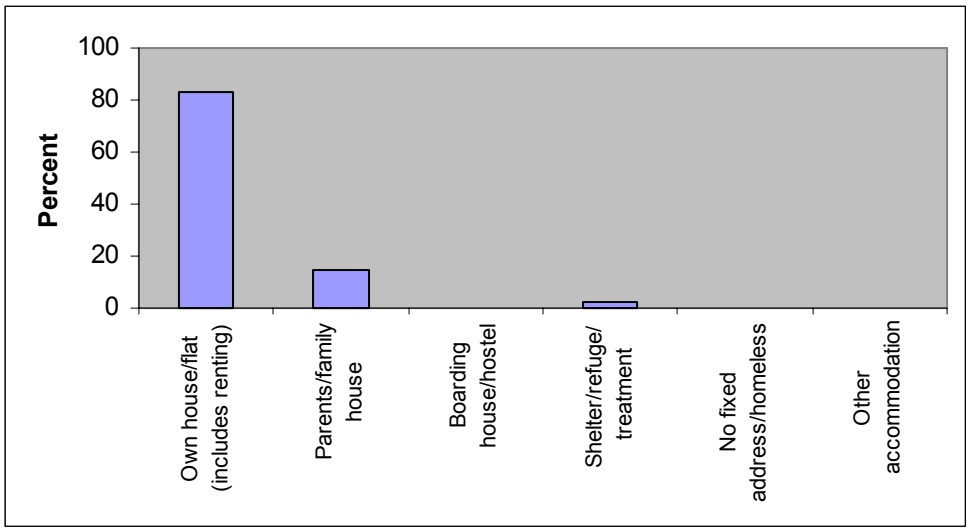
Marital status

Fifty-one percent of the frequent methamphetamine users were single. Thirty percent were living with a partner (i.e. married or defacto) and 19% had lived previously with a partner (i.e. were widowed, divorced or separated).

Accommodation

Participants were asked to describe the type of accommodation they were currently living in. Nearly all the sample appeared to have stable accommodation, with none describing themselves as homeless and only 2% living in a shelter or refuge (Figure 5.3).

Figure 5.3: Accommodation of frequent methamphetamine users



Sexual identity

Eighty-four percent of the sample identified as heterosexual. Ten percent identified as bisexual, 4% as a gay male and 2% as lesbian female.

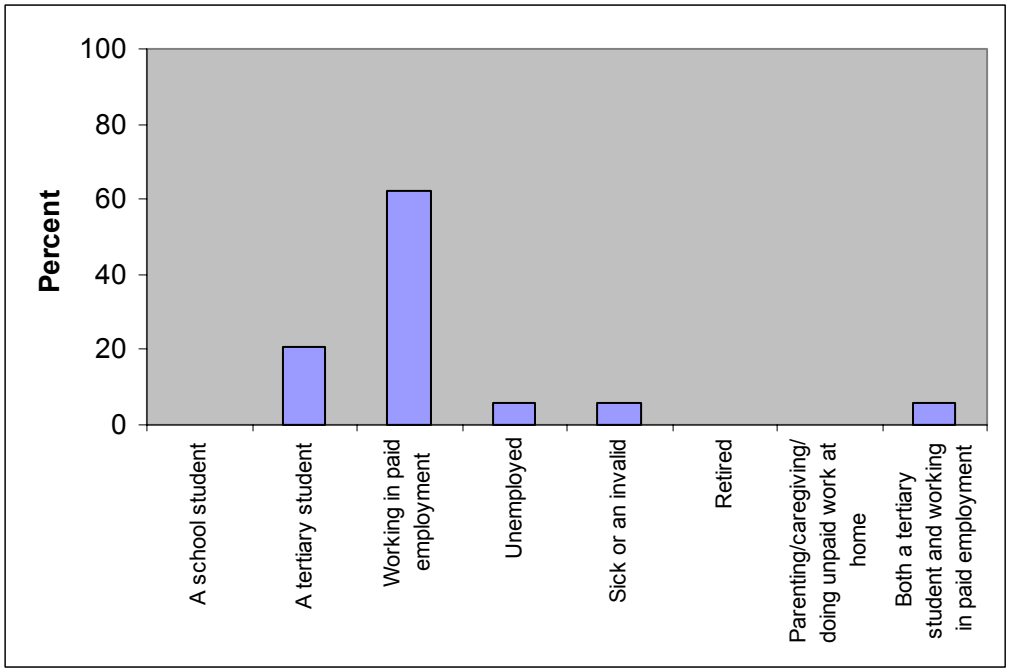
Education

Seventeen percent of the sample had no secondary school qualifications. Thirteen percent had school certificate as their highest secondary school qualification.

Employment status

Sixty-two percent of the frequent methamphetamine users were in paid employment (Figure 5.4). Twenty-seven percent were tertiary students (either solely tertiary or tertiary and working).

Figure 5.4: Employment status of frequent methamphetamine users



Occupation

Table 5.1 presents the occupations of the sample. Participants came from a broad range of occupations. Thirty-eight percent were in clerical/sales positions and 15% were professionals with either a university or other tertiary qualification.

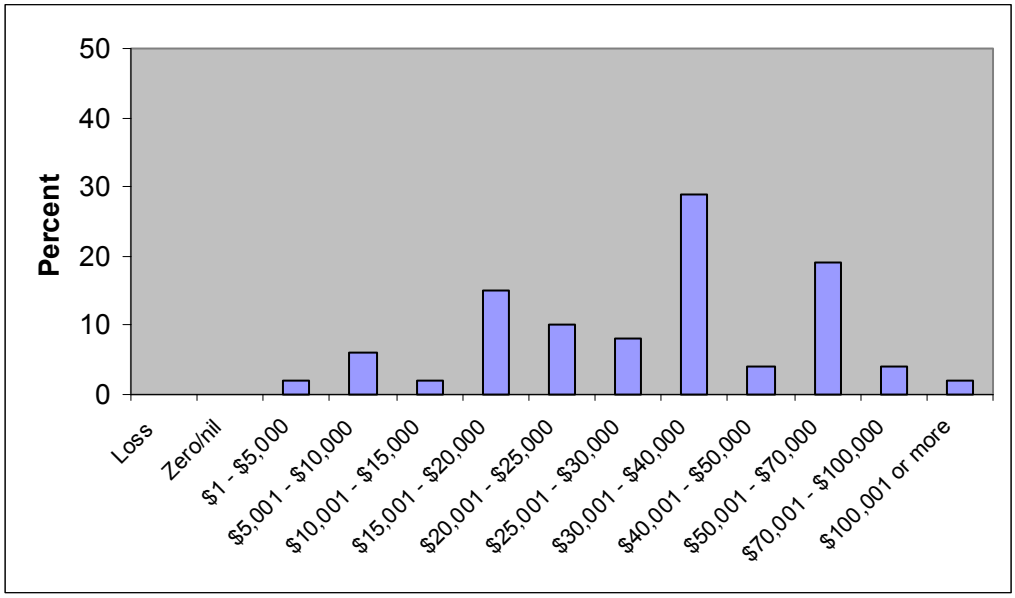
Table 5.1: Occupation of frequent methamphetamine users

Occupation	%
Professional with university qualification	13
Professional with other tertiary qualification	2
Director	4
Managerial	2
Clerical/sales/ service	38
Craftsman/skilled tradesman	9
Manual worker/labourer	4
Full time homemaker	0
Pensioner/retired	0
Student	9
Beneficiary/ unemployed	6
Sex worker	2
Clerical/sales/service and student	2
Other	9
Total	100

Income

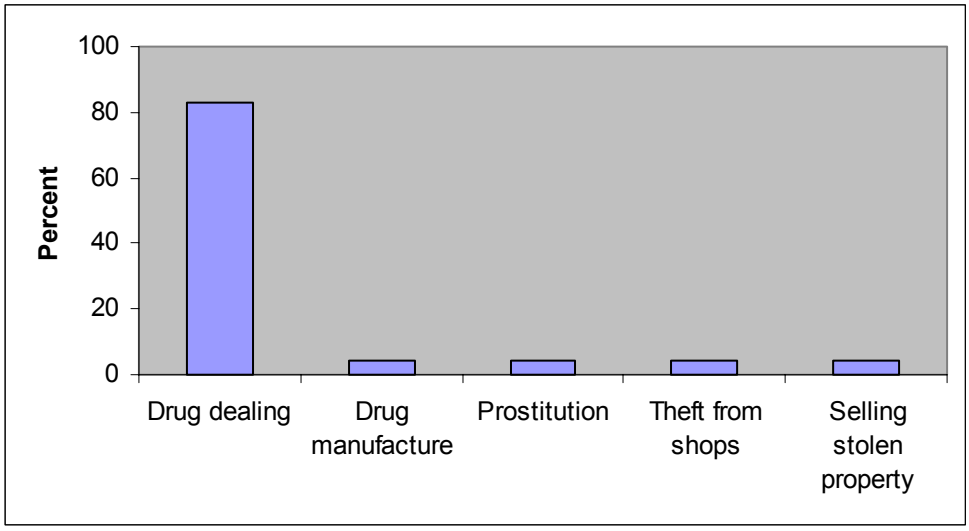
Participants were asked how much gross personal income they had earned in the last year from both legal and illegal sources. Figure 5.5 presents the results. A quarter of frequent methamphetamine users earned $20,000 or less in the previous year. Twenty-five percent earned $50,000 or more with 6% earning $70,000 or more.

Figure 5.5: Income of frequent methamphetamine users



Forty-three percent of the frequent methamphetamine users had earned income from illegal sources in the last year. Figure 5.6 presents the type of illegal activities, with which the methamphetamine users reported being involved. Drug dealing was by far the most common source of illegal income, with 83% of frequent methamphetamine users deriving income from selling illicit substances in the previous year.

Figure 5.6: Types of illegal activities methamphetamine users reported involved in



The dollar amounts reported earned from illegal sources ranged from $1,000-$150,000 (average $23,609).

Drug treatment

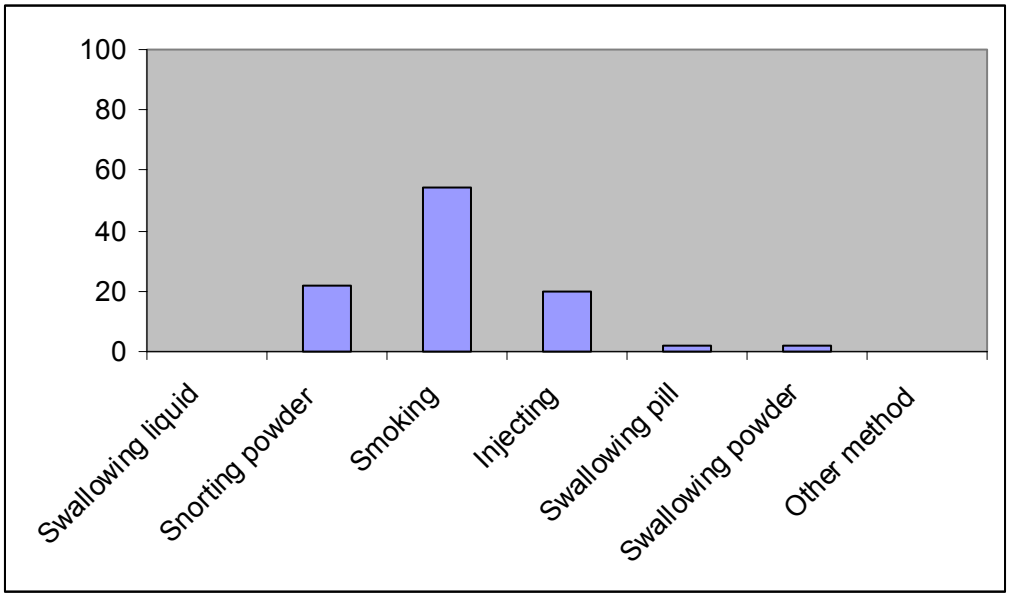
Seventeen percent of the respondents were currently in some form of drug treatment. The length of time they had been in drug treatment ranged from 2 to 104 weeks (average 65 weeks).

Patterns of use

Mode of administration

Respondents were asked how they mostly took methamphetamine. Figure 5.7 presents the average percentages for each mode of administration for the sample. Smoking methamphetamine was the common mode of administration (54%) followed by 'snorting' (22%) and 'injecting' the drug (20%).

Figure 5.7: Mode of administration of methamphetamine



Type of methamphetamine used

Respondents were asked whether they typically used 'pure' or 'powder' methamphetamine. Sixty-eight percent of the sample reported using 'pure' and 32% 'powder'.

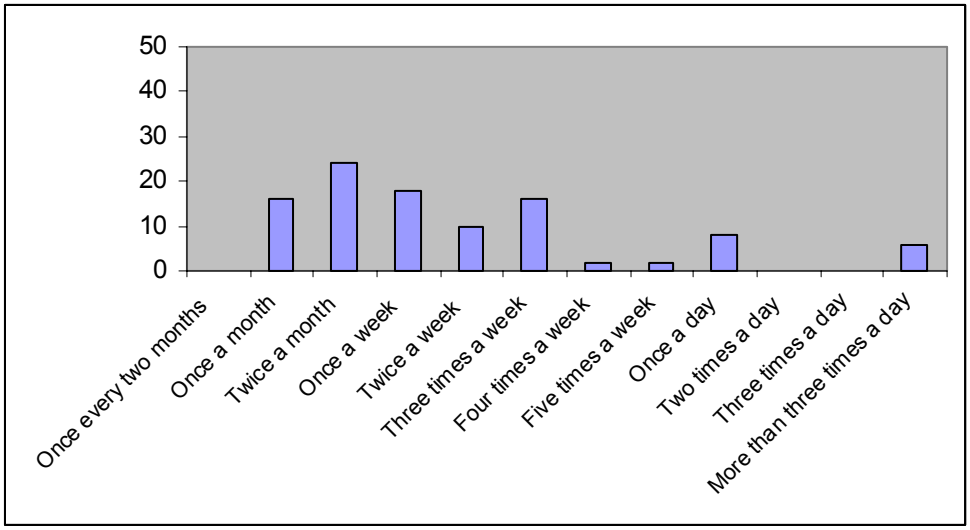
Number of months used

Respondents were asked how long they had been using methamphetamine. The frequent users had been using methamphetamine for an average 72 months, or approximately 6 years. The length of time using ranged from 6 to 348 months.

Frequency of use

The most common frequencies of use were 'twice a month' (24%) and 'once a week' (18%). Sixty percent of the sample had used methamphetamine once a week or more frequently (Figure 5.8). Fourteen percent used methamphetamine daily or more frequently.

Figure 5.8: Frequency of methamphetamine use in last six months



Quantity used

Respondents were asked how much methamphetamine they would use on a typical occasion. Respondents could answer in grams, points or tablets depending on the form of methamphetamine used. Those using grams had used an average of 0.57 grams of methamphetamine on a typical occasion. Those using points had used an average of 1 point on a typical occasion and those using pills had used an average of 1 tablet on a typical occasion.

Respondents were asked, what is the most methamphetamine they have taken in one session. The average largest amounts taken for the sample were 1.2 grams, 2.2 points and 4.7 tablets.

Binge use

Respondents were asked how many times they had used methamphetamine continuously for 48 hours or more, in the last six months. Sixty-five percent of the frequent methamphetamine users had done so. The average number of times they had used methamphetamine continuously for 48 hours or more in the last six months was ten (approximately once every fortnight). The range was 1-30 times.

Respondents were asked about the longest methamphetamine binge they had gone on in the last six months. The average was 81 hours or just over three days. The length of the longest binge ranged from 4 to 480 hours (or 20 days).

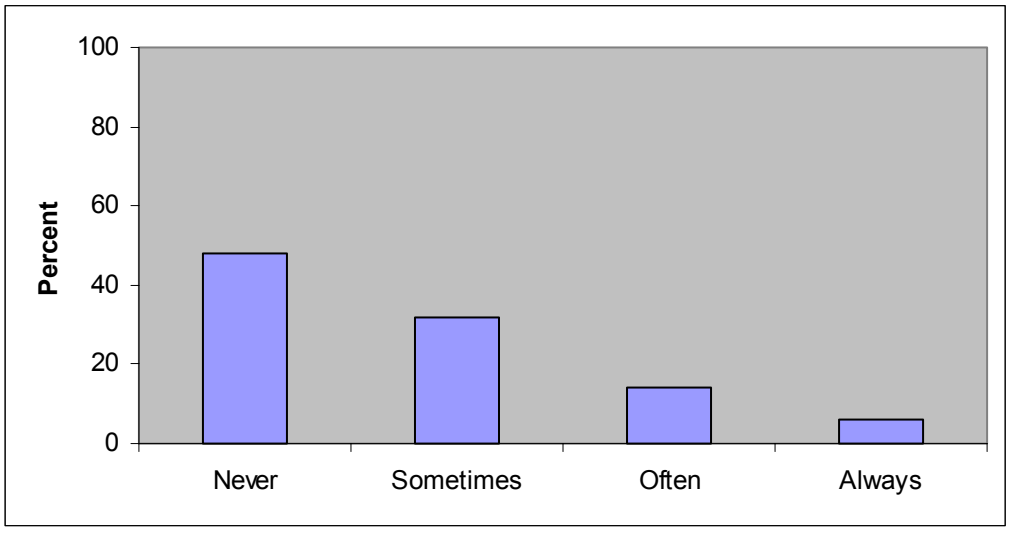
Intravenous use

Thirty-one percent of the sample had injected methamphetamine in their lifetimes. Twenty-one percent had done so in the last six months. The average number of times they had injected methamphetamine in the last six months ranged from 2 to 168 times (average 46 times).

Dependency

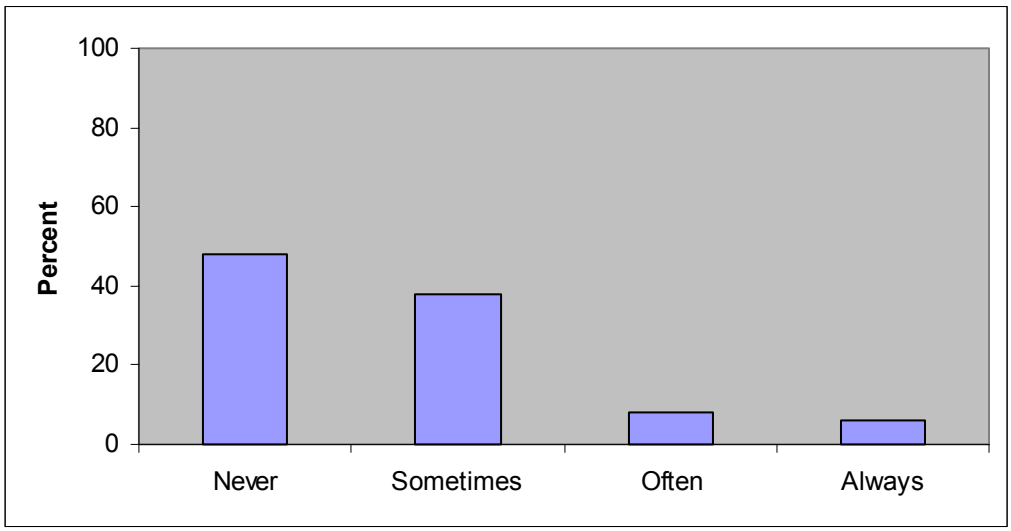
Respondents were asked a series of questions to measure their level of dependency on methamphetamine. The first question was how often in the last six months did they feel their methamphetamine use was 'out of control'. The responses are summarized in Figure 5.9. Forty-eight percent of the frequent methamphetamine users answered they had 'never' felt their methamphetamine use was out of control. However, 20% thought their methamphetamine use was 'often' or 'always' out of control.

Figure 5.9: How often users thought their methamphetamine use was out of control



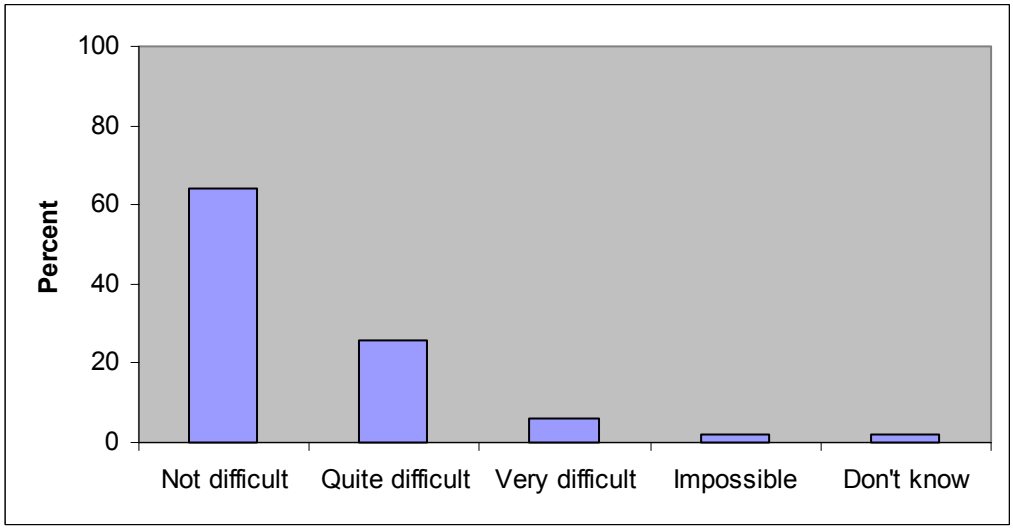
Next respondents were asked how often they had wished they could stop using methamphetamine in the last six months (Figure 5.10). Forty-eight percent said 'never'. Fourteen percent replied 'often' or 'always'.

Figure 5.10: How often users wished they could stop methamphetamine use



Respondents were then asked how difficult they would find it to 'stop or go without methamphetamine'. Sixty-four percent said 'not difficult' at all (Figure 5.11). Eight percent responded 'very difficult' or 'impossible'.

Figure 5.11: How difficult would it be to stop or go without methamphetamine



Harms

Physical problems

Respondents were asked if they had experienced any of the twenty-six physical problems listed, as a result of using methamphetamine. In order to clearly identify the role methamphetamine played in the physical complaint, respondents were asked if they experienced the problem 'after using' methamphetamine, if they had experienced it 'before using' methamphetamine (i.e. a pre-existing problem), and to what extent they attributed the problem to their methamphetaminme use (expressed as a percentage).

Table 5.2 presents the proportion of users who experienced a physical ailment from methamphetamine use and the user's estimation of the extent to which the physical problem was related to their methamphetamine use. The physical problems most commonly experienced before using methamphetamine were 'poor concentration' (36%), 'trouble sleeping' (27%) and 'poor appetite' (25%), 'loss of energy' (25%) and 'memory lapse' (25%). The physical problems most commonly experienced after using methamphetamine were 'trouble sleeping' (77%), 'loss of energy' (55%), 'skin problems' (55%) and 'poor concentration' (51%). In terms of extent of causality, the physical problems most clearly identified as caused by methamphetamine use were 'fits/seizures' (100%), 'heart palpitations' (87%) and 'poor appetite' (82%).

Table 5.2: Physical problems from methamphetamine use

Physical problem	% After use	% Before use	% Related
Teeth problems	49	17	45
Profuse sweating	49	11	79
Hot/cold flushes	38	11	77
Hearth palpitations	51	8	87
Shortness of breath	30	17	51
Chest pains	21	11	42
Headaches	34	21	71
Dizziness	32	13	63
Tremors/shakes	42	13	79
Fainting/passing-out	13	8	65
Fits/seizures	4	0	100
Memory lapse	45	25	60
Poor concentration	51	36	60
Numbness/tingling	27	4	86
Vomiting	17	6	63
Stomach pains	34	15	70
Muscular aches	36	15	68
Joint pains/stiffness	39	15	68
Inability to urinate	38	8	71
Poor appetite	40	25	82
Trouble sleeping	77	27	80
Weight loss	42	15	74
Blurred vision	32	11	69
Loss of sex urge	40	9	69
Loss of energy	55	25	70
Skin problems	51	23	68
Other	6	0	97

Psychological problems

Respondents were asked whether they had experienced any of the thirteen psychological problems listed as a result of using methamphetamine. Table 5.3 presents the proportion of users who experienced a psychological problem from their methamphetamine use and the user's estimation of the extent to which the psychological problem was related to their methamphetamine use. Psychological problems most commonly experienced before using methamphetamine were 'depression' (47%), 'mood swings' (42%) and 'anxiety' (40%). The psychological problems experienced before using methamphetamine included 'suicidal thoughts' (13%) and 'suicide attempts' (8%). The psychological problems most commonly experienced after using methamphetamine were 'anxiety' (70%), 'mood swings' (66%), 'short temper' (62%), 'paranoia' (60%), and 'depression' (60%). Twenty-one percent of frequent methamphetamine users reported 'suicidal thoughts', and 13% 'suicide attempts', after using the drug. In terms of extent of causality, the psychological problems most clearly

identified as caused by methamphetamine use were 'panic attacks' (87%), 'sound hallucinations' (84%) and 'strange thoughts' (77%).

Table 5.3: Psychological problems from methamphetamine use

Psychological problem	% After use	% Before use	% Related
Anxiety	70	40	68
Mood swings	66	42	62
Strange thoughts	40	15	77
Visual hallucinations	45	17	71
Sound hallucinations	43	8	84
Short tempered	62	25	73
Violent behaviour	15	6	75
Panic attacks	25	6	87
Paranoia	60	36	73
Depression	60	47	59
Suicidal thoughts	21	13	56
Suicide attempts	13	8	44
Flashbacks	9	8	63
Other	8	2	74

Areas of life harmed

Respondents were asked whether the use of methamphetamine had harmed any eight listed areas of their life in the last six months. The results presented in Table 5.4. The areas of life most often reported harmed were 'friendship and social life' (55%), 'health' (55%), and 'energy and vitality' (53%).

Table 5.4: Harm experienced in different areas of life from methamphetamine use

Area of life	%
Your friendships and social life	55
Your health	55
Your outlook on life	31
Your home life	34
Your work and work opportunities	40
Your financial position	51
Your energy and vitality	53
Your children's health and wellbeing	18

Those who had experienced harm in an area of life were asked to rate the severity of the harm experienced. The answers are summarized in Table 5.5. The harms that users most often rated as 'very serious' or 'extremely serious' were in the areas of 'work and work opportunities' (53%), 'outlook on life' (50%), and 'friendship and social life' (38%).

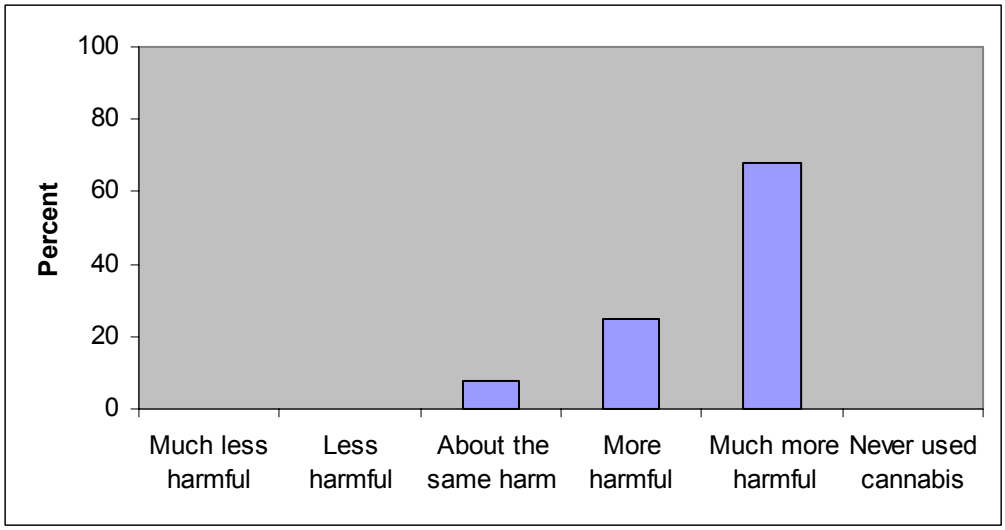
Table 5.5: Seriousness of harm in different areas of life

	Not very serious %	A bit serious %	Serious %	Very serious %	Extremely serious %
Your friendships and social life	10	17	34	14	24
Your health	25	29	14	25	7
Your outlook on life	13	25	13	31	19
Your home life	11	17	33	17	22
Your work and work opportunities	10	14	24	29	24
Your financial position	15	26	22	11	26
Your energy and vitality	22	26	37	7	7
Your children's health and wellbeing	0	50	25	25	0

Harm of methamphetamine compared to cannabis

Finally, respondents were asked to rate the harms methamphetamine use, in comparison to cannabis. Figure 5.12 shows that 68% of frequent methamphetamine users indicated methamphetamine was 'much more harmful' than cannabis. Ninety-three percent considered methamphetamine to be 'more harmful' or 'much more harmful' than cannabis.

Figure 5.12: Harm of methamphetamine compared to cannabis

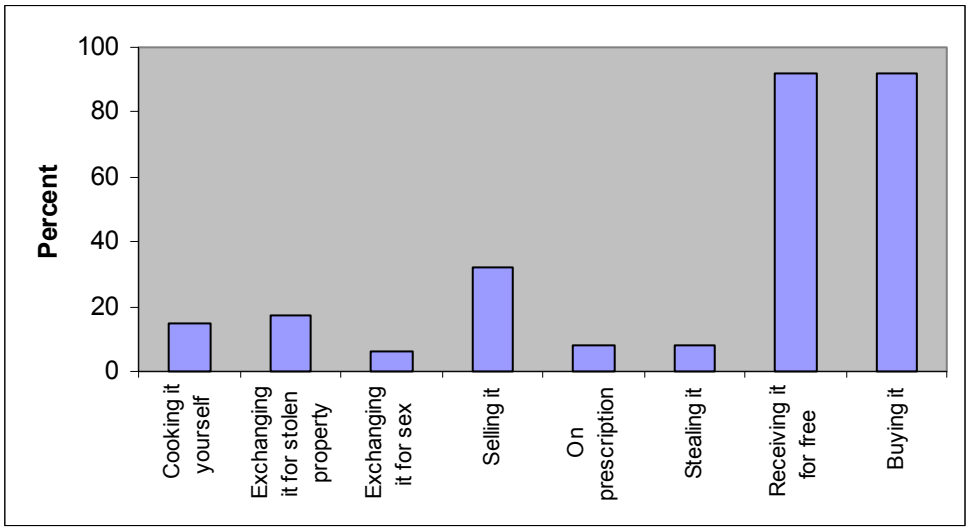


Black market

Means of procurement

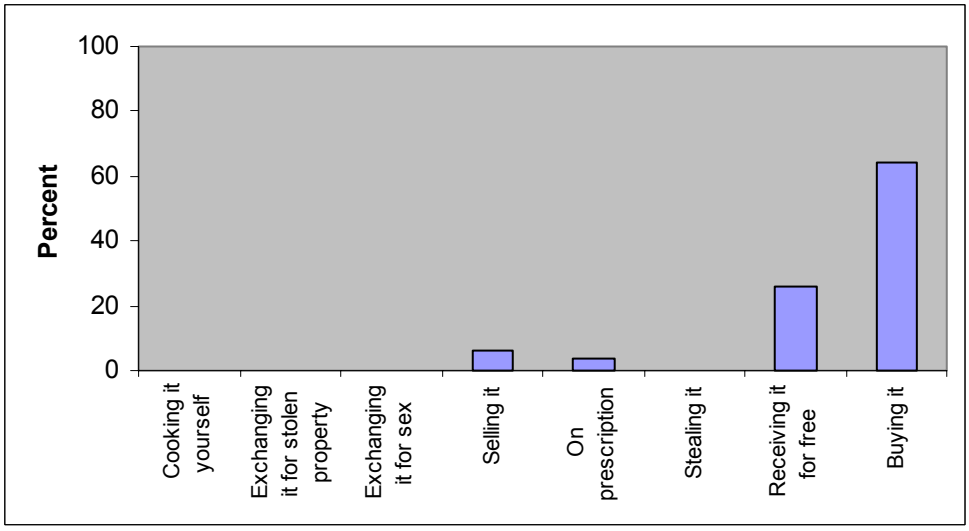
Respondents were asked about how they obtained methamphetamine. They were read a list of different ways of obtaining methamphetamine and asked if they had ever obtained the drug in this way. Thirty-two percent of frequent methamphetamine users had sold the drug. Seventeen percent had exchanged methamphetamine for stolen property and 15% had 'cooked' for themselves.

Figure 5.13: Means ever used to obtain methamphetamine



Respondents were then asked about the main way they obtained methamphetamine. Figure 5.14 shows the main ways used to obtain methamphetamine were 'buying it' (64%), 'receiving it for free' (26%) and 'selling it' (6%).

Figure 5.14: Main way of obtaining methamphetamine



Location of purchase

Respondents were asked where they usually purchased their methamphetamine. Common locations for methamphetamine purchase were 'friends/acquaintances home' (62%) and 'drug dealers home' (19%). Very few frequent methamphetamine users purchased methamphetamine from a 'tinny' or drug house (2%).

Table 5.6: Typical location of methamphetamine purchase

Location	**%**
Tinny house	2
Work/university/ school	0
Pub	0
Nightclub/rave	2
Private party	0
Gym	0
Street seller	0
Friend/acquaintances home	62
Drug dealers home	19
Other	15

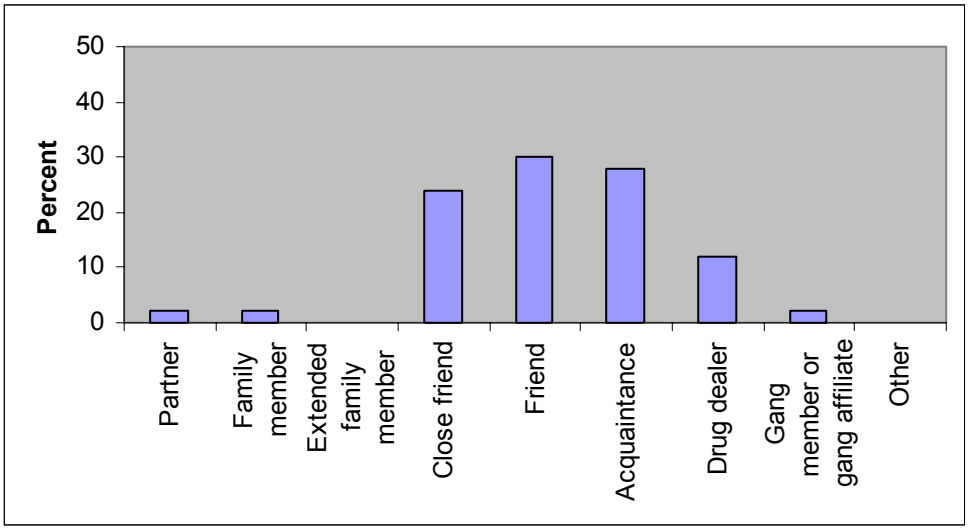
Number of sellers used

Participants were asked how many different people they had purchased methamphetamine from in the last six months. The number of sellers used ranged from 1-30 (average 4).

Relationship to sellers

Respondents were asked to describe their relationship with their main methamphetamine supplier. Fifty-four percent described their supplier as a 'friend' or 'close friend' (Figure 5.15). Forty percent described their supplier as an 'acquaintance' or 'drug dealer'.

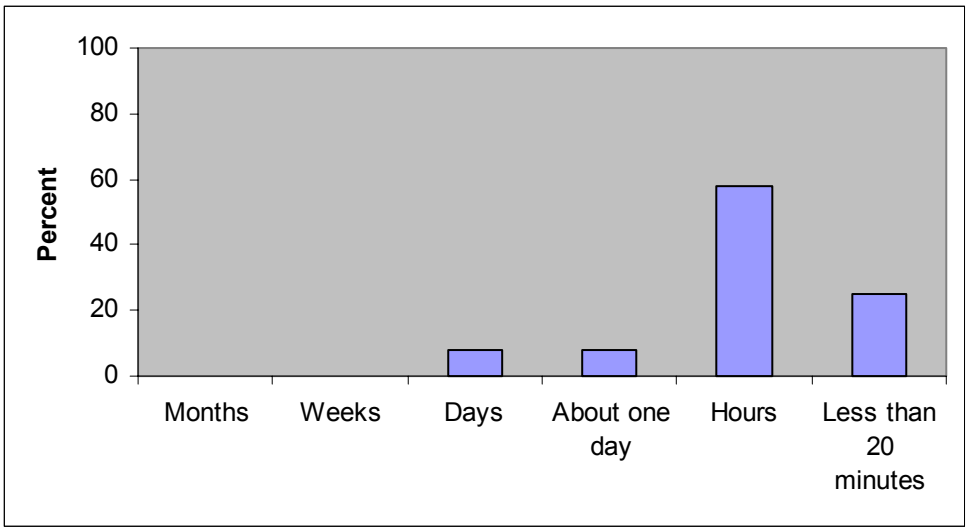
Figure 5.15: Relationship to main methamphetamine supplier



Time taken to make a purchase

Respondents were asked how long it would typically take to purchase some methamphetamine. Figure 5.16 shows that 83% of frequent methamphetamine users could purchase the drug within hours and 25% in less than 20 minutes. However, 16% required one day or longer to purchase methamphetamine.

Figure 5.16: Time taken to make a methamphetamine purchase



Conclusions

This chapter provides valuable information concerning the characteristics of frequent methamphetamine use in New Zealand. The frequent methamphetamine users interviewed for this study are unlikely to be interviewed in the course of population drug surveying, such as the National Drug Survey. The National Drug Survey samples and interviews respondents by randomly calling landline telephone numbers, using a Computer Assisted Telephone Interview (CATI) system. Seventeen percent of this sample of frequent methamphetamine users did not have a connected landline telephone and would not be included in the National Drug Survey sampling.

The demographic features of the frequent methamphetamine users interviewed in this purposive sample resemble, in many ways, those of the frequent methamphetamine users (6+ in the last year) analyzed during the 2001 National Drug Survey (Wilkins et al., 2004a). Many were male, aged 20-24, European and were either tertiary students or working in paid employment. The low levels of unemployment (6%), sickness and invalids (6%) and homelessness among the sample of frequent

methamphetamine users was a positive finding. Similar purposive samples of frequent amphetamine users in Australia found very high levels of unemployment and sickness beneficiaries (Hall and Hando, 1994). It is difficult to know whether these characteristics of frequent methamphetamine users in New Zealand are due to a bias in the recruitment method used, or a true representation of the population of frequent users in this country. In terms of recruitment bias, the public way the study was advertised and the payment of $20 would be expected to attract street populations, although much of the advertising was restricted to private venues and shops which may discourage access by homeless and street populations.

Intravenous methamphetamine was not uncommon among this population of frequent methamphetamine users, with one-fifth injecting the drug in the last six months. However many of these users had also injected other drug types and so it remains unclear whether the methamphetamine injectors are a new population of intravenous drug users, or are an existing injecting opiate population responding to the greater availability of methamphetamine. These are very difficult relationships to unravel and require specialized research methodologies. The results reported here serve to underline the concerns expressed in chapter one, about the level of intravenous drug use among methamphetamine users and the role they may be playing in spreading blood borne diseases through risky needle use.

About two thirds of the frequent methamphetamine users reported bingeing on methamphetamine in the last six months (i.e. using continuously for 48 hours or more). The average frequency of bingeing was once a fortnight. A binge could last for many days on end. This type of use pattern heightens the risk of psychosis and drug addiction (Hall and Hando, 1994, Hall et al., 1996). The questions on dependency suggest that about one-fifth of the frequent users were having difficulties controlling their methamphetamine use. However, about half reported no difficulties with either their methamphetamine use, or ability to stop or go without.

The questions asked about the harms of methamphetamine provide a detailed picture of the problems frequent methamphetamine users are experiencing. The most serious problems were psychological rather than physical. Many users reported pre-existing mental health problems, with about 40% experiencing ‘depression’, ‘mood swings’, ‘paranoia’ and ‘anxiety’ *before using* methamphetamine. Pre-existing mental health issues included suicidal thoughts and attempts. This is consistent with the tradition of using amphetamines to self-medicate for mental health problems (Klee, 1997). Levels of psychological problems reported after using methamphetamine were very high, with about two-thirds of frequent users reporting ‘anxiety’, ‘mood swings’, ‘short temper’, ‘paranoia’, and ‘depression’. Twenty-one percent of frequent methamphetamine users reported ‘suicidal thoughts’, and 13% ‘suicide attempts’, after using the drug. Interestingly, a relatively small proportion of users reported

experiencing ‘violent behavior’ (15%) after using methamphetamine. The mental health problems reported are more likely to result in the defensive violence associated with paranoid schizophrenia, such as fear of people plotting against you. Methamphetamine psychosis is said to closely resemble paranoid schizophrenia. The levels of mental health problems among methamphetamine users, and the way methamphetamine use further exacerbates these problems, suggests frequent methamphetamine users should be approached with caution and a reassuring manner, to avoid triggering any violent defensive response.

The questions on the procurement indicated that ‘buying it’ and receiving it for ‘free’ were the main ways of obtaining methamphetamine. However, a third of frequent users had sold methamphetamine, and about one in five had manufactured it or exchanged it for stolen property at some stage. About 40% of those interviewed had earned income from illegal activities in the last six months, with drug dealing the most common type of illegal activity reported. The average dollar amount earned from illegal activities was $24,000. This confirms the common involvement of frequent illicit drug users in the manufacture and distribution of illicit drugs (Kleiman, 1992). An interesting result concerning the locations where methamphetamine was purchased, was the low incidence of purchases from cannabis ‘tinny’ houses. This does not necessarily contradict reports by key informants later in this report (Chapter 7) of sales of methamphetamine from ‘tinny houses’. Frequent methamphetamine users are more likely to have established personal relationships with drug dealers as a way of ensuring drug quality and reliable transactions. ‘Tinny houses’ may still be important first-time points-of-sale, for introducing cannabis users to methamphetamine.

Chapter 6: Recent trends in drug treatment in New Zealand: The impact of amphetamine

Introduction

Trends in drug treatment services can provide an indication of the level of use of a drug type and the effect it is having on levels of addiction and drug related harm. An understanding of the impact of amphetamine on drug treatment services in New Zealand provides another measure of the extent of the amphetamine problem, and importantly the severity of the harm this drug is causing. This knowledge can inform the provision of drug treatment services for amphetamine abuse, as well as the level of commitment of resources to the wider response to amphetamine in New Zealand.

The National Addiction Centre (NAC) in Christchurch has been conducting national surveys of dedicated alcohol and drug treatment workers (ADTWs) since 1998 (Adamson et al., 2000). The aim of this work is to monitor the drug use patterns and main substance use problems of people presenting to dedicated alcohol and drug treatment services in New Zealand. In collaboration with NAC researchers, a research proposal was developed which expanded sections of the 2003 treatment survey to more clearly identify amphetamines as the main problem among patients attending these services, and the level of recent use of this drug type among the treatment population. NAC researchers also agreed to re-examine the findings from previous surveys to track the impact of psycho-stimulants on drug treatment services over recent years. Psycho-stimulants refer to a broad range of stimulant type drugs including amphetamines, but also cocaine, 'crack' cocaine, and more recently ecstasy. This short chapter summarizes the results of the treatment worker survey, with particular focus on amphetamines.

Method

A representative sample of ADTWs, from an up-dated national database of all New Zealand ADTWs, was contacted by telephone to participate in the survey. The ADTW database is updated annually by NAC researchers, prior to commencement of the survey. An ADTW is defined as any person working in a dedicated alcohol and drug treatment service, who spends at least 70% of their paid time working with alcohol and drug clients. Selected ADTWs were contacted by telephone and asked to participate in a ten-minute telephone interview. The interviewer asks the treatment worker about the last patient

they have seen in the previous two weeks. The interview includes questions about the patient's main substance use problem and the drug types the patient has used in the week prior to presentation. The same questions are then faxed to the ADTW for them to complete for the next patient they see. The completed questionnaire is then faxed back to the NAC researchers.

For the 2003 survey, several sections of the interview were extended to enable amphetamines to be more clearly identified as the main substance use problem and as a drug recently used by patients. The section on the main substance use problem was extended to include amphetamines, combinations of amphetamines with other drug types, and intravenous amphetamine use. For the section on weekly drug use, the psycho-stimulant category was broken down into sub-categories of the drug types which make up this category, i.e., amphetamines, cocaine, ecstasy or 'something else'. This made the categories consistent with those used in the National Drug Survey (recently reconfigured as Module One of the Health Behaviours Survey: Illicit Drugs). To facilitate recognition by respondents, common street terms were included for each drug type. Amphetamines were described as 'speed, methamphetamine, P, or pure'.

Previous to the 2003 survey, three smaller rolling surveys in 2000, 2001 and 2002 had been completed. These three samples were combined into a single 2000-2002 sample to provide a point of comparison with the 2003 sample. For the 2000-2002 samples, 105 ADTWs from an updated database of 170 ADTWs agreed to be interviewed, yielding a response rate of 62%. In the 2003 survey, 59 ADTWs agreed to be interviewed from a current database of 84 ADTWs, achieving a response rate of 70%. The 2000-2002 surveys resulted in 147 completed interviews (74 telephone, 73 faxed). In 2003, 85 interviews were completed (48 telephone, 37 faxed).

Results

Demographics of patients presenting to drug treatment services

The average age of patients in the 2003 survey was 31 years; this was not statistically different from the average age in the 2000-2002 surveys of 30 years. The percentage of Maori patients in 2003 was 25%, and again this was not statistically different from that of 29% in the 2000-2002 surveys. However, there were statistically significantly less males in the 2003 survey (47% male) than in the 2000-2002 survey (65% male).

Main substance problem

Table 6.1 compares the main substance use problem of the patients from 2000-2002 to 2003. All the changes in Table 6.1 are statistically significant. In 2000-2002 76% of patients had alcohol and/or cannabis as their main substance problem; this fell to 58% of patients in 2003.

Table 6.1: Patients main substance abuse problem in 2003 compared to 2000-2002

	%	
	2000-2002	**2003**
Alcohol	36	41
Cannabis	16	11
Cannabis and Alcohol	25	6
Alcohol and Cannabis	76	58

Table 6.2 presents the percentage of patients in 2003 indicating amphetamine, amphetamine in combination with another drug type, or intravenous amphetamine use as their main substance abuse problem. In total, 18% of clients indicated amphetamine as one of their main substances of abuse.

Table 6.2: Amphetamines as the main substance abuse problem, 2003

	%
Mainly amphetamines	5
Amphetamines and alcohol	4
Amphetamines and cannabis	5
Amphetamines and other drug	1
IV amphetamines	2
Amphetamines and IV opioids	1
ANY AMPHETAMINE	**18**

Table 6.3 presents the drug types used by patients in the last week in 2003, compared to 2000-2002. Tobacco, alcohol and cannabis were the three most popular drug types used across all surveys, with 2003 rates of 67%, 48% and 33% respectively. There were statistically significant falls in alcohol and cannabis use, and statistically significant increases in tobacco and psycho-stimulant use in 2003 compared to 2000-2002. Psycho-stimulants moved, from the sixth most prevalent drug type used by patients in the last week in 2000-2002, to the fourth most popular in 2003.

Table 6.3: Drug use in the previous week

	%	
Drug Type	**2000-2002**	**2003**
Alcohol	61	48
Cannabis	43	33
Tobacco	40	67
Benzodiazepines	14	8
Opioids	11	13
Psychostimulants	7	22
Hallucinogens	3	0
Inhalents	1	4
Other	1	1

The trends in tobacco and psycho-stimulant use are presented in greater detail in Table 6.4. The small numbers in these sub-categories prevent any statistical analysis of these trends.

Table 6.4: Tobacco and psycho-stimulant use in the last week, 2000-2003

	%			
	2000	**2001**	**2002**	**2003**
Tobacco	29	38	62	67
Psycho-stimulants (non IV)	7	2	9	20
Psycho-stimulants (IV)	5	2	0	7
Psycho-stimulants (non IV/IV combined)	9	4	9	22

In 2003 amphetamine was the psycho-stimulant used in 79% of the cases of last week psycho-stimulant use, with the remainder reporting the use of Ritalin, ecstasy or high doses of caffeine.

Discussion

Alcohol and cannabis remain the most common substance use problems in patients of alcohol and drug treatment services in New Zealand. Forty percent of patients reported alcohol as their main substance abuse problem with about 60% indicating either alcohol or cannabis as their main substance abuse problem. However, there was a statistically significant drop in alcohol and/or cannabis as the main substance use problem from 76% in 2000-2002 to 58% in 2003. This drop appears to have been the result of an increase in amphetamine as the main substance use problem. In

2003 18% of clients indicated amphetamine, or some combination of amphetamine, as their main substance use problem.

There were also increases in the recent use of amphetamines amongst patients. The use of psycho-stimulants in the last week increased from 7% in 2000-2002 to 22% in 2003. Psycho-stimulants were the fourth most popular drug used in the last week by patients in 2003 up from the sixth most popular used in 2000-2002. In 2003 79% of those who had used psycho-stimulants in the last week, indicated they had used amphetamine.

The findings from the 2003 drug treatment workers survey confirm that amphetamine is now impacting on alcohol and drug treatment services to the extent that about one in five patients now cite amphetamine, alone or in combination with other drugs, as their main substance use problem. This confirms that increases in amphetamine use in the general population, identified in other research over the last five years, are now translating into a sizable increase in treatment demand for this drug type.

During the course of the 2003 survey, a number of drug treatment workers spontaneously voiced concern about their level of training and knowledge of amphetamine use and amphetamine disorders (Sellman, 2004). It may be the case that clinicians need further training in regard to the nature of amphetamine dependence and the range of common problems associated with it. This would include: the symptomatology of methamphetamine intoxication and withdrawal, and appropriate treatment strategies; and signs, symptoms and treatment of a range of psychiatric syndromes associated with amphetamine use, such as mood disorder and psychosis (Sellman, 2004). These issues are more appropriately taken up by treatment agencies and educationalists in the alcohol and drug treatment field. The value of the research presented here, in regard to the broader ATS project, is to confirm the rapid emergence of amphetamine as a drug of choice and to verify that amphetamine related disorders are now substantially impacting on drug treatment services in New Zealand.

Chapter 7: Trends in methamphetamine use in New Zealand: Findings from key informant surveys of drug enforcement officers, drug treatment workers and methamphetamine users

Introduction

The present understanding of the ATS situation in New Zealand is gained largely from police arrest and seizures statistics and National Drug Survey findings. Due to the time and resources involved in the collection and analysis of these series, they are only available on a periodic basis. While much can be learnt about ATS in New Zealand through more detailed secondary analysis of these existing databases, a number of issues of immediate concern demand more timely and contemporary information.

This chapter employs a Rapid Assessment and Response (RAR) methodology to investigate recent changes in methamphetamine use and supply in New Zealand. RAR is a pragmatic methodology, developed to collect timely information on emerging or rapidly changing social problems to inform and direct the short-to-medium term response (Stimson et al., 1999). The Illicit Drug Reporting System in Australia is an example of a piece of illicit drug research which fits the RAR model (Topp et al., 2001). The research described in this chapter focuses on methamphetamine, as it is the ATS drug type most commonly identified with violent and anti-social behaviour and because its local manufacture is closely associated with organised criminal gangs.

The changes in methamphetamine use and supply examined in this chapter include: (i) trends in use – whether use is increasing and if there are any new user groups; (ii) characteristics of use – the type of methamphetamine being used, the mode of administration and any changes in the mode of administration; (iii) trends in the black market – changes in availability, prices, purity and selling practices; (iv) trends in law enforcement and criminality – changes in the level of law enforcement activity and arrests, changes in the level of criminality of methamphetamine users; and (v) and the role organised crime is playing in methamphetamine manufacture, distribution and sale.

Method

A series of key informant surveys were conducted with drug treatment workers, drug enforcement officers and regular methamphetamine users outside of treatment about how the use and sale of methamphetamine in New Zealand has changed in the previous six months. Each group of key informants were asked the same set of questions about how a particular aspect of methamphetamine may have changed during this time. Additional questions were asked of a key informant group, where that group was likely to be particularly knowledgeable or offer further insight into an issue. The use of information from three groups of key informants was used to minimise the bias and weaknesses inherent in any one of the sources. Drug enforcement officers, drug treatment workers and methamphetamine users provide different perspectives on the same methamphetamine-related issues. Valid trends concerning methamphetamine were identified through a process of triangulation of the three key informant sources. The greater the congruence in opinion on a particular issue, between the key informant sources, the higher the confidence that an actual trend had been identified. Particular weight was placed on the opinions of regular methamphetamine users, as they possess first hand knowledge of the use and purchasing of methamphetamine.

True to the pragmatic approach of RAR, wherever possible existing institutional networks and research programmes were utilised to reach key informants and collect information from them. Drug enforcement key informants were selected by the National Drug Intelligence Bureau (NDIB) from all Police Areas and Customs units throughout the country. The selection criterion was officers with a good current knowledge of illicit drug offending in New Zealand. Drug enforcement key informants were selected from drug squads, the Criminal Investigation Bureau (CIB), the National Drug Intelligence Bureau (NDIB), Customs, National Bureau of Criminal Intelligence (NBCI), Organised Crime Units (OCU), clandestine laboratory teams, and officers in the undercover programme. One hundred drug enforcement officers were selected as key informants and were sent a questionnaire by post through the Evaluation Unit of the Police Commissioner's Office. A letter of support from the Police Commissioner or Head of Customs was included with the request to participate. Questionnaires were sent out in late October 2003 and completed surveys accepted until the end of November 2003. Seventy-four interviews with drug enforcement key informants were completed achieving a response rate of 74%.

The drug treatment key informants were respondents to the National Addiction Centre's (NAC) national survey of drug and alcohol treatment workers. In collaboration with NAC researchers, the key informant questions on trends in methamphetamine use and supply were inserted into the NAC interview of drug treatment workers. Drug treatment workers were invited to answer these questions if they had seen any methamphetamine patients in the last six months. The NAC survey randomly

selected drug treatment workers to be interviewed from an up-dated list of all drug treatment workers in New Zealand. Selected drug treatment workers were interviewed initially by telephone and then faxed additional questions for completion and return by fax. The NAC survey was conducted between August and November 2003. Forty six interviews with drug treatment key informants were completed achieving a response rate of 71%.

Frequent methamphetamine users were recruited using purposive sampling and snowballing in the Auckland area. A range of start points for recruitment were generated from profiles of different types of methamphetamine users and the places they were likely visit in the central Auckland area. The selection criteria were people who had used methamphetamine at least monthly over the last six months, and had been resident in the Auckland region for at least the last six months. Users were recruited through the use of flyers and posters placed in bars, clubs, cafes, music shops, gyms, and at public spaces and events where methamphetamine users may gather. Those interested in participating in the study were asked to call the advertised free 0800 number and arrange to meet an interviewer for a face-to-face interview in a public space or venue of their choosing, such as a café. Interviews with regular methamphetamine users were conducted from mid December 2003 to early March 2004. Fifty-three interviews with frequent user key informants were completed achieving a response rate of 69%.

Analysis

The figures and tables combine the answers from all three key informants groups where available. The figures show the proportion of key informants who answered in a particular way and the number of key informants who answered the question. The tables present the number of key informants who indicated they had noticed a change and detail the proportion of these key informants who indicated different changes. In a number of instances the total percentage of key informants indicating changes add up to more than 100%, reflecting the fact that one key informant can nominate more than one change.

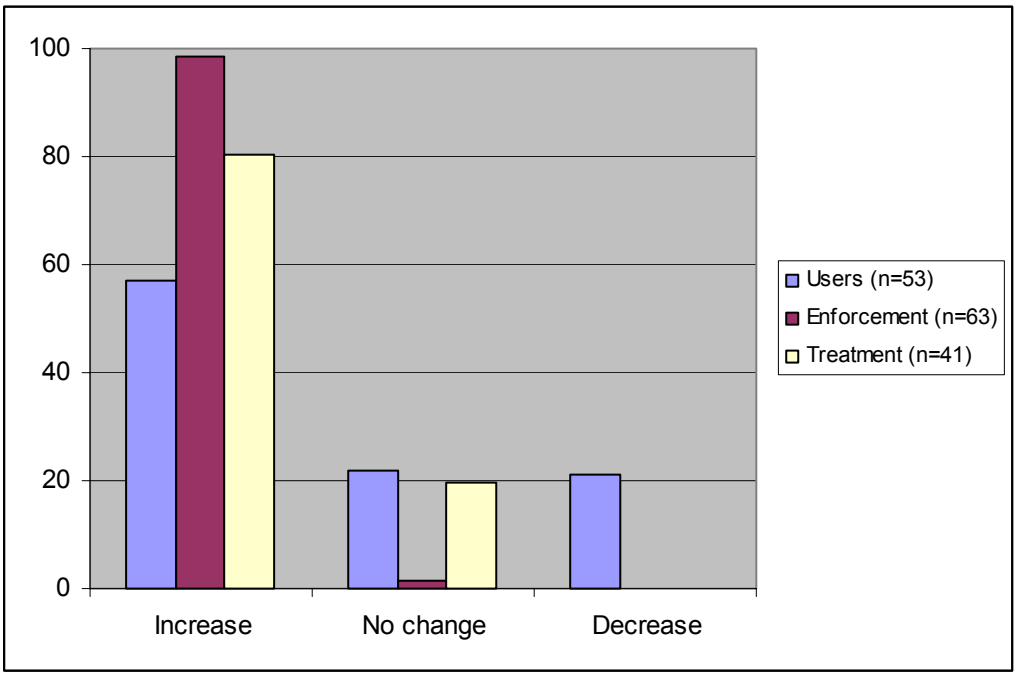
Results

Trends in use

Change in level of use and treatment demand

Methamphetamine users and drug enforcement officers were asked if they had noticed any change in the number of people using methamphetamine in the last six months. Drug treatment key informants were asked whether they had noticed any change in the number of people presenting for methamphetamine related problems in the last six months. Nearly all of the enforcement key informants (98%) thought the number of people using methamphetamine had increased in the last six months (Figure 7.1). Similarly, the overwhelming majority of treatment key informants (80%) thought the number of people presenting for methamphetamine problems in the last six months had increased. Users largely concurred but presented a slightly different picture. While the majority of user key informants (57%) thought the number of people using methamphetamine had increased, 21% believed there had been a decrease in use in the last six months.

Figure 7.1: Changes in level of methamphetamine use and methamphetamine treatment demand in the last six months



Changes in type of people using

All three key informants groups were asked if they had noticed any new groups of people using methamphetamine in the last six months. About half of users, 60% of enforcement key informants and about one-third of treatment key informants had noticed new groups of people using methamphetamine. The new user groups most commonly reported by all three KI groups were 'teenage users' and 'business people' (Table 7.1). User key informants also noted more 'young women', 'lower socio-economic' and 'Maori/Polynesian' users. Treatment key informants commonly noticed more 'young women' users. Enforcement and treatment key informants indicated new users came from a 'broad cross section of society'.

Table 7.1: New groups of people using methamphetamine in the last six months

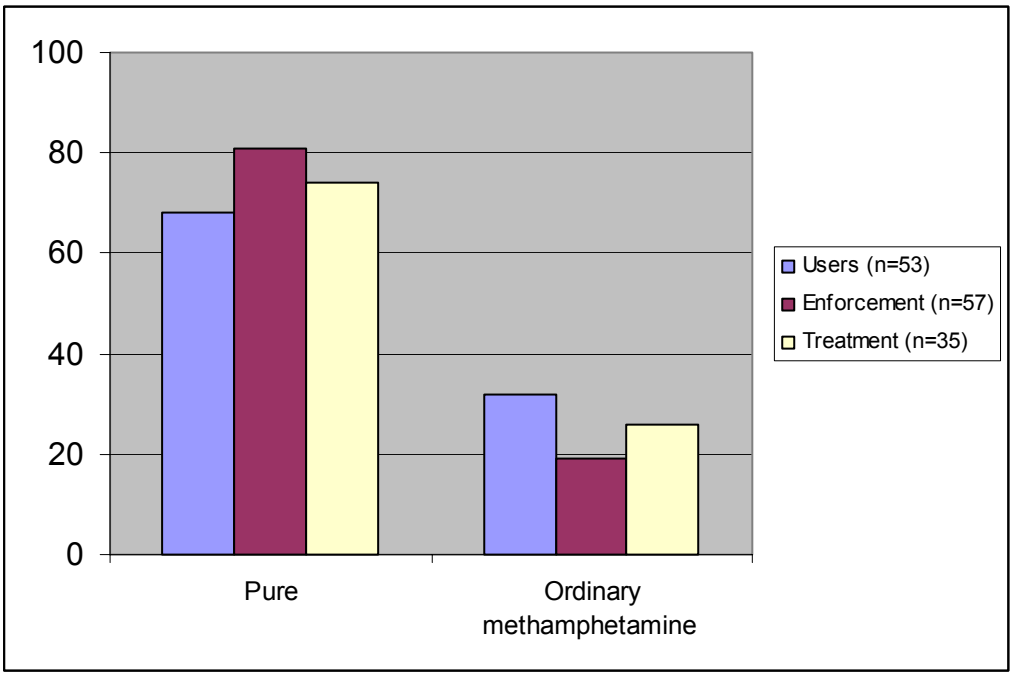
Change	Users % (n=25)	Enforcement % (n=45)	Treatment % (n=13)
More younger people/school students/teenagers	48	33	46
More of cross section of society/more all types	-	24	15
More business people/higher socio-economic/white collar/well educated	20	9	31
More young females	-	9	
More Maori/Polynesian	12	9	
More middle class	-	9	
More 'boy racers'	-	9	
More users in general	-	7	
More lower socio-economic	12	7	
More traditional cannabis users	-	7	8
More early 30s/older people	8	4	
More active criminals	-	4	
More previously intravenous drug users (with poor injecting habits)	-	2	8
More white males aged 20-25	-	2	
More sports players	-	2	
More young pub patrons	-	2	
More gang members	-	2	
More couples	-	2	
More females/teenage girls/women 20s	20	-	15
More Arabs and Koreans	4	-	-
More wealthier teenagers	4	-	-

Characteristics of use

Type of methamphetamine used

Enforcement and drug treatment key informants were asked what percentage of the methamphetamine used was 'pure' and what percentage was powder. Users were asked the same question about their own use. Figure 7.2 presents the average percentage of each type of methamphetamine used, based on information provided by each key informant group. All three groups of key informants indicated that about two-thirds of the methamphetamine used was 'pure' methamphetamine. Drug enforcement key informants thought about 80% of the methamphetamine used was 'pure'.

Figure 7.2: Type of methamphetamine typically used



Descriptions of methamphetamine

Users were asked to give a brief physical description of the types of methamphetamine they had used in the last six months. Enforcement key informants were asked to describe the different types of methamphetamine they had seized in the last six months. Both key informant groups indicated that methamphetamine 'crystals' were the type of methamphetamine most commonly used and seized in the last six months (Table 7.2). Nearly 90% of user key informants had used methamphetamine 'crystals'. The next most popular type used and seized was methamphetamine 'powder'. About two thirds of users had used methamphetamine powder. Other forms of methamphetamine were much less common.

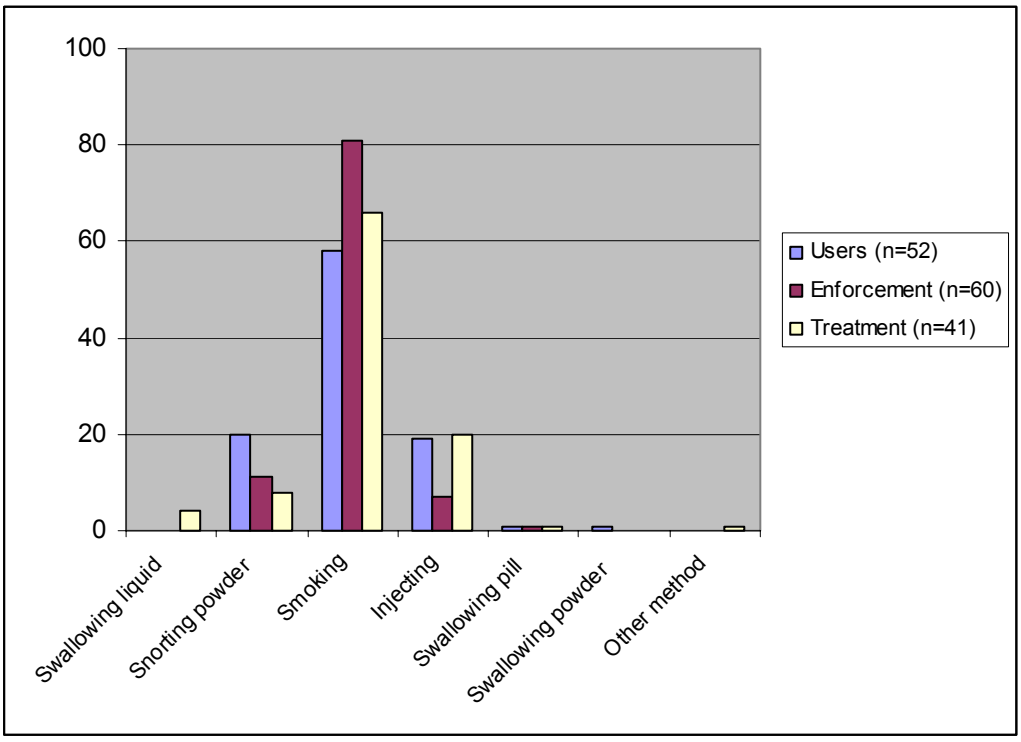
Table 7.2: Descriptions of methamphetamine used/seized in the last six months

Description	Users % (n=53)	Enforcement % (n=52)
Methamphetamine crystals	89	85
Methamphetamine powder	66	44
Methamphetamine oil/paste	4	8
Methamphetamine liquid	-	2
Methamphetamine tablets	8	-
Other type of methamphetamine	6	-

Mode of administration

All three groups of key informants were asked how the methamphetamine users, known to them, administered their methamphetamine. Figure 7.3 presents the average percentages for each category of administration, for each key informant group. There was strong agreement among all three key informant groups that 'smoking' was the most common mode of administration, with 'snorting' and 'injecting' the next most common. User key informants indicated that 58% of users 'smoked' the drug, 20% 'snorted' and 19% 'injected'. User (19%) and treatment (20%) key informants were more likely to indicate injection as a mode of administration, than enforcement key informants (7%). User key informants were more likely to indicate 'snorting' as a means of administration (20%), than the other two key informant groups.

Figure 7.3: How methamphetamine users administered methamphetamine



Change in mode of administration

All three groups of key informants were asked if they had noticed any change in the way users administered methamphetamine in the last six months. About one-third of the treatment key informants and about half of the user and enforcement key informants indicated they had noticed a change in mode of administration (Table 7.3). All three key informant groups reported more 'smoking' and more 'intravenous' methamphetamine use. Forty-six percent of user key informants indicated more intravenous administration.

Table 7.3: Change in the mode of methamphetamine administration in the last six months

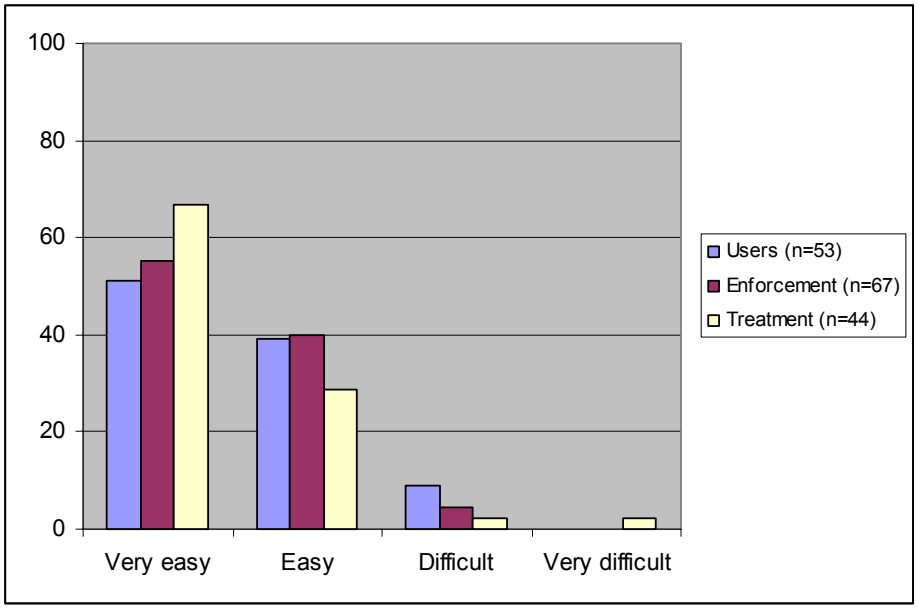
Change	**Users % (n=26)**	**Enforcement % (n=40)**	**Treatment % (n=15)**
More smoking	31	45	67
More intravenous use	46	33	27
Smoking most common		33	
Less snorting	8	5	
Talk of intravenous use		3	
Small number of injectors		3	
Less injecting		3	
More snorting	8		7
More imported			7
Increase in dosage	8		

Trends in the black market

Current availability

All three groups of key informants were asked about the ease of obtaining methamphetamine at the moment. There was strong congruence between the three groups of key informants, with the overwhelming majority from all three groups describing the availability of methamphetamine as either 'very easy' or 'easy' (Figure 7.4). Fifty-one percent of user key informants rated the availability of methamphetamine as 'very easy'.

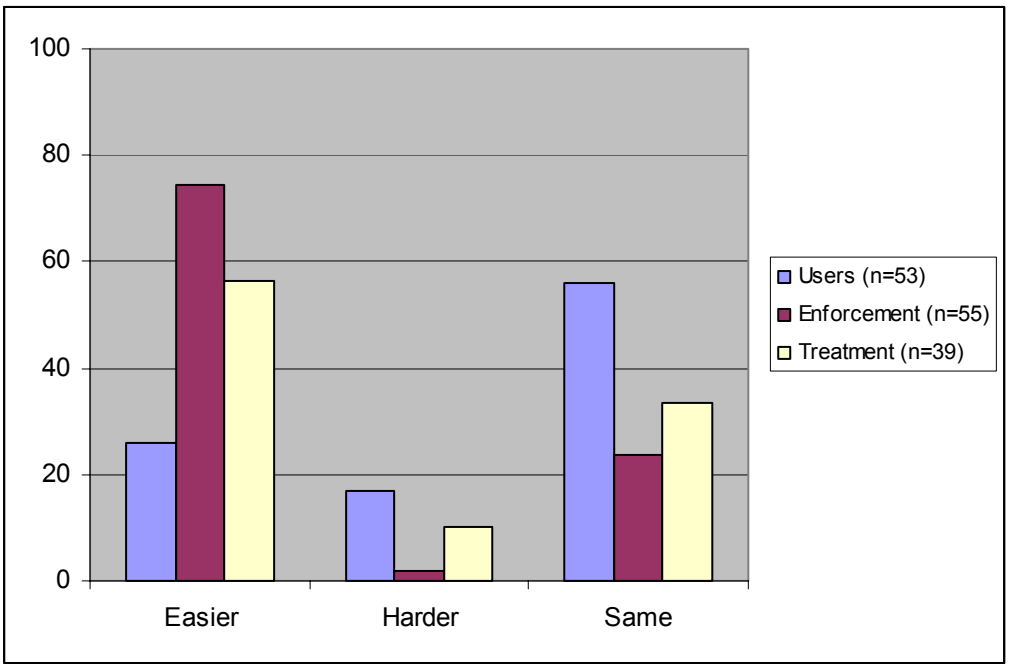
Figure 7.4: Current availability of methamphetamine



Change in availability

All three groups of key informants were asked whether they thought getting methamphetamine was 'easier', 'harder' or the 'same', compared to six months ago. Three-quarters of drug enforcement, and over half of drug treatment, key informants believed the availability of methamphetamine had become 'easier' in the last six months (Figure 7.5). User key informants were much more circumspect, with only 26% indicating that the availability of methamphetamine had become 'easier' in the last six months, and most (56%) saying availability was the 'same' compared to six months ago. Eighteen percent of user key informants thought the availability of methamphetamine had become 'harder'.

Figure 7.5: Change in availability of methamphetamine in the last six months



Prices

All three sets of key informants were asked the current price of a 'gram' and a 'point' (0.1 gram) of methamphetamine. These are the most common units of sale for methamphetamine in New Zealand. All three KI groups most often reported the price of a point of methamphetamine to be $100 (Table 7.4). However, a third of user, and one-fifth of enforcement, key informants reported paying $80. About ten percent of user, and one-third of enforcement, key informants reported a price of $120.

Table 7.4: Current price of a point (0.1 gram) of methamphetamine

Dollar amount	Users (%) (n=24)	Enforcement (%) (n=66)	Treatment (%) (n=29)
$200	-	-	3
$150	-	6	3
$140	4	11	-
$130		-	3
$120	13	30	3
$115	-	-	3
$110	-	-	7
$100	83	71	48
$90	-	2	14
$80	33	21	-
$70	4	-	-
$75	-	2	-
$60	-	-	3
$50	4	2	3
$30	-	-	7

Enforcement and treatment key informants were most likely to report the price of a gram of methamphetamine to be $1000 (Table 7.5). User key informants were most likely to report the price of a gram of methamphetamine to be $800. Both user and enforcement key informants reported gram prices of methamphetamine to be $800 or less. Twenty-two percent of user key informants reported a gram price of $600.

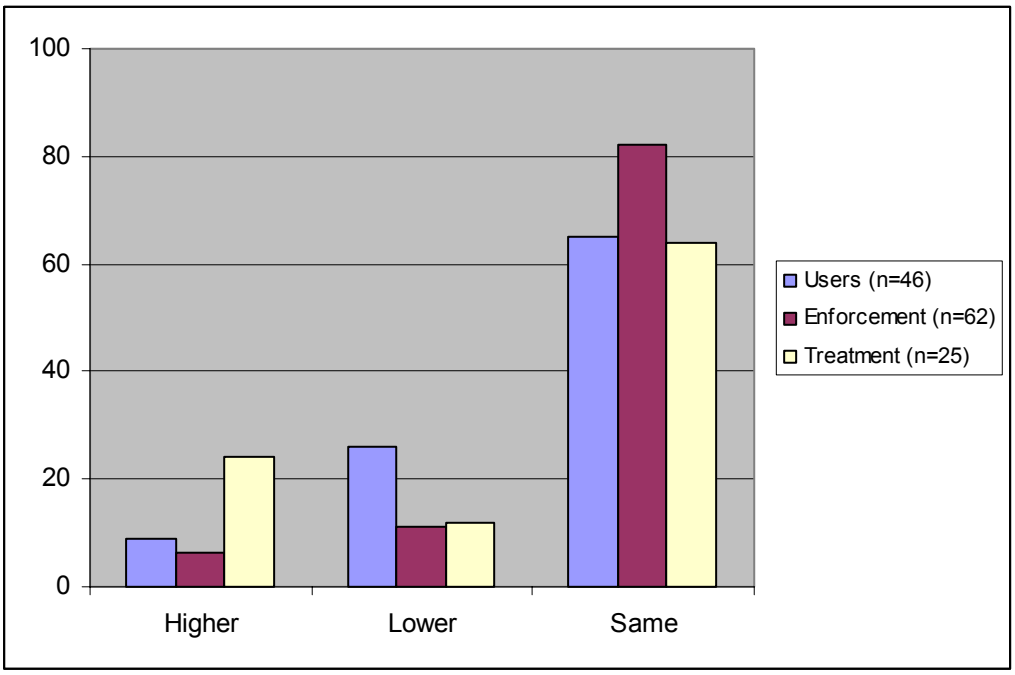
Table 7.5: Current price of a gram of methamphetamine

Dollar amount	Users (%) (n=18)	Enforcement (%) (n=44)	Treatment (%) (n=9)
$1,500	-	4	-
$1,200	-	18	-
$1,100	-	2	-
$1,000	24	73	89
$900	6	7	11
$850	6	2	-
$800	44	27	-
$750	6	7	-
$700	11	9	-
$600	22	9	-
$400	6	-	-

Change in price

All three groups of key informants were asked if the price of methamphetamine was 'higher', 'lower' or the 'same' as six months ago. Over 60% of all three key informant groups thought the price of methamphetamine was the 'same', with drug enforcement key informants most likely to say this (82%) (Figure 7.6). There was some difference of opinion between the key informant groups about the change in price, with users more likely to believe the price was 'lower' (26%) compared to enforcement (11%) or treatment (12%) key informants. Treatment key informants were more likely to think the price of methamphetamine was 'higher' (24%), than either users (9%) or drug enforcement key informants (6%).

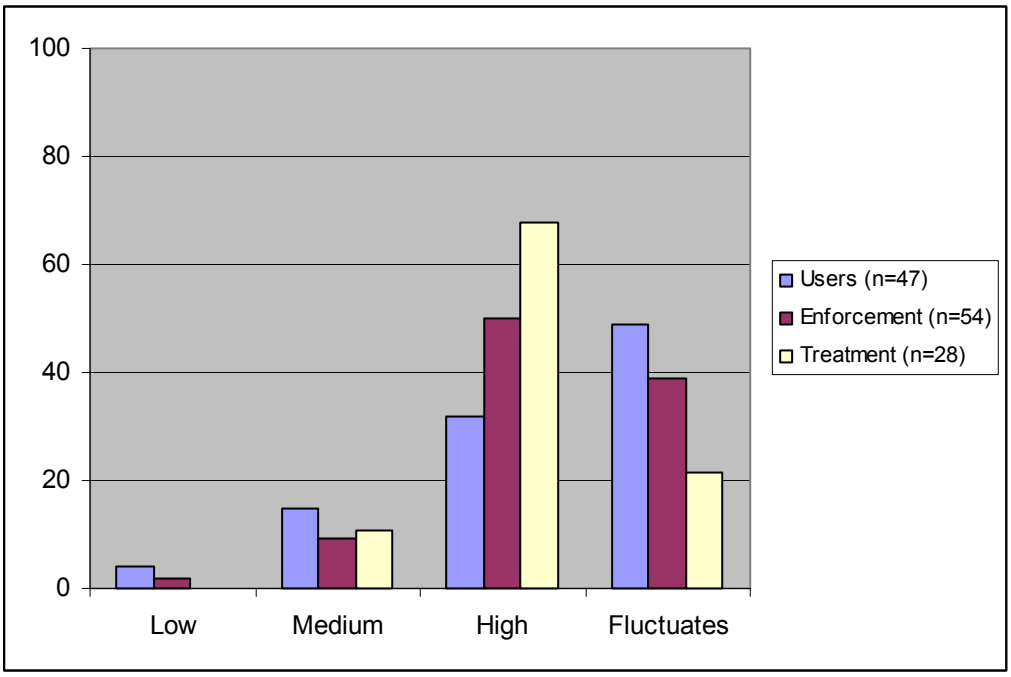
Figure 7.6: Change in price of methamphetamine in the last six months



Purity

All three groups of key informants were asked how strong or pure they would say methamphetamine is at the moment. Figure 7.7 shows that most treatment and enforcement key informants thought purity was 'high' with treatment key informants most likely to believe this (68%). User (49%) and enforcement (39%) key informants were more likely to say that purity 'fluctuates'.

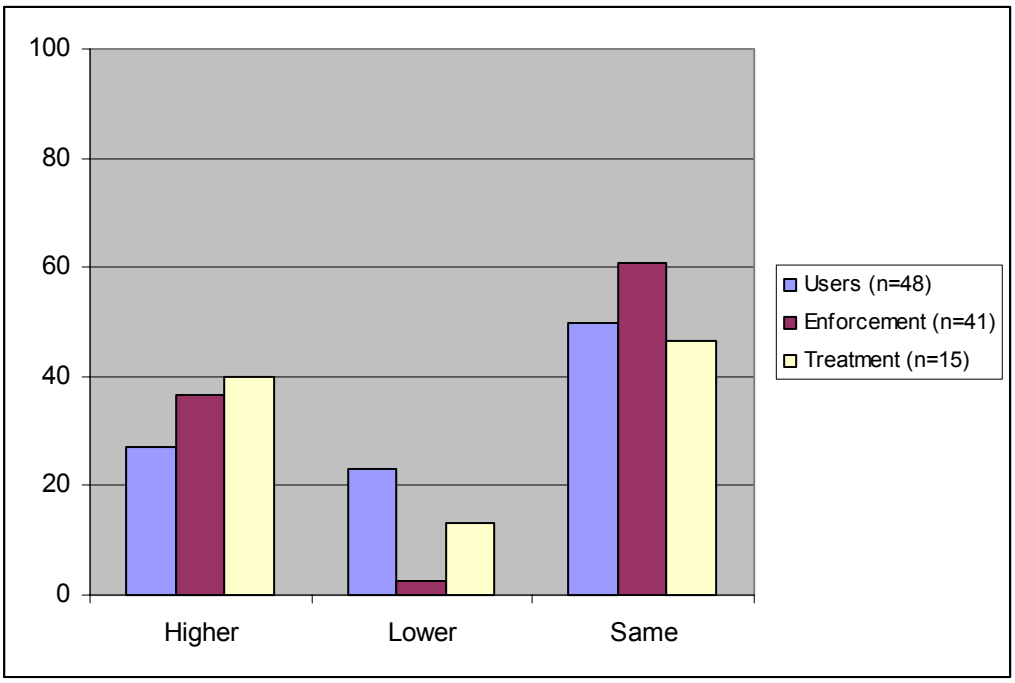
Figure 7.7: Current purity of methamphetamine



Change in purity

Asked if the strength or purity of methamphetamine was 'higher', 'lower' or the 'same' as six months ago, about half of all three key informant groups said it was the 'same' (Figure 7.8). About one third of all three key informant groups believed the purity of methamphetamine was 'higher' than six months ago. However, 23% of user key informants thought the purity of methamphetamine was 'lower' compared to six months ago.

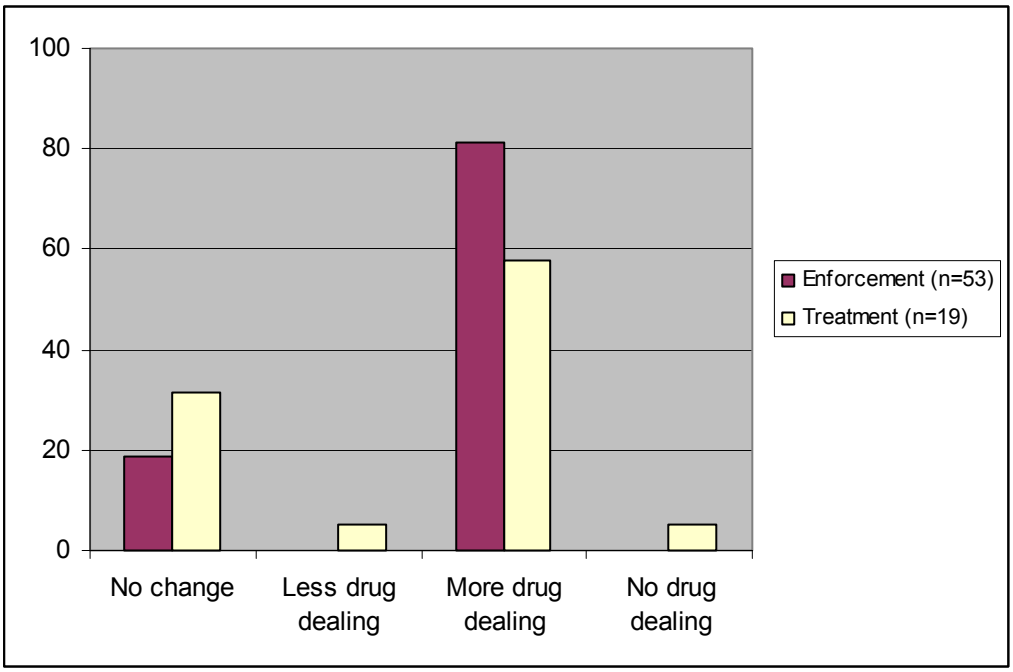
Figure 7.8: Change in the purity of methamphetamine



Change in level of drug dealing

Enforcement and treatment key informants were asked if they had noticed any changes in the level of drug dealing carried out by the methamphetamine users they knew of. The majority of both enforcement (81%) and treatment (58%) key informants indicated drug dealing by methamphetamine users had increased in the last six months (Figure 7.9).

Figure 7.9: Change in level of drug dealing by methamphetamine users in the last six months



Change in type of people selling

All three groups of key informants were asked if they had noticed any changes in the type of people selling methamphetamine in the last six months. About one third of user and drug enforcement key informants, and one-fifth of treatment key informants, had observed changes in the type of people selling methamphetamine (Table 7.6). All three key informant groups noted more of a 'cross section' of people now selling methamphetamine. Drug enforcement and drug treatment key informants commonly reported more 'gangs' selling, more sales from 'drug houses', and more 'sales by teenagers'. User key informants reported less 'gangs', more 'professional people', more 'young females' and more 'violent types' now selling methamphetamine.

Table 7.6: Changes in the type of people selling methamphetamine

Change	Users % (n=17)	Enforcement % (n=31)	Treatment % (n=10)
More gangs selling/gangs have a wide influence	6	32	30
More sales from 'tinny'/drug houses		29	30
Heavy methamphetamine users dealing to sustain habit		19	
More young people/students selling	6	16	20
More young females selling	18	13	
More ordinary people selling/cross section of society/more socially acceptable	30	13	20
Previous cannabis dealers now selling methamphetamine		10	
More criminals selling		6	
More solo mums selling		3	
More prostitutes selling		3	
More middle management/professionals selling	18	3	
More males last 20s/early 30s selling		3	
More middle class users selling		3	
More manufacturers selling		3	
Less people selling as many burnt out users			10
More Maori/Pacific Islanders	6		
More paranoid/violent types	18		
Less gang members	18		
Less strictly criminal world	6		

Change in the way methamphetamine is sold

User and enforcement key informants were asked whether there had been any change in the way methamphetamine was being sold in the last six months. About a quarter of user, and one-third of enforcement, key informants indicated there had been changes (Table 7.7). Many user (47%) and drug enforcement (24%) key informants reported the 'repackaging' of methamphetamine into smaller weights at lower prices. User key informants also reported the sale of methamphetamine in half gram units. Many enforcement key informants noted the increasing sale of methamphetamine from cannabis drug houses.

Table 7.7: Changes in the way methamphetamine is sold

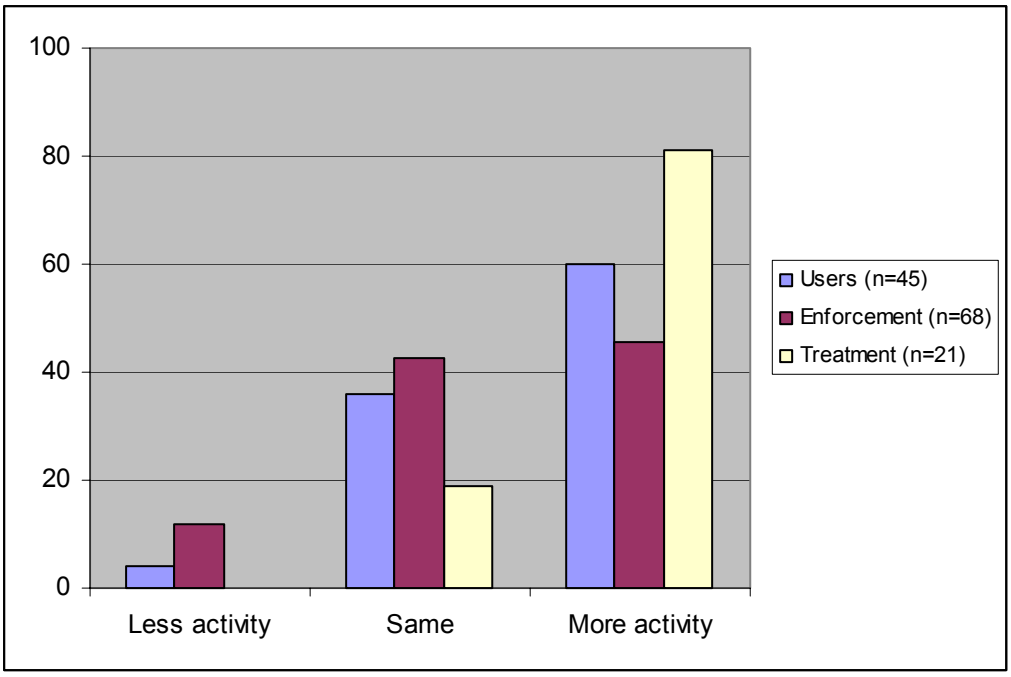
Change	**Users % (n=15)**	**Enforcement % (n=25)**
More drug houses/'tinny houses' selling methamphetamine	-	32
Sold in smaller weights than point called 'clicks' (0.07 gram)/ smaller weights cheaper prices ($20/$50)	47	24
Dealers giving free taste to new users	7	8
Dealers more careful who sell to now it is Class A	-	8
Cannabis laced with methamphetamine	-	8
Sold from methamphetamine houses	-	8
Party packs (e.g. meth/ecstasy/LSD, meth/LSD/ecstasy/cannabis)	-	8
Cannabis dealers switching to methamphetamine/less cannabis sold	7	4
Methamphetamine sold with syringes	7	4
More non-gang sellers	-	4
Methamphetamine available from more places (e.g. bars/restaurants)/ More available/easier availability	13	4
More paranoia amongst sellers	7	
More sold in larger quantities (1/2 grams)	20	
Getting 'cut' more	7	
More selling crystals rather than powder	7	
Selling by the puff ($20)	7	

Trends in law enforcement

Change in level of law enforcement activity

All three groups of key informants were asked if there been 'more', 'less' or about the 'same' level of law enforcement activity against methamphetamine offending in the last six months. There was some disagreement between the three groups about the change in the level of law enforcement activity against methamphetamine (Figure 7.10). Treatment key informants overwhelming indicated an 'increase' in law enforcement activity (81%) over the last six months. The majority of user key informants (60%) also indicated an increase in levels of law enforcement, while less than half of enforcement key informants (46%) believed there had been an increase in law enforcement activity against methamphetamine in the last six months.

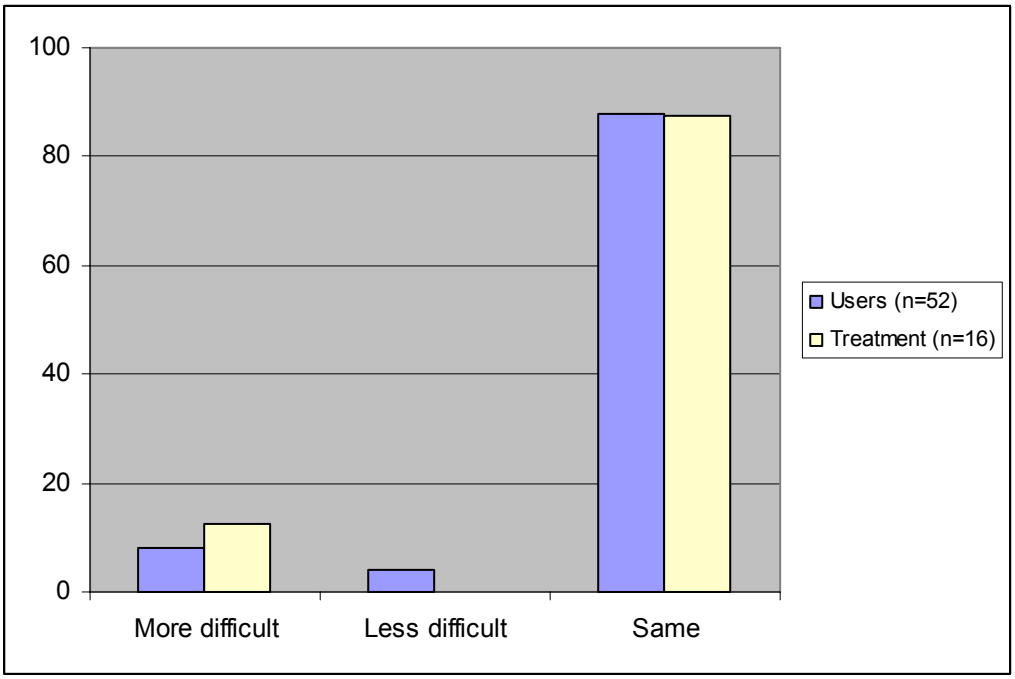
Figure 7.10: Change in level of law enforcement activity in the last six months



Impact of law enforcement on availability

User and drug treatment key informants were asked whether law enforcement had made it 'less', the 'same' or 'more' difficult to obtain methamphetamine in the last six months. Both user and drug treatment key informants overwhelming said that the availability was the 'same' compared to six months ago (Figure 7.11). About 10% of both groups indicated law enforcement had made it 'more' difficult to obtain methamphetamine.

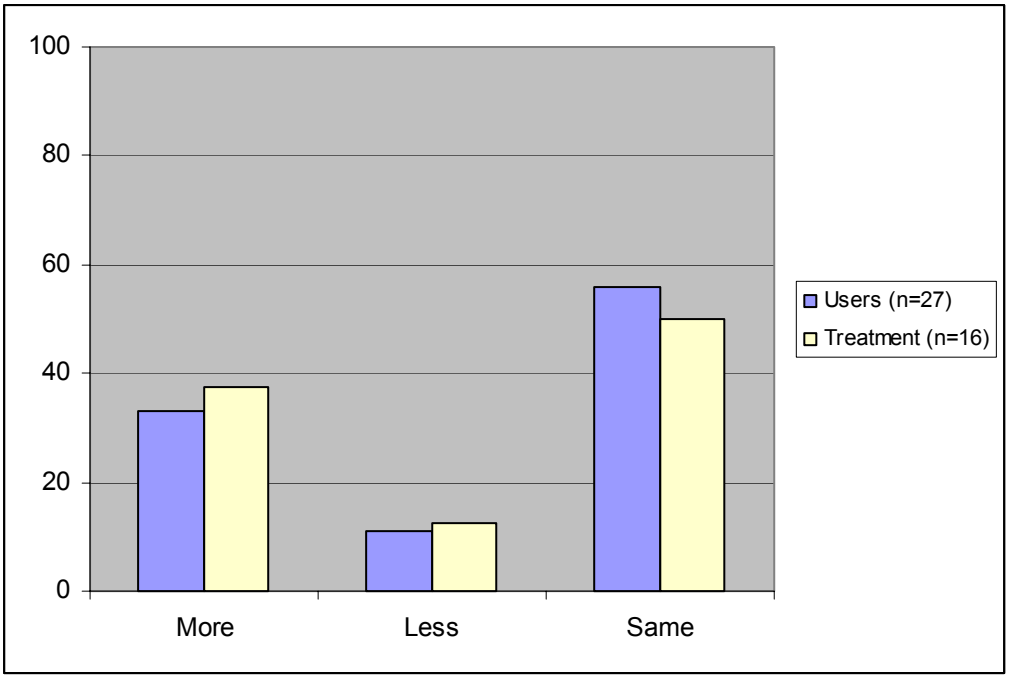
Figure 7.11: Impact of law enforcement on the ability to obtain methamphetamine in the last six months



Change in level of arrests

User and drug treatment key informants were asked if 'more', 'less' or the 'same' number of the users they know of had been arrested in the last six months. Both user and drug treatment key informants were most likely to report the 'same' level of arrests (Figure 7.12). However, about one-third of both key informant groups indicated that 'more' of the methamphetamine users they know of had been arrested in the last six months.

Figure 7.12: Change in number of methamphetamine users arrested in the last six months



Change in the type of crime committed by methamphetamine users

All three key informant groups were asked whether they had noticed any change in the type of crime committed by methamphetamine users in the last six months. About one third of user and treatment key informants, and two-thirds of enforcement key informants, indicated there had been changes in the type of crime committed by methamphetamine users (Table 7.8). All three groups of key informants were most likely to report increased 'violent crime' and increased 'property crime' by methamphetamine users. Enforcement key informants also reported increases in 'burglary', 'domestic violence' and 'fraud' by methamphetamine users.

Table 7.8: Changes in the type of crime committed by methamphetamine users in the last six months

Change	Users % (n=18)	Enforcement % (n=49)	Treatment % (n=14)
More violent crime	33	73	36
More theft/property crime/to get money for drugs	22	29	64
More burglary		24	
More domestic violence		14	7
More theft of identity cards/fraud		12	
More use of weapons/firearms	6	10	
More car crime	6	10	
More aggravated robbery		8	
More chemist break ins		6	
More home invasion		4	
More kidnapping		4	
More solicitors stating clients using methamphetamine		2	
More rapes		2	
More disorderly conduct		2	
More road rage		2	
More drug deals gone wrong		2	
More shop lifting		2	
More drug dealing by users			7
More crime by women			7
More crime in general	22		7
More murders	6		
More irrational crime	6		
More theft of specific goods	6		
More serious crime	11		
More stealing off friends	6		

Change in the level of violence by methamphetamine users

User and drug enforcement key informants were asked if they had noticed any changes in levels of violence being committed by methamphetamine users. About one-third of user and two-thirds of enforcement key informants had noticed changes in levels of violence by methamphetamine users. The most common trend noted by both key informant groups was more 'serious violence' by methamphetamine users (Table 7.9). Many participants of both key informant groups also reported increased 'domestic violence', more 'unpredictable/irrational violence' and more 'use of weapons' by

methamphetamine users. Many user key informants noted a generally more aggressive demeanour amongst the users they knew.

Table 7.9: Change in the level of violence by methamphetamine users in the last six months

Change	Users % (n=17)	Enforcement % (n=47)
More serious violence	53	40
More domestic violence	12	26
More kidnapping	-	11
More use of weapons/firearms	12	11
More unpredictable behaviour/ irrational violence	24	11
More violence to recover drug debts	-	11
More drug deals gone wrong	-	4
More violent rape	-	4
More unprovoked stranger violence	-	2
More home invasions	-	2
More bar fights	-	2
More aggravated robbery	-	2
More serious assaults	-	2
More child abuse	-	2
More violent drug offences	-	2
More aggressive demeanour	24	-
Less violence	6	-

Change in the level of sex offending by methamphetamine users

Drug enforcement key informants were asked if they had noticed any changes in the level of sex offending by methamphetamine users in the last six months. Only 8% of drug enforcement key informants reported changes in the level of sex offending by methamphetamine users (Table 7.10). This is likely to reflect the relatively low level of this type of offending in the general population. Enforcement key informants most commonly reported more violence being used by methamphetamine users involved in this type of offending.

Table 7.10: Change in the level of violence by methamphetamine users in the last six months

Change	Enforcement % (n=6)
More violence being used in offending	50
Big rise in sex offending but low levels of reporting	17
More domestic violence	17
More acts of rape	17
More acts of kidnapping	17
Increased sexual urge in offenders	17

Change in the way precursor chemicals are obtained

User and enforcement key informants were asked if they had noticed any changes in the way the precursor chemicals needed to manufacture methamphetamine had been obtained in the last six months. About one third of user, and just over half of enforcement, key informants had noticed changes. Many user (45%) and drug enforcement (22%) key informants indicated that buying pseudo-ephedrine based flu products from chemist shops had become more difficult, as a result of the checks now commonly used by chemists (Table 7.11). Consistent with this finding, both user and enforcement key informants indicated an increase in alternative means to obtain precursor chemicals such as 'importation from overseas (Asia)', 'chemist shop burglaries', 'internet purchasing' and 'thefts from chemical suppliers'. User key informants also reported changes in the method of manufacture and hence the type of precursors required for manufacture. This type of strategic response to greater precursor controls has been found in other countries with methamphetamine problems. Methamphetamine manufacturers switch to new methods of manufacture which require precursors which are less subject to regulation and surveillance by the authorities.

Table 7.11: Change in the way precursor chemicals are obtained to manufacture methamphetamine in the last six months

Change	Users % (n=20)	Enforcement % (n=45)
More imported from overseas (e.g. Asia/China)	10	36
More chemist shop burglaries	10	31
More pseudo-ephedrine shopping rings	-	22
More purchases via the internet	-	13
More chemical thefts from chemical suppliers/industry/universities	15	13
More ephedrine imported by couriers internally		11
Less pseudo-ephedrine 'shopping' from chemists/shopping from chemists harder/difficult due to checks/more going out of town	45	22
Intimidation and bribery of legitimate industry people	-	4
Precursor smuggling through the mail	-	4
More violence/intimidation of shop assistants	5	4
Use of forged prescriptions	-	2
Younger shoppers used to obtain pseudo-ephedrine	-	2
Gang members organising pseudo-ephedrine shopping networks	-	2
Target truckers to get chemicals	-	2
Increasing use of Asian sources for pseudo-ephedrine	-	2
Methamphetamine cooking becoming more refined/ new methods of manufacture used requiring new types of precursor	10	2
Price of some precursors have dropped	-	2
Chemist shops still big source of pseudo-ephedrine	-	2
Glassware harder to get	5	
Legitimate means of getting precursors	5	
Price of precursors going up	5	

Change in manufacture

All three key informant groups were asked if they had noticed any changes in the way methamphetamine is manufactured in the last six months. One quarter of users, and about one third of

enforcement and treatment key informants reported changes in manufacture (Table 7.12). A high proportion of all three key informant groups noted that more people were learning the methamphetamine 'cooking' process and establishing small scale local home production. This observation is consistent with further observations made by users that there were more 'lower grade cooks', 'poorer ingredients used', and less 'gang involvement'. Enforcement key informants reported a range of strategies being employed by manufacturers to avoid detection, including 'mobile laboratories', 'smaller laboratories', 'rural manufacture' and the use of 'surveillance systems' to warn of the presence of police or criminal rivals.

Table 7.12: Changes in the manufacture of methamphetamine in the last six months

Change	**Users % (n=13)**	**Enforcement % (n=32)**	**Treatment % (n=14)**
More people learning the 'cooking' process for methamphetamine/localised/home manufacture	31	51	57
Increased use of the 'Par bomb' method	-	19	
Mobile methamphetamine laboratories	-	16	
Mini/ smaller methamphetamine laboratories		9	
High levels of gang involvement in manufacture/Maori gang involvement increasing	8	6	21
Methamphetamine 'cooks' in prison teaching others		6	
Sophisticated surveillance used to warn of police presence		6	
More rural methamphetamine manufacture		6	
Fencing/fortressing/dogs used to prevent police entry		3	
Splitting up manufacture process to different locations		3	
Professional 'cooks' gone rural		3	
More lower grade cooks	23		
Poorer ingredients	8		
Less gang involvement	15		
More overseas product			21
Improved quality of manufacture			14

Change in the international smuggling of methamphetamine

Drug enforcement key informants were asked if they had noticed any change in the international smuggling of methamphetamine in the last six months. About one third of enforcement key informants indicated they had observed changes in this area (Table 7.13). The change most often reported were more 'international smuggling of ephedrine/ more precursors and ice from Asia', more 'postal smuggling', and use of 'human couriers'.

Table 7.13: Changes in the international smuggling of methamphetamine in the last six months

Change	Enforcement % (n=23)
More international smuggling of ephedrine/more precursors and ice from Asia	52
More postal smuggling	13
More use of human couriers (body packing/internal)	13
Precursors ordered over the internet	9
Precursors smuggled in shipping containers	4
Precursors smuggled from Bali	4
Precursors smuggled from Vietnam	4
Imports less important more available locally	4
Imports coming from Australia	4

Involvement of organised crime

Organised crime and the international smuggling of methamphetamine

Enforcement key informants were asked what percentage of the cases in the last six months involving the *international smuggling* of methamphetamine or precursor chemicals, of which they had direct knowledge, had involved members of organised criminal groups such as motorcycle, ethnic or family gangs. Twelve percent of enforcement key informants (n=9) provided an estimate of the number cases of the international smuggling of methamphetamine which involved organised criminal groups. Responses were provided by all the enforcement key informants working in the Customs service. The enforcement key informants reported that an average of 70% of cases (range 5%-100%), of the international smuggling of methamphetamine, involved organised criminal groups. Enforcement key informants were asked to name the three groups most often encountered (Table 7.14). Each key informant could name up to three groups. The three groups most often mentioned as involved in the international smuggling of methamphetamine were the 'Mongrel Mob', 'Asian Triads' and 'Black Power'.

Table 7.14: Organised criminal groups most often mentioned as involved in the international smuggling of methamphetamine or precursors

Group	Enforcement % (n=12)
Mongrel Mob	67
Asian Triads	33
Black Power	25
Hells Angels	17
Highway 61	17
Greasy Dogs	8
Filthy Few	8
Mothers	8
Headhunters	8
Tribesmen	8
Outcasts	8
Satans Slaves	8
Epitaph Riders	8
Road Knights	8
Magogs	8
Older junkies	8

Enforcement key informants were then asked what percentage of the cases in the last six months involving the *manufacture* of methamphetamine, of which they had direct knowledge, had involved members of organised criminal groups such as motorcycle, ethnic or family gangs. Fifty-four percent of enforcement key informants (n=40) provided an estimate of the percentage of methamphetamine manufacture cases involving organised criminal groups. The enforcement key informants reported that an average of 80% of methamphetamine manufacture cases (range 25%-100%) involved organised criminal groups. Forty percent of enforcement key informants indicated 100% of cases involved organised criminal groups. Table 7.15 presents the groups identified as the greatest offenders. The three groups mentioned most often by the key informants were the 'Mongrel Mob', 'Black Power' and the 'Tribesmen'.

Table 7.15: Organised criminal groups most often mentioned as involved in the manufacture of methamphetamine

Group	Enforcement % (n=43)
Mongrel Mob	53
Black Power	29
Tribesmen	21
Head Hunters	21
Hells Angels	12
Satans Slaves	12
Highway 61	12
Road Knights	9
Filthy Few	6
Greasy Dogs	6
Magogs	6
Nomads	6
Epitaph Riders	6
James Sanason Syndicate	3
Asian Organised Crime	3
Riverhead Rough Riders	3
Lone Legion	3
Lost Breed	3
McFall Family	3
Maihi Family	3
Fatu Family	3
MacDonalds Family	3
FTW	3
Southern Vikings	3

Enforcement key informants were asked what percentage of cases in the last six months involving the *sale* of methamphetamine, of which they had direct knowledge, had involved members of organised criminal groups such as motorcycle, ethnic or family gangs. Fifty-eight percent of enforcement key informants (n=43) provided an estimate of the percentage of methamphetamine sale cases involving organised criminal groups. The enforcement key informants reported that an average of 72% of cases (range 5%-100%) of methamphetamine sale involved organised criminal groups. Sixteen percent of enforcement key informants indicated 100% of cases of methamphetamine sale involved organised criminal groups. The three groups most often mentioned by the enforcement key informants, as the most involved in the sale of methamphetamine, were the 'Mongrel Mob', 'Black Power' and the 'Tribesmen' (Table 7.16).

Table 7.16: Organised criminal groups most often mentioned as involved in the sale of methamphetamine

Group	Enforcement % (n=35)
Mongrel Mob	54
Black Power	46
Tribesmen	20
Head Hunters	17
Satans Slaves	17
Hells Angels	14
Highway 61	9
Riverhead Rough Riders	9
Epitaph Riders	6
Magogs	6
Mothers	6
Sanson Syndicate	6
Road Knights	6
Outlaws	6
Nomads	6
Lone legion	6
Lost Breed	6
Asian Organised Crime	3
Lone Legion	3
McFall Family	3
Maihi Family	3
Fatu Family	3
FTW	3

Conclusion

The majority of all three key informant group participants reported there had been an increase in either the use of methamphetamine, or the demand for methamphetamine treatment in the last six months. However, it is interesting to note that the user key informants placed the greatest qualification on this picture of the present situation, with 22% reporting 'no change' and 21% reporting a 'decrease' in methamphetamine use (58% reporting an 'increase'). No enforcement or treatment key informants indicated a decrease in use. This may reflect users' superior first hand and up-to-the-date appreciation of use trends, while enforcement and treatment officials rely on lagged proxies for understanding trends in use, such as number of methamphetamine arrests or number of new methamphetamine patients. Alternatively, the reports by user key informants of decreased use may only represent the Auckland situation or a trend that emerged in the early part of 2004 after the enforcement and treatment surveys had been completed. Another possible interpretation is that, while methamphetamine use continues to increase overall, there may have been a decrease in use among some sections of users. This may represent a natural rate of attrition, as some heavy problematic users either go into drug treatment or are incarcerated. The indication from the user key informants is that, in the context of overall increasing use of methamphetamine, there is some decreasing use. It remains

to be seen what impact this decrease in use has on the level of use of methamphetamine in New Zealand at the population level.

The new groups of methamphetamine users identified by the key informants are consistent with the understanding that methamphetamine use has diffused from the 'originator' sub-cultures such as the dance party community and motorcycle gangs to broader society, which includes lower socio-economic groups and Maori and Polynesian peoples. These groups may be introduced to methamphetamine through existing cannabis networks, either through personal associations or cannabis supply networks. The increase in use by teenage girls is consistent with trends in amphetamine use identified overseas (Klee, 2001). Young women have historically been attracted to amphetamines for the drugs weight reduction properties.

The characteristics of methamphetamine use reported by the key informants suggest the common use of more potent forms of 'pure' methamphetamine and administration of the drug by smoking, snorting and injection. Both smoking and intravenous administration are the most efficient means of delivering a drug to the brain and consequently increase the risk of binge use, addiction, and health and mental problems. The intravenous administration of methamphetamine introduces other health issues associated with needle use, such as the transmission of the blood borne viruses Hepatitis B and C and HIV. New, young intravenous drug users are less likely to be educated in safe injection practices and hence present a high degree of risk in regard to the transmission of these viruses (Klee, 1992). Amphetamine users' low level of contact with traditional drug and alcohol services and needle exchange services mean they may be less likely to come into contact with information and advice with regard to safe injecting practices (Klee, 1992, Klee and Morris, 1994, Hando et al., 1997). Amphetamine's effects on enhancing sociability may also increase the risk of this population of drug users spreading blood-borne viruses via intravenous use and sexual contact (Klee, 1992).

The black market indicators for amphetamine (price, availability and purity) suggest a strong illicit trade in the drug in New Zealand. However, about one-fifth of user key informants reported the availability of methamphetamine was getting 'harder' and that the 'purity' of methamphetamine was 'lower' compared to six months ago. This may be the result of a greater enforcement focus on methamphetamine in recent months and years. As noted earlier, the reports of more drug dealing by methamphetamine users and a greater cross section of people selling the drug are consistent with the spread of methamphetamine use to wider sections of society. Heavy users of a drug often resort to selling it as a way to support their own consumption. As methamphetamine use spreads to broader sections of society a greater cross section of people will also become involved in selling the drug. The sale of smaller weights of methamphetamine and the selling of methamphetamine from cannabis drug houses suggest marketing strategies aimed at lower socio economic groups, teenagers (with low

disposable incomes) and traditional cannabis users. These target groups are consistent with the new user groups identified earlier.

The trends reported by key informants, concerning enforcement activity and arrests related to methamphetamine, indicate a growing awareness of the increased enforcement effort against methamphetamine. While this additional enforcement activity was judged to be having only a modest impact on the availability of methamphetamine, about 10% of users indicated the drug had become 'more difficult' to obtain compared to six months ago. About one-third of users indicated that 'more' of the users they knew had been arrested in the last six months.

Methamphetamine users were considered to be involved in more 'violent crime' and more 'crime in general'. They were also reported to be involved in more 'serious violence' and 'aggressive' behaviour in general. While methamphetamine has a reputation for exacerbating aggression, and has been identified as a factor in a number of high profile violent crimes in New Zealand, it is important to appreciate the many factors and contexts that contribute to violent behaviour and crime (MacCoun et al., 2003). Any pharmacological relationship between the ingestion of a drug and enhanced violent tendencies will also be influenced by the users general tendency to be violent, their mood at the time of use, the context and situations they face while under the influence of a drug, and any other drugs they may have used or be withdrawing from at the time. Single high profile violent crimes, which receive a great deal of media attention, can create a public perception of a stronger causal relationship between the use of a drug and violent behaviour than may actually exist.

The reports of the key informants suggest that the greater vigilance now exercised over the sale of pseudo-ephedrine based flu products from chemists has reduced the attractiveness of this source and encouraged alternative strategies. These include chemist shop burglaries, thefts from chemical suppliers and the international smuggling and clandestine purchase of precursors from overseas. The trend of more small-scale home methamphetamine manufacture is consistent with findings, identified earlier, of a broadening of the user group and users and manufacturers reacting to greater enforcement activity. In the same way that heavy users turn to drug dealing to support their own consumption, they can also resort to drug manufacture or cultivation to supply their personal consumption and that of others. The relatively simply chemical reactions and common chemicals required for the production of methamphetamine lend themselves to home production. New Zealanders have a cultural history of practical inventiveness and this is reflected in efforts at home drug production, known as 'homebake', by which heroin is produced from opiate derivatives.

Enforcement key informants indicated high levels of involvement by organised criminal groups in the importation, manufacture and sale of methamphetamine in New Zealand. Organised criminal groups

were thought to be most involved at the level of amphetamine manufacture, followed by importation and sales operations. Apart from importation, where 'Asian triads' were identified as a leading group, three local and established gangs (the 'Mongrel Mob', 'Black Power' and the 'Tribesmen') were identified as the groups most often involved in the methamphetamine trade in New Zealand. The 'Hells Angels' and 'Headhunters' were also commonly mentioned. The validity of the information obtained linking organised crime and methamphetamine would be strengthened by developing sources beyond law enforcement, but this is problematic given the nature of organised crime. It may be the case that methamphetamine manufacture conducted by groups already known to law enforcement, and hence under some kind of surveillance, is more likely to be investigated and to be detected by enforcement. This may distort the picture enforcement agencies have of the extent of their influence on the wider methamphetamine and drugs trade. It seems reasonable to accept that motorcycle gangs, with affiliations in Australia and the United States, played a leading part in the importation of the 'know how' to produce methamphetamine to New Zealand and, that for some time, these groups had a clear monopoly over the trade based on this knowledge. However, it appears that over time there has been a natural diffusion of this knowledge to others in the criminal fraternity, when methamphetamine manufacturers are confined in prison for example. The spread of methamphetamine manufacture beyond strict gang control is consistent with some of the other trends, reported earlier, around manufacture. The question then is, to what extent this process has eroded gang control of methampehtamine manufacture and sale. This issue requires a more in-depth investigation than can be achieved here. Based on the reports of law enforcement key informants, it appears that gangs are still large players in the methamphetamine trade. It remains to be seen to what extent methamphetamine manufacture will devolve to a home 'cottage' industry, following the same pattern as 'homebake heroin'.

Chapter 8: A Local Pilot of the New Zealand Arrestee Drug Abuse Monitoring (NZ-ADAM) System

Introduction

A key area of concern related to the rise in methamphetamine use is the role the use of this drug is having on serious criminal offending and in particular on violent criminal offending. Drug use can be conceptualised as being linked to violent crime in three broad ways: (i) psychopharmacological – an intoxicated drug user commits a violent crime, such as homicide or domestic violence; (ii) economic-compulsive – a drug user engages in criminal offending and violence to obtain money to purchase drugs, such as street robbery or car theft; and (iii) systemic – violence is used as part of the process of carrying out 'business' in the illicit drug market, such as threatening drug debtors or assaulting rival drug dealers (Goldstein, 1989).

One of the principal aims of New Zealand Arrestee Drug Abuse Monitoring system (NZ-ADAM) is to illuminate the relationship between drug use and serious criminal offending by collecting empirical data around this issue and within the proposed tripartite framework. Emerging in part out of impetus around the ATS work, the Accident Compensation Corporation (ACC) agreed to fund a local pilot of the NZ-ADAM system to provide a trial of the NZ-ADAM research design under actual Police watch-house conditions and to demonstrate the value of data able to be collected from the research programme. The full findings of the local pilot of NZ-ADAM were presented to ACC in a report in July 2004 (Wilkins et al., 2004b). The small sample size of the local pilot limited the statistical analysis that was possible which means the results should be treated with some caution. However, as the first research of this type completed in New Zealand, the local pilot provides a valuable opportunity to take a preliminary look at the relationship between methamphetamine and crime. This chapter summarises the findings of the local pilot of the NZ-ADAM methodology. The discussion focuses on implications of the pilot findings for the understanding of ATS drug use and criminal offending in New Zealand.

Method

Introduction

The core methodological features of the ADAM methodology are: (i) the interview of arrestees about their drug use while held at a police watch-house by researchers independent from the police and (ii) the verification of this self reported drug use through the analysis of a urine sample from the arrestee. NZ-ADAM extended the drug testing regime to include alcohol breath testing to examine the alcohol use of arrestees and the role alcohol plays in criminal and violent offending. Drawing on the most recent extension of the ADAM methodology (Hunt and Rhodes, 2001), NZ-ADAM was designed to collect a representative sample of all the arrestees brought to a police watch-house during the three weeks of the study.

Sample design

Interviewers completed eight hour shifts of interviewing each day for twenty-one consecutive days. To represent all the arrestees processed at the watch-house over an entire 24 hour period, interviewers sampled from the arrestees who were brought to the watch-house while they were present (the 'flow') and from those who had been processed and held during the preceding two shifts (the 'stock'). Interviewers were present during afternoon shifts (3pm-11pm), night shifts (11pm-7am) and day shifts (7am-3pm). To be eligible to be interviewed an arrestee must have been in custody for less than 48 hours and be aged 17 years or older. Census information gathered on the arrestee population, including the date and time of booking and details of the charge, were collected at each shift and used to weight the final sample. A response rate of 70% was achieved. A detailed breakdown of the outcomes of selection is presented in Appendix 3.

Interview

Interviewers worked in pairs from a dedicated interview room within the police watch-house. Police officers escorted the arrestees back and forth from the holding cells to the interview room but did not remain in, or around, the interview room when an interview was being conducted. Arrestees deemed unfit to be interviewed due to alcohol or drug intoxication, violent behaviour, unfit mental state, illness, or physical injury were not interviewed. The arrestees were informed that everything they said was confidential and that no details provided would have any impact on their legal situation. Arrestees were provided with a participant information sheet with this commitment in writing signed by an Acting Deputy Police Commissioner and the Director of SHORE. The names of arrestees were

not recorded on either their completed questionnaire or breath and urine samples. A generic barcode was used to match the questionnaire and test results up at a later stage for the purposes of analysis.

Questionnaire

The questionnaire consisted of six sections: (i) demographics; (ii) drug use patterns; (iii) drug treatment; (iv) drug procurement; (v) new drugs and risks of drug selling, and; (vi) income sources and arrest history. The questionnaire was developed and adapted from the Australian DUMA questionnaire to allow inter-country comparisons. An entirely new section was added to the NZ-ADAM questionnaire on drug selling. New questions were also included to more clearly illuminate the relationship between drug use and violence, the impact of drug use on driver impairment, and to identify barriers to accessing alcohol and drug treatment services.

Drug testing

Most illicit drug types can be detected in the urine for at least 24 hours after ingestion. Chronic cannabis use (>5 joints per day) can be detected in the urine for up to 20 days after use. Amphetamine can be detected anywhere between 1 to 4 days. The urine analysis consisted of an initial immunoassay screening test of the six main drug groups (i.e. amphetamines, benzodiazepines, cannabinoids, cocaine, methadone and opiates). If the initial screen was positive, a gas chromatography mass spectrometry or liquid chromatography mass spectrometry confirmation test was used to identify the specific drug type involved. The 'cut off' levels used to indicate the presence of these substances are part of a joint New Zealand/Australian standard (AS/NZS 4308:2001). All analysis was carried out by the Institute of Environmental Science and Research (ESR).

Results

The sample consisted of 62 arrestees from the Papakura police watch-house in South Auckland. Ninety-seven percent of the arrestees interviewed provided an alcohol breath sample. Fifty-seven percent provided a urine sample.

Demographics

Eighty-six percent of the sample was male. The mean age of the arrestees was 28 years (range 17-59 years). Fifty percent of the sample identified as Maori and 13% were from one of the Pacific Islands. Twenty-four percent of arrestees were European. Forty-six percent of the arrestees were in paid employment (full or part-time) and 24% were unemployed. Forty-two percent of arrestees had no school qualifications. Twenty-one percent had at least one school certificate subject or NCEA level 1. Eleven percent were either studying for or had completed a university degree. Fifty-three percent of the arrestees were single and had never married. Twenty-seven percent were living in a de facto relationship and 5% were married. Fifteen percent were separated or divorced.

Drug use patterns

Arrestees were asked a series of questions about their patterns of drug use. Ninety percent of arrestees had tried cannabis, 49% had tried amphetamine, 32% had tried ice and 27% had tried ecstasy. Sixty-three percent of arrestees had used cannabis in the last year, 41% had used amphetamine in the last year, 11% had used ice in the last year, and 7% ecstasy in the last year.

Table 8.1 presents the drug types used by the arrestees in the last 30 days, last 48 hours and just before they were arrested. None of the arrestees had used 'Heroin/Morphine/Opiates', 'street methadone' or 'tranquillisers' in the last 30 days. On average, cannabis was used most frequently (an average of 11 days), followed by alcohol (10 days), amphetamine (6 days) and crystal methamphetamine (5 days) during the previous 30 days. Those who had drunk alcohol in the 48 hours preceding their arrest (i.e. 64% of arrestees) consumed an average of 14 standard drinks. The drug types most often reported used in the time leading up to arrest were alcohol (45% of arrestees), cannabis (22%) and amphetamine (9%).

Table 8.1: Self-reported recent drug use

Drug type	Used in the last 30 days %	Number of days used drug in the past month			Used drug in the past 48 hours %	Quantity used in the last 48 hours			Used before offence %
		min	mean	max		min	mean	max	
Alcohol	87	1	10	30	64	21.3ml/ 1 std drink	216.7ml /14 std drinks	568.0ml /38 std drinks	45
Cannabis	57	1	11	30	43	0.2g	2.1g	10.0g	22
Cocaine	2	1	2	4	1	-	-	-	1
Amphetamine/ Methamphetamine	21	1	6	15	11	0.1g	0.3g	0.5g	9
Ice (Crystal methamphetamine)	3	2	5	8	1	0.1g	0.2g	0.3g	0
Ecstasy (MDMA)	2	3	3	3	0	-	-	-	0
Hallucinogens (LSD)	4	2	3	4	2	10.0 tabs	10.0 tabs	10.0 tabs	0

Impact of drug use on criminal offending

Those who reported using a drug in the 48 hours before their arrest were asked to assess how much their use of the drug contributed to the activities they were subsequently arrested for. The results exclude those arrested for drug offences only. The small number of arrestees who had used particular drug types in the last 48 hours limited this analysis to alcohol, cannabis and amphetamines. About 50% of those who had used cannabis in the 48 hours before their arrest indicated that their use of this substance did not contribute 'at all' to the activities they were subsequently arrested for (Table 8.2). In contrast, 41% of those who had used alcohol in the 48 hours prior to their arrest reported alcohol was responsible for 'all' of the activities they were subsequently arrested for. Those who had used amphetamine in the 48 hours before their arrest were most likely to say their recent amphetamine use had at least 'some' impact on the activities they were arrested for with none saying it had 'little' or 'no' effect.

Table 8.2: Self-reported extent drug use contributed to the activities arrested for

Drug type	All	A lot	Some	A little	Not at all
Alcohol	41	-	33	18	8
Cannabis	13	-	25	14	48
Amphetamine/ Methamphetamine	25	4	71	0	0

Drug use and anger

All the arrestees who had used a drug in the last 12 months were asked about the effect their use of the drug had on their likelihood to get angry. Fifty-one percent of those who had used crystal methamphetamine, and 32% of those who had used amphetamine, indicated these substances were 'more likely' or 'much more likely' to make them angry (Table 8.3). Ecstasy and cannabis were the drug types least likely to make users angry, with 77% and 75% of last year users respectively indicating they were 'less likely' or 'much less likely' to become angry after using them.

Table 8.3: Effect of drug on likelihood to get angry

Drug type	Much less likely	Less likely	No effect	More likely	Much more likely
Alcohol	32	15	28	16	9
Cannabis	46	29	18	1	6
Amphetamine/ Methamphetamine	18	16	33	8	24
Ice (Crystal methamphetamine)	0	19	30	51	0
Ecstasy	77	0	23	0	0
Hallucinogens	34	29	37	0	0

Drug use by offence category

Arrestees were grouped into four broad categories of offending based on the first charge on their charge sheets (i.e. 'property', 'violence', 'alcohol/drugs' and 'miscellaneous'). The miscellaneous category was made up of arrests for a range of offences including 'breach of bail', 'driving while disqualified' and 'failed to appear'. The arrestees self-reported drug use just before their arrest was then examined for each broad offending class.

Figure 8.1 shows the proportion of arrestees committing an offence who used a drug type just before being arrested. For property offences, 46% of arrestees reported using alcohol just before their arrest, 27% reported using cannabis just before their arrest and 19% reported using amphetamine just before their arrest.

Figure 8.1: Level of self-reported drug use just before arrest by offence category

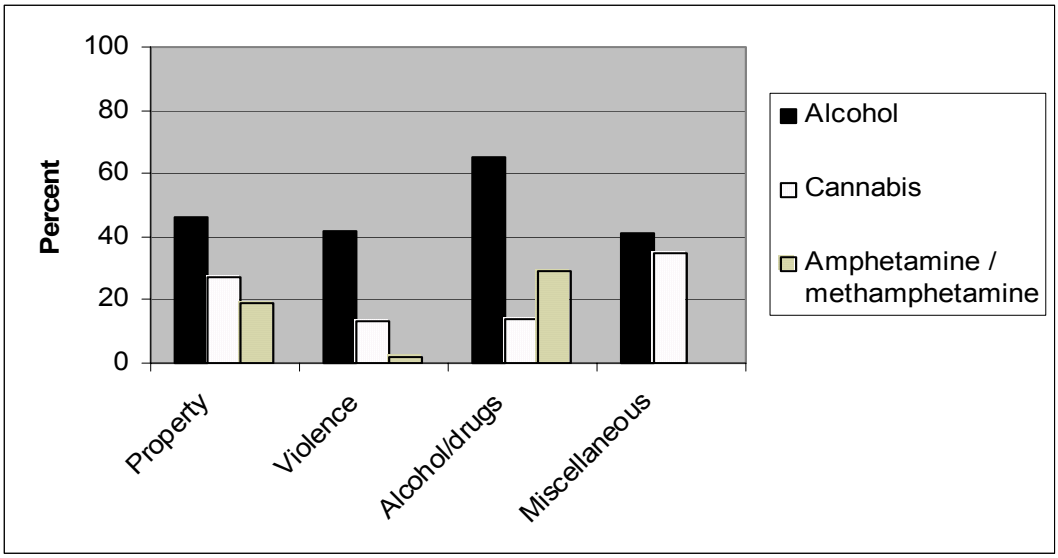
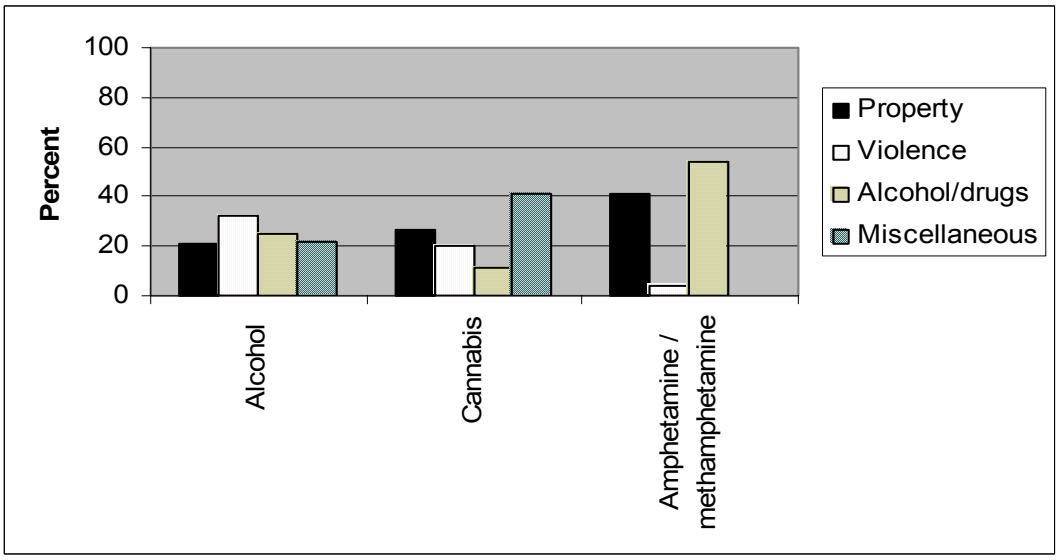


Figure 8.2 shows the proportion of arrestees who had used a drug just before their arrest by the offence type they were arrested for. For those who reported using alcohol just before arrest, 32% were arrested for a violent offence, 25% for an alcohol/drugs offence, 22% for a miscellaneous offence and 21% for a property offence.

Figure 8.2: Type of offence by those who self reported the use of a drug in the last 48 hours



Drug use and driving

Those arrestees who had used a drug in the last year were asked how much driving they had done while under the influence of the drug in the last 12 months. Those who indicated they did not drive are not included in the results. Cannabis was the drug that arrestees most often indicated they were under the influence of while driving, with 26% of last year cannabis users reporting they had done 'most' or 'all' of their driving while under the influence of cannabis (Table 8.4). Fourteen percent of arrestees had done 'most' or 'all' of their driving while under the influence of alcohol. Sixteen percent of amphetamine users and 34% of ice users had done 'some' of their driving under the influence of these substances.

Table 8.4: Driving done under the influence of a drug in the last year

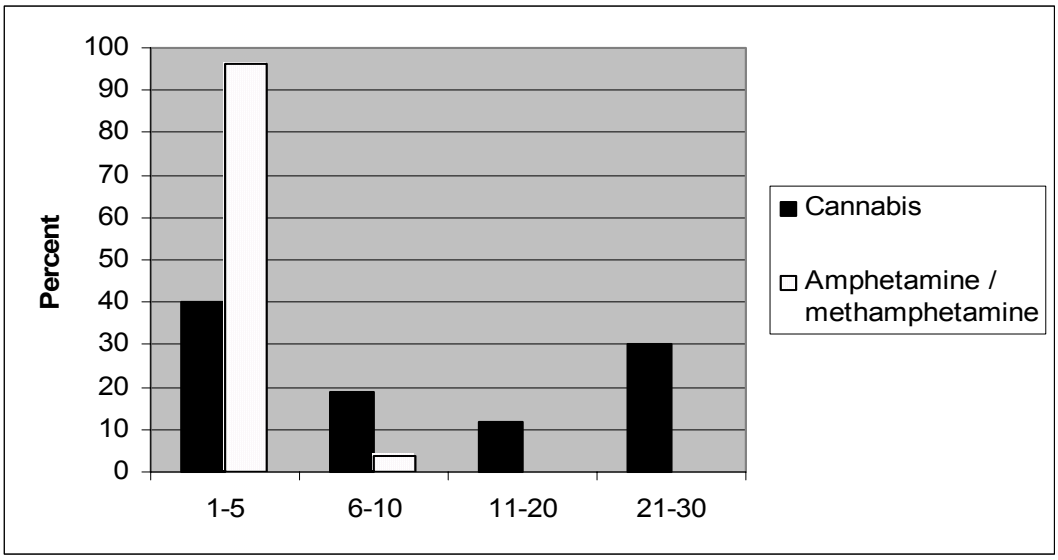
Drug type	All	Most	Some	Hardly any	None
Alcohol	4	10	12	14	61
Cannabis	11	9	27	21	33
Amphetamine/ Methamphetamine	-	-	16	29	55
Ice (Crystal methamphetamine)	-	-	34	23	43
Ecstasy	-	-	-	48	52
Hallucinogens	-	-	-	-	100

Purchasing drugs

Fifty percent of arrestees had purchased an illegal drug in the last 30 days. The drug types most commonly purchased were cannabis (44% of arrestees) and amphetamine (9%).

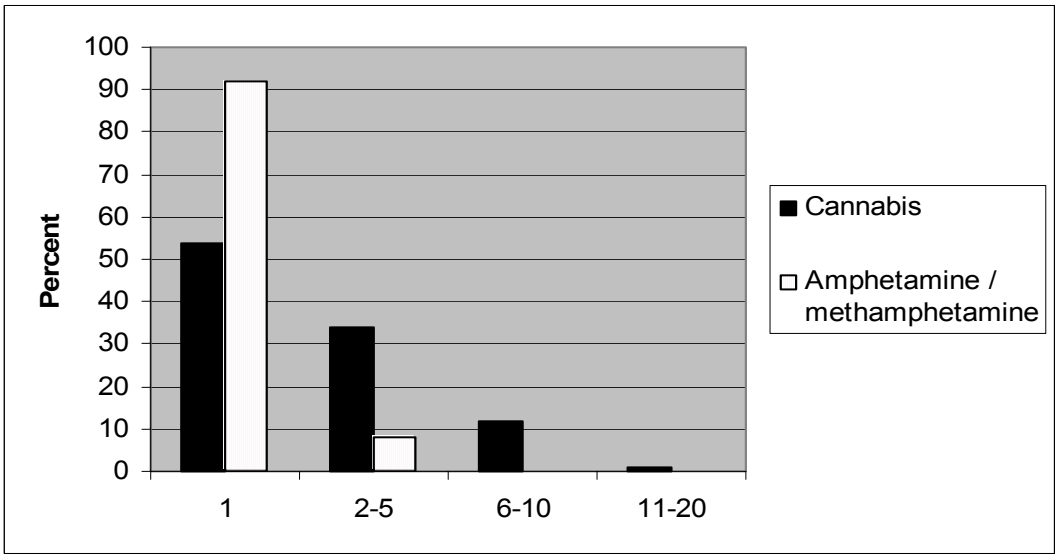
Figure 8.3 presents the number of days on which those who had purchased one of these substances had done so in the last month. It shows that amphetamine was purchased less frequently than cannabis with only 4% of amphetamine buyers compared to 60% of cannabis buyers purchasing more than five times in the last month.

Figure 8.3: Number of days purchased a drug in the last month



Those who had purchased a drug in the last month were asked how many different sellers they had purchased these substances from in the last month. Figure 8.4 presents the results for cannabis and amphetamine. Those purchasing amphetamine overwhelmingly used just one seller in the last month. In contrast, about one-half of those purchasing cannabis used more than one seller in the last 30 days. Just over 10% of cannabis buyers used six or more sellers in the last 30 days.

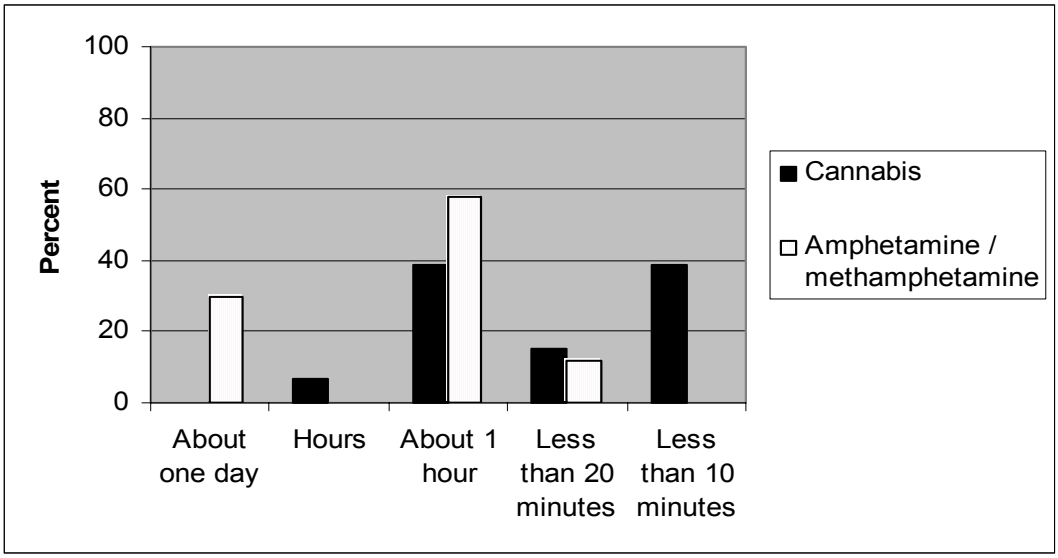
Figure 8.4: Number of different sellers used in the last month



Those who had purchased a drug in the last month were asked how long it usually took them to purchase it. The answers for cannabis and amphetamine are presented in Figure 8.5. Figure 8.5 shows that buyers can generally purchase cannabis quicker than amphetamine. Forty percent of cannabis buyers could purchase cannabis in less than 10 minutes. In contrast, no-one reported being able to

purchase amphetamine in this timeframe. Nearly a third of amphetamine buyers took a day to make a purchase of amphetamine while no cannabis buyers reported taking this long to purchase cannabis.

Figure 8.5: Time taken to make a purchase of a drug type



Those who had purchased a drug type in the last month were asked the typical quantity they purchased and dollar amount they spent. The median cannabis purchase was 1.5 grams (a 'tinny') (Table 8.5). The median dollar amount spent on cannabis was $20. For amphetamine, the median quantity purchased was 0.5 grams. The median dollar amount spent on amphetamine was $350.

Table 8.5: Typical drug purchase of arrestees

	Cannabis		Amphetamine/ Methamphetamine	
	Qty purchased (grams)	**Dollar spent ($)**	**Qty purchased (grams)**	**Dollar spent ($)**
Minimum	1.5	15	0.1	50
Mean	8.0	79	0.9	461
Median	1.5	20	0.5	350
Maximum	56.0	500	1.6	1600

Arrestees who had purchased a drug in the last 30 days were also asked what proportion of their drug purchases they would usually sell on to others. Twelve percent of cannabis buyers indicated they sold at least some of their cannabis purchases on to others. Fifty-six percent of amphetamine buyers sold at least some of their amphetamine purchases on to others.

Those who had purchased a drug in the last 30 days were asked a series of questions about the characteristics of their last drug purchase, including how they contacted the seller and where they made the purchase. The results for cannabis and amphetamine are presented in Table 8.6. Those buying cannabis were most likely to purchase from a 'tinny house' or 'private house/flat'. Those purchasing amphetamine were more likely to purchase from a private house or from an outdoor area such as on a public street. Amphetamine buyers contacted their dealers by 'calling or texting on a mobile phone' or 'through a third party', while cannabis buyers were more likely to visit a 'private residence' or approach the seller in 'public'. Cannabis purchases were more likely than amphetamine purchases to be made in the suburb where the arrestee lived (54% vs. 21%).

Table 8.6: Characteristics of most recent drug purchase.

	Cannabis %	Amphetamine/ Methamphetamine %
Drug purchasing location		
Private house/flat	39	49
Tinny house	51	5
Public building	0	0
Pub	3	0
Street/outdoor area	2	46
Delivered in person	4	0
Purchased in the suburb where you live	54	21
Method used to contact the seller		
Call/text on mobile	6	46
Call on landline	4	0
Visit house or flat	65	17
Page on a beeper	0	0
Approach in public	20	0
Through third party	0	37
Already with seller	4	0
Relationship to seller		
Regular source	46	57
Occasional source	40	43
New source	14	0
Does the seller sell other drugs	81	95

Receiving drugs without paying cash

Forty-five percent of arrestees had obtained an illicit drug without paying cash for it in the last 30 days. Table 8.7 presents the different ways that arrestees obtained cannabis and amphetamine without paying cash for them. For both cannabis and amphetamine, the most common way the arrestees received these substances without paying cash for them was by having someone 'sharing them' with them. Cannabis and amphetamine were also received as 'gifts' or in 'exchange for stolen property'.

Table 8.7: Different ways drugs obtained without paying cash for them in the last 30 days

Way drug obtained without paying cash	Cannabis %	Amphetamine/ Methamphetamine %
Produce/cultivate	3	0
Credit for personal use	8	13
Credit to sell to others	0	0
Trade for other drugs	3	0
Trade for own property	4	10
Trade for stolen property	17	12
Transport drugs	0	0
Steal drug	3	0
Shared with you	43	43
Trade for sex	3	0
Receive as gift	35	31
Exchange for precursors	0	0

Selling drugs

Fifteen percent of the arrestees had sold an illicit drug in the last month. The drugs most commonly sold were cannabis (12%) and amphetamine (5%). Those arrestees who had sold a drug in the last 30 days were asked how many different people they sold drugs to in the last 30 days. Figure 8.6 shows that cannabis was sold more widely than amphetamine with 65% of those who sold cannabis selling to 11 or more different buyers in the last month. No amphetamine sellers sold to more than 5 buyers.

Figure 8.6: Number of different buyers sold to in last month

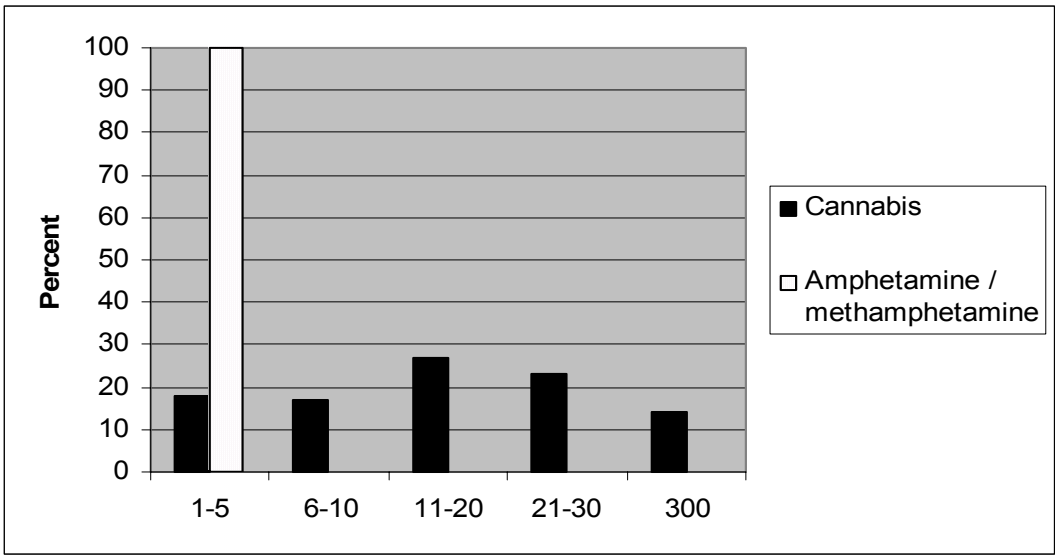


Table 8.8 presents the typical quantity of a drug the arrestees sold. Cannabis sellers typically sold about 3 grams or the equivalent of two 'tinnies' of cannabis. Amphetamine sellers typically sold 0.1 grams of amphetamine (the equivalent of a 'point').

Table 8.8: Typical quantity sold

	Quantity sold (grams)			
	min	**mean**	**median**	**max**
Cannabis	1.5	74.3	3	454.0
Amphetamine/ Methamphetamine	0.1	0.1	0.1	0.1

Those arrestees who had sold a drug in the last 30 days were asked a series of questions about their relationship to the people they had sold too. Table 8.9 shows that the amphetamine sellers limited their sales to 'close friends and family members'. In contrast, 35% of cannabis sellers sold 'most' of their cannabis to 'casual acquaintances' and 12% sold 'some' of their cannabis to 'complete strangers'.

Table 8.9: Relationship to buyer

Description of relationship to buyer	Cannabis	Amphetamine/ Methamphetamine
Close friends or family members		
All	67	100
Most	14	0
Some	12	0
Hardly any	0	0
None	7	0
Friends or friends of friends		
All	15	0
Most	38	0
Some	0	0
Hardly any	27	0
None	21	100
Casual acquaintances		
All	0	0
Most	35	0
Some	14	0
Hardly any	0	0
None	50	100
Complete strangers		
All	0	0
Most	0	0
Some	12	0
Hardly any	31	0
None	57	100

Arrests for drug offences

All arrestees were asked how many of their friends had been arrested for drug offences in the last 30 days. Table 8.10 presents the proportion of arrestees who indicated they had had a friend arrested for a drug offence in the last 30 days, and the average number of friends reported arrested in the last 30 days, by drug type. Seventeen percent of arrestees indicated they had a friend who had been arrested for an amphetamine offence and 14% reported they had a friend who had been arrested for a cannabis offence in the last 30 days.

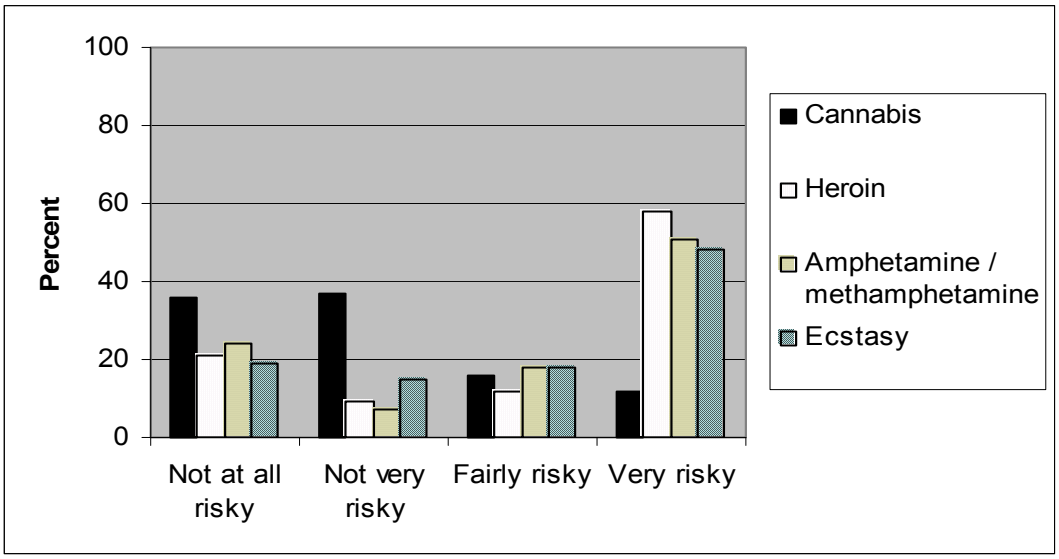
Table 8.10: Number of friends arrested for a drug offence in the last 30 days

Drug type	Any friends arrested %	Average number arrested
Cannabis	14	2.5
Heroin	1	-
Amphetamine/ Methamphetamine	17	2
Ecstasy	1	-

Perceived risk of buying and selling drugs

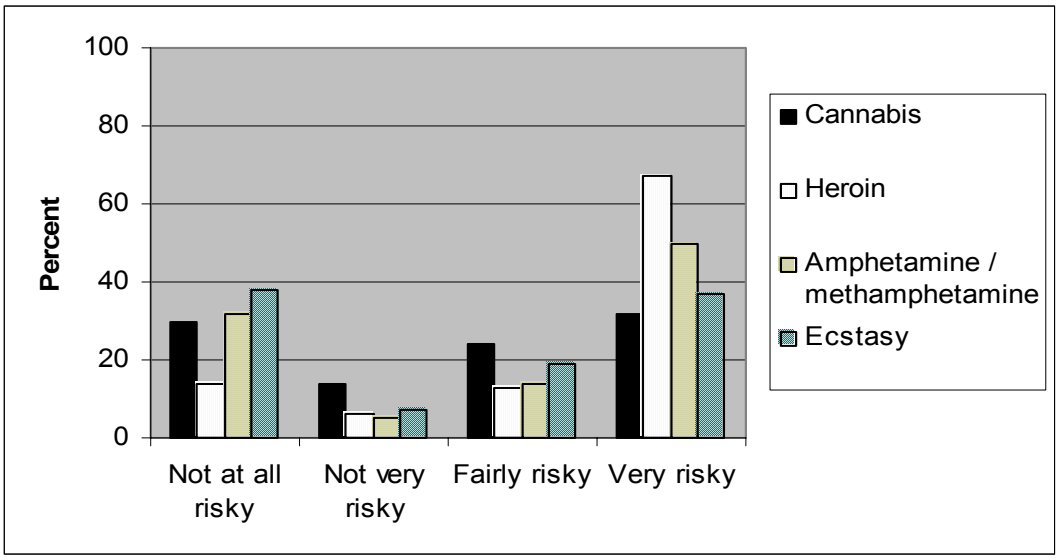
All arrestees were asked to rank how risky they thought it was to buy and sell different illicit drug types in the area where they live. The results are presented in Figure 8.7 and 8.8. About one-half of the arrestees described buying heroin, amphetamine or ecstasy as 'very risky'. However, about one-fifth of arrestees described buying these drug types as 'not at all risky'. About three quarters of arrestees believed buying cannabis to be 'not very risky' or 'not risky at all'.

Figure 8.7: Perceived risk of buying different drug types



Two-thirds of the arrestees described selling heroin as 'very risky' (Figure 8.8). One-half of arrestees described selling amphetamine as 'very risky'. However, about one-third of arrestees described selling cannabis, amphetamine or ecstasy as 'not at all risky'. Nearly half of arrestees believed selling cannabis to be 'not very risky' or 'not risky at all'.

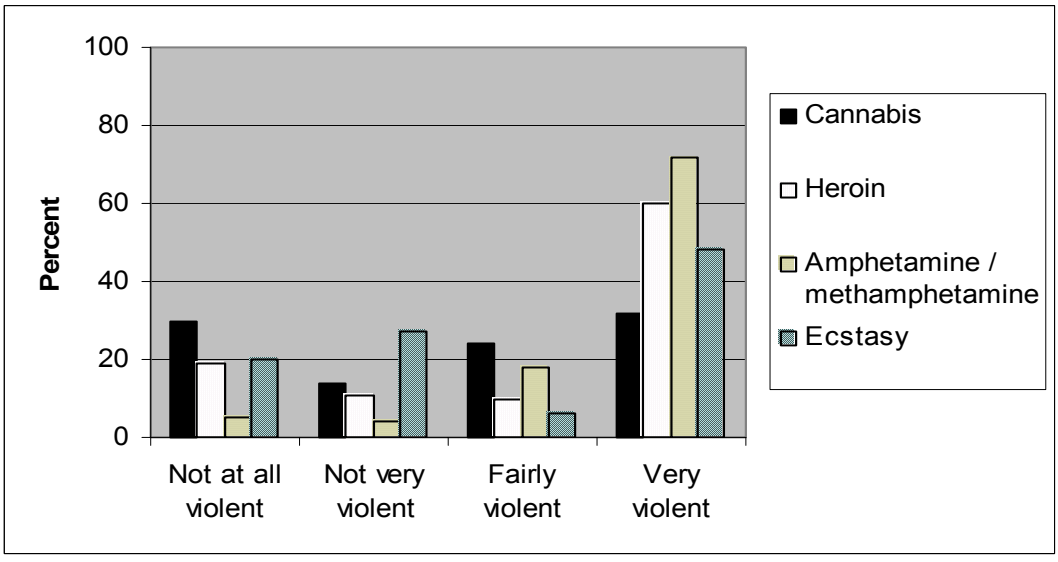
Figure 8.8: Perceived risk of selling different drug types



Perceived level of violence in illicit drug markets

All arrestees were asked questions about their perception of levels of violence associated with the current illicit market for different drugs. The illicit market for amphetamine was most clearly identified as violent, with nearly three quarters of arrestees describing it as 'very violent' and only 5% describing it as 'not at all violent' (Figure 8.9). There was some polarisation of opinion about the illicit market for cannabis, with 32% of arrestees describing it as 'very violent' and 30% describing it as 'not at all violent'.

Figure 8.9: Perceived violence in the illicit market for different drug types



Income sources

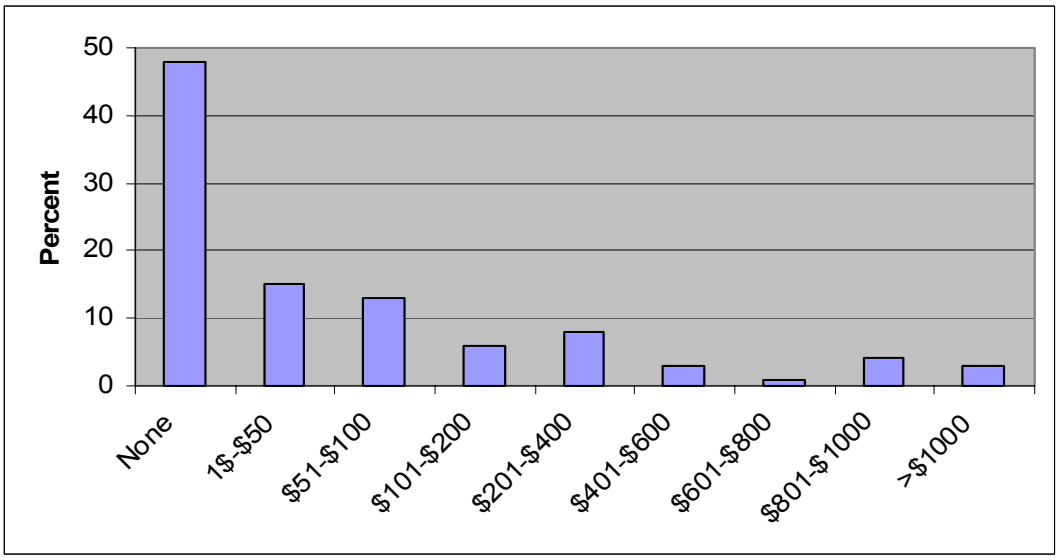
Arrestees were asked about all the different kinds of things they did to obtain money in the last 30 days. Table 8.11 presents the proportion of arrestees who received income from various legal and illegal sources in the last 30 days along with the dollar amounts received . The most common sources of income were 'family and friends' and 'welfare and government benefits'. The most common sources of illegal income were 'drug dealing' and 'car theft'. By average monthly income, the most financially rewarding illegal activities were 'drug manufacture/cultivation', followed by 'drug dealing' and 'car theft'.

Table 8.11: Sources of income in the last 30 days

Source of income	**Different sources %**	**Dollar amount received ($)**			
		Min($)	**Mean ($)**	**Median($)**	**Max($)**
Family or friends	41	20	1382	400	10,000
Welfare or government benefits	39	130	767	720	1,608
Full-time work	29	600	3,567	2,400	9,000
Part-time work	26	38	2,090	300	35,000
Sex work	1	3,000	3,000	3,000	3,000
Shoplifting	4	90	278	200	500
Drug dealing	12	50	1,932	1,600	4,000
Manufacturing/cultivating drugs	1	20,000	20,000	20,000	20,000
Burglary	4	400	547	400	2,000
Car theft	8	150	1,415	1,500	4,000
Theft	5	1,000	1,000	1,000	1,000
Robbery	3	100	100	100	100
Fraud	2	450	450	450	450
Other	1	1000	1,000	1,000	1,000

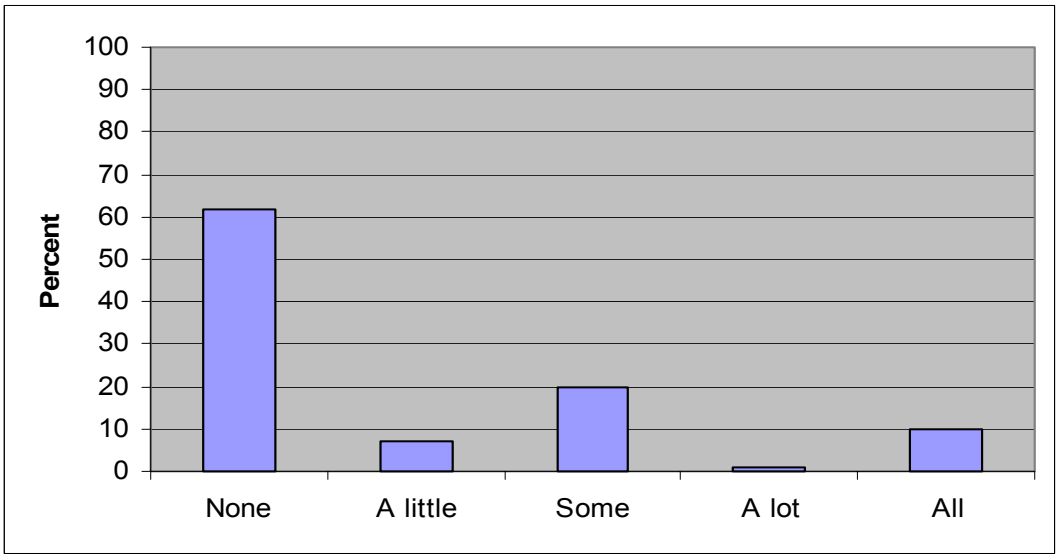
Arrestees were asked how much they had spent on illicit drugs in the last 30 days. The dollar amounts spent are presented in Figure 8.10. The mean dollar amount spent per arrestee, purchasing drugs in the last month, was $309 (maximum. $5,000).

Figure 8.10: Dollar amount spent on illicit drugs in the last 30 days



Arrestees were asked to estimate how much of their criminal offending was motivated by the need to obtain money to buy illicit drugs. Fifty-one percent of arrestees had committed no offences to obtain money. Of those who had committed offences to obtain money, 31% had committed at least some offences to obtain money to purchase drugs (Figure 8.11). Ten percent of these arrestees reported that 'all' of their offending was motivated by the need to obtain money for drugs.

Figure 8.11: Level of offending to obtain money for illicit drugs



Discussion: Implications for ATS

About half of the arrestees had tried amphetamine/methamphetamine, 32% had tried crystal methamphetamine, and 27% had tried ecstasy. Arrestees reported very high levels of ATS use compared to the general population, where only 10% had ever tried amphetamine/methamphetamine, 1% had tried crystal methamphetamine and 5% had tried ecstasy (Wilkins et al., 2002c). Nearly all the arrestees had tried cannabis (91%) compared to about 50% of the general population. When we look at last year use of ATS drugs by the arrestees, amphetamine/methamphetamine (41%) and crystal methamphetamine (11%) begin to emerge as the most commonly used compared to ecstasy (7%).

With respect to recent drug use (i.e. monthly or more often), and drug use just prior to committing an offence, amphetamine/methamphetamine emerged strongly as the ATS drug most favoured by arrestees. Only 3% of arrestees had used crystal metamphetamine, and only 2% ecstasy, in the previous month. None of the arrestees reported using these drug types prior to committing the offences for which they were arrested. In contrast, 21% of arrestees had used amphetamine/methamphetamine in the last month and 9% had used it just before committing their offence. The empathy enhancing characteristics of ecstasy would make it an unlikely choice of drug to use prior to offending. In contrast traditional amphetamine has long been identified as a drug used by criminals to enhance their alertness and confidence, thereby facilitating the commission of crime (Klee, 1997). Amphetamine has also been found to be used for its aggression enhancing properties by those anticipating or seeking violent conflict, for example football hooligans going to a game against a hated rival team (Klee, 1997).

About a quarter of amphetamine/methamphetamine users indicated that the use of this drug had contributed entirely to the activities they had been arrested for. While this figure was greater than that reported for cannabis (13%), it was much less than for alcohol (41%). As noted earlier, no arrestees had used ecstasy or crystal methamphetamine in the 48 hours prior to committing the offences for which they were arrested. The findings for the question linking arrestees' recent drug use with their arrest did not include arrests solely for possession, dealing or manufacture of an illicit drug. The question asked about the extent to which the *use* of a drug had contributed to arrest for non-drug offences (i.e. property or violent offences). The findings suggest that alcohol remains the drug which most often contributes to offending, while amphetamine/methamphetamine use is also a contributing factor in offending. Cannabis was the drug considered to be least likely to contribute to offending with 48% of arrestees reporting it did not contribute 'at all'. The analysis of drug use by offence class suggests that amphetamine use is most often associated with property offending. However because of

the small sample size this conclusion should be treated with caution. There are two possible causal links between amphetamine use and property crime: it may be that amphetamine is being used by the general criminal fraternity to boost courage and alertness which assists in the commission of property crimes, such as burglary; and/or amphetamine users may be resorting to property crime to provide funds to finance their drug use.

An important distinction between the ATS drugs emerges clearly in arresteess' responses to the question about the extent to which the use of a drug made them feel angry. Ecstasy (along with cannabis) was the drug type least likely to make arrestees feel angry. Seventy-seven percent of the arrestees who had used ecstasy considered it 'much less likely' to make them feel angry. In contrast amphetamine/methamphetamine and crystal methamphetamine (along with alcohol) were the drugs most likely to make arrestees feel angry. Twenty-four percent of those who had used amphetamine/methamphetamine felt it was 'much more likely' to make them feel angry. Half of those who had used crystal methamphetamine indicated it was 'more likely' to make them feel angry. These findings support the general reputation of amphetamines as an aggression enhancing drug, while singling out ecstasy as the ATS drug which is an exception to this rule.

Driving under the influence of cannabis and alcohol was reported most commonly by arrestees, although some reported being under the influence of ATS drugs while driving. Crystal methamphetamine and amphetamine/methamphetamine were the ATS drug types most likely to be combined with driving, with 34% and 16% of arrestees respectively doing 'some' of their driving while under the influence of these drugs. Traditionally, amphetamine use has been associated with the transport industry where it is used to enhance the stamina and concentration of drivers (Klee, 2001). In a more contemporary context, driving while under the influence of amphetamine may occur when those attending dance parties wish to drive between venues or to drive home at the end of the night (Ministerial Action Group on Drugs, 2003, Australasian Centre for Policing Research, 2003). The hallucinogenic characteristics of ecstasy may discourage driving while under the influence of this drug. The increased confidence and aggression that comes from amphetamine use leads to increased risk taking behaviour while driving under its influence (Ministerial Action Group on Drugs, 2003, Australasian Centre for Policing Research, 2003). There is also a risk that those using amphetamine may not have slept for a long period of time and consequently may suddenly be overcome by exhaustion while driving (Ministerial Action Group on Drugs, 2003, Australasian Centre for Policing Research, 2003).

Those buying amphetamine purchased the drug less frequently, used a smaller number of sellers, and took more time to complete a purchase than those purchasing cannabis. This comparison suggests that the illicit market for amphetamine is still smaller than that for cannabis and indicates that

prospective amphetamine buyers must expend more search time than cannabis buyers to purchase their respective drugs. This understanding is further confirmed by the smaller proportion of those buying amphetamine who could do so in the suburb where they live. About half of the arrestees purchasing cannabis could purchase cannabis in their home suburb, while only 20% of amphetamine buyers could do so. There also appeared to be some real differences in the types of location used by buyers and the way they purchased amphetamine as opposed to locations for, and ways of, purchasing cannabis. Again the small numbers involved dictate that these findings be treated with caution. About half of cannabis buyers, as opposed to only 5% of amphetamine buyers, purchased their respective drugs from a 'tinny house'. Amphetamine buyers were more likely to purchase from a 'private house' or 'outdoor area'. About half of amphetamine buyers contacted their buyers by mobile phone or texting, while nearly two thirds of cannabis buyers visited a house or flat. Amphetamine sellers were much more cautious about their buyers than those selling cannabis. All the amphetamine sellers reported selling only to 'close friends and family members', whereas cannabis sellers sold at least 'some' of their cannabis to 'casual acquaintances' and 'complete strangers'. These features of the amphetamine market are consistent with the understanding of this market as more secretive and insulated than the cannabis market, perhaps reflecting the heavier penalties associated with amphetamine (i.e. either Class A or Class B controlled drugs) compared to cannabis (Class C), and hence the need for sellers to protect themselves by limiting sales to people they know very well.

The findings regarding arrests for drug offences provide some evidence of the impact of law enforcement on the amphetamine market. In the last month more arrestees had had a friend arrested for an amphetamine offence than for a cannabis offence (17% vs. 14%). While the numbers of friends arrested for amphetamine and cannabis offences in the last month were comparable (2 vs. 2.5 respectively), in general amphetamine and ecstasy were both perceived as being 'very risky' to buy and to sell. However, about 20% of arrestees thought buying and selling these drugs was 'not risky at all'. This may reflect, to some extent, arrestees' higher preferences for risk taking than the general population. The illicit market for amphetamine was the drug market most clearly identified as violent. Arrestees considered the ecstasy market to be less violent with many describing it as 'not at all' violent, or 'not very' violent. However, nearly half of the arrestees described the ecstasy market as 'very violent'. There may be a certain level of distortion in these results as all arrestees were asked these questions, regardless of whether they bought, sold or used the drug. It may also be the case that amphetamine and ecstasy are traded through the same dealer networks, particularly at the higher levels. There is a perception of lower levels of violence in the illicit market for ecstasy, compared to that for amphetamine. This perception may arise because ecstasy dealing is largely associated with a social scene, i.e. the dance-party scene, whereas dealing in amphetamine occurs across a greater cross section of society including the criminal fraternity and gangs.

Arrestees attribute the highest average illicit incomes to drug dealing and drug manufacture, a finding likely to be particularly relevant to amphetamine. The typical amphetamine purchase was $350 compared to the typical cannabis purchase of only $20. While the amphetamine market is smaller it appears much more lucrative than the cannabis market. This is supported by other research described in this report, as well as anecdotal reports from key informants of drug dealers and cultivators switching from cannabis to amphetamine to reap larger financial rewards.

Chapter 9: Conclusions

About one in ten New Zealanders aged 18-29, or approximately 100,000 people nationwide, had used an ATS drug in the last year. The level of ATS use in New Zealand was similar or lower to that reported in Australia. However, use of amphetamine by those aged 15-19 may be higher in New Zealand than in Australia. This is a cause for concern, as young people are more vulnerable than older people to the negative consequences of drug use, particularly in areas such as educational achievement and employment. There is also a risk that the higher levels of amphetamine use among younger age cohorts in New Zealand may translate into higher overall rates of amphetamine use in the future.

About one-third of the ATS using population were frequent users (i.e. monthly or more often). These users were much more likely to report problems from their methamphetamine use and pose a risk to themselves and others. The problems reported as being of greatest concern were psychological rather than physical. About 40% of frequent methamphetamine users reported pre-existing psychological problems. Levels of psychological problems increased after using methamphetamine, with about two-thirds of frequent methamphetamine users reporting 'anxiety', 'mood swings', 'short temper', 'paranoia', and 'depression'. Twenty-one percent of frequent methamphetamine users reported 'suicidal thoughts', and 13% 'suicide attempts', after using the drug. The psychological problems reported can lead to the defensive violence and self-harm associated with paranoid schizophrenia. The levels of pre-existing mental health problems among frequent methamphetamine users, and the exacerbation of these problems by methamphetamine, suggests that frequent methamphetamine users should be approached with caution and in a reassuring manner to avoid triggering any violent defensive or self-harm response. The increased propensity of methamphetamine users to self-harm should also be taken into account when they are detained in custody.

The estimates of the annual dollar value of the illicit markets for amphetamine and ecstasy indicate that the combined value of these markets (approximately $168.3 million) approaches the dollar value of the entire illicit market for cannabis in New Zealand. This is cause for concern, as the pursuit of economic gain is a powerful driver of the expansion of illicit drug markets. In the New Zealand context, the concern over the economic scale of the ATS trade is further heightened by the fact that the proceeds from the sale of methamphetamine are likely to be concentrated among a relatively small number of organised criminal groups who were instrumental in the introduction of methamphetamine to New Zealand. The illicit amphetamine market was also the illicit drug market most clearly identified by arrestees as violent. By current estimates the authorities are seizing less than 10% of the trade in ATS drugs. However there was some evidence of law enforcement having a

greater impact on methamphetamine in recent times, with arrestees and frequent users reporting more of their friends being arrested for amphetamine offences. This raises questions about whether law enforcement agencies require greater powers to challenge the economic base of the groups involved in the manufacture and sale of ATS drugs, prompting consideration of the need for stronger asset confiscation laws covering the proceeds from the manufacture and sale of illicit drugs.

The ATS drugs most commonly used by arrestees were amphetamine/methamphetamine and crystal methamphetamine. Arrestees' levels of methamphetamine use were many times higher than that the general population. Twenty-one percent of arrestees had used amphetamine in the last month and 9% had used it just before committing their offence. About a quarter of the arrestees who recently used amphetamine considered their use of these drugs to have played a major part in the activities for which they were arrested. Amphetamines, along with alcohol, were the drugs most likely to make arrestees feel angry. ATS drugs were sometimes used by arrestees when driving. However, cannabis followed by alcohol were the drugs most often combined with driving. These findings on the level and nature of arrestees drug use, suggest they would be a good group to target for drug treatment. An effective policy may be to provide arrestees with advice about drug problems and treatment, while they are being held in police watch-houses, and to ensure that referrals to services are available to arrestees.

Frequent methamphetamine users were often involved in other illegal activities, such as drug dealing. One third of the frequent methamphetamine users interviewed had sold methamphetamine, and about one in five had either manufactured or exchanged it for stolen property at some stage. About 40% of the frequent methamphetamine users had earned income from illegal activities in the last six months, with drug dealing the most common type of illegal activity. These findings show that frequent drug users play an active role in the illicit drug economy, and consequently the disproportionate value gained by impacting upon them (for example either by drug treatment or incarceration).

The amphetamine market was found to be smaller, and more secretive and insulated than the existing cannabis market. Only 5% of the arrestees purchasing amphetamine, compared to about half of the arrestees buying cannabis, purchased their respective drugs from public 'tinny' houses. All the amphetamine sellers reported selling only to 'close friends and family members', whereas cannabis sellers sold at least 'some' of their cannabis to 'casual acquaintances' and 'complete strangers'. This is likely to reflect the impact of the classification of methamphetamine as a Class A drug, compared to the Class C drug cannabis. The rise of amphetamine may be transforming the nature of illicit drug sales. About half of amphetamine buyers contacted their buyers by mobile phone or texting, while nearly two thirds of cannabis buyers visited a house or flat. This raises questions about whether law

enforcement tactics need to be adapted, to enable better penetration of these new and more clandestine markets.

The new groups of methamphetamine users identified are consistent with the understanding that methamphetamine use has diffused from the 'originator' sub-cultures such as the dance party community and outlaw motorcycle gangs to broader society, which includes lower socio-economic groups and Maori and Polynesian peoples. New users groups may be introduced to methamphetamine through existing cannabis networks, either through personal associations or cannabis supply networks. The reports of more drug dealing by methamphetamine users, and a greater cross section of people selling the drug, are consistent with the spread of methamphetamine use to wider sections of society. Heavy users of a drug often resort to selling the drug as a way to support their own consumption. As methamphetamine use spreads to broader sections of society, a greater cross section of people will also become involved in selling the drug. The sale of smaller weights of methamphetamine at lower prices and the selling of metamphetamine from cannabis drug houses suggest marketing strategies aimed at lower socio-economic groups, teenagers (with low disposable incomes) and traditional cannabis users. These target groups are consistent with the new user groups identified earlier. These trends to new users groups should be of great concern, as both youth users and lower socio-economic users are likely to impose greater costs on themselves, their families and communities than the middle class users identified in the 2001 National Drug Survey.

All three groups of key informants (i.e. drug treatment, law enforcement and methamphetamine users) were most likely to report increased 'violent crime' and increased 'property crime' by methamphetamine users. Enforcement key informants also reported increases in 'burglary', 'domestic violence' and 'fraud' by methamphetamine users. Methamphetamine users were considered to be involved in more 'violent crime' and more 'crime in general'. They were also reported to be involved in more 'serious violence' and 'aggressive' behaviour in general. While methamphetamine has a reputation for exacerbating aggression, and has been identified as a factor in a number of high profile violent crimes in New Zealand, it is important to appreciate the many factors and contexts that contribute to violent behaviour and crime (MacCoun et al., 2003). Any pharmacological relationship between the ingestion of a drug and enhanced violent tendencies will also be influenced by the users' general tendency to be violent, their mood at the time of use, the context and situations they face while under the influence of a drug, and any other drugs they may have used or be withdrawing from at the time.

However several findings reported here which compare the drug types with respect to their propensity to incite anger and reports of the levels of violence associated with illicit markets, indicate methamphetamine is more likely to play a role in violent outcomes. Ecstasy, along with cannabis,

was the drug type least likely to make arrestees feel angry. Seventy-seven percent of the arrestees who had used ecstasy considered it 'much less likely' to make them feel angry. In contrast amphetamine/methamphetamine and crystal methamphetamine (along with alcohol) were the drugs most likely to make arrestees feel angry. Twenty-four percent of those who had used amphetamine/methamphetamine felt it was 'much more likely' to make them feel angry. Half of those who had used crystal methamphetamine indicated it was 'more likely' to make them feel angry. The illicit market for amphetamine was the drug market most clearly identified as violent. Three quarters of arrestees described it as 'very violent' with only 5% describing it as 'not at all violent'.

This link between amphetamine and violence may be taken as a justification for setting methamphetamine as a higher priority for law enforcement than the traditional trade in cannabis and LSD. The rapidity with which methamphetamine emerged and entrenched itself in New Zealand could also be seen to justify the development of an ongoing research capacity which can provide early warning of the rise of an illicit drug type, and the nature of the harms associated with it such as increased intravenous administration and increased use of other drug types. Research is also required to provide an understanding of the impact an illicit drug may have on violence and general criminality. This report presents evidence that while law enforcement is beginning to impact on the trade in ATS drugs, these drugs are still available and being marketed in New Zealand communities. Continued law enforcement pressure is required to separate methamphetamine from the traditional cannabis market and in particular prevent its public sale from cannabis 'tinny' houses.

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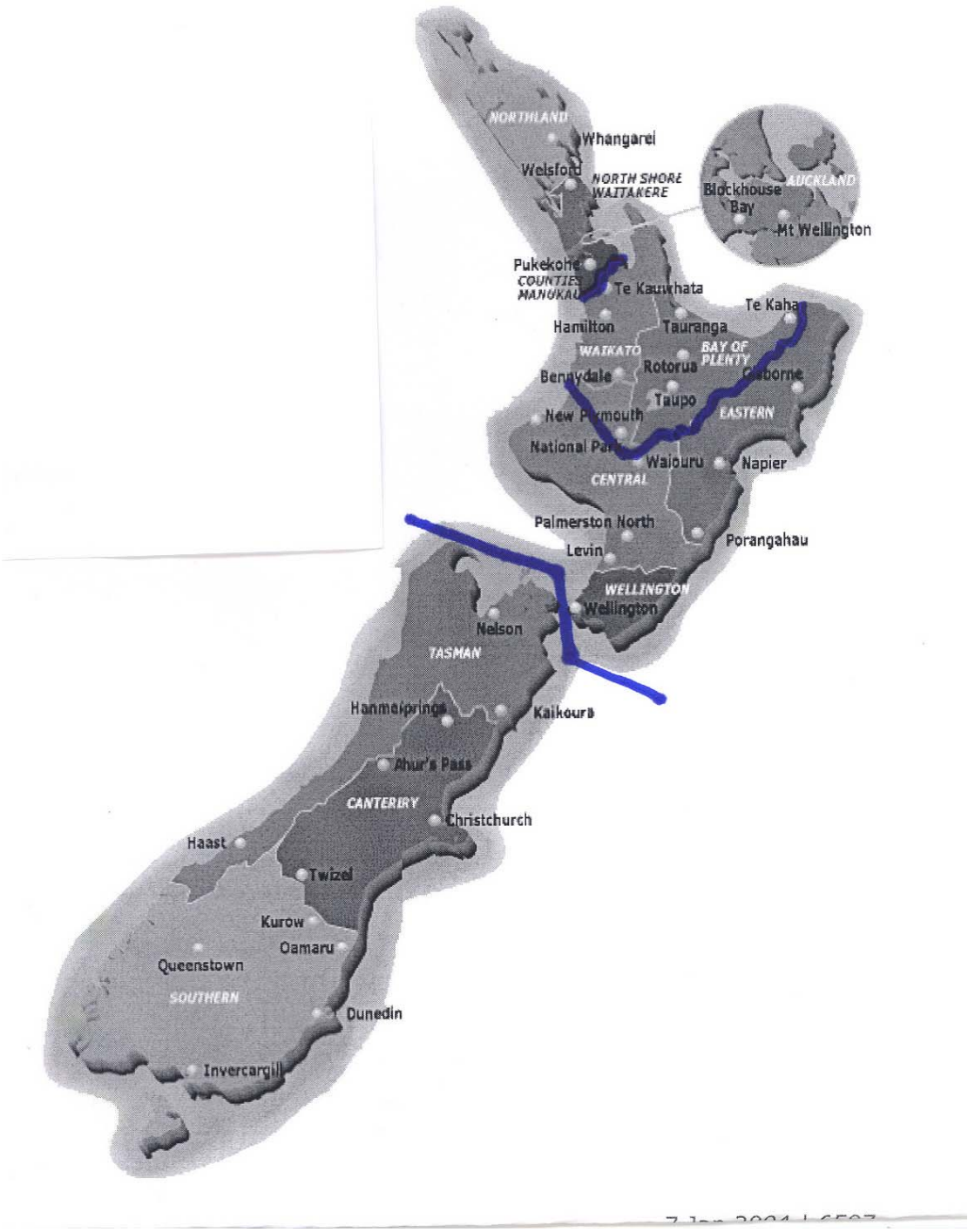
Appendix 1: sample size

Table A1: Number of men and women who reported using ATS drugs by age group, 2001

Sex	Drug Usage	13-14	15-17	18-19	20-24	25-29	30-34	35-39	40-45	13-45
Combined	ATS Ever used	3	32	52	134	136	127	112	113	709
Male	ATS: Ever used	1	19	32	89	89	69	65	70	434
Male	Ecstasy: Ever used	1	6	15	52	51	31	22	15	193
Male	Ice: Ever used	0	5	4	13	9	7	2	10	50
Male	Amphetamine: Ever used	1	17	28	74	73	64	58	65	380
Female	ATS: Ever used	2	13	20	45	47	58	47	43	275
Female	Ecstasy: Ever used	0	4	12	25	29	18	8	6	102
Female	Ice: Ever used	1	1	1	5	2	2	3	3	18
Female	Amphetamine: Ever used	1	12	14	42	37	54	44	41	245
Combined	ATS last year	3	28	43	98	69	46	26	16	329
Male	ATS: Used in last year	1	18	25	66	54	28	16	14	222
Male	Ecstasy: Used in last year	1	6	12	46	31	17	5	5	123
Male	Ice: Used in last year	0	4	4	10	6	2	0	4	30
Male	Amphetamine: Used in last year	1	16	23	53	42	22	14	11	182
Female	ATS: Used in last year	2	10	18	32	15	18	10	2	107
Female	Ecstasy: Used in last year	0	3	11	19	12	6	3	1	55
Female	Ice: Used in last year	1	1	1	4	1	0	1	0	9
Female	Amphetamine: Used in last year	1	9	12	26	10	16	7	2	83

Appendix 2: Police Districts and Geographical Regions

The map below illustrates which Police Districts were included in the four regions employed in the geographical analysis. The table that follows details how the thirty-three telephone exchanges used to collect the data in the National Drug Survey were aggregated up to Police District level.



Police District Assignments

Area code	Description	Police District Assignment
1	Main Urban Area - Auckland	Northern
2	Main Urban Area - Christchurch	Southern
3	Main Urban Area - Dunedin	Southern
4	Main Urban Area - Gisborne	Central
5	Main Urban Area - Hamilton	Midland
6	Main Urban Area - Hibiscus Coast	Northern
7	Main Urban Area - Invercargill	Southern
8	Main Urban Area - Napier/Hastings	Central
9	Main Urban Area - Nelson	Southern
10	Main Urban Area - New Plymouth	Central
11	Main Urban Area - Palmerston North	Central
12	Main Urban Area - Rotorua	Midland
13	Main Urban Area - Tauranga	Midland "
14	Main Urban Area - Te Awamutu	Midland, -.'
15	Main Urban Area - Wanganui	Central "
16	Main Urban Area - Wellington	Central
17	Main Urban Area - Whangarei	Northern
18	Not Main Urban Area - Auckland	Northern
19	Not Main Urban Area - Christchurch	Southern
20	Not Main Urban Area - Dunedin	Southern
21	Not Main Urban Area – Gisborne	Central
22	Not Main Urban Area - Hamilton	Midland
23	Not Main Urban Area - Invercargill	Southern
24	Not Main Urban Area - Napier/Hastings	Central
25	Not Main Urban Area - Nelson	Southern
26	Not Main Urban Area - New Plymouth	Central
27	Not Main Urban Area - Palmerston North	Central
28	Not Main Urban Area - Rotorua	Midland
29	Not Main Urban Area - Tauranga	Midland
30	Not Main Urban Area - Wanganui	Central
31	Not Main Urban Area - Wellington	Central
32	Not Main Urban Area - Whangarei	Northern
33	Not Main Urban Area - Taupo	Midland

Appendix 3: Detailed Breakdown of Selection Outcomes

Table A1: Outcome of initial selection and invitation

Response	**%**
Agreed to be meet interviewers	20
Not available - declined to Police	8
Not available - watchhouse constraints	1
Not available - taken to court	33
Not available - released/bailed	20
Not available - medical reasons	2
Not interviewed - violent or uncontrollable behaviour/ security risk/too intoxicated	2
Not interviewed - language problem	0
Not interviewed - under 17 years old	2
Not interviewed - booked over 48 hours ago	0
Not interviewed - other	12
Total	100

Table A2: Explanation given for not interviewed (others) or not available to be interviewed (declined to Police)

Reason	**%**
Too sleepy/tired	68
Mental health services	2
Time constraints (end of shift)	15
Transported to other location	2
Taken to Hospital	4
Alcohol/drug detoxification	7
Too violent	2
Immigration	2
Total	102

Table A3: Outcome of preamble by interviewers to participate

Outcome	**%**
Agreed to be interviewed	94
Declined to be interviewed	5
Terminated - watchhouse constraints	0
Terminated - taken to court/detention	0
Terminated - released/bailed	0
Terminated - medical reasons	0
Terminated - violent or uncontrollable behaviour/security risk/too intoxicated	0
Terminated - language problem	2
Terminated - booked over 48 hours ago	0
Terminated - under 17 years old	0
Terminated - other	0