



**HALLUCINOGENS AND OTHER
ILLCIT DRUG TRENDS IN
NEW ZEALAND, 2005**

**Findings from the Hallucinogen Module of
the 2005 Illicit Drug Monitoring System
(IDMS)**

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Executive Summary

Introduction

This report presents findings on recent trends in hallucinogens and other illicit drug use in New Zealand from the 2005 Illicit Drug Monitoring System (IDMS). The principal aim of the IDMS is to provide timely information on trends in illicit drug use and drug related harm in New Zealand. This is the first year that the IDMS has been conducted, with future waves planned annually from this point on. The findings presented in this report are from the Hallucinogen Module of the IDMS, which interviews frequent ecstasy and LSD users and addresses recent trends in these and other illicit drugs in New Zealand. Two other modules are produced from the IDMS: the Methamphetamine Module, which interviews frequent methamphetamine users; and the Cannabis Module, which interviews frequent cannabis users. The findings from these two modules are presented in separate reports.

The IDMS consists of three components: (1) interviews with frequent drug users; (2) interviews with key experts (KE) who have regular contact with drug users through their work; and (3) the collation and examination of secondary data sources on drug trends. The combined information from these three sources is used to identify emerging trends in drug use and drug related harm. Frequent drug users are considered a sentinel group who can provide accurate information on patterns of drug use and trends in illicit drug markets. The validity of the IDMS comes from the 'expert' status of the people interviewed, and hence the high quality of information they can provide, rather than from the statistical rigour of the sampling methodology. The survey of frequent drug users is not intended to be statistically representative of drug use in the general population.

Method

A total of 34 frequent hallucinogen users (28 ecstasy and 6 LSD users) were interviewed in five sites nationwide for the study. Interviewing took place from April to August 2005. The five interview sites were Whangarei, Auckland, Hamilton, Wellington and Christchurch. Participants were recruited through purposive sampling and 'snowballing' (Biernacki and Waldorf, 1981, Watters and Biernacki, 1989). To be eligible to be interviewed a participant had to have used ecstasy or LSD monthly or more often in the last six months, be 16 years or older, and to have resided in the site location for the past 12 months. To place the information provided by the frequent hallucinogen users in greater context, five KE who had regular contact with frequent hallucinogen users through their work, were interviewed. The KE interviewed for the Hallucinogen Module included a nightclub promoter, 'party pill seller', member of the Door Staff Association, St John ambulance officer and a drug enforcement officer. Finally, secondary data sources on drug use were collated from a range of government and non government sources including national household drug survey data, arrest and seizure data, hospital admissions data, drug treatment statistics and calls to the alcohol and drug help-line. The information provided by the frequent drug users, KE

and secondary data sources was triangulated to identify valid trends in drug use in New Zealand.

Demographic characteristics of the sample

Eight out of 10 (82%) of the sample of frequent hallucinogen users were male with a median age of 24 years old (range 17-52 years). Eight out of 10 (82%) of the sample were European with one in six (18%) Maori. Six out of 10 (62%) of the sample were in paid employment, a quarter (25%) were students and one in 17 (6%) were recipients of government income assistance. One in eight (12%) of respondents had no school qualifications, while six out of 10 (63%) had some kind of post secondary school qualification. Nearly three out of 10 (28%) of the sample had a university degree. Four out of 10 (41%) of the sample earned less than \$20,000 gross annual income. One half (53%) earned \$20,000-\$70,000 gross income per year. One in 17 (6%) participants earned over \$70,000 gross income per year. Reported income included both legal and illegal sources. Only one participant (3%) was currently in some kind of drug treatment. One in eight (12%) of the participants had been arrested in the last 12 months. A quarter (24%) of the respondents lived in Auckland, three out of 10 (29%) lived in Christchurch, a quarter (24%) lived in Wellington, one in seven (15%) lived in Hamilton and one in 11 (9%) lived in Whangarei.

Patterns of drug use

The frequent hallucinogen users interviewed had high levels of other drug use. Participants had used an average of eight drug types in the previous six months (range 2-13). The drug types most often used in the last six months were alcohol (94%), cannabis (91%), ecstasy (91%), tobacco (74%), legal dance party pills (74%), nitrous oxide (71%), and LSD (62%). A truncated summary of the participants' drug use history is presented in Table 1. None of the frequent hallucinogen users interviewed had injected a drug or used heroin or opiates in the previous six months. Half (53%) of the frequent hallucinogen users had binged on a drug in the last six months, defined as using a drug for more than 48 hours continuously without sleep. The drug types which participants most commonly binged on were ecstasy (78%), alcohol (78%), cannabis (67%), LSD (44%) methamphetamine (39%), amphetamines (28%), legal dance party pills (28%) and nitrous oxide (17%). The average length of participants' longest binge was 64 hours, or just over two and a half days.

Table 1: Drug use history and current drug use of the frequent hallucinogen users

n=34	Ecstasy (MDMA)	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Cocaine	Ketamine	GHB	Opiates
Ever tried (%)	97	56	38	91	88	50	26	44	15
Ever injected (%)	3	5	8	-	0	6	11	0	20
Age first used (median)	19	21	22	-	17	22	22	20	17
Last 6 months (%)	91	32	21	91	62	12	6	15	0
Median days used last six months	11	2	2	80	4	2	1	1	0
Main way taken	Swallow/snort	Smoked/snort	Smoked/snort	Smoked/swallow	Swallow/snort	Snort/smoked	Snort/swallow	Swallow	-
Median qty taken typical occasion	1 pill	0.5 points	1 point	1 joint	1 tab	0.3 grams	0.6 gram	2.5 mls	-
Most taken typical occasion (median)	2 pills	1 point	1 point	3 joints	1 tab	0.5 gram	-	3 mls	-

Prices of different drug types

Current prices

Table 2 presents the prices paid for all the drug types the frequent hallucinogen users had used in the last six months. There were a number of drug types which only a very few frequent hallucinogen users could comment on, but given the universal nature of prices their information was considered worth including. The low numbers available indicate caution in these instances. Methamphetamine and crystal methamphetamine were some of the most expensive drugs, costing approximately \$100 for 0.1 of a gram (known as a 'point'). A pill of ecstasy was reported to cost about \$60 and a tab of LSD approximately \$35.

Table 2: Price paid for different drug types by frequent hallucinogen users

	Ecstasy (MDMA)	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Cocaine	Ketamine	GHB
Number who commented	n=29	n=11	n=4	n=26	n=19	n=3	n=3	n=4
Median price (\$)	\$60 pill	\$100 point	\$110 point	\$20 foil	\$35 tab	\$300 gram	\$150 gram	\$5 millilitre

Change in prices in last six months

Table 3 presents the frequent hallucinogen users' perceptions of how the price of the four drug types they most knew about had changed in the preceding six months. Very few frequent hallucinogen users indicated there had been any increase in the price of these four drug types. The drug type for which the greatest proportion of frequent hallucinogen users indicated an 'increase' in the price in the previous six months was cannabis. However, even in this case, only one in 10 (10%) reported the price had increased. The drug types for which the greatest proportion of users indicated a 'decrease' in price were ecstasy (40%) and methamphetamine (25%). Many participants thought that prices had been stable and this was most clearly the case for cannabis (62%), methamphetamine (67%) and LSD (59%). Approximately one in five participants felt that the prices for ecstasy (19%) and LSD (18%) had fluctuated over the preceding six months.

Table 3: Change in prices paid for different drug types in the last six months

	Ecstasy (MDMA)	Meth amphet amine	Cannabis	LSD
Number who commented	n=31	n=12	n=29	n=22
Increase (%)	0	0	10	5
Stable (%)	42	67	62	59
Decrease (%)	39	25	14	18
Fluctuates (%)	19	8	14	18

Availability of different drug types

Current availability

The drug types which the largest proportion of frequent hallucinogen users considered to be 'very easy' to obtain were cannabis (60%) and methamphetamine (40%) (Table 4). Just over half (55%) of the frequent hallucinogen users said ecstasy was 'easy' to get at present. The drug type which the largest proportion of participants considered to be 'very difficult' to obtain at the moment was LSD (21%). A fairly large proportion of participants thought LSD (46%) and ecstasy (20%) were 'difficult' to get at the moment.

Table 4: Current availability of different drug types

	Ecstasy (MDMA)	Meth amphet amine	Cannabis	LSD
Number who commented	n=31	n=15	n=30	n=24
Very easy (%)	26	40	60	8
Easy (%)	55	47	40	25
Difficult (%)	20	7	0	46
Very difficult (%)	0	7	0	21

Change in availability in the last six months

The drug type which the greatest proportion of frequent hallucinogen users indicated had become ‘easier’ to obtain in the last six months was ecstasy (26%) (Table 5). The drug type for which the greatest proportion of participants indicated that availability had become ‘more difficult’ in the last six months was LSD (21%). Fairly sizable proportions of users said the availability of cannabis (37%), LSD (33%) and ecstasy (29%) had ‘fluctuated’ in the preceding six months.

Table 5: Change in availability of different drug types in the last six months

	Ecstasy (MDMA)	Meth amphet amine	Cannabis	LSD
Number who commented	n=31	n=14	n=30	n=24
Easier (%)	26	14	13	17
Stable (%)	42	71	43	29
More difficult (%)	3	0	7	21
Fluctuates (%)	29	14	37	33

Perceptions of change in the number of people using different drugs

The drug type which the greatest proportion of frequent hallucinogen users thought ‘more’ of the people they know were using was ecstasy (41%) (Table 6). Approximately one-third of the frequent hallucinogen users said ‘more’ people they know were using LSD (36%) and methamphetamine (35%). Two thirds of participants (67%) reported that about the same number of people they know were using cannabis.

Table 6: Users’ perceptions of the change in the number of people using different drugs in the last six months

	Ecstasy (MDMA)	Meth amphet amine	Cannabis	LSD
Number who commented	n=32	n=17	n=30	n=22
More (%)	41	35	10	36
Same (%)	47	53	67	50
Less (%)	13	12	23	14

Trends in population level drug use in New Zealand

National household drug surveys conducted in 1998, 2001 and 2003 indicate that there was a statistically significant fall in the last year use of LSD in the general population in 2003 compared to 2001. There was an increase in ecstasy use in 2001 compared to 1998, followed by a levelling out of use in 2003. As was the case with ecstasy, amphetamine use increased in 2001 compared to 1998 but stabilised in 2003. Levels of crystal methamphetamine use appeared to have increased in 2001 compared to 1998 and then did not change in 2003. The population level use of cannabis remained stable in all three waves of national household drug surveying. There was no statistically significant change in the population level use of ketamine, cocaine, GHB or opiates.

Trends in drug seizures

Seizures of ecstasy have increased considerably each year from 2000 onwards, from 9,352 tablets in 2000, to 83,448 tablets in 2001, to 256,973 tablets in 2002. However, annual ecstasy seizures began to level out in 2003 at 266,175 tablets, and this was followed by a sharp decline to 45,387 tablets seized in 2004. Seizures of LSD fell quite dramatically around 1999, and were much reduced in subsequent years. Detections of clandestine amphetamine laboratories fell for the first time in 2004 after a number of years of large increases. Seizures of cannabis plants during the annual cannabis crop eradication operations have remained substantial over the preceding five years with peaks achieved in 2003 (193,740 plants) and 2004 (162,263 plants). Seizures of cocaine have increased over the last two years, but were low level and variable in the years previous to that. There was a fairly large quantity of GHB seized in 2004 following a number of police operations, but seizures were low level in preceding years. Heroin seizures continue to be spasmodic.

Characteristics of the black market

Types of sellers

Friends, partners and family members were often common sources for drug sales. Approximately eight out of 10 of the frequent hallucinogen users purchased cannabis (88%), LSD (82%) and ecstasy (81%) from 'friends' (Table 7). Six out of 10 (58%) frequent hallucinogen users purchased cannabis from 'drug dealers' or 'acquaintances'. In contrast only three out of 10 (30%) participants purchased LSD from 'drug dealers' or 'acquaintances'. One in 13 (8%) of the frequent hallucinogen users had purchased cannabis from a 'gang member' or 'gang associate'. One participant had purchased ecstasy from a 'gang member' or 'gang associate'.

Table 7: Percentage of respondents purchasing different drugs from different sellers in the last six months

	Ecstasy (MDMA)	Cannabis	LSD
Number who commented	n=29	n=24	n=21
Friends (%)	79	88	82
Drug dealer /acquaintances (%)	42	58	30
Gang Member (%)	3	8	0

Venues where illicit drugs were purchased

Private houses were often the most popular venues where the frequent hallucinogen users had purchased drugs in the last six months (Table 8). Two thirds (67%) of the frequent hallucinogen users had purchased cannabis from a ‘friend’s house’ in the preceding six months. Approximately one third (37%) of the frequent hallucinogen users had purchased methamphetamine at an entertainment venue, such as a ‘club’, ‘dance party’ or ‘pub’. One in eight (12%) had purchased LSD from the same entertainment venues. Approximately one quarter (24%) of hallucinogen users had purchased ecstasy from an ‘agreed public location’ or ‘street’. Only cannabis was purchased from a ‘tinny house’.

Table 8: Percentage of respondents purchasing different drugs from different venues in the last six months

	Ecstasy (MDMA)	Cannabis	LSD
Number who commented	n=29	n=24	n=17
Friends homes (%)	53	67	53
Nightclub/pub/rave (%)	37	0	12
Tinny house (%)	0	8	0
Agreed public location/street (%)	24	8	6

Time taken to purchase different illicit drugs

The drug type which the greatest proportion of frequent hallucinogen users could purchase in ‘less than 20 minutes’ was cannabis (36%) (Table 9). Approximately three out of 10 (34%) of the participants could purchase ecstasy in ‘hours’. The drug types which the greatest proportion of participants could only purchase in ‘weeks’ were LSD (22%) and ecstasy (10%). Half of the frequent hallucinogen users said it would take them ‘days’ to purchase ecstasy (50%) or LSD (50%).

Table 9: Time taken to purchase different drug types

	Ecstasy (MDMA)	Cannabis	LSD
Number who commented	n=30	n=25	n=18
Weeks (%)	10	0	22
Days (%)	50	20	50
Hours (%)	34	44	17
Less than 20 mins (%)	7	36	11

New drug trends

New drug types

A number of frequent hallucinogen users noted the increased use of legal dance party pills (BZP), and the marketing of new more potent party pill products, such as ‘Hummer’. Participants also indicated growing use of methamphetamine (ie. ‘P’), and the emergence of crystal methamphetamine or ‘ice’. A number of new drugs were reported which were verbally described to interviewers as ‘Tryptomine’ or various combinations of ‘2C’ type drugs. The substance referred to as ‘Tryptomine’ may be the potent hallucinogen, Dimethyltryptamine or DMT. DMT and the ‘2C’ drugs are synthetic hallucinogens which are often falsely sold as ‘ecstasy’. Several participants said more people were ‘snorting’ ecstasy and amphetamines.

New drug selling methods

The frequent hallucinogen users reported the selling of ‘starter packs’ of drugs to get people to try new drug types, such as methamphetamine. Several participants indicated that methamphetamine was becoming ‘cheaper and more widely available’. Participants also observed that more people they knew were selling drugs now.

User perceptions of different drug types

Health risk from regular use of different drug types

Crystal methamphetamine (54%) and methamphetamine (50%) were the drug types which the greatest proportion of frequent hallucinogen users thought the regular use of posed an ‘extreme health risk’ (Table 10). In contrast, only one in 11 (9%) of participants believed that the regular use of ecstasy posed an ‘extreme health risk’. The drug types which the greatest proportion of participants thought the regular use of posed ‘no health risk’ were ‘legal dance party pills’ (12%). Four out of 10 (41%) frequent hallucinogen users believed that the regular use of cannabis only posed a ‘slight risk’. A quarter (24%) of participants felt the regular use of ecstasy only posed a ‘slight risk’.

Table 10: Perceptions of the health risk of regular use of different drug types

Drug type	Number of respondents	Level of health risk from regular use				
		No risk (%)	Slight risk (%)	Moderate risk (%)	Great risk (%)	Extreme risk (%)
Cannabis	n=34	9	41	38	12	0
LSD	n=34	9	12	26	29	24
Ecstasy	n=34	8	24	38	21	9
Methamphetamine	n=30	0	0	30	20	50
Crystal meth	n=28	0	4	14	29	54
Amphetamine	n=31	3	10	35	29	23
Ketamine	n=20	0	10	25	30	35
GHB	n=23	4	4	22	39	30
Opiates	n=23	4	4	13	52	26
Legal dance party pills	n=34	12	35	35	15	3

Risk of buying different drug types

The drug types which the greatest proportion of participants thought were an ‘extreme risk’ to purchase were crystal methamphetamine (29%), methamphetamine (23%) and opiates (20%) (Table 11). The drug types which the greatest proportion of participants thought were ‘no risk’ to purchase were ‘cannabis’ (21%), ‘ecstasy’ (18%) and LSD (15%). Six out of 10 (59%) participants felt that purchasing cannabis was only a slight risk. As might be expected, the majority of frequent hallucinogen users thought there was no risk involved in buying ‘legal dance party pills’. The risk some users expressed in regard to purchasing legal dance party pills may relate to the buyer’s need to circumvent age restrictions at legal selling premises, the time and venue of purchase (ie. purchasing late at night in ‘bad’ neighbourhoods), or in cases where they were buying these products from illicit drug dealers.

Table 11: Perceptions of the risk of purchasing different drug types

Drug type	Number of respondents	Level of risk to buy				
		No risk (%)	Slight risk (%)	Moderate risk (%)	Great risk (%)	Extreme risk (%)
Cannabis	n=34	21	59	9	12	0
LSD	n=34	15	38	24	21	3
Ecstasy	n=34	18	32	32	15	3
Methamphetamine	n=30	7	13	23	33	23
Crystal meth	n=28	4	18	21	29	29
Amphetamine	n=30	10	20	40	23	7
Ketamine	n=24	4	33	42	17	4
GHB	n=23	9	35	26	22	9
Opiates	n=25	12	16	30	16	20
Legal dance pills	n=33	82	15	3	0	0

Harms from frequent ecstasy use

Physical problems

The physical problems commonly reported from frequent ecstasy use were ‘poor appetite’ (71%), ‘muscular aches’ (54%), ‘inability to urinate’ (54%), ‘heart palpitations’ (43%), ‘blurred vision’ (36%), ‘stomach pains’ (36%), ‘weight loss’ (32%) and ‘loss of energy’ (32%) (Table 12). Some of the participants had experienced the physical problems asked about ‘before they started using ecstasy’, which suggests the presence of pre-existing physical problems.

Table 12: Physical problems from the frequent use of ecstasy

Problem n=28	% experienced in last 6 months related to ecstasy use	% experienced before started using ecstasy
Poor appetite	71	21
Muscular aches	54	32
Inability to urinate	54	18
Heart palpitations	39	11
Stomach pains	36	25
Blurred vision	36	7
Weight loss	32	11
Loss of energy	32	18
Tremors/shakes	29	14
Vomiting	25	18
Chest pains	18	11
Skin problems	14	7
Fainting/pass out	4	4
Fits/seizures	0	0

Psychological problems

The psychological problems commonly reported from frequent ecstasy use were ‘trouble sleeping’ (68%), ‘depression’ (54%), ‘sound hallucinations’ (50%), ‘short temper’ (46%), ‘strange thoughts’ (46%) and ‘anxiety’ (46%) (Table 13). One in six frequent ecstasy users experienced ‘suicidal thoughts’ (18%) and one in 14 (7%) indicated ‘suicide attempts’ related to their ecstasy use. One in 14 (7%) participants reported experiencing violent behaviour from their ecstasy use. In some cases participants had experienced these psychological problems ‘before they started using ecstasy’, indicating the presence of pre-existing psychological problems.

Table 13: Psychological problems from the frequent use of ecstasy

Problem n=28	% experienced in last 6 months related to ecstasy use	% ever experienced before started using ecstasy
Trouble sleeping	68	29
Depression	54	39
Sound hallucinations	50	18
Strange thoughts	46	25
Short temper	46	32
Anxiety	46	25
Visual hallucinations	36	7
Paranoia	36	29
Suicidal thoughts	18	14
Panic attacks	11	7
Violent behaviour	7	4
Suicide attempts	7	4

Drug use and driving

Nearly four out of 10 (38%) of the frequent hallucinogen users had driven under the influence of alcohol in the last six months. Three-quarters (76%) had driven under the influence of drugs other than alcohol in the previous six months. The drug types which participants were most commonly under the influence of when driving were cannabis (81%), ecstasy (50%), LSD (35%), legal dance party pills (35%), methamphetamine (31%), nitrous oxide (15%), amphetamines (12%), and anti-depressants (8%).

Access to services

One in 17 (6%) of the participants had accessed Accident and Emergency services and one in 34 (3%) had used an ambulance in relation to their drug use in the previous six months. None of the frequent hallucinogen users had been admitted into hospital in relation to their drug use in the last six months. One in 17 (6%) had accessed a drug and alcohol worker in the preceding six months.

Criminal history

None of the frequent hallucinogen users interviewed reported they had committed a property crime or a fraud in the previous month. One third (35%) said they had sold illicit drugs in the previous month. One in 33 (3%) self reported they had committed a violent crime in the last month.

One in eight (12%) of the frequent hallucinogen users had been arrested in the last 12 months. None of the participants had spent time in prison in the last year. One in five (21%) had been convicted of a criminal offence, and one in 33 (3%) had spent time in prison in their lifetimes.

Perceptions of police activity

Four out of 10 (45%) of the frequent hallucinogen users had noticed ‘more’ police activity against drug users in the last six months. One in eight (12%) participants had had ‘more’ of their friends arrested in the last six months. One in eight (12%) said that police operations had made it ‘more difficult’ to obtain drugs in the preceding six months.

Conclusion

The Hallucinogen Module interviewed fewer frequent drug users than the other two modules of the 2005 IDMS. As a consequence, some questions had low numbers of respondents and the results for these questions should be treated with some caution. The presentation and discussion of the findings in the executive summary and this conclusion are limited to those questions and areas where there was considered to be adequate numbers of respondents. The low number of frequent hallucinogen users interviewed for the Hallucinogen Module was in part a function of the relatively low frequency of use of ecstasy and LSD compared to drugs such as methamphetamine and cannabis, where daily and near daily use is common. Many of the frequent hallucinogen users who contacted us to participate in the study did not use ecstasy or LSD frequently enough to be eligible as at least monthly users. The low frequency of LSD and ecstasy use is evident in the other modules of the 2005 IDMS, as well as from the findings of the national household drug surveys.

It is worth reiterating, at this point, that the validity of the information collected in the IDMS comes from the ‘expert’ status of those interviewed and not from the representative nature of the sampling methodology. The frequent hallucinogen users are considered a sentinel and highly knowledgeable population when it comes to commenting on trends in drug use and illicit drug markets in New Zealand. The findings from the interview of frequent hallucinogen users is strengthened by the triangulation with the interviews with KE, and findings from secondary data sources on hallucinogens. The validity of the trends found in the Hallucinogen Module can be further validated through comparison with the trends previously identified in the Methamphetamine Module. The conclusions made in the following paragraphs draw on this comparison for further validity.

A good reason to persist with the distinction between hallucinogen users and methamphetamine users is that these groups did appear to be genuinely separate groups with some important demographic differences. The frequent hallucinogen users were more likely than the frequent methamphetamine users to be European (81% vs. 64%), to be students (25% vs. 19%), and to hold some kind of tertiary qualification (63% vs. 48%) including a university degree (28% vs. 14%). As a group, the frequent hallucinogen users appeared to be younger than the frequent methamphetamine users (median age 24 years vs. 28 years). The frequent hallucinogen users had neither used opiates nor injected a drug in the previous six months. In contrast, one in five (22%) of the frequent methamphetamine users had used opiates in the last six months and one in six (18%) had injected opiates in the last six months. The frequent hallucinogen users were less likely than the frequent methamphetamine users to be in drug treatment (3% vs. 27%), to have been arrested

in the last 12 months (12% vs. 31%), to have accessed Accident and Emergency services (6% vs. 14%) and to have accessed an ambulance (3% vs. 10%) in relation to their drug use in the last six months. The frequent hallucinogen users also reported lower levels of criminality than the frequent methamphetamine users, such as property crime and fraud. However, despite the differences in the demographic characteristics of the two samples of frequent drug users they often reported remarkably similar trends in regard to the same drug markets.

In the Methamphetamine Module it was concluded that ecstasy may be the drug type most 'on the move'. The frequent methamphetamine users reported decreasing prices and high availability of ecstasy. The frequent hallucinogen users appear to concur with this assessment. Four out of 10 (40%) of the frequent hallucinogen users indicated the price of ecstasy had 'decreased' in the last six months. A remarkably similar proportion (42%) of frequent methamphetamine users also said the price of ecstasy had fallen in the last six months. A similar proportion of both frequent hallucinogen users (55%) and frequent methamphetamine users (45%) described the current availability of ecstasy as 'easy'. Similar proportions of both frequent hallucinogen users (26%) and frequent methamphetamine users (23%) described the availability of ecstasy as becoming 'easier' in the preceding six months. As noted in the Methamphetamine Module, the possibility of the establishment of domestic manufacture of ecstasy would further improve the availability of ecstasy in New Zealand. It is also worth reflecting on the extent to which the substances sold as ecstasy in New Zealand are actually MDMA and not some of the other substances talked about in the interviews, such as the '2C' group of drugs, ketamine or even BZP. If this is the case then the growing availability of these drug types may explain the reports of the growing availability of 'ecstasy'. Some participants reported the ecstasy they last used as having a 'NZ kiwi made logo'. This raises the question of whether this ecstasy was manufactured in New Zealand. Both samples of frequent drug users considered ecstasy to be relatively low risk to purchase, with half of both frequent hallucinogen users (50%) and frequent methamphetamine users (50%) saying there was either 'no risk' or only a 'slight risk' involved in purchasing ecstasy.

The frequent hallucinogen users, like the frequent methamphetamine users, considered ecstasy to be a relatively lower health risk than methamphetamine. The differences in perceptions of the health risk associated with regular ecstasy versus regular methamphetamine use were even more pronounced among the frequent hallucinogen users than the frequent methamphetamine users. A third (32%) of the frequent hallucinogen users believed there was either 'no risk' or only a 'slight risk' from the regular use of ecstasy. In contrast, none of the frequent hallucinogen users felt there was such a low health risk attached to the regular use of methamphetamine. As recommended in the Methamphetamine Module, greater dissemination of the problems experienced by frequent ecstasy users within the 'at risk' social population may raise awareness of the health risks of ecstasy use with positive impacts on reducing demand. The detailed data collected in the Hallucinogen Module on the problems related to frequent ecstasy use could contribute to such an informational resource. There is also emerging research suggesting long term cognitive and behavioural harms from ecstasy use.

The frequent hallucinogen users also seemed to concur with the frequent methamphetamine users that LSD was in decline in New Zealand. Two thirds of the

frequent hallucinogen users (67%) described the current availability of LSD to be either ‘difficult’ or ‘very difficult’. This assessment of the current availability of LSD is consistent with the views of the frequent methamphetamine users from the Methamphetamine Module, and the findings from the recent national household drug surveys. Over half of both samples of frequent drug users said that the availability of LSD had ‘fluctuated’ or become ‘more difficult’ in the last six months. Approximately three quarters of the frequent hallucinogen users (72%) and the frequent methamphetamine users (77%) reported it would take them ‘days’ or ‘weeks’ to purchase LSD. As noted in the Methamphetamine Module, the popularity of LSD may have suffered from the recent emergence of ecstasy and methamphetamine. However, as cautioned in the Methamphetamine Module, the market for LSD remains and it may be re-energised if there is a shift in preference away from the present popularity of synthetic amphetamines. As evidence of this risk of renewed demand, a third (36%) of the frequent hallucinogen users indicated that ‘more’ of their friends were using LSD compared to six months ago. This possibility may be offset to some extent by the fact that both the frequent hallucinogen users and the frequent methamphetamine users tended to consider the regular use of LSD to be a relatively greater health risk than the regular use of ecstasy.

The frequent hallucinogen users reported that methamphetamine is well established in the drug market place with high levels of availability. Four out of 10 (40%) of the frequent hallucinogen users described the current availability of methamphetamine as ‘very easy’ and a quarter (25%) said the price had ‘decreased’ in the previous six months. Similarly, over half (52%) of the frequent methamphetamine users described the current availability of methamphetamine as ‘very easy’ and a quarter (25%) said the price had ‘decreased’ in the preceding six months. Also consistent with the frequent methamphetamine users, a number of hallucinogen users commented that there was now ‘greater competition and falling prices for methamphetamine’, and new innovative marketing techniques, such as ‘starter packs’, being employed to attract new users.

On a more positive note, like the frequent methamphetamine users, the frequent hallucinogen users also indicated a high level of awareness concerning the health risks of regular methamphetamine use. Half of the frequent hallucinogen users believed that the regular use of methamphetamine posed an ‘extreme health’ risk. This finding was identical to the assessment of the frequent methamphetamine users. There is therefore some cause to be optimistic that this level of awareness of the health risks of methamphetamine use will eventually erode the perception of methamphetamine use as a ‘manageable risk’ among drug users, and in turn lead to declining levels of use. However, as noted in the Methamphetamine Module, declining numbers of users may, at least in the medium term, not necessarily translate into lower social costs as we may be left with a smaller, but more problematic, group of users.

Cannabis was a popular and frequently used drug among the frequent hallucinogen users. Participants considered it to be widely available with fairly stable prices. Cannabis was the only drug type which the frequent hallucinogen users had purchased from a ‘tinny’ house. Cannabis was perceived by the frequent hallucinogen users to have a low health risk and to be not very risky to purchase, suggesting ongoing high demand.

The frequent hallucinogen users reported high levels of use of legal dance party pills and nitrous oxide. Approximately seven out of 10 of the frequent hallucinogen users had used these legal drugs in the last six months. The level of use of these substances by the frequent hallucinogen users was even higher than that found among the frequent methamphetamine users, who had levels of recent use closer to 50% of the sample. The relationship between these new restricted legal substances and illegal drugs deserves research attention. The high levels of use of these legal substances by both samples of frequent drug users in the IDMS may suggest they are not viewed as vastly inferior to the illicit substances available.

1. Introduction

The IDMS is intended to serve as a strategic early warning system, identifying emerging trends in illicit drug use and drug related harm of national concern. The IDMS is designed to be sensitive to new trends in illicit drug use and sale by providing timely quantitative data on key market indicators such as prices, purity levels and availability. It also collects qualitative information on emerging drug trends such as new drug types and new types of drug selling. The IDMS also provides detailed data on the harms and problems experienced by drug users, and information on the health, medical and emergency services they have accessed in the last six months. Finally the IDMS collates a range of statistical data on drug issues to place information obtained from users and KE in further context. These include national household drug survey data, drug seizure data, drug related hospital admissions, drug treatment admissions and calls to the alcohol and drug help line.

The value of the IDMS will increase over time as future waves are compared to previous waves and trends through time are identified. The resulting information can be used to inform the strategy and policy of a range of government and non-government agencies concerned with drug trends and drug related harm. The issues raised in the IDMS will also be fertile ground for researchers seeking to enhance the understanding of drug behaviour and consequences.

The IDMS is a collaborative project drawing on the knowledge and goodwill of people from the government sector, drug treatment sector and research sector. The success of the IDMS is a testimony to the commitment and cooperation of these people and organisations.

1.1 Study aims

The aims of the IDMS are:

- Track trends in illicit drug use;
- Detect the emergence of new illicit drug types;
- Document the availability, price, and purity of illicit drugs of concern;
- Document levels of property crime, violence, fraud and drug driving, committed by frequent drug users;
- Document the harms and problems users experience from the use of illicit drugs.

1.2 Methods

The IDMS extends methodologies which have been used successfully overseas for a number of years to monitor illicit drug trends (Wilkins and Rose, 2003b). The research methods used in the IDMS were adapted and piloted to meet New Zealand conditions during the recent Socio-Economic Impact of Amphetamine Type Stimulants study (see Wilkins et al., 2004). Particular attention has been paid to achieving compatibility with the Australian Illicit Drug Reporting System (IDRS) and Hallucinogen Initiative (PDI), conducted by the National Drug and Alcohol Research Centre (NDARC) in Australia, in order to be able to monitor illicit drug trends at the wider Australasian sub-regional level.

Three sources of information are used in the IDMS to identify trends in illicit drug use:

- (1) Face-to-face interviews with frequent illicit drug users;
- (2) Telephone interviews with key experts (KE) who have had regular contact with illicit drug users through their employment;
- (3) Secondary data sources on illicit drug use such as seizures of drugs, admissions to drug treatment centres, and calls to drug support and information lines.

The three information sources collected in the IDMS are triangulated to identify emerging trends in illicit drug use in New Zealand.

The IDMS produces three modules based on the type of frequent illicit drug users interviewed: (i) the Methamphetamine Module, which interviews frequent methamphetamine users; (ii) the Hallucinogens Module, which interviews frequent ecstasy and LSD users; and (iii) the Cannabis Module, which interviews frequent cannabis users. The frequent drug users interviewed in the modules provide detailed information about their primary drug of use and also information on all the other illicit drugs they may use or know about. The three modules of the IDMS address the illicit drug markets of greatest concern in New Zealand. This report presents the findings from the Hallucinogen Module. Findings from the other modules are presented in separate reports.

1.3 Survey of frequent hallucinogen users

Frequent hallucinogen users are considered a sentinel group for detecting illicit drug trends (White et al., 2004). In New Zealand, recent ecstasy users have been found to have high levels of poly drug use and have knowledge of the prices and availability of drugs (see Wilkins et al., 2004, Wilkins et al., 2005b, Wilkins et al., 2005c). The ecstasy black market in New Zealand is substantial, with the total dollar value of the trade recently estimated to be \$47.6M per year (Wilkins and Sweetsur, 2005).

1.3.1 Recruitment

A total 34 frequent hallucinogen users (ie. 28 ecstasy and 6 LSD) were interviewed in five sites nationwide for the Hallucinogen Module of the IDMS. Recruitment and interviewing was conducted from April to August 2005. The five sites were Whangarei, Auckland, Hamilton, Wellington and Christchurch. Participants were recruited through purposive sampling and 'snowballing' (Biernacki and Waldorf, 1981, Watters and Biernacki, 1989). 'Purposive sampling' is where researchers use targeted recruitment strategies to obtain samples of study participants. Purposive sampling is a valid and cost effective way to study hard-to-reach populations such as illicit drug users. 'Snowballing' is where interviewers facilitate the recruitment of participants by asking those already interviewed to recommend the study to their peers.

In order to ensure that a broadly representative sample of frequent hallucinogen users was obtained, a range of 'start points' for recruitment were chosen, based on the demographic profile of hallucinogen users and the venues and locations where they were likely to congregate. The demographic characteristics of ecstasy users were identified from the latest New Zealand national household drug survey (see Wilkins et al., 2004) and from the international research literature (see Hall and Hando, 1994, Klee, 1997, and others). The 'start points' for recruitment were then deduced by identifying places and venues in each site where hallucinogen users were likely to visit or congregate, such as cafes, bars, dance clubs, university campuses and gyms.

The invitation to participate in the study was communicated via large outdoor posters, small A4 size posters, and flyers which were posted and left at the targeted locations. The posters and flyers provided information on the study and advertised a free 0800 number, which those interested in participating could call to hear more about the study. Advertisements promoting the study were also placed in music and fashion magazines and weekly music entertainment guides to raise the profile of the study among the target group of drug users. The profile of the study was raised further by approaching national and local media organisations, such as national newspapers, community radio and community newspapers, to run stories on the study and encourage people to participate. An internet banner and news story about the study was also posted on New Zealand's most popular dance internet website.

1.3.2 Procedure

Participants contacted the researchers via the advertised free 0800 number and were screened for eligibility. In order to be eligible to be interviewed for the Hallucinogen Module, a respondent had to be 16 years or older, have used ecstasy or LSD approximately monthly or more often in the last six months, and to have resided in the site location for the past 12 months.

Participants were informed that all the information provided was strictly confidential and anonymous, and that the results would only be presented in aggregate. The project was designed so that no individual participant could be identified at a later date. The completed questionnaires and project database is held at the SHORE offices and is not shared with any external person or organisation. The protocols and procedures used to

collect and store the data for the project were approved by the Massey University Human Subjects Ethics Committee.

Participants were informed that the study would involve a face-to-face interview which would take approximately 60 minutes to complete. All respondents were offered a \$20 food or music voucher to compensate them for their time. Interviews took place in a public location negotiated with participants, such as a café or fast food restaurant. At the end of the interview, the interviewer provided the respondent with additional promotional flyers about the study and invited them to inform other people they know, who regularly use illicit drugs, to contact the interviewers.

1.3.3 Measures

Participants were administered a face-to-face structured interview. The questionnaire used was developed from the NDARC PDI and adapted to meet New Zealand's unique illicit drug environment. Additional questions and sections were added to the interview to address issues specific to illicit drug use in New Zealand, and to ensure compatibility with ongoing drug research conducted in New Zealand, such as the Health Behaviours Survey – Drug Use (HBS-Drug Use) and the New Zealand Arrestee Drug Abuse Monitoring System (NZ-ADAM)(Wilkins and Rose, 2003a, Wilkins et al., 2002c).

The IDMS focuses on participant's behaviour and experiences in the previous six months. The interview includes sections on demographics of users; patterns of hallucinogen and other drug use, including frequency, quantity of use and routes of administration; price, purity and availability of a range of illicit drug types; side effects from ecstasy use; life impacts of illicit drug use; help seeking for illicit drug use; general trends in illicit drug use, such as new drug types, new drug users and selling methods; perceptions of risk of use and purchase of illicit drugs; self reported criminal activity and perceptions of police activity; and self reported income, including income from illegal sources.

1.4 Survey of key experts (KE)

Key experts are people who have had regular contact with frequent hallucinogen users through their work in the preceding six months. Regular contact was defined as average weekly contact, and/or contact with ten or more frequent hallucinogen users in the past six months. A total of five key experts (KE) were interviewed for the Hallucinogen Module. KE included a nightclub promoter, party pill seller, member of the Door Staff Association, St John ambulance officer and a drug enforcement officer. KE interviews were conducted over the telephone.

1.5 Secondary data sources

A range of secondary data sources on drug use were collated and examined to validate the data collected from the frequent drug user survey and KE interviews. These included national household drug survey findings (i.e. 2003 HBS-Drug Use), health and hospital statistics, drug treatment statistics, and law enforcement statistics.

The recommended guidelines for secondary data sources for the IDMS were that the data was to be available at least annually; included 50 or more cases; could be broken down by drug type; and had some accompanying demographic and regional information.

Secondary data sources that have been included in this report are:

- 2003 Health Behaviours Survey: Drug Use (HBS-Drug Use);
- 1998 & 2001 National Household Drug Surveys;
- Statistics on hospital admissions for drug related illness;
- New Zealand Police and Customs seizure and arrest data;
- Calls to the Drug and Alcohol Help-line;
- Drug treatment admission statistics from the Community Alcohol and Drug Services (CADS) and Odyssey House in Auckland;
- Surveys of drug treatment workers by the National Addiction Centre (NAC) in Christchurch.

2. Overview of frequent hallucinogen users

2.1 Demographic characteristics of the sample

2.1.1 Gender and age

Eight out of 10 (82%) of the sample of 34 frequent hallucinogen users interviewed were male. The median age of the sample was 24 years old (mean 26; SD 8 years; range 17-52 years).

2.1.2 Ethnicity

Eight out of 10 of the sample (82%) identified as European and one in six (18%) as Maori.

2.1.3 Accommodation

Six out of 10 of the sample lived in rented premises (58%), one in 7 (15%) lived in a parent's or family's house, one in 6 (18%) lived in their own house. One in 17 (6%) lived in a boarding house or hostel.

2.1.4 Drug treatment

Only one participant (3%) was currently in some kind of drug treatment.

2.1.5 Employment status

Six out of 10 of the sample was currently in some kind of paid employment, with half (53%) in full time employment and one in 10 (9%) in part time employment. One in six (16%) of the participants were currently tertiary students, one in 10 (9%) were school students and 3% were care givers. One in 17 of the sample (6%) was on a sickness benefit.

2.1.6 Occupation

Respondents reported doing a range of different types of work. One in eight (13%) of the sample were professionals with a tertiary qualification, one in 10 (9%) were managers, and one in 39 (3%) were Directors. One in 10 (9%) worked in clerical/sales/service, one in five (19%) were manual workers/labourers and one in nine (13%) were tradesmen/craftsmen. One in 5 (19%) were students. One participant described themselves as a 'fulltime homemaker'.

2.1.7 Education

One in 8 (12%) of the sample had no secondary school qualifications at all. A further one in 8 (12%) had School Certificate or NCEA Level 1 as their highest qualification. Six out of 10 (63%) of the sample had a post secondary school qualification of some kind, including diploma (12%) or trade certificate (9%). Nearly three out of 10 (28%) of the sample had a bachelors degree.

2.1.8 Marital status and sexual orientation

Two thirds of the sample (67%) were single. One in 10 (9%) were married or in a defacto relationship, and a further one in four (24%) described themselves as with a regular partner. All the participants described themselves as heterosexual.

2.1.9 Arrest and prison history

One in eight (12%) of the participants had been arrested in the previous 12 months. None of the hallucinogen users had spent any time in prison in the last 12 months.

2.1.10 Legal and illegal income

Four out of 10 (41%) of the frequent hallucinogen users had earned \$20,000 or less gross income (both legal and illegal) in the last 12 months. A further four out of 10 (38%) had earned between \$20,001-\$40,000 gross income in the previous year. One in seven (15%) earned between \$40,001-\$70,000 and one in 17 (6%) earned over \$70,000 in the last year. A quarter (24%) of the participants had earned income from illegal sources. Those who had earned money from illegal sources estimated that a median of 40% of their income was from illegal sources (mean 40%, range 5%-100%).

2.1.11 Sources of income used to pay for drugs

Nine out of 10 (88%) participants had used 'paid employment' to pay for the drugs they used in the last six months. Six out of 10 (61%) had received drugs as 'gifts from friends' in the previous six months. Participants had commonly used sources of credit to pay for drugs including 'borrowing money from friends' (27%), receiving 'credit from drug dealers' (18%), and 'borrowing money from parents' (6%). Drug dealing was also a common source of money for drugs including 'dealing drugs to provide own personal supply' (18%) and 'profit from drug dealing' (15%). One in eight (12%) participants had paid for drugs with 'unemployment and other social welfare benefits' in the last six months. One in six (18%) had 'bartered drugs or goods' to obtain drugs, and one in 17 (6%) had 'pawned' property for drugs. No participants reported using money gained through 'fraud', 'property crime', 'sex work' or providing 'sexual favours' to pay for drugs.

2.1.12 Geographical location

Three out of 10 (29%) of the frequent hallucinogen users lived in Christchurch, a quarter (24%) lived in Auckland, a quarter (24%) lived in Wellington, one in seven (15%) lived in Hamilton, and the remainder lived in Whangarei (9%).

2.2 Key experts description of frequent hallucinogen users

KE descriptions of frequent hallucinogen users were broadly consistent with the sample collected. The KE described the typical age of the hallucinogen users they saw as 20-30 years old, with a range between 20-40 years old. Some non-law enforcement KE (3) indicated an age range starting as low 18 years old and one non-law enforcement KE said as high as 50 years old (for gay males). Nearly all KE indicated a male bias, with estimates between 70%-90%. Two non-law enforcement KE said the proportion of male hallucinogen users was as low as 50-60%. Many KE described

hallucinogen users as middle/upper class Europeans with less than 10% Maori. Most KE reported the highest qualification of the users as University degrees. One KE described the professions of hallucinogen users as 'creative/sales/media/lawyers'. KE described the sexual identity of hallucinogen users as mainly heterosexual (ie. 90%) with about one in 10 (10%) gay or lesbian. KE said very few of the hallucinogen users had any prison history and very few were in drug treatment. One KE reported they had a couple of hallucinogen users in drug treatment for 'social phobia' and 'addiction counselling'.

3. Drug use history and current drug use

The frequent hallucinogen users were asked about their lifetime and recent use (ie. in the last six months) of 20 drug types, including alcohol, tobacco and legal dance party pills. The prevalence of drug use within the sample is presented in Table 3.1. Poly drug use was common in the sample with respondents having ever tried an average of 12 drug types (range 4-20) and having used an average of 8 drug types in the preceding six months (range 2-13).

There were high levels of lifetime use of alcohol (100%), ecstasy (97%), legal dance party pills (94%), cannabis (91%), LSD (88%), nitrous oxide (85%), and amphetamines (82%). There were also notably high levels of lifetime use of methamphetamine (56%), cocaine (50%), crystal methamphetamine (38%), GHB (44%) and ketamine (26%). One in seven (15%) had tried opiates including 'homebake' heroin in their lifetimes.

The drug types most commonly used in the last six months by the frequent hallucinogen users were alcohol (94%), cannabis (91%), ecstasy (91%), tobacco (74%), legal dance party pills (74%), nitrous oxide (71%) and LSD (62%). None of the hallucinogen users interviewed had injected a drug or used heroin or opiates in the previous six months. In the 'other' category, one in four (24%) had used hallucinogenic mushrooms and one had used 'cactus' in the previous six months.

Table 3.1: Lifetime and recent drug use of frequent methamphetamine users

Drug type	Ever tried (%)	Last six months (%)
Alcohol	100	94
Ecstasy (MDMA)	97	91
Legal dance party pills	94	74
Cannabis	91	91
LSD	88	62
Nitrous oxide	85	71
Amphetamine	82	38
Tobacco	79	74
Methamphetamine	56	32
Other	56	32
Cocaine	50	12
Amyl/Butyl nitrate	47	15
GHB	44	15
Crystal methamphetamine (Ice)	38	21
Anti-depressants	32	12
Ketamine	26	6
MDA	24	9
Benzodiazepines	24	18
Opiates (homebake heroin)	15	0
Heroin	12	0
Methadone	9	6

One KE said they hadn't heard of any LSD use in the last six months. The hallucinogen users were reported to nearly all use cannabis (70%-80%) and be high frequency cannabis users (ie. 'daily'). There were low levels of use (about 5%) of cocaine and ketamine. Another KE observed that cocaine was 'hard to get hold of'. The same KE said GHB was less available now. The use of alcohol (90%+) and legal dance party pills by frequent hallucinogen users was said to be quite high. Several KE noted high levels of use of legal dance party pills and levels of use had not plateaued out yet. One KE observed that legal dance party pills were sometimes used as substitutes for ecstasy. One KE observed that more young people were using drugs, and they were going 'straight to methamphetamine rather than beginning with cannabis'. One law enforcement KE noted that the use of GHB was a problem in Wellington. LSD was reported to be still popular and perceived as a 'safe' drug. One KE noted that the hallucinogen users were not an 'alcohol crowd'. The same KE also noted that there was more ecstasy use in the summer months. One KE said that many hallucinogen users they knew used crystal methamphetamine (50%-60%) although there was not a consistent supply available. The same KE reported that the hallucinogen users used methamphetamine to 'add an edge' to the ecstasy they were taking. This KE also said that LSD was used by 'older' people in the scene

4. Hallucinogens

4.1 Patterns of use

4.1.1 Drug of choice

Six out of 10 (63%) participants said ‘ecstasy’ was their main drug of choice (ie. their ‘favourite or preferred drug’). One in five (19%) named ‘cannabis’ as their main drug of choice. One in 16 (6%) said ‘LSD’ and a further one in 16 (6%) said ‘amphetamines’. A small number of participants said ‘ketamine’ (3%) and ‘legal dance party pills’ (3%) were their drug of choice.

4.1.2 Other drugs used with hallucinogens

Over 9 out of 10 of the frequent hallucinogen users (97%) had used other drugs with their hallucinogens. The drugs often used with hallucinogens were alcohol (88%), cannabis (85%), tobacco (58%), nitrous oxide (24%), legal dance party pills (18%), amphetamines (‘speed’) (15%), methamphetamine (6%), ketamine (3%), MDA (3%), opiates (3%) and benzodiazepines (3%).

Seven out of 10 (69%) participants had used other drugs to help them recover from their hallucinogen use. The drugs most commonly used to recover from hallucinogen use were cannabis (92%), tobacco (46%), alcohol (39%), and nitrous oxide (15%).

4.1.3 Binge use

Half (53%) of the frequent hallucinogen users had binged on a drug in the last six months. Bingeing was defined as using a drug for more than 48 hours continuously without sleep. The drug types which participants binged on were ecstasy (78%), alcohol (78%), cannabis (67%), LSD (44%), methamphetamine (39%), amphetamines (28%), legal dance party pills (28%), nitrous oxide (17%) and crystal methamphetamine (11%). When participants were asked to nominate the *one* drug on which they had most often binged in the last six months, the drug types most often named were alcohol (78%), ecstasy (72%), cannabis (61%), LSD (44%), methamphetamine (28%), amphetamines (22%) and legal dance party pills (22%). The average length of participants’ longest binge in the last six months was 64 hours or about 2 ½ days (median 60 hours, range 48-96 hours).

4.2 Purchasing behaviour

4.2.1 Extent of purchasing

Six out of 10 (62%) of the frequent hallucinogen users had bought all of their hallucinogens in the last six months. One in four (24%) purchased ‘most’ of the hallucinogens they had used in the last six months. One in eight (12%) purchased ‘some’ of the hallucinogens they used. Only one in 34 (3%) purchased ‘none’ of their hallucinogens in the preceding six months.

4.2.2 Purchase from a 'tinny' house

Eight out of 10 (79%) of those who had purchased hallucinogens in the last six months had bought none from a 'tinny' house. A further one in 8 (12%) had purchased 'hardly any' hallucinogens from a 'tinny' house in the last six months. One in 17 (6%) had bought 'some' and a further one in 33 (3%) purchased 'all' of their hallucinogens from a 'tinny' house in the last six months.

5. Ecstasy (MDMA)

5.1 Introduction

Ecstasy (3,4-methylenedioxyamphetamine, MDMA or 'E' or 'X') has both amphetamine properties and hallucinogenic characteristics like LSD (Kuhn et al., 1998, Gowing et al., 2001, Gowing et al., 2002, Topp et al., 1998). Ecstasy increases heart rate, blood pressure, and body temperature, and produces a sense of energy and alertness (like standard amphetamines), but also a warm state of empathy and good feeling for others (due to increased release of serotonin) (Kuhn et al., 1998). High doses cause teeth clenching, paranoia, anxiety and confusion (Kuhn et al., 1998). Tolerance to MDMA develops rapidly and this has been associated with self-limiting patterns of use (periods of voluntary abstinence to regain initial effects), although more recent studies show evidence of injecting and the use of larger doses in an attempt to overcome short-term tolerance (Topp et al., 1998). MDMA can cause hyperthermia (extreme heat stroke) resulting in death when combined with sustained physical exercise and elevated temperatures, which are common in dance clubs (these environments compound the natural pharmacological effect of ecstasy on the body's thermoregulatory mechanism) (Gowing et al., 2001, 2002). Ecstasy can also cause water intoxication and death when excessive amounts of water are consumed as the drug inhibits the body's ability to excrete fluid (Topp et al., 1998, Gowing et al., 2002). Although cases of serious adverse effects appear low relative to the extent of use, it is the unpredictability of adverse events (dose is not predicative of adverse effects) and risk of mortality that makes the risks significant (Gowing et al., 2002).

Long term effects reported by users include insomnia, energy loss, depression, irritability, muscle aches, and blurred vision (Topp et al., 1998). Ecstasy has also been controversially linked to damage to serotonin terminals in the brain with possible implications for short term memory, cognitive function and mood regulation (Gowing et al., 2002). Results are confounded by small numbers of participants, uncertain histories of MDMA use, use of other drugs such as cannabis, and pre-existing personality differences (Gowing et al., 2002). The confirmation of long term consequences await large scale epidemiological studies (Gowing et al., 2002).

Ecstasy gained popularity in many Western European countries during the late 1980s, but only slowly gained popularity in New Zealand over the next decade. At this time, ecstasy manufacture was largely restricted to a small number of countries in Western Europe (see United Nations Drug Control Programme, 2001), and this resulted in uncertain supply and high prices in New Zealand. Only three cases of the domestic manufacture of ecstasy have ever been discovered in New Zealand and this reflects the complexity of the synthesis process and the need for rare precursor chemicals, such as oil of Sassafras (Wilkins, 2002). In more recent years, increased manufacture and smuggling of ecstasy from South East Asia has led to greater availability and lower prices in New Zealand which has sustained greater demand for the drug in New Zealand (see New Zealand Customs Service, 2002, United Nations Office on Drugs and Crime, 2005, Wilkins et al., 2003).

5.2 Ecstasy use among the hallucinogen users

Nearly all the hallucinogen users (97%) had tried ecstasy in their lifetimes and nine out of 10 (91%) had used ecstasy in the last six months. The median age at which the hallucinogen users had first used ecstasy was 19 years (mean 20, range 14-44 years). Most of those who had used ecstasy in the previous six months said the main way they took the drug was swallowing it (94%) with the remainder snorting it (6%). None of the participants had injected ecstasy in the last six months. One participant had injected ecstasy in their lifetimes. Participants had used ecstasy on a median of 11 days in the previous six months (ie. approximately once every two weeks) (mean 12 days, range 2-40 days). Three out of 10 (30%) users had used ecstasy weekly in the last six months. Nearly half (47%) of users had used ecstasy fortnightly and one in five (20%) had used monthly in the preceding six months. The median number of ecstasy pills taken on a typical occasion was 1 pill (mean 1.3 pills, range 0.75-2.5 pills). The median 'most' number of ecstasy pills taken on a typical occasion was 2 pills (mean 2.4 pills, range 1-5 pills).

KE reported ecstasy was usually either swallowed as a pill (80% users) or snorted as a powder (10% users). None of the ecstasy users the KE knew injected the drug. One KE had noticed increasing levels of liquid ecstasy. KE indicated most users used 2-3 times a week at most, with many being weekend users. The typical number of ecstasy pills taken was 1 (<5 pills) but one KE indicated there was some binge use.

5.3 Ecstasy use in the general population

5.3.1 Introduction

This section presents findings on the national prevalence of amphetamine/methamphetamine from three waves of New Zealand national household drug surveying conducted in 1998, 2001 and 2003. The most recent wave of surveying was conducted as the 2003 Health Behaviours Survey – Drug Use (2003 HBS-Drug Use). The data presented is from the general population aged 15-45 years old from each survey wave. Statistical comparisons are made at the 99% confidence interval. The error bars on the graph indicate the 95% confidence intervals.

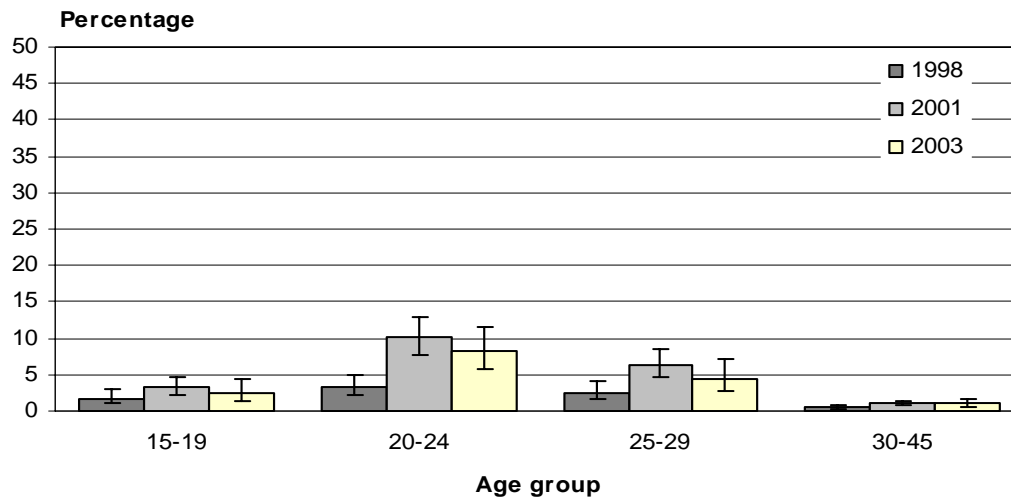
5.3.2 Population trends in ecstasy

The proportion of the population who had ever tried ecstasy significantly increased in 2001 compared to 1998 (3.0% versus 5.4%, $p < 0.0001$) and then did not significantly change in 2003 (5.5%). There were statistically significant increases in those who had ever tried ecstasy in 2001 compared to 1998 among those aged 20-24 years old (from 4.6% to 11.8%, $p < 0.0001$), 25-29 years old (from 6.0% to 10.9%, $p = 0.0011$) and 35-45 years old (1.0% to 2.1%, $p = 0.0048$).

The last year use of ecstasy also increased significantly in 2001 compared to 1998 (3.4% versus 1.5%, $p < 0.0001$) and did not significantly change in 2003 (2.9%) (Table 5.1). The last year use of ecstasy significantly increased between 1998 and 2001 for

those aged 20-24 years old (3.2% versus 10.0%, $p < 0.0001$) and 25-29 years old (2.5% versus 6.3%, $p = 0.0013$) (Figure 5.1).

Figure 5.1: Proportion of the population reporting last year use of ecstasy by age, 1998, 2001 and 2003



5.4 Physical description

5.4.1 Colour

The frequent hallucinogen users described the ecstasy they last used as coming in a range of colours. One in four (25%) said the ecstasy they last used was ‘pink’. A further one in four (25%) reported the ecstasy they last used was ‘white’. One in seven (14%) said the ecstasy they last used was ‘red’. Other colours mentioned were ‘green’ (7%), ‘yellow’ (7%) and ‘brown’ (4%). One participant described the ecstasy they last used as being in a ‘clear capsule’. Several participants said the colours ‘varied’.

5.4.2 Shape and size

Nearly all participants (96%) described the shape and size of the ecstasy they last used as a round or oval pill or ‘average size pill’. One respondent described the shape and size as a ‘capsule’.

5.4.3 Symbols

The frequent hallucinogen users described a number of symbols on the ecstasy they last used. Three out of 10 (30%) described a ‘smiley face’ symbol. One in seven (15%) described a ‘superman’ logo. Other symbols mentioned were ‘Mitsubishi’ (10%), ‘Mercedes’ (10%), ‘Playstation’ (10%), ‘NZ made kiwi logo’ (5%), ‘Dragon’ (5%), ‘Heart’ (5%) [the love symbol], Batman (5%) and ‘Coca-Cola’ (5%).

5.5 Users' perceptions

5.5.1 Three things most liked about ecstasy

Nine out of 10 (89%) participants mentioned the 'rush', 'euphoria' and 'uplifting effect' as one of the three things they most liked about ecstasy. Related to this, other participants cited the 'calming effect' (7%), 'weightlessness' (4%), and 'clarity' (4%) effects of ecstasy as aspects they liked about the drug. Nearly half of respondents (46%) mentioned the 'energy' enhancing effects as one of the three things they most liked about ecstasy (ie. 'keeps you going at dance parties'). Three out of 10 (32%) said they liked the way ecstasy enhanced social interaction. Some participants (14%) said they liked the fact that ecstasy had lesser after effects compared to heavy alcohol drinking. Other participants (14%) liked the way ecstasy enhanced music.

5.5.2 Three things most disliked about ecstasy

Three quarters (75%) of participants mentioned the 'comedown' as one of the three things they most disliked about ecstasy. Some participants (11%) specifically mentioned the 'sleep difficulties' associated with the recovery from use. Other participants (7%) mentioned the 'sudden end' to the high as one of the three things they most disliked. Nearly half (46%) of participants mentioned the 'cost' as one of the things they most disliked. Some participants indicated that the 'social stigma' (14%), 'illegality' (7%) and 'lack of availability and quality' (11%) were things they didn't like about using ecstasy. Other participants mentioned a range of health issues such as 'dehydration/sweating' (11%), 'jaw cramps' (4%), 'taste' (7%), 'knowing its bad for you' (4%) and 'long term effects' (7%), as things they did not like about ecstasy.

5.6 Price

5.6.1 Price paid

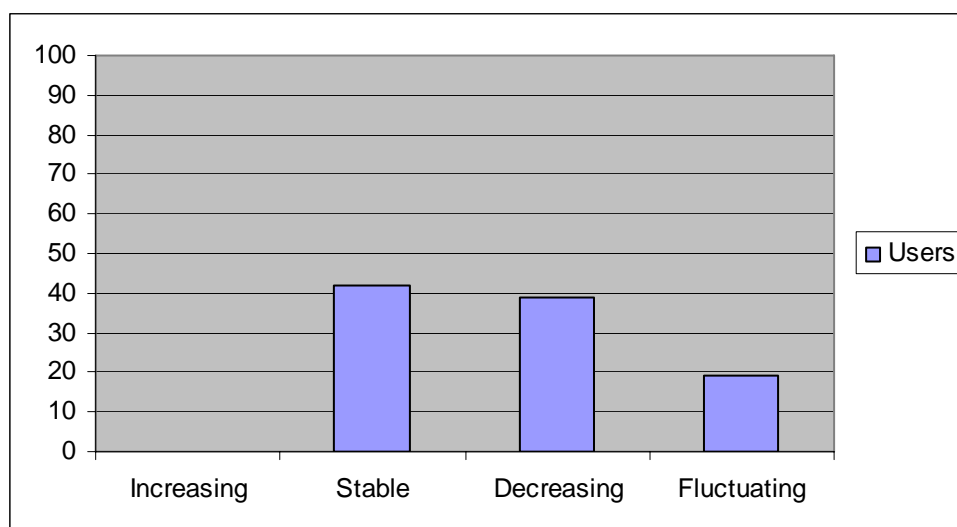
Over nine out of 10 (94%) of the frequent hallucinogen users felt confident enough to comment on the price, purity and availability of ecstasy in the previous six months. Those participants who commented on ecstasy reported the current median price of a pill to be \$60 (mean \$64, range \$30-\$80).

KE reported the price of a pill of ecstasy to be \$50, although one noted this was the price paid by 'those in the scene'.

5.6.2 Change in price

Four out of 10 (42%) participants who commented on ecstasy thought the price of ecstasy had been 'stable' in the previous six months (Figure 5.2). Four out of 10 (39%) said the price had 'decreased' over the last six months. One in five (19%) described the price as 'fluctuating'.

Figure 5.2: Change in the price of ecstasy in the last six months



KE described the price of ecstasy as 'stable' or 'decreased' over the last six months.

5.7 Purity

5.7.1 Current purity

A third (35%) of the participants who commented on ecstasy described the current purity as fluctuating. A further third (32%) described current purity as 'high' and three out of 10 (29%) described current purity as 'medium'. Only one in 33 (3%) described the current strength as 'low'.

Most KE described the purity of ecstasy as 'medium' at present. One KE said the purity was 'high'.

5.7.2 Change in purity

Nearly half (48%) of those who commented on ecstasy thought the strength of ecstasy had 'fluctuated' over the previous six months. One in four (23%) thought the strength had been 'stable' in the preceding six months. One in five (19%) said that the strength of ecstasy had 'increased' in the previous six months. Only one in 10 (10%) thought the strength of ecstasy had 'decreased'.

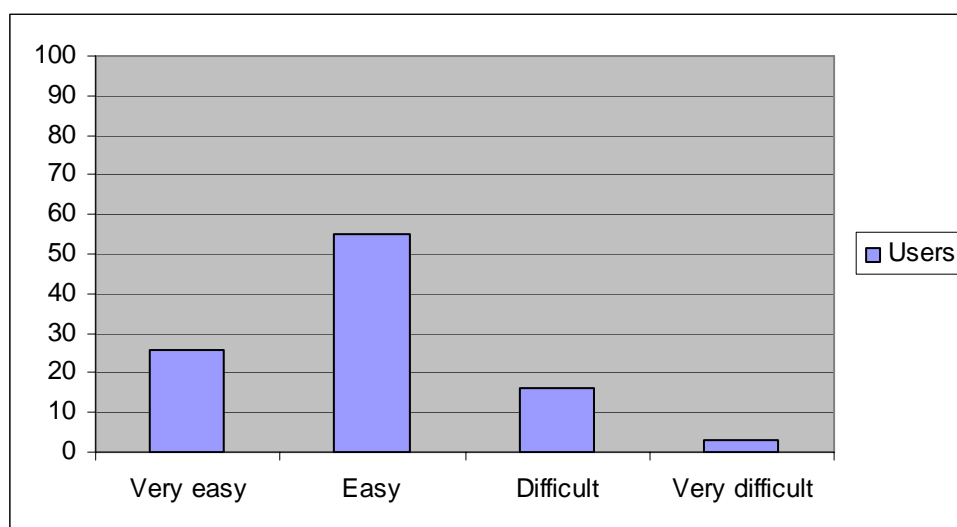
KE provided mixed reports of the change in purity of ecstasy over the preceding six months. One said the purity had 'increased', another said it was 'stable' and another said it had 'decreased'.

5.8 Availability

5.8.1 Current availability

Just over half (55%) of the participants who commented on ecstasy described the current availability of ecstasy as 'easy' (Figure 5.3). One in four (26%) described the current availability of ecstasy as 'very easy'. One in six participants (16%) described the current availability as 'difficult'. One in six participants (16%) described the current availability as 'very difficult'.

Figure 5.3: Current availability of ecstasy

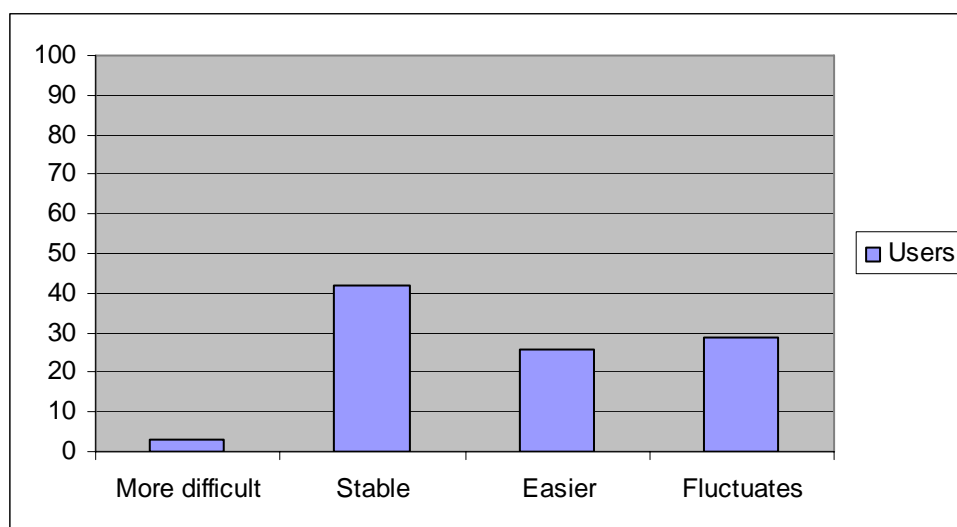


KE described the current availability of ecstasy as 'easy'.

5.8.2 Change in availability

Four out of 10 (42%) of those who commented on ecstasy thought the availability of ecstasy had been 'stable' in the preceding six months (Figure 5.4). Three out of 10 (29%) described the availability of ecstasy as 'fluctuating' in the last six months. One in four (26%) said the availability had become 'easier' in the previous six months.

Figure 5.4: Change in availability of ecstasy in the last six months



KE believed that the availability of ecstasy had either remained ‘stable’ or ‘fluctuated’ in the last six months.

5.8.3 Change in number of people using

Half (47%) of the frequent users thought that the ‘same’ number of people they know were using ecstasy compared to six months ago. Four out of 10 (41%) said ‘more’ people they know were using ecstasy compared to six months ago. One in eight (13%) reported that ‘less’ of the people they know were using ecstasy compared to the previous six months.

One KE reported a small increase in the use of ecstasy in the last six months. Two other KE noted a lowering of the age of users. One KE said there had been no change in the level of ecstasy use.

5.9 The black market for ecstasy

5.9.1 Procurement of ecstasy

Nine out of 10 (94%) of those who commented on ecstasy had purchased it in the last six months. One in 33 (3%) had received all the ecstasy they used for ‘free’, and a further one in 33 (3%) had not used it in the last six months.

5.9.2 Frequency of purchase

Four out of 10 (45%) of those who had bought ecstasy had purchased ‘twice per month’ in the last six months. One in five (21%) had purchased ‘once a month’ in the preceding six months. One in 10 (10%) had purchased ‘three to four times’ and one in seven (14%) ‘once or twice’ in the preceding six months. One in 10 (10%) had purchased ecstasy ‘once per week’ in the last six months.

5.9.3 Different types of sellers

Eight out of 10 (79%) ecstasy buyers had purchased ecstasy from ‘friends’ in the last six months (Table 5.1). One in five (21%) purchased from a ‘drug dealer’ and a further one in five (21%) purchased from an ‘acquaintance’.

Table 5.1: Sellers bought ecstasy from in the last six months

People	Users (%) (n = 29)
Friends	79
Drug dealers	21
Acquaintances	21
Workmates	10
Family members	3
Gang member/associate	3

5.9.4 Method used to contact seller

Six out of 10 (62%) of the ecstasy buyers usually contacted their seller by ‘calling or texting them on a mobile phone’. One in seven (15%) ‘visited a house or flat’. One in 13 (8%) buyers either used a ‘third party’ or ‘approached someone in public’ (8%). Only one in 25 (4%) usually called their dealer using a ‘landline telephone’.

5.9.5 Venues of purchase

Private homes were common venues where the ecstasy buyers had purchased ecstasy in the last six months. Half (53%) had purchased ecstasy from a ‘friend’s home’, four out of 10 (40%) had purchased from their own ‘home’, one in eight (13%) had purchased from a ‘dealer’s home’ and a further one in eight (13%) had purchased from an ‘acquaintance’s home’ (Table 5.2). Some ecstasy buyers had purchased from a range of entertainment venues including ‘nightclubs’ (17%), ‘raves/dance parties’ (10%), pubs and bars (10%) and private parties (3%). Some buyers also purchased from outside areas such as an ‘agreed public location’ (17%) and ‘street’ (7%). No ecstasy buyers reported typically purchasing ecstasy from a ‘tinny’ house.

Table 5.2: Venues bought ecstasy from in the last six months

Venues	Users (%) (n = 30)
Friend's home	53
Home	40
Nightclubs	17
Agreed public location	17
Dealer's home	13
Acquaintance's house	13
Raves/dance parties	10
Pubs/bars	10
Work	7
Private parties	3
Street	3

5.9.6 Time taken to purchase

A third (33%) of ecstasy buyers said it would take them ‘days’ to purchase ecstasy (Table 5.3). One in six (17%) said it would take them ‘about one day’ to purchase ecstasy. One in 10 (10%) ecstasy buyers said it would take them ‘weeks’ to purchase the drug. Nearly three out of 10 (27%) ecstasy buyers indicated it would take them ‘hours’ to purchase ecstasy. A small number of ecstasy buyers indicated they could purchase ecstasy in either ‘one hour’ (7%) or ‘less than 20 minutes’ (7%).

Table 5.3: Time taken to purchase ecstasy

Time	Users (%) (n = 30)
Days	33
Hours	27
About 1 day	17
Weeks	10
1 hour	7
Less than 20 minutes	7

5.9.7 Number of sellers

The ecstasy buyers had purchased ecstasy from a median of two sellers in the previous six months (mean 3 sellers, range 1-6 sellers).

5.9.8 Other drug types purchased

Four out of 10 (43%) of the ecstasy buyers had purchased other drug types from their ecstasy seller in the last six months. The other drug types most frequently purchased were cannabis (58%), amphetamines (33%), LSD (33%) and methamphetamine (8%).

5.10 Health related harms

5.10.1 Introduction

Participants were first asked whether they had experienced a range of physical and psychological problems related to their ecstasy use in the last six months. If they had experienced a problem they were asked whether they had experienced this problem before they started using ecstasy. Then they were asked to estimate the extent to which their ecstasy use was responsible for the specified problem and to express this as a percentage.

5.10.2 Physical problems

The physical problems most commonly reported from ecstasy use were poor appetite (71%), poor concentration (61%), muscular aches (54%), memory lapse (54%), hot/cold flushes (54%), inability to urinate (54%), and profuse sweating (50%) (Table 5.4). Some of the participants had experienced these physical problems before they started using ecstasy, which suggests the existence of some pre-existing physical problems. Participants generally felt that their ecstasy use had contributed to the physical problems they were experiencing (range 0%-72%).

Table 5.4: Self-reported physical problems from ecstasy use experienced in the previous six months

Problem	% experienced in last 6 months	% experienced before started using ecstasy	% of problem attributed to ecstasy use
Poor appetite	71	21	72
Poor concentration	61	46	41
Hot/cold flushes	54	18	67
Memory lapse	54	36	44
Muscular aches	54	32	42
Inability to urinate	54	18	55
Profuse sweating	50	11	58
Headaches	43	36	17
Heart palpitations	39	11	50
Stomach pains	36	25	42
Joint pains/stiffness	36	18	36
Blurred vision	36	7	62
Teeth problems	32	21	38
Dizziness	32	14	59
Weight loss	32	11	65
Loss of energy	32	18	58
Shortness of breath	29	18	28
Tremors/shakes	29	14	45
Vomiting	25	18	59
Numbness/tingling	21	11	37
Chest pains	18	11	14
Skin problems	14	7	50
Fainting/pass out	4	4	0
Fits/seizures	0	-	-

5.10.3 Psychological problems

The psychological problems most commonly reported from ecstasy use were trouble sleeping (68%), mood swings (64%), confusion (57%), depression (54%), and sound hallucinations (50%) (Table 5.5). One in six (18%) reported suicidal thoughts and one in 14 (7%) suicide attempts. In some cases, participants had experienced these psychological problems before they started using ecstasy, indicating the presence of pre-existing psychological problems. Participants sometimes felt that their ecstasy use had contributed to the psychological problems they had experienced (range 0%-78%).

Table 5.5: Self-reported psychological problems from ecstasy use experienced in the previous six months

Problem	% experienced in last 6 months	% ever experienced before started using ecstasy	% of problem attributed to ecstasy use
Trouble sleeping	68	29	64
Mood swings	64	46	42
Confusion	57	43	46
Depression	54	39	34
Sound hallucinations	50	18	73
Strange thoughts	46	25	71
Short temper	46	32	32
Anxiety	46	25	39
Irritability	39	32	35
Visual hallucinations	36	7	73
Paranoia	36	29	24
Flashbacks	32	11	58
Suicidal thoughts	18	14	20
Loss of sex urge	14	4	78
Other	14	0	100
Panic attacks	11	7	33
Violent behaviour	7	4	51
Suicide attempts	7	4	0

5.11 Law enforcement

Seizures of ecstasy in New Zealand increased dramatically in the early years of the new century, from 9,352 tablets in 2000, to 83,448 tablets in 2001, to 256,973 tablets in 2002. There was then a levelling off in seizures in 2003, to 266,175 tablets, followed by a fairly large decline in seizures to 45,387 tablets in 2004. Drug enforcement agencies attribute the recent decline in seizures of ecstasy in New Zealand to more elaborate smuggling methods used by international drug trafficking groups.

6. Crystal methamphetamine

6.1 Introduction

Crystal methamphetamine ('ice', 'crystal' or 'shabu') is the crystallised form of methamphetamine (Matsumoto et al., 2002, McKetin and McLaren, 2004). Crystal methamphetamine is made of large translucent crystals and is clandestinely manufactured in Asia (McKetin and McLaren, 2004). Crystal methamphetamine has only very recently gained popularity in New Zealand as international drug syndicates respond to the greater demand for high potency amphetamines created by the local market for methamphetamine (New Zealand Customs Service, 2002, National Drug Intelligence Bureau, 2005). Crystal methamphetamine is sometimes perceived by New Zealand drug users to be more professionally made, and hence more potent and chemically purer, than the locally manufactured methamphetamine (Wilkins et al., 2004).

6.2 Crystal methamphetamine use among the frequent hallucinogen users

Over one third (38%) of the hallucinogen users had tried crystal methamphetamine in their lifetimes and one in five (21%) had used crystal methamphetamine in the last six months. The median age at which the hallucinogen users had first used crystal methamphetamine was 22 years (mean 23, range 17-45 years). Most of those who had used crystal methamphetamine in the previous six months said the main way they took the drug was 'smoking it' (80%), with the remainder 'snorting it' (20%). None of the participants had injected crystal methamphetamine in the last six months. One participant had injected crystal methamphetamine in their lifetime. Participants had used crystal methamphetamine on a median of 2 days in the previous six months (mean 1.9 days, range 1-4 days). All users had used crystal methamphetamine monthly or less in the last six months. The median number of points of crystal methamphetamine taken on a typical occasion was 0.8 of a point (mean 0.9 point, range 0.3-2.0 points). The median 'most' number of points of crystal methamphetamine taken on a typical occasion was 1 point (mean 1 point, range 0.3-2.0 points).

6.3 Crystal methamphetamine use in the general population

The proportion of the New Zealand population aged 15-45 years old who had ever tried crystal methamphetamine increased significantly in 2001 compared to 1998 (1.3% versus 0.2%, $p < 0.0001$) and then did not significantly change in 2003 compared to 2001 (1.8% versus 1.3%, $p = 0.164$).

The last year use of crystal methamphetamine appeared to increase in 2001 compared to 1998 (0.9% compared to 0.1%), although there were insufficient numbers in 1998 to make a statistically reliable comparison. There were sufficient numbers to reliably

test changes between 2001 and 2003 and there was no statistically significant change in level of last year crystal methamphetamine use (0.9% versus 0.9%, $p=0.745$).

6.4 Price

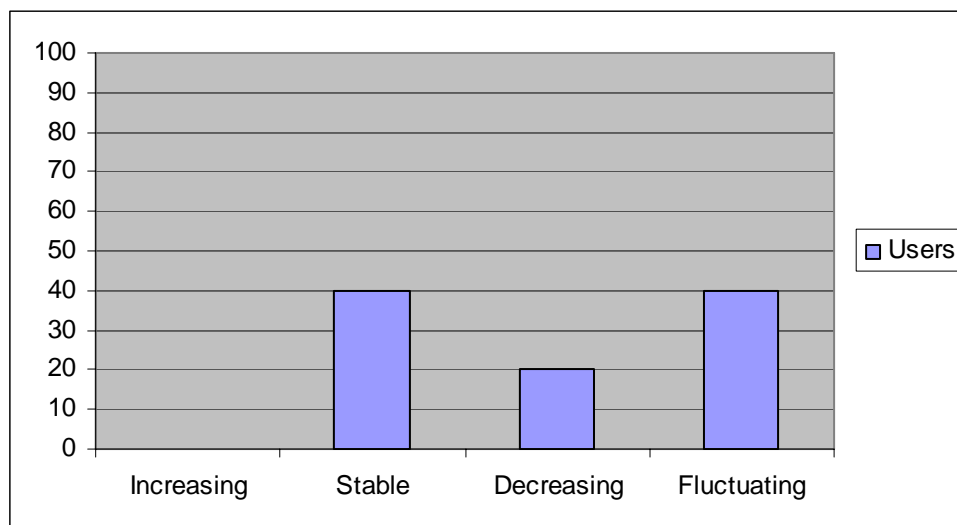
6.4.1 Current price

Only one in five (21%) of the frequent hallucinogen users felt confident enough to comment on the price, purity and availability of crystal methamphetamine. The low numbers of participants answering this section ($n=6-7$) indicates the results should be treated with caution. The median price reported for a point of crystal methamphetamine was \$110 (mean \$110, range \$100-\$120).

6.4.2 Change in price

Four out of 10 (40%) of the participants who commented on crystal methamphetamine thought the price of crystal methamphetamine had been 'stable' over the preceding six months (Figure 6.1). A further four out of 10 (40%) thought the price of crystal methamphetamine had 'fluctuated' in the last six months. One in five (20%) said the price had 'decreased' in the last six months.

Figure 6.1: Change in the price of crystal methamphetamine in last six months



6.5 Purity

6.5.1 Current purity

Half (50%) of the participants who commented on crystal methamphetamine described the current strength as 'high'. A third (33%) thought the current purity of crystal methamphetamine was 'medium'. One in six (17%) described the current purity as 'fluctuating'.

6.5.2 Change in purity

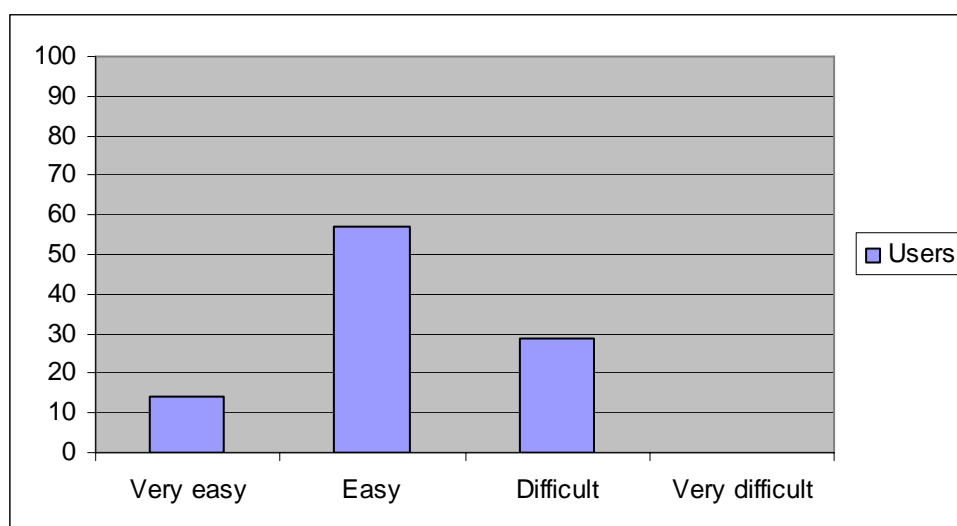
Half (50%) of the participants who commented on crystal methamphetamine thought the purity of crystal methamphetamine had remained 'stable' over the preceding six months. One in six (17%) described the strength of crystal methamphetamine as having 'increased' in the previous six months. A further one in six (17%) thought the strength of crystal methamphetamine had 'fluctuated' over the last six months and one in six (17%) said the purity had 'decreased'.

6.6 Availability

6.6.1 Current availability

Six out of 10 (57%) of the participants who commented on crystal methamphetamine described the current availability as 'easy' (Figure 6.2). A further one in seven (14%) reported the current availability as 'very easy'. The remaining three out of 10 (29%) thought the current availability of crystal methamphetamine was 'difficult'.

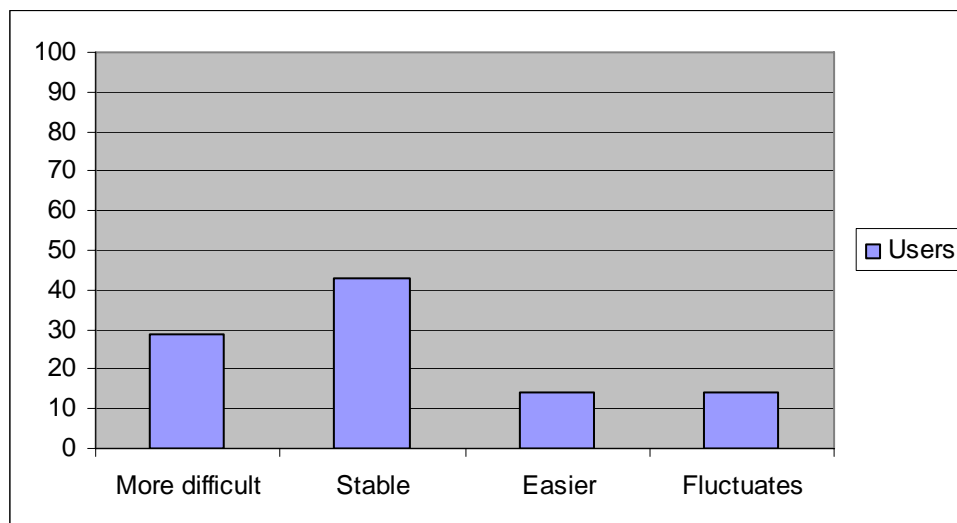
Figure 6.2: Current availability of crystal methamphetamine



6.6.2 Change in availability

Four out of 10 (43%) of the participants who commented on crystal methamphetamine said the availability of crystal methamphetamine had remained 'stable' over the preceding six months (Figure 6.3). Three out of 10 (29%) thought the availability had become 'more difficult' in the last six months. One in seven (14%) felt the availability of the drug had 'fluctuated' and the same number (14%) thought it had become 'easier' in the previous six months.

Figure 6.3: Change in the availability of crystal methamphetamine in the last six months



6.6.3 Change in the number people using

Four out of 10 (43%) of those who commented on crystal methamphetamine reported that ‘more’ of the people they know were using crystal methamphetamine compared to six months ago. The same number (43%) thought that the ‘same’ number of people they know were using crystal methamphetamine than in the previous six months. One in seven (14%) reported that ‘less’ of the people they know were using crystal methamphetamine than in the last six months.

6.7 Law enforcement

Seizures of crystal methamphetamine in New Zealand have increased quite dramatically in the last year or so, from only 909 grams seized in 2002 and 862 grams seized in 2003, to 26,268 grams in 2004. Approximately two thirds of the seizures of crystal methamphetamine in 2004 were made at the border by the New Zealand Customs Service.

7. Cannabis

7.1 Introduction

Cannabis has remained New Zealand's most popular illicit drug, and the third most popular drug after alcohol and tobacco. New Zealand achieved self sufficiency in the supply of cannabis in the 1980s, with large scale domestic cultivation of the drug emerging in a number of rural regions, including Northland and the Bay of Plenty (Yska, 1990, Wilkins et al., 2002a, Wilkins and Casswell, 2003). In more recent years, the outdoor cultivation of cannabis has been supplemented by sophisticated indoor hydroponics growing operations which produce high potency strains of cannabis (Newbold, 2000). Cannabis is sold in New Zealand within private social networks and from public drug houses, known as 'tinny' houses (Wilkins et al., 2005a). Recent analysis of cannabis purchasing from 'tinny' houses has found that adolescents aged 15-17 years old were significantly more likely to purchase cannabis from these places than older cannabis buyers (Wilkins et al., 2005a).

7.2 Cannabis use among the frequent hallucinogen users

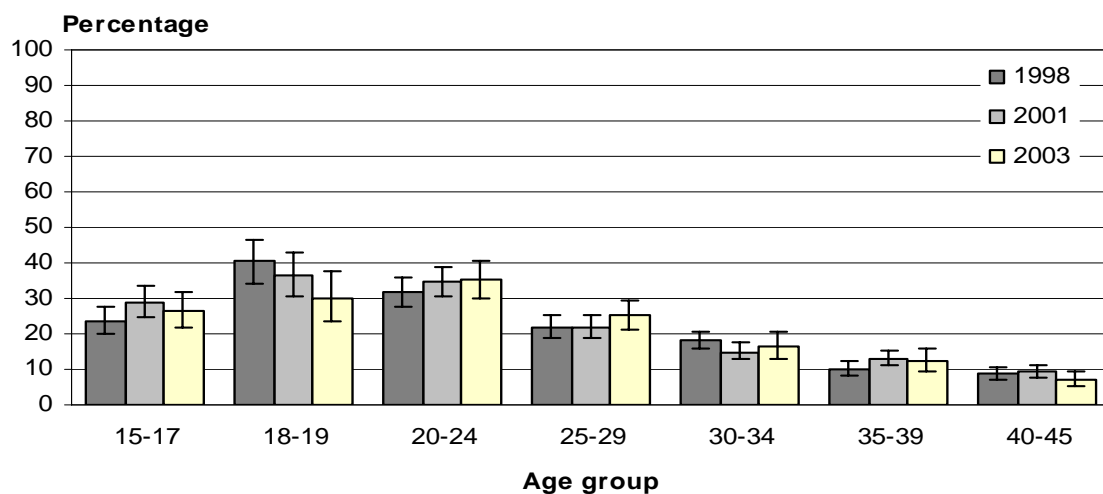
Nine out of 10 (91%) of the hallucinogen users had tried cannabis in their lifetimes and the same proportion (91%) had used cannabis in the last six months. Nearly all of those who had used cannabis in the previous six months said the main way they took the drug was 'smoking it' (94%) with the remainder 'swallowing it' (6%). Participants had used cannabis on a median of 80 days in the previous six months (ie. once every two days) (mean 93 days, range 2-182 days). Eight out of 10 users (80%) had used cannabis weekly or more often, and half (53%) had used it more than three times a week in the previous six months. The median number of joints smoked on a typical occasion was one (mean 1.4 joint, range 0.25-4.0 joints). The median 'most' number of joints smoked on a typical occasion was three joints (mean 6.8 joints, range 1.0-28.4 joints).

7.3 Cannabis use in the general population

Cannabis was the most widely used drug in all three waves of national surveying, with about half of the New Zealand population having tried it in their lifetimes. A significantly higher proportion of the population had tried cannabis in 2003 compared to 1998 (53.8% and 50.4%, $p=0.0065$).

There was no statistically significant change in the overall last year use of cannabis over any of the waves of surveying, with approximately one in five New Zealanders aged 15-45 years old having used it in the last year (19.9% in 1998; 20.3% in 2001; 20.4% in 2003). In 2003, one in three (35%) 20-24 year olds and one in four (25%) 25-29 year olds had used cannabis in the last year (Figure 7.1).

Figure 7.1. Proportion of the population reporting last year use of cannabis by age, 1998, 2001 and 2003



7.4 Price

7.4.1 Current price

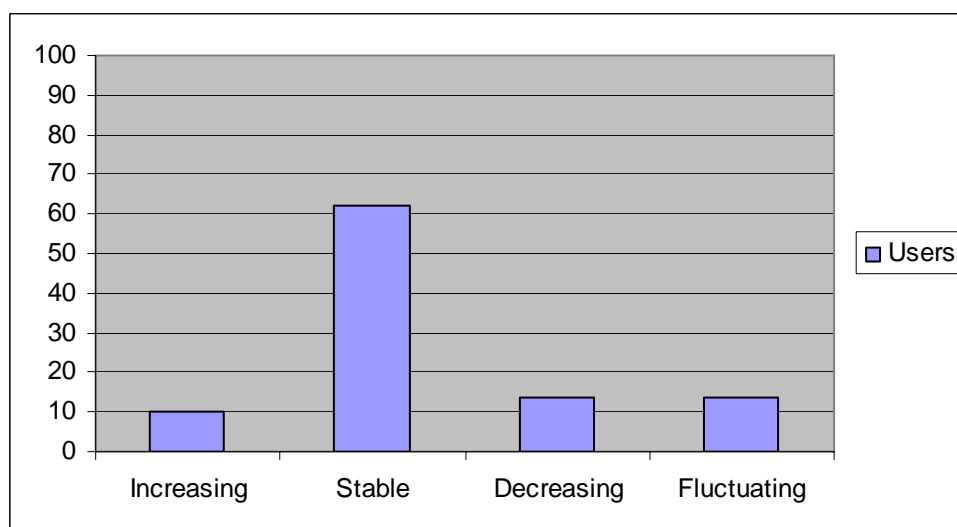
Nearly nine out of 10 (88%) of the frequent hallucinogen users felt confident enough to comment on the price, purity and availability of cannabis.

The median price paid for a ‘tinny’ of cannabis (1.5 grams) was \$20 (mean \$20, range \$15-\$25). The median price paid for an ounce of cannabis (28 grams) was \$275 (mean \$270, range \$150-\$350).

7.4.2 Change in price

Six out of 10 (62%) of the participants who commented on cannabis thought the price had remained ‘stable’ in the previous six months (Figure 7.2). One in seven (14%) said the price had ‘fluctuated’ over the last six months. One in seven (14%) thought the price of cannabis had ‘decreased’ in the last six months.

Figure 7.2: Change in the price of cannabis in the last six months



7.5 Purity

7.5.1 Current purity

Four out of 10 (45%) of the participants who commented on cannabis described the current strength of cannabis as 'high'. One third (34%) described the current strength of cannabis as 'fluctuating'. The remaining one in five (21%) said the current strength is 'medium'.

7.5.2 Change in purity

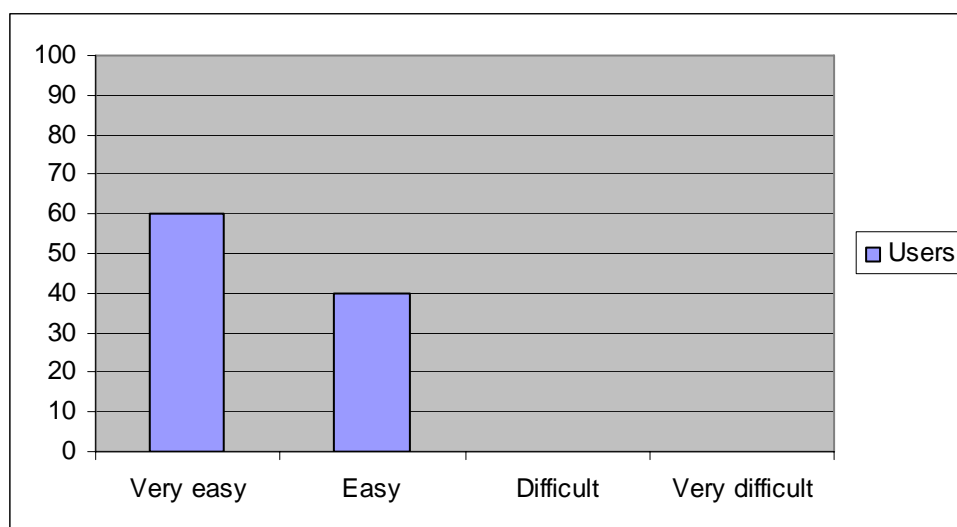
Four out of 10 (41%) of those who commented on cannabis felt that the strength of cannabis had remained 'stable' over the previous six months. A further four out of 10 (41%) said the strength of cannabis had 'fluctuated' over the preceding six months. One in seven (14%) thought the strength of cannabis had 'increased' over the last six months. Only one respondent said the strength of cannabis had 'decreased' over the preceding six months.

7.6 Availability

7.6.1 Current availability

Six out of 10 (60%) of the participants who commented on cannabis described the current availability of cannabis as 'very easy' (Figure 7.3). The remaining four out of 10 (40%) reported the current availability of cannabis to be 'easy'.

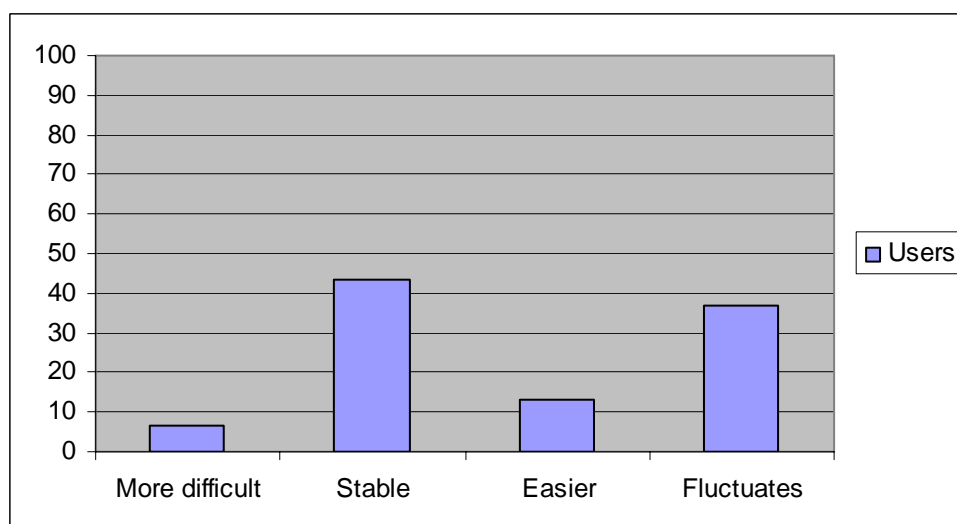
Figure 7.3: Current availability of cannabis



7.6.2 Change in availability

Four out of 10 (43%) of the participants who commented on cannabis thought the availability of cannabis had been 'stable' in the last six months (Figure 7.4). One in eight (13%) said availability had become 'easier'. Four out of 10 (37%) said the availability of cannabis had fluctuated over the preceding six months. Only one in 14 (7%) thought availability of cannabis had become 'more difficult' over the last six months.

Figure 7.4: Change in availability of cannabis in the last six months



7.6.3 Change in the number of people using

Nearly seven out of 10 (67%) of those who commented on cannabis reported that the 'same' number of the people they know were using cannabis compared to a year ago. One in 10 (10%) said that 'more' of the people they know were using cannabis. One in four (23%) thought that 'less' of their friends were using cannabis compared to a year ago.

7.7 The black market for cannabis

7.7.1 Procurement of cannabis

Eight out of 10 (83%) of those who commented on cannabis had purchased cannabis in the last six months. One in six (17%) reported they had received it for ‘free’.

7.7.2 Frequency of purchase

One in four (24%) of the cannabis buyers had purchased cannabis ‘once a week’ in the last six months. One in five (20%) buyers purchased 2-5 times a week. One in five (20%) cannabis buyers purchased once a month (9%) in the preceding six months. One in five (20%) had purchased cannabis four times or less in the previous six months.

7.7.3 Different types of sellers

Nine out of 10 (88%) of the cannabis buyers had purchased cannabis from ‘friends’ in the last six months (Table 7.1). One in three (33%) had purchased from ‘drug dealers’, and one in four (25%) had purchased from acquaintances in the previous six months. One in 12 (8%) had purchased cannabis from a gang member/associate in the last six months.

Table 7.1: Different types of people bought cannabis from in the last six months

People	Users (%) (n = 24)
Friends	88
Drug dealers	33
Acquaintances	25
Gang member/associate	8
Family member	4
Workmates	4
Other	4

7.7.4 Method used to contact seller

Half (52%) of cannabis buyers usually contacted their cannabis seller by ‘calling/texting them on a mobile telephone’. Three out of 10 (26%) usually ‘visited a house or flat’. One in 8 (13%) buyers were usually ‘already with the seller’. One in 25 (4%) usually approached the seller in public and the same number arranged to buy ‘through a third party’ (4%).

7.7.5 Venues of purchase

Houses were common venues where cannabis buyers purchased cannabis in the last six months (Table 7.2). Two thirds (67%) of participants had purchased cannabis from a ‘friend’s house’, four out of 10 (38%) had purchased from their ‘own home’, one in five (21%) had purchased at their ‘dealers house’, and one in six (17%) had purchased from an ‘acquaintance’s house’. One in 12 (8%) had purchased cannabis from a ‘tinny’ house, and a further one in 12 (8%) had purchased cannabis from an ‘agreed public location’ in the last six months.

Table 7.2: Venues purchased cannabis from in the last six months

Venues	Users (%) (n = 24)
Friend's home	67
Home	38
Dealer's home	21
Acquaintance's house	17
Tinny house	8
Agreed public location	8
Private parties	4

7.7.6 Time taken to purchase

Just over one-third (36%) of cannabis buyers said they could purchase cannabis in 'less than 20 minutes' (Table 7.3). A further one in four (24%) indicated it would take them 'one hour' to purchase some cannabis. One in five (20%) thought it would take them 'hours' to purchase the drug. One in 13 (8%) answered it would take them about 'one day' to purchase cannabis. A further one in 8 (12%) thought it would take them 'days' to purchase cannabis.

Table 7.3: Time taken to purchase cannabis

Time	Users (%) (n = 25)
Days	12
About 1 day	8
Hours	20
1 hour	24
Less than 20 minutes	36

7.7.7 Number of sellers

The cannabis buyers were asked how many different sellers they had purchased cannabis from in the last six months. The median number of sellers purchased from was three (mean 5, range 2-20).

7.7.8 Other drug types purchased from cannabis seller

Half (48%) of the cannabis buyers had purchased other drug types from their cannabis seller in the previous six months. The other drug types most commonly purchased were ecstasy (73%), LSD (45%) and methamphetamine (9%).

7.8 Law enforcement

Seizures of cannabis varied to some extent over the last five years. This is likely to reflect the time and resources police allocated to cannabis offending in different areas, particularly in the case of cannabis crop eradication operations. Seizures of approximately 2000 kg of cannabis leaf were made in 2000 (2,467 kg) and 2001

(1,847 kg), and this increased to 12,452 kg in 2002, before declining to around 550 kg in 2003 (588 kg) and 2004 (553 kg). Seizures of 9.5 kg of cannabis oil were made in 2000, followed by 3.1 kg in 2001, 3.8 kg in 2002, 0.5 kg in 2003 and 2kg in 2004. Seizures of cannabis plants made during cannabis crop eradication operations were 105,131 plants in 2000, 90,857 plants in 2001, 73,772 plants in 2002, 193,740 plants in 2003 and 162,263 plants in 2004.

8. LSD

8.1 Introduction

Lysergic acid diethylamide or LSD ('trips' or 'acid') is a hallucinogen which gained widespread popularity in many Western countries during the 1960s. While its popularity waned in many other countries in subsequent decades, LSD remained relatively popular in New Zealand with increases in use identified in the 1990s (Field and Casswell, 1999a). In the 1998 New Zealand national household drug survey, LSD was the second most popular illicit drug in New Zealand after cannabis (Field and Casswell, 1999b). New Zealand had the seventh highest number of LSD seizures from 1990 to 1994 of twenty-four consumer countries (New Zealand Customs Service, 2002). The popularity of LSD in New Zealand has been eclipsed to some extent in recent years by the rise of methamphetamine and ecstasy (see Wilkins et al., 2002b).

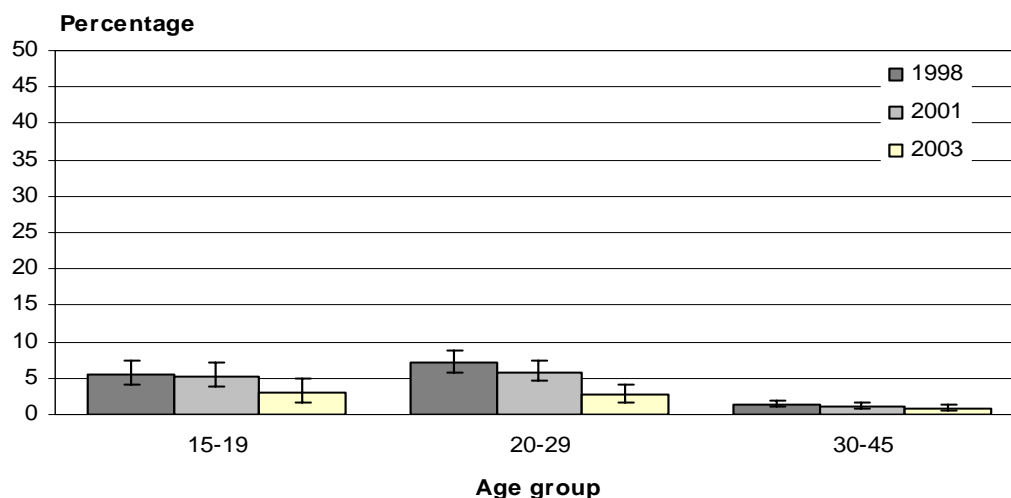
8.2 LSD use among frequent hallucinogen users

Nine out of 10 (88%) of the hallucinogen users had tried LSD in their lifetimes and six out of 10 (62%) had used LSD in the last six months. The median age at which the hallucinogen users had first used LSD was 17 years (mean 18, range 13-25 years). Nearly all of those who had used LSD in the previous six months said the main way they took the drug was 'swallowing it' (95%) with the remainder 'snorting it' (5%). Participants had used LSD on a median of 4 days in the previous six months (mean 9 days, range 1-48 days). Two thirds (67%) of users had used LSD monthly or less in the last six months. One in five (19%) users used once a fortnight. One in seven (14%) were weekly or more frequent users. The median number of tabs of LSD taken on a typical occasion was one (mean 1.1 tab, range 0.5-3.0 tabs). The greatest number of tabs of LSD taken on a single occasion was one tab (mean 1.6 tabs, range 0.5-5.0 tabs).

8.3 LSD use in the general population

There was a statistically significant decrease in the last year use of LSD between 2001 and 2003 (from 3.2% to 1.9%, $p=0.0007$). Last year use of LSD by females fell significantly in 2003 compared to 2001 (0.9% versus 2.1%, $p=0.0077$). The last year use of LSD decreased significantly between 2001 and 2003 among those aged 20-29 years old (from 5.8% to 2.7%, $p=0.0008$) (Figure 8.1).

Figure 8.1: Proportion of the population reporting last year use of LSD by age, 1998, 2001 and 2003



8.4 Price

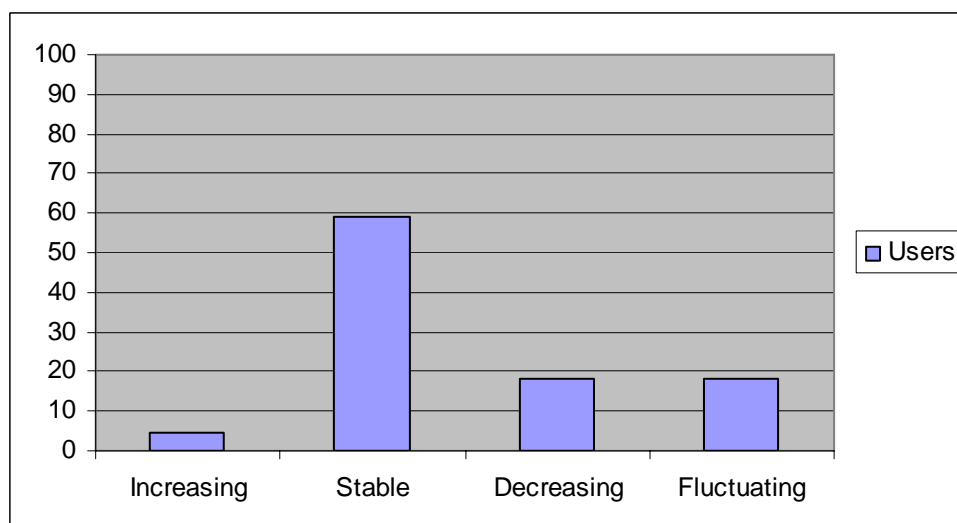
8.4.1 Current price

Seven out of 10 (71%) frequent hallucinogen users felt confident enough to comment on the price, purity and availability of LSD. The median price paid for a 'tab' of LSD was \$35 (mean \$33, range \$20-\$40).

8.4.2 Change in price

Six out of 10 (59%) of the participants who commented on LSD thought the price had remained 'stable' in the preceding six months (Figure 8.2). One in six (18%) said it had 'fluctuated' in the last six months. A further one in six (18%) indicated the price of LSD had fallen in the previous six months. Only one in 20 (5%) reported the price of LSD had 'increased' in the previous six months.

Figure 8.2: Change in the price of LSD in the last six months



8.5 Purity

8.5.1 Current purity

A third (35%) of participants who commented on LSD described the current purity of LSD as ‘high’. Three out of 10 (30%) described the current strength of LSD as ‘medium’. One in five (22%) reported the current strength of LSD was ‘fluctuating’. One in eight (13%) described the strength of LSD as ‘low’.

8.5.2 Change in purity

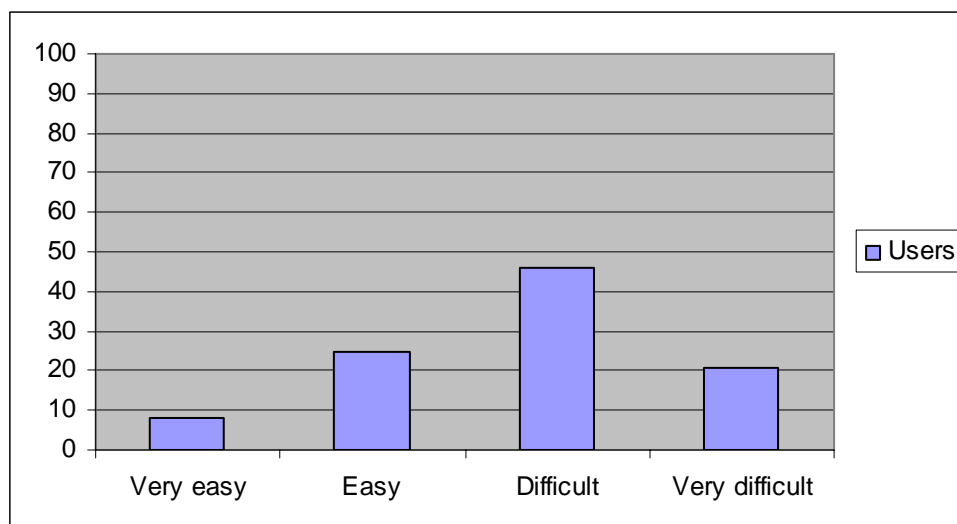
Four out of 10 (40%) of the participants who commented on LSD indicated that the strength of LSD had ‘fluctuated’ over the last six months. Three out of 10 (30%) said the strength of LSD had remained ‘stable’ over the last six months. One in six (17%) thought the strength of LSD had ‘increased’ over the previous six months. One in 8 (13%) thought the strength of LSD had ‘decreased’ over the previous six months.

8.6 Availability

8.6.1 Current availability

Nearly one half (46%) of the participants who commented on LSD described the current availability as ‘difficult’ (Figure 8.3). One in five (21%) described the current availability of LSD to be ‘very difficult’. One in four (25%) participants described the current availability as ‘easy’, and one in 12 (8%) thought the current availability was ‘very easy’.

Figure 8.3: Current availability of LSD

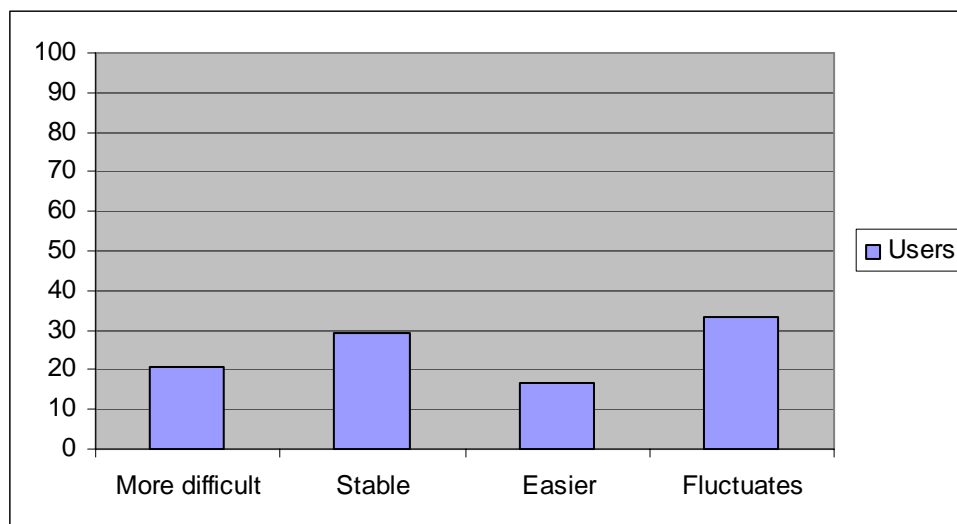


8.6.2 Change in availability

A third (33%) of the participants who commented on LSD said the availability of LSD had ‘fluctuated’ over the last six months (Figure 8.4). Three out of 10 (29%) reported that the availability of LSD had remained ‘stable’ over the preceding six months. One in five (21%) said the availability of LSD had become ‘more difficult’.

One in six (17%) thought the availability of LSD had become ‘easier’ over the previous six months.

Figure 8.4: Change in the availability of LSD in the last six months



8.6.3 Change in the number of people using

Half (50%) of the participants who commented on LSD reported that the ‘same’ number of people they know were using LSD compared to six months ago. One third (36%) said ‘more’ people they know were using LSD compared to six months ago. One in seven (14%) said ‘less’ people they know were using LSD.

8.7 The black market for LSD

8.7.1 The procurement of LSD

Seven out of 10 (71%) of those who commented on LSD had purchased it in the last six months. One in 13 (8%) had received all the LSD they used for ‘free’ in the last six months. One in five (21%) had not used LSD in the last six months.

8.7.2 Frequency of purchase

Three out of 10 (29%) LSD buyers had purchased LSD only ‘once or twice’ in the last six months. A further three out of 10 (29%) had purchased LSD ‘three or four’ times in the previous six months. One in four (24%) had bought LSD approximately ‘once a month’. One in 17 (6%) purchased ‘twice per month’ and one in eight (12%) had purchased ‘once a week’.

8.7.3 Different types of sellers

Eight out of 10 (82%) of the LSD buyers had purchased LSD from ‘friends’ in the last six months. One in four (24%) had purchased LSD from ‘acquaintances’ (Table 8.1). One in 20 (6%) had purchased LSD from ‘drug dealers’ and the same proportion had purchased from ‘workmates’ (6%).

Table 8.1: People bought LSD from in the last six months

People	User (%) (n = 17)
Friends	82
Acquaintances	24
Other	12
Drug dealers	6
Workmates	6

8.7.4 Method used to contact seller

Four out of 10 (38%) of the LSD buyers usually contacted their LSD seller by 'calling/texting them on a mobile telephone'. Three out of 10 (31%) usually visited a house or flat. One in 17 either usually 'approached the seller in public' (6%), purchased 'through a third party' (6%), called them 'using a 'landline telephone' (6%) or was 'already with them' (6%).

8.7.5 Venues of purchase

Half of the LSD buyers (53%) purchased LSD from a 'friend's home', one in four (47%) from their own home, one in eight (12%) from a 'dealer's home' and one in eight (12%) from an 'acquaintance's house' (Table 8.2).

Table 8.2: Venues bought LSD from in the last six months

Venues	User (%) (n = 17)
Friend's home	53
Home	47
Dealer's home	12
Acquaintances house	12
Nightclubs	6
Pubs/bars	6
Agreed public location	6
Other	6

8.7.6 Time taken to purchase

One in five (22%) LSD buyers reported it would take them 'weeks' to purchase LSD (Table 8.3). Four out of 10 (44%) LSD buyers said it would take them 'days' to purchase LSD. One in 18 (6%) said it would take them 'about 1 day' to purchase the drug. One in six (17%) LSD buyers indicated they could purchase LSD in 'hours'. The remaining one in 9 (11%) LSD buyers could purchase the drug in 'less than 20 minutes'.

Table 8.3: Time taken to purchase LSD

Time it would take to buy LSD	User (%) (n = 18)
Weeks	22
Days	44
About 1 day	6
Hours	17
Less than 20 minutes	11

8.8 Law enforcement

Seizures of LSD by the New Zealand Customs Service and New Zealand Police increased from 13,687 tabs in 1999 to 19,331 tabs in 2000. There was then a dramatic collapse in the number of LSD tabs seized with only 1,057 seized in 2001 and 434 tabs seized in 2002. There was then a slight upturn in the level of seizures to 7,033 tabs in 2003, followed by another fall to 479 tabs in 2004. Drug enforcement agencies point out that LSD is very difficult to detect as it is a concentrated liquid which can be smuggled across the border in many different forms.

9. Methamphetamine

9.1 Introduction

Methamphetamine ('P', 'pure' or 'burn') is a powerful psychostimulant whose pharmacological characteristics and effects closely resemble cocaine (onset is slower and duration is longer) (Gawin and Ellinwood, 1988, Hall and Hando, 1994, Kuhn et al., 1998, Shearer et al., 2002). Immediate effects include euphoria, increased energy and confidence, decreased appetite, and these effects can last for 4-12 hours depending on dosage (Gawin and Ellinwood, 1988, Kuhn et al., 1998). High doses cause irritability, hostility, paranoia, hallucinations, obsessive behaviour and thoughts, psychosis, and violent behaviour (Hall and Hando, 1994, Kuhn et al., 1998, Shearer et al., 2002). Users sometimes go on binges (known as 'speed runs') where they use the drug continuously over several days without sleep. As a binge lengthens the user experiences states of panic and terror, and fear of impending death, which can lead to paranoid psychoses resembling schizophrenia in people with no pre-existing psychological conditions (Gawin and Ellinwood, 1988). Binges end in a 'crash' characterised by deep depression, fatigue, insomnia, headaches, and a strong psychological craving to use the drug again (Gawin and Ellinwood, 1988). Dependence potential is high and relapse common (Kuhn et al., 1998, Shearer et al., 2002). Physiological harm includes damage to cardiac and vascular systems, and damage to dopamine terminals in the brain, with possible implications for mood and movement disorder in later life (Kuhn et al., 1998, Shearer et al., 2002).

Methamphetamine gained popularity in New Zealand in the late 1990s, and went on to largely replace the traditional low potency amphetamine sulphate, known as 'speed'. The rise in methamphetamine use in New Zealand was driven from the supply side by its easy availability, brought about by the domestic manufacture of the drug by local Outlaw Motorcycle Gangs (OMG) and other members of the criminal fraternity. OMG are believed to have played a central role in the introduction of methamphetamine manufacture to New Zealand, learning how to synthesise the drug from affiliate gangs in Australia and the United States. On the demand side, methamphetamine was more attractive than previously available powerful psychostimulants, such as cocaine, due to the much longer duration of its effects (ie. 4-12 hours vs. around 20 minutes) and hence greater perceived value for money. A recent study of the socio-economic impact of Amphetamine Type Stimulants (ATS) in New Zealand confirmed the dominance of methamphetamine in the local New Zealand amphetamine scene (Wilkins et al., 2004). Methamphetamine was found to be associated with a range of health and social problems including serious psychological problems, drug addiction, violence, partner and family violence, relationship breakdowns, and crime (Wilkins et al., 2004, Sheridan et al., 2005).

9.2 Methamphetamine use by the frequent hallucinogen users

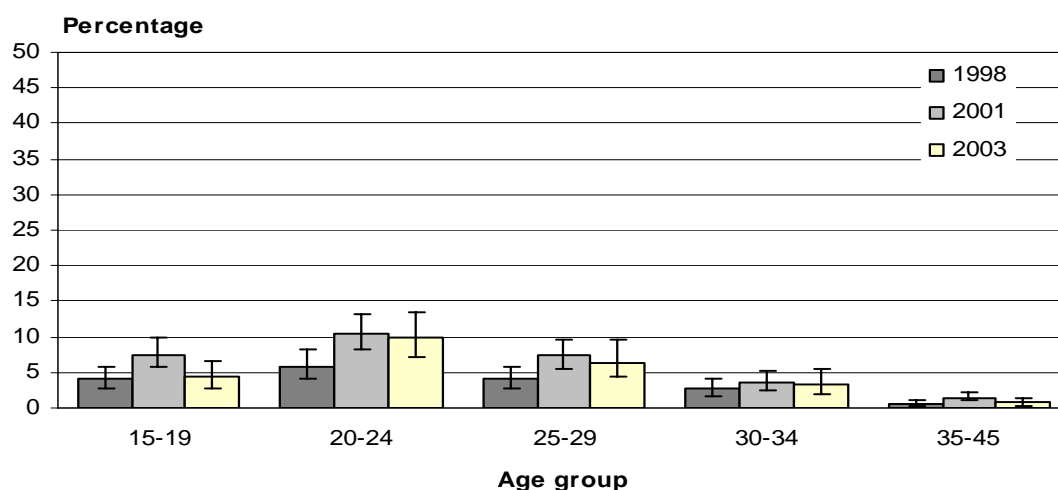
Nearly six out of 10 (56%) of the hallucinogen users had tried methamphetamine in their lifetimes and three out of 10 (32%) had used methamphetamine in the last six months. The median age at which the hallucinogen users had first used methamphetamine was 21 years (mean 24, range 15-46 years). Most of those who had used methamphetamine in the previous six months said the main way they took the drug was 'smoking it' (91%) with the remainder 'snorting it' (9%). None of the participants had injected methamphetamine in the last six months. One participant had injected methamphetamine in their lifetime. Participants had used methamphetamine on a median of 2 days in the previous six months (mean 2.2 days, range 1-5 days). All users had used methamphetamine monthly or less often in the last six months. The median number of points of methamphetamine taken on a typical occasion was 0.5 of a point (mean 1.3 point, range 0.25-5.0 points). The media 'most' number of points of methamphetamine taken on a single occasion was one point (mean 1.6 point, range 0.25-5.0 points).

9.3 Amphetamine use in the general population

The National Household Drug Surveys ask about general amphetamine use which includes methamphetamine, but also includes the more traditional amphetamine sulphate or 'speed'. The proportion of the population who had ever tried amphetamine increased significantly in 2001 compared to 1998 (11.0% versus 7.6%, $p < 0.0001$) and then decreased significantly in 2003 compared to 2001 (9.0% versus 11.0%, $p = 0.0066$). The last year use of amphetamine increased significantly in 2001 compared to 1998 (5.0% versus 2.9%, $p < 0.0001$) and then did not significantly change in 2003 compared to 2001 (4.0% versus 5.0%, $p = 0.0466$).

The last year use of amphetamine increased significantly between 1998 and 2001 for those aged 15-19 years old (4.0% versus 7.5%, $p = 0.0078$), 20-24 years old (5.8% versus 10.5%, $p = 0.004$) and 35-45 years old (0.6% versus 1.5%, $p = 0.0084$) (Figure 9.1).

Figure 9.1: Last year use of amphetamine by age, 1998, 2001 and 2003



Males were significantly more likely than females to have used amphetamine in the last year in all of the survey waves. In 2003, 5.5% of males compared to 2.5% of females had used amphetamine in the last year ($p=0.0002$). The last year use of amphetamine was highest among those aged 20-29 years old in all survey waves. In 2003, 9.8% of those aged 20-24 years and 6.4% of those aged 25-29 years had used amphetamine in the last year.

9.4 Price

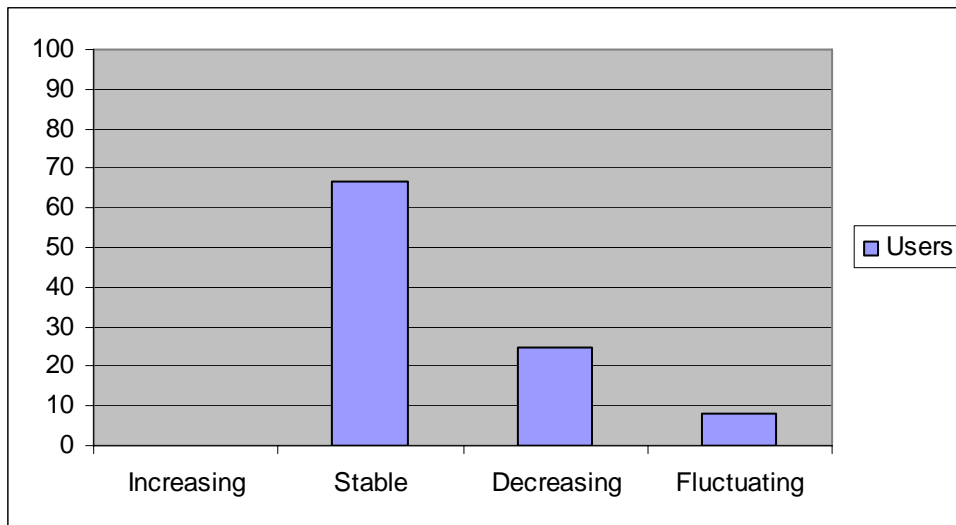
9.4.1 Current price

Four out of 10 (44%) of the frequent hallucinogen users were confident enough to comment on the price, purity and availability of methamphetamine. The median price paid for a point of methamphetamine was \$100 (mean \$100, range \$80-\$120). The median price paid for a gram of methamphetamine was \$800 (mean \$800, range \$600-\$1000).

9.4.2 Change in price

Two thirds (67%) of the participants who commented on methamphetamine thought the price had been 'stable' in the previous six months (Figure 9.2). One in four (25%) described the price of methamphetamine as 'decreasing' in the preceding six months. One in 13 (8%) described the price as 'fluctuating'.

Figure 9.2: Change in the price of methamphetamine in the last six months



9.5 Purity

9.5.1 Current purity

Four out of 10 (45%) of the participants who commented on methamphetamine thought the current purity was 'high'. One in six (18%) said the current purity of methamphetamine was medium. Three out of 10 (27%) said the current purity was fluctuating. Only one in 11 (9%) thought the current purity of methamphetamine was 'low'.

9.5.2 Change in purity

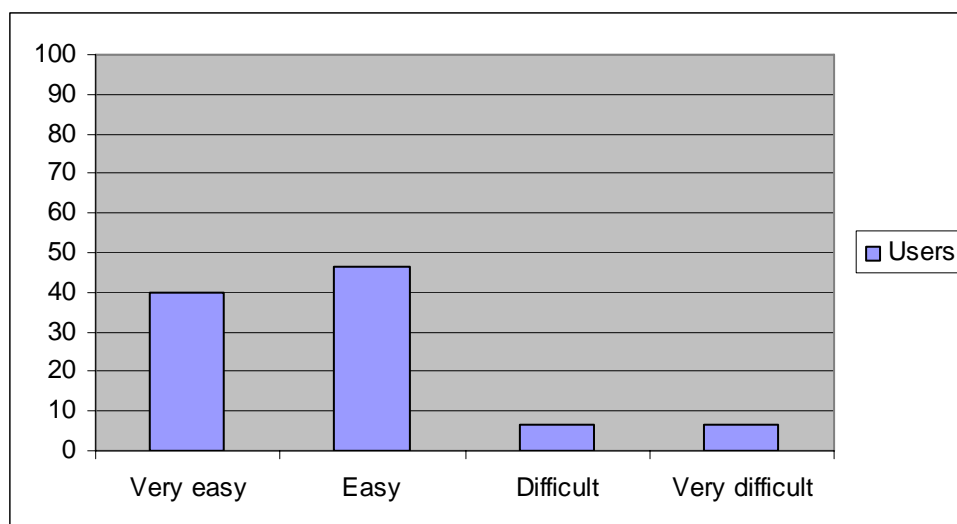
Four out of 10 (43%) of the participants who commented on methamphetamine indicated that the strength of methamphetamine had remained 'stable' over the previous six months. Three out of 10 (29%) described the strength as 'fluctuating'. One in 7 (14%) said the strength was 'decreasing' and a further one in 7 (14%) said the strength was 'increasing'.

9.6 Availability

9.6.1 Current availability

Nearly half (47%) of the participants who commented on methamphetamine described the current availability of methamphetamine as 'easy' (Figure 9.3). A further four out of 10 (40%) reported that the availability of methamphetamine was 'very easy'. One in 14 (7%) described the current availability of methamphetamine as 'difficult' and the same number (7%) said it was 'very difficult'.

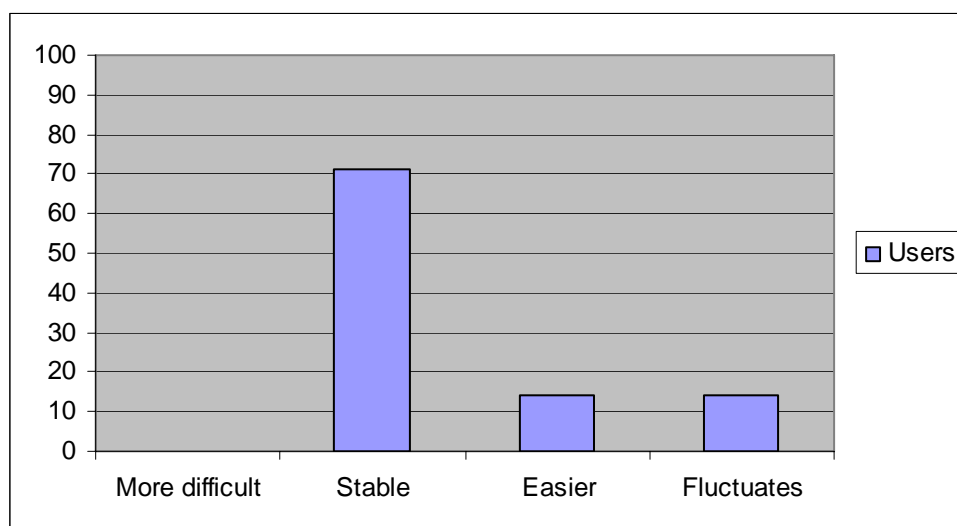
Figure 9.3: Current availability of methamphetamine



9.6.2 Change in availability

Seven out of 10 (71%) of the participants who commented on methamphetamine reported that the availability of methamphetamine had remained 'stable' in the last six months (Figure 9.4). One in seven (14%) thought the availability of methamphetamine had become 'easier' and one in seven (14%) reported that availability of methamphetamine had 'fluctuated'.

Figure 9.4: Change in availability of methamphetamine in the last six months



9.6.3 Change in number of people using

Half (53%) of the participants who commented on methamphetamine reported that about the 'same' number of people they know were using methamphetamine compared to six months ago. A third (35%) said 'more' people they know were using methamphetamine than in the previous six months. Only one in 8 (12%) said that less of the people they know were using methamphetamine compared to six months ago.

9.7 The black market for methamphetamine

9.7.1 Procurement of methamphetamine

Half (50%) of the participants who commented on methamphetamine had purchased methamphetamine in the last six months. One in five (21%) had received all their methamphetamine for free in the last six months. Three out of 10 (29%) had not used methamphetamine in the last six months. The low number of participants who provided answers in this section (n=6) indicates the information should be interpreted with caution.

9.7.2 Time taken to purchase

One third (33%) of the methamphetamine buyers said they could purchase ecstasy in 'one hour' (Table 9.1). One in six (17%) reported they could purchase methamphetamine in 'hours'. The remaining half of methamphetamine buyers indicated it would take them either about 'one day' (17%) or 'days' (33%) to get the drug.

Table 9.1: Time taken to purchase methamphetamine

Time it would take to buy methamphetamine	Users (%) (n = 6)
Days	33
About 1 day	17
Hours	17
1 hour	33

9.7.3 Number of sellers

The methamphetamine buyers had purchased methamphetamine from a median of one seller (mean 2, range 1-5) in the last six months.

9.7.4 Other drug types purchased from methamphetamine seller

Seven out of 10 (71%) of the methamphetamine buyers had purchased other drug types from their methamphetamine seller in the previous six months. The other drug types most commonly purchased were ecstasy (60%), cannabis (40%), amphetamine (20%), and LSD (20%).

9.8 Law enforcement

9.8.1 Seizures

Seizures of methamphetamine by the New Zealand Police and New Zealand Customs Service increased from 1,370 grams in 2000, to 2,631 grams in 2001, to 6,392 grams in 2002. Methamphetamine seizures then decreased and levelled out at 1,923 grams in 2003 and 2,200 grams in 2004. In 2004, over 90% of methamphetamine seizures were made domestically by Police.

9.8.2 Clandestine laboratories

The number of clandestine methamphetamine laboratories detected by the New Zealand Police increased dramatically from 9 in 2000, to 41 in 2001, to 170 in 2002. Detections of methamphetamine laboratories continued to increase in 2003, but at a lesser rate, reaching 202. There was then a small decline in the number of methamphetamine laboratories detected in 2004, down to 182.

9.8.3 Pseudoephedrine and ephedrine seizures

Pseudoephedrine and ephedrine are popular precursor chemicals used to synthesise methamphetamine in New Zealand. Seizures of these precursors by the New Zealand Customs Service have continued to increase in the last few years, from 10,308 tablets in 2000, to 32,653 tablets in 2001, to 254,987 tablets in 2002, to 830,320 tablets in 2003, to 1,857,692 tablets in 2004.

10. Cocaine

10.1 Introduction

Cocaine is derived from the coca plant which is commercially cultivated in only three South American countries: Columbia, Peru and Bolivia (National Drug Intelligence Bureau, 2005). New Zealand largely avoided the cocaine epidemics that swept Europe and the United States during the 1970s and 1980s (New Zealand Customs Service, 2002). Geographical isolation, a small population of users and strong border controls may have played a part in avoiding increased cocaine supply in New Zealand. On the demand side, high prices, uncertain supply and the short duration of effect (ie. around 20 minutes) may have contributed to weak consumer demand for cocaine in New Zealand.

10.2 Cocaine use among frequent hallucinogen users

Half (50%) of the hallucinogen users had tried cocaine in their lifetimes and one in eight (12%) had used cocaine in the last six months. The median age at which the hallucinogen users had first used cocaine was 22 years (mean 22, range 18-28 years). Most of those who had used cocaine in the previous six months said the main way they took the drug was 'snorting it' (75%) with the remainder 'smoking it' (25%). None of the participants had injected cocaine in the last six months. Participants had used cocaine on a median of 1.5 days in the previous six months (mean 1.5 days, range 1-2 days). All users had used cocaine monthly or less often in the previous six months. The median number of grams of cocaine taken on a typical occasion was 0.3 grams (mean 0.4 grams, range 0.1-1.0 grams). The median greatest amount of cocaine taken on a single occasion was 0.5 grams (mean 0.9 grams, range 0.1-2.0 grams).

10.3 Cocaine use in the general population

There was no statistically significant change in the population prevalence of cocaine in any of the three recent waves of national household drug surveys. In all waves of surveying approximately one in 33 had ever tried cocaine (ie. 3.6% in 1998; 3.2% in 2001; 3.1% in 2003). The last year use of cocaine also remained stable at below 1% for all survey waves (0.8% in 1998; 0.6% in 2001; 0.5% in 2003).

10.4 Law enforcement

Seizures of cocaine in New Zealand have shown considerable variation in recent years. Up until 2002, seizures were fairly low level with 415 grams seized in 1999, 895 grams in 2000, 8 grams in 2001 and 267 grams in 2002. Seizures of cocaine then increased quite dramatically to 7,859 grams in 2003 and to 18,020 grams in 2004. New Zealand is considered to be a transit point for cocaine entering Australia rather than the country of final consumption. This view is supported by the fact that 98% of

cocaine seizures were made at the border by the New Zealand Customs Service with little seized within the country by New Zealand Police.

11. Ketamine

11.1 Introduction

Ketamine ('special K' or 'vitamin K') is a rapidly acting anaesthetic that is used in veterinary surgery and less commonly in human surgery (Kuhn et al., 1998, White et al., 2004, Copeland and Dillon, 2005). Ketamine produces dissociative and hallucinogenic effects, including 'out-of-body' like experiences, analgesia and amnesia (Copeland and Dillon, 2005, Community Alcohol and Drug Services (CADS), 2005). The main effects last for 1-2 hours, although the lingering effects can last up to two days (Copeland and Dillon, 2005). Too much ketamine can result in the user having bizarre experiences including 'near death experiences' known as 'falling into a k-hole'. The use of ketamine has been linked with a range of unpleasant psychological effects including anxiety, panic attacks, flashbacks, persistent perceptual changes, depression, suicide, paranoid delusions, fragmentation of personality and aggression (Copeland and Dillon, 2005). Ketamine is also thought to have a strong potential to give rise to physical and non-physical dependence after repeated use (Copeland and Dillon, 2005).

Ketamine is generally associated with the dance party scene in New Zealand where it is used for its hallucinogenic effects. A selling point of ketamine is said to be the short duration of its hallucinogenic effects (ie. 1-2 hours) compared to LSD and ecstasy (National Drug Intelligence Bureau, 2005). Ketamine is complicated to synthesise, and the required precursor chemicals are difficult to obtain, which generally restricts its manufacture to the legitimate pharmaceutical industry (Copeland and Dillon, 2005). Supplies of ketamine for recreational use are generally illegally diverted from veterinary sources (Copeland and Dillon, 2005, National Drug Intelligence Bureau, 2005). Ketamine in tablet form is sometimes fraudulently sold as ecstasy (Community Alcohol and Drug Services (CADS), 2005).

11.2 Ketamine use among frequent hallucinogen users

One in four (26%) of the hallucinogen users had tried ketamine in their lifetimes and one in 20 (6%) had used ketamine in the last six months. The median age at which the hallucinogen users had first used ketamine was 22 years (mean 22, range 18-27 years). Half of those who had used ketamine in the previous six months said the main way they took the drug was 'snorting it' (50%), with the remainder 'swallowing it' (50%). Participants had used ketamine on a median of one day in the previous six months (mean 1 day, range 1-1 days). All users had used ketamine monthly or less frequently in the preceding six months. The median number of grams of ketamine taken on a typical occasion was 0.6 grams (mean 0.6 grams, range 0.25-1.0 grams).

11.3 Ketamine use in the general population

Only very small numbers of respondents to the national household drug surveys reported using ketamine, and this restricted the ability to reliably statistically test changes in last year prevalence. There was a statistically significant increase in the proportion of the population who had ever tried ketamine in 2001 compared to 1998 (0.7% versus 0.2%, $p=0.0004$). The proportion of the population who had tried ketamine remained stable in 2003 compared to 2001 (0.8% versus 0.7%, $p=0.5827$). Last year use of ketamine in the population remained low level (0.2% in 2003; 0.5% in 2001).

11.4 Law enforcement

Ketamine is currently listed as a prescription medicine only and is not classified under the Misuse of Drug Act 1975. An advice paper was recently considered by the Expert Advisory Committee on Drugs, proposing that ketamine be classified as a controlled drug under the Misuse of Drugs Act 1975.

12. GHB

12.1 Introduction

Gamma-hydroxybutyric acid (GHB, GBL or Fantasy, liquid ecstasy, One4B) is an anaesthetic which was withdrawn from the market in the United States in the late 1980s due to serious adverse side-effects (Kuhn et al., 1998). It is most often available as an odourless, colourless liquid with a slightly salty taste (Kuhn et al., 1998). GHB is used as a recreational drug for its euphoric and relaxant effects (Expert Advisory Committee on Drugs, 2001). GHB is a major sedative and has a very steep dose response curve, which means there is only a very small difference in dose between the 'desired recreational effect' and overdose, coma and death (Expert Advisory Committee on Drugs, 2001). The risk of adverse effects is highly variable among individuals. GHB is a depressant and when mixed with other depressants, such as alcohol, the depressant effects are increased which further increases the risk of overdose (White et al., 2004, Community Alcohol and Drug Services (CADS), 2005). GHB substances are also believed to be used by bodybuilders to assist muscle growth (Expert Advisory Committee on Drugs, 2001). GHB is also said to be an emerging drug of choice in the dance party scene in New Zealand (Expert Advisory Committee on Drugs, 2001). There have been a number of cases in New Zealand of GHB users being hospitalised suffering severe respiratory depression and coma (Expert Advisory Committee on Drugs, 2001). One death has been attributed to the drug (Expert Advisory Committee on Drugs, 2001).

12.2 GHB use among frequent hallucinogen users

Four out of 10 (44%) of the hallucinogen users had tried GHB in their lifetimes and one in seven (15%) had used GHB in the last six months. The median age at which the hallucinogen users had first used GHB was 20 years (mean 21, range 17-25 years). All of those who had used GHB in the previous six months said the main way they took the drug was 'swallowing it' (100%). Participants had used GHB on a median of one day in the previous six months (mean 1.4 days, range 1-3 days). All users had used GHB monthly or less often in the last six months. The median number of millilitres of GHB taken on a typical occasion was 2.5 (mean 2.3 mls, range 1-3 mls). The median greatest of quantity of GHB taken on a single occasion was 3 millilitres (mean 4 mls, range 1-8 mls).

12.3 GHB use in the general population

GHB was only added to the list of drugs asked about in national household drug surveying in 2001. There was no statistically significant change in the population prevalence of GHB use between 2001 and 2003. Approximately 1% of the population had ever tried GHB (1.1% in 2001 and 1.3% in 2003) and slightly less had used it in the last year (0.8% in 2001 and 0.6% in 2003).

12.4 Law enforcement

Drug enforcement agencies indicate that in previous years GHB was not seized in large quantities and consequently was often not recorded. In 2004, there were three notable joint New Zealand Police and New Zealand Customs Service operations which led to the seizure of 45,739 millilitres of GHB. One law enforcement KE believed that the price of GHB had gone up in recent times as a result of the arrest of a principal supplier.

13. Opiates

13.1 Introduction

Successful law enforcement operations against international heroin trafficking into New Zealand in the late 1970s greatly disrupted the domestic supply of heroin in New Zealand leading to high prices and uncertain supply (Newbold, 2000, New Zealand Customs Service, 2002). Existing heroin addicts responded by illegally obtaining opiates from the medical system, such as morphine sulphate tablets (MST or misties) and codeine, and then converting them into injectable opiates by various means, including 'homebake heroin' (New Zealand Customs Service, 2002). In contrast, heroin is easily available in Australia and there is a considerable population of active heroin users. The close geographic proximity of such a large heroin market remains a risk for New Zealand (New Zealand Customs Service, 2002). At present interceptions of heroin remain spasmodic (New Zealand Customs Service, 2002). Heroin is generally injected although it can also be eaten, snorted or smoked, and these alternative routes are often popular means of administration for new users and are gaining in general popularity.

13.2 Opiate use among frequent hallucinogen users

One in seven (15%) of the hallucinogen users had tried opiates in their lifetimes. None had used opiates in the last six months.

13.3 Opiate use in the general population

The national household drug surveys asked about a range of opiates including heroin, 'homebake' heroin, poppies and morphine. All these drugs were combined into an 'any opiate' category to enhance the number of respondents available for the statistical analysis of trends. Subsequent analysis shows there was no statistically significant change in the prevalence of 'any opiate'. The proportion of the population who had ever tried 'any opiate' remained stable at just over 3% in all survey waves (ie. 3.7% in 1998; 4.3% in 2001; 3.2% in 2003). The level of last year use of 'any opiate' also remained level at approximately 1% of the population (1.2% in 1998; 1.0% in 2001; 0.7% in 2003).

13.4 Law enforcement

There has been considerable variation in the quantity of heroin seized by New Zealand authorities over the last five years. Seizures varied from only one gram in 2000, to 5,536 grams in 2001, and then only 10 grams in 2002. In 2003, 1,466 grams were seized, followed by 211 grams in 2004. Law enforcement agencies have commented that the opiate scene in New Zealand is only spasmodically supplied by international importations of heroin. There remains a great reliance on locally

manufactured 'homebake' heroin made from morphine illegally diverted from the medical system.

14. Drug related harm

14.1 Life impacts

14.1.1 Relationship/social problems

Two-thirds (68%) of participants indicated that their drug use had caused them some 'relationship or social problems' in the last six months (ie. with a partner, friends, family). One in five (22%) of those who experienced relationship problems from their drug use said the most serious problem was 'arguments'. One in four (44%) said the most serious relationship problem was 'mistrust/anxiety'. One in nine (11%) said the most serious relationship problem was 'ending a relationship'. A further one in nine had either experienced 'violence' (11%) or had been 'kicked out of home' (11%). The drug types most commonly cited as responsible for these relationship problems were cannabis (27%) and legal dance party pills (18%).

14.1.2 Financial problems

One in seven (15%, n=5) participants indicated that their drug use had caused them some 'financial problems' in the preceding six months. Six out of 10 (60%) of those who experienced financial problems from their drug use said the most serious problem was 'no money for recreation or luxuries'. One said the most serious financial problem was 'in debt or owing money'. Another said the most serious financial problem was 'no money for food or rent'. The drug types most commonly cited as responsible for these financial problems were ecstasy (n=2), methamphetamine (n=1), cannabis (n=1) and alcohol (n=1).

14.1.3 Legal/police problems

One in eight (12%, n=4) participants indicated that their drug use had caused them some 'legal or police problems' in the preceding six months. Two of those who experienced legal/police problems said the most serious problem was being 'arrested'. Another said the most serious legal/police problem was 'feeling like being followed or put under surveillance by the police'. The drug types most commonly cited as responsible for these legal/police problems were cannabis and alcohol.

14.1.4 Work/study problems

One in five (18%, n=6) participants indicated that their drug use had caused them some 'work or study problems' in the preceding six months. One of those who experienced work/study problems from their drug use said the most serious problem was 'trouble concentrating'. Four said the most serious work/study problem was 'taking sick leave or not attending classes'. One indicated the most serious work/study problem was being 'sacked/ quitting job/ not being able to find work/ losing their business/ quitting their course'. The drug types most commonly reported as responsible for these work/study problems were ecstasy and cannabis.

14.2 Drug use and driving

14.2.1 Alcohol and driving

Nearly four out of 10 (38%) of the frequent hallucinogen users had driven under the influence of alcohol in the last six months. However, when asked about the extent of their driving under the influence of alcohol, nine out of 10 (92%) indicated they had completed ‘hardly any’ driving under the influence of alcohol. One in 13 (8%) had completed ‘some’ of their driving under the influence of alcohol in the last six months.

14.2.2 Other drug use and driving

Over three-quarters of the frequent hallucinogen users (76%) had driven under the influence of drugs other than alcohol in the previous six months. Again, the extent of drug driving appeared limited with seven out of 10 (69%) of participants saying they completed ‘hardly any’ driving under the influence of drugs in the previous six months. Three out of 10 (27%) had completed ‘some’, and one in 26 (4%) had completed ‘most’, of their driving under the influence of drugs other than alcohol in the preceding six months. The drugs which participants were most commonly under the influence of when driving were cannabis (81%), ecstasy (50%), LSD (35%), legal dance party pills (35%), methamphetamine (31%), nitrous oxide (15%), amphetamines (12%) and antidepressants (8%).

14.3 Accessing health services

14.3.1 Medical services

Fairly low numbers of hallucinogen users had accessed medical services in relation to their drug use in the last six months. One in 34 (3%) of participants had accessed ‘First Aid’, one in 17 (6%) had accessed a ‘general practitioner’, a further one in 17 (6%) had accessed ‘accident and emergency’ and one in 34 (3%) had accessed an ‘ambulance’. The drug type involved in accessing an ambulance was ecstasy. The drug types involved in visiting an accident and emergency service were methamphetamine and alcohol.

14.3.2 General health and drug treatment services

Some participants had accessed health and drug treatment services in relation to their drug use in the previous six months. One in 17 participants (6%) had accessed a ‘counsellor’, one in 17 (6%) had accessed a ‘drug and alcohol worker’, and one in 17 (6%) a ‘psychiatrist’.

15. Criminal behaviour and perceptions of drug policing

15.1 Property crime

None of the frequent hallucinogen users interviewed reported that they had committed a property crime in the previous month. KE also reported low levels of property crime among hallucinogen users.

15.2 Drug dealing

15.2.1 Frequency of drug dealing

One third (35%, n=12) of the frequent hallucinogen users said they had sold drugs in the previous month. A quarter (24%) of those who had sold drugs had done so 'less than once a week'. One in 34 (3%) had sold drugs 'once a week'. One in 17 (6%) sold drugs 'more than once a week' with one in 34 (3%) selling 'daily' in the last month. KE reported that there were often high levels of drug dealing among the hallucinogen users.

15.2.2 Number of buyers

Those participants who had sold drugs in the preceding month had sold to a median of two people (mean 8, range 1-40).

15.2.3 Types of drugs sold

Nine out of 10 (91%) of those who sold drugs in the last month had sold cannabis. Three out of 10 (27%) had sold ecstasy in the previous month. One participant had sold amphetamine (9%) and another had sold LSD (9%) in the preceding month.

15.2.4 Relationship to buyers

Two thirds (67%) of the participants who sold drugs in the previous month had sold 'none' to casual acquaintances (ie. only met them once or twice) in the preceding six months. In a separate question, two thirds (67%) of those who sold drugs in the previous month had sold 'all' their drugs to 'close friends or family members'.

15.3 Fraud

None of the frequent hallucinogen users interviewed reported that they had committed fraud in the previous month.

15.4 Violent crime

One in 33 participants (3%) said they had committed a violent crime in the previous month.

15.5 Arrest experience

One in eight participants (12%) reported that they had been arrested in the last 12 months. The median number of times the participants had been arrested in the previous year was one time (mean 1, range 1-2). Half of the frequent hallucinogen users arrested were arrested for the use/possession of a drug, half were arrested for disorderly conduct, and a quarter were arrested for some other offence.

15.6 Conviction and prison experience

One in five participants (21%) had been convicted of a criminal offence. Only one in 33 (3%) had ever served time in prison. No participants had spent time in prison in the last 12 months.

15.7 Perceptions of changes in police activity

Four out of ten (45%) frequent hallucinogen users had noticed 'more' police activity towards drug users in the last six months. One third (35%) had noticed the 'same' level of activity in the last six months. Two participants (7%) thought there had been 'less' police activity against drug users in the last six months. One in seven (14%) participants had not noticed 'any police activity' against drug users in the previous six months.

15.8 Perceptions of the impact of police

One in eight (12%) participants reported that police activity had made it 'more difficult' to get drugs in the last six months.

15.9 Number of friends arrested

Two-thirds (68%) of the frequent hallucinogen users had 'no friends arrested' in the previous six months. One in 8 participants (12%) had 'more' friends arrested in the last six months. One in seven (15%) had about the 'same' number of friends arrested. Only one in 17 (6%) had 'less' friends arrested in the preceding six months.

16. Risk of drug use and drug purchase

16.1 Perceptions of the health risk of different drugs

Seven out of 10 (70%) of the frequent hallucinogen users considered the ‘regular’ use of methamphetamine to be a ‘great’ (20%) or ‘extreme’ (50%) health risk (Table 16.1). The ‘regular’ use of crystal methamphetamine was judged to be about the same level of health risk. Eight out of 10 (78%) of the hallucinogen users considered the ‘regular’ use of opiates to be a ‘great’ (52%) or ‘extreme’ (26%) health risk. Approximately two-thirds of participants considered the ‘regular’ use of GHB (69%) and ketamine (65%) to be a ‘great’ or ‘extreme’ health risk. In contrast, only one in eight participants (12%) considered the ‘regular use’ of cannabis to be a ‘great’ health risk. No participants considered the ‘regular use’ of cannabis to be an ‘extreme’ health risk. A similarly low proportion of participants thought the regular use of legal dance party pills to be a ‘great’ (15%) or ‘extreme’ (3%) health risk.

Table 16.1: Perceptions of the health risk of different drug types

Drug type	Level of health risk from use				
	No risk	Slight risk	Moderate risk	Great risk	Extreme risk
Cannabis					
Once or twice	64	36	0	0	0
Regularly	9	41	38	12	0
LSD					
Once or twice	21	44	24	9	3
Regularly	9	12	26	29	24
Ecstasy					
Once or twice	48	45	6	0	0
Regularly	8	24	38	21	9
Methamphetamine					
Once or twice	30	23	23	13	10
Regularly	0	0	30	20	50
Ice or crystal meth					
Once or twice	32	25	18	11	14
Regularly	0	4	14	29	54
Amphetamine					
Once or twice	32	42	13	13	0
Regularly	3	10	35	29	23
Ketamine					
Once or twice	5	25	55	15	0
Regularly	0	10	25	30	35
GHB					
Once or twice	17	17	30	22	13
Regularly	4	4	22	39	30
Opiates					
Once or twice	17	35	26	17	4
Regularly	4	4	13	52	26
Legal dance party pills					
Once or twice	59	32	8	0	0
Regularly	12	35	35	15	3

16.2 Perceptions of the risk of buying different drugs

Nearly six out of 10 frequent hallucinogen users considered buying crystal methamphetamine to be a ‘great’ (29%) or ‘extreme’ (29%) risk (Table 16.2). A similar appraisal was made of the risk of purchasing methamphetamine. Buying opiates was also considered to be a high risk by many participants. Cannabis was considered to be the least risky illicit drug to purchase with only one in 8 (12%) believing that purchasing it was a ‘great risk’. No one thought buying cannabis was an ‘extreme risk’. Nearly half of participants considered buying ecstasy to be either ‘no risk’ (18%) or a ‘slight risk’ (32%). Buying LSD was also considered to have the same relatively low risk associated with purchase.

Table 16.2: Perceptions of the risk of purchasing drug types

Drug type	Level of risk to buy				
	No risk	Slight risk	Moderate risk	Great risk	Extreme risk
Cannabis	21	59	9	12	0
LSD	15	38	24	21	3
Ecstasy	18	32	32	15	3
Methamphetamine	7	13	23	33	23
Ice or crystal meth	4	18	21	29	29
Amphetamine	10	20	40	23	7
Ketamine	4	33	42	17	4
GHB	9	35	26	22	9
Opiates	12	16	30	16	20
Legal dance party pills	82	15	3	0	0

17. Emerging trends

17.1 New trends in drug use

17.1.1 New drug types

Four participants mentioned ‘new herbals’ or ‘experimental compounds with party pills’ as the new drug types they had seen in the last six months. The party pill specifically named was ‘Hummer’. Three participants reported that ‘P’ or methamphetamine was getting more popular. One participant noted that ‘P was becoming cheaper and more widely available’. Another said that ‘P was getting bigger and LSD less popular’. One participant mentioned ‘ice’ or crystal methamphetamine as a drug they had seen more of in the last six months. Two participants mentioned a new substance ‘Tryptomine’ which they also called ‘2CI/2CE’ or ‘2CF’. One of these participants described these substances as ‘really powerful hallucinogens’. The respondents may have been referring to DMT or Dimethyltryptamine. DMT is a potent hallucinogen which often comes in the form of a pink crystalline powder and is smoked or injected. One participant mentioned ‘ecstasy cut with Tryptomine’.

17.1.2 Different types of users

Five participants commented that there were now more ‘younger people’ using drugs. One participant said there was more general use of party pills. Two participants noted more middle class people now using drugs, described by one participant as ‘people you wouldn’t expect to be using’.

17.1.3 Increase in drug use

Two participants said more people were using ‘P’ (methamphetamine) and ‘speed’. One participant said there was increased use of legal party pills. One participant commented that ‘friends who used to smoke pot [cannabis] are now Class A drug users’.

17.1.4 Different ways of administering drugs

Two participants said more people were ‘snorting’ ecstasy and amphetamines. Another participant had heard of people ‘shelving’ drugs, that is, placing them in their anal cavity. Another mentioned the ‘balloons’ used to inhale nitrous oxide.

17.2 New trends in drug selling

17.2.1 New drugs sold

Three participants reported ‘2C’ drugs being sold, which they called ‘2CE’, ‘2CI’ and ‘2CI/Tryptomine’. One participant mentioned a ‘new type of MDMA’ which may also be referring to the ‘2C’ family. One participant cited new ‘experimental’ legal dance party pills. One KE commented that ecstasy users are buying in bulk with other drug types as it saves time and money. GHB was now more widely available.

17.2.2 New selling places

One participant mentioned the selling of drugs via the internet. Another reported the selling of small quantities of a drug for the buyer to have a try, which are often referred to as ‘starter packs’. Another said there had been a ‘proliferation of the number of selling places’.

17.2.3 New types of people selling

Two participants said more of their friends were now selling ‘P’ and other drugs.

17.2.4 Changes in prices/quantities sold

One participant reported that prices were ‘coming down’. Another participant said they were getting ‘less for their money’.

17.3 New types of amphetamine

The new types of amphetamine observed in the last six months were ‘new types of MDMA’ [which may refer to the ‘2C’ drugs mentioned earlier], BZP and an unknown substance called ‘dexy’.

18. Secondary data sources on drug use

18.1 Drug Helpline

18.1.1 Broad category of drug

Six out of 10 (59.5%) of all valid calls to the Drug Helpline were concerned with alcohol. Nearly half of all valid calls (47.1%) involved drugs, with one fifth concerned with both alcohol and drugs. The proportion of calls concerned with drugs increased steadily in the last five years from one in 9 (11.4%) in 2001, to one in four (22.5%) in 2002, to one in three (35.0%) in 2003, to nearly half (47.1%) in 2004 (see Table 18.1).

Table 18.1: Telephone calls to the Drug Helpline by drug and alcohol category, 2001/02 – 2004/05

	2001/02			2002/03			2003/04			2004/05		
	Drug	Alcoh	Unkn	Drug	Alcoh	Unkn	Drug	Alcoh	Unkn	Drug	Alcoh	Unkn
1st quarter	9.9	78.2	15.6	16.0	79.3	11.7	33.6	48.5	12.5	45.9	45.6	13.0
2nd quarter	9.3	78.3	18.0	20.2	76.4	9.3	29.0	45.6	10.6	50.0	66.5	14.9
3rd quarter	12.5	79.2	17.3	20.5	75.5	13.1	32.3	51.0	11.7	45.2	67.6	14.1
4th quarter	13.7	80.1	14.8	33.2	59.9	13.1	45.2	40.5	12.2	47.1	63.1	13.0
Total	11.4	79.0	16.4	22.5	72.9	11.8	35.0	48.9	11.8	47.1	59.5	13.8

Source: Alcohol and Drug Association of New Zealand (2005)

18.1.2 Specific drug type

Cannabis remained the most common drug call in the last five years, increasing steadily from one in 19 (5.4%) in 2001 to one in seven (14.1%) in 2004 (Table 18.2). Methamphetamine calls fell slightly in 2004, although the percentage increased due to an overall reduction in call numbers. Amphetamine calls persistently increased throughout the five years including 2004. There were also large increases in calls for cocaine and benzodiazepines recorded in recent years. The service received a number of calls for 'nitrous oxide' and 'legal dance party pills (BZP)' but this was considered to be a response to recent media attention and these have since tapered off. There is no category for ecstasy. Enquiries to the Alcohol Drug Association New Zealand, who operate the help-line, indicated that calls related to ecstasy are coded as 'other', and this was because calls related to this drug were rare, with the service perhaps only receiving '2-3 ecstasy calls per year'.

Table 18.2: Telephone calls to the Drug Help-line by drug type, 2001/02- 2004/05

	2001/02		2002/03		2003/04		2004/05	
	Total	%	Total	%	Total	%	Total	%
Methamphetamine	-	-	548	4.4	1523	9.0	1489	10.9
Cannabis	597	5.4	1010	8.1	1861	10.9	1930	14.1
Opiates	225	2.1	272	2.2	576	3.4	662	4.8
Amphetamines	85	0.8	188	1.5	251	1.5	349	2.5
Benzodiazepines	65	0.6	187	1.5	312	1.8	457	3.3
Solvents/Inhalants	55	0.5	119	0.9	273	1.6	358	2.6
Cocaine	46	0.4	81	0.6	188	1.1	289	2.1
Nitrous Oxide	-	-	-	-	-	-	69	0.5
Legal dance party pills	-	-	-	-	-	-	81	0.6

Source: Alcohol and Drug Association of New Zealand (2005)

18.2 Hospital admissions

18.2.1 Introduction

The New Zealand Health Information Service (NZHIS) collates data from publicly funded hospitals on drug related poisonings and mental/behavioural disorders. The data collected does not include privately funded hospitals or emergency department presentations. Data is generally only available in broad drug categories rather than specific drug types. Patients are only recorded for the primary drug type involved in their hospitalisation.

18.2.2 Drug related poisonings

There were 198 publicly funded hospital admissions for drug related poisonings recorded in 2004. Just over half (53%) of the hospital admissions involved 'psychostimulants'. The 'psychostimulants' category includes, but is not limited to, amphetamine, methamphetamine and synthetic amphetamines such as 2CB and 2CI. One in seven admissions involved either an anaesthetic (including GHB) (15%), methadone (14%), or cannabis (14%). One in 33 (3%) admissions involved 'other psychotropics' (including ecstasy and other similar substances). There were two events involving cocaine and one involving opium.

18.2.3 Drug related mental and behavioural disorders

There were 464 publicly funded hospital admissions for drug related mental and behavioural disorders in 2004. Four out of 10 (40%) of the admissions for drug related mental and behavioural disorders involved cannabis. A third (36%) of admissions involved opioids and one in five (22%) involved stimulants (including amphetamine/methamphetamine). The remaining eight admissions (2%) involved hallucinogens (including ecstasy, GHB, LSD and magic mushrooms).

18.3 Drug Treatment Services

18.3.1 National survey of drug treatment workers

Introduction

In 1998 and 2004 the National Addiction Centre (NAC) conducted national telephone surveys of the dedicated alcohol and drug treatment workers in New Zealand (Adamson et al., 2000, Adamson et al., 2004). All alcohol and drug treatment workers taking part in the survey were asked a number of questions relating to the most recent client they had assessed in the two weeks preceding their interview, and then for the most recent client they had seen for a therapy session during the same period. In 1998 this yielded 291 clients (ensuring that where the last assessment and last therapy session was for the same client this client was counted once only), and in 2004 yielded 383 clients.

Main substance use problem of clients

Alcohol, alone or in combination, accounts for over half of the main substance of use problem of the treatment population in both 1998 and 2004 (Table 18.3). There was a dramatic rise in amphetamine type substances as the main substance problem, from almost none in 1998 to approximately 10% of the treatment sample in 2004. A significant reduction in benzodiazepines as main substance was also evident between the survey waves. No drug treatment workers reported seeing a client with ecstasy as their main substance abuse problem.

Table 18.3: Main substance problem of clients presenting to alcohol and drug treatment worker in New Zealand, 1998 & 2004.

Main Substance Problem	1998 (n=291) %	2004 (n=383) %
Alcohol Only	27.1	27.1
Mainly Alcohol	18.7	20.2
Alcohol & Cannabis	10.9	9.5
Mainly Cannabis	15.7	14.3
Mainly Opioids	17.1	14.8
Mainly Amphetamines	0.3	9.7**
Mainly Benzodiazepines	6.0	2.0*
Other	4.3	2.3

* $p > .01$, ** $p > .001$

Source: (Adamson et al., 2004)

18.3.2 Odyssey House

The statistician at Odyssey House indicated that ecstasy rarely featured as their clients' main drug problem. For example in July 2004, only one client (0.7%) to the service reported ecstasy as their primary drug problem. Four clients (3%) cited ecstasy as their 'secondary' drug problem and six people (5%) reported it as their 'tertiary' drug problem.

18.3.3 Community Alcohol and Drug Services (CADS)

Introduction

CADS provides alcohol and other drug services to the people of the Auckland region, operate one central access telephone line within the service area and daily 'no appointment walk in' clinics at five locations.

Positive drug screens of new clients

The CADS screen package is comprised of six individual screening instruments that explore six different drug types. A 'positive' screen indicates probable problematic and/or dependent alcohol or drug use according to screen specific criteria.

In the first six months of 2005, CADS treatment workers screened 1,290 new clients. A single client can return a positive screen for more than one drug type. The extent of problematic poly drug use is illustrated in Table 18.4. This table shows that three out of 10 (28%) of CADS clients score positive for a likely substance use problem for two or more substances.

Table 18.4: Number of positive screens for CADS clients, 2005

	No. of Positive Screens				Total
	0	1	2	3+	
No.	181	743	274	92	1290
%	14	58	21	7	100

Source: Community Alcohol and Drug Services (2005)

Six out of ten (64%) of the clients screened positive for alcohol, three out of ten (30%) screened positive for cannabis, one in six (17%) screened positive for amphetamines, and one in 17 (6%) were positive for opiates (Table 18.5). Ecstasy is included in the 'other' category (4%).

Table 18.5: Positive screens by drug type, Jan-Jun 2005

	Screen Type					
	Alcohol	Cannabis	Amphet	Opiates	Benzo	'Other'
No	832	390	213	83	25	51
% of overall screen sample	64	30	17	6	2	4

Source: Community Alcohol and Drug Services (2005)

Table 18.6. presents the ‘other category’ by specific drug type. The table reveals that ecstasy (39%) and other ‘hallucinogens’, such as GBH (24%) and LSD (10%), feature prominently in this category.

Table 18.6: Breakdown of ‘other category’ by drug type, 2005

‘Other’ Drugs					Total
Ecstasy	GBH	LSD	Solvents	Other	
20	12	5	4	10	51

Source: Community Alcohol and Drug Services, (2005)

19. Summary

The Hallucinogen Module interviewed fewer frequent drug users than the other two modules of the 2005 IDMS. As a consequence, some questions had low numbers of respondents and the results for these questions should be treated with some caution. The presentation and discussion of the findings in the executive summary and this conclusion are limited to those questions and areas where there was considered to be adequate numbers of respondents. The low number of frequent hallucinogen users interviewed for the Hallucinogen Module was in part a function of the relatively low frequency of use of ecstasy and LSD compared to drugs such as methamphetamine and cannabis, where daily and near daily use is common. Many of the frequent hallucinogen users who contacted us to participate in the study did not use ecstasy or LSD frequently enough to be eligible as at least monthly users. The low frequency of LSD and ecstasy use is evident in the other modules of the 2005 IDMS, as well as from the findings of the national household drug surveys.

It is worth reiterating, at this point, that the validity of the information collected in the IDMS comes from the 'expert' status of those interviewed and not from the representative nature of the sampling methodology. The frequent hallucinogen users are considered a sentinel and highly knowledgeable population when it comes to commenting on trends in drug use and illicit drug markets in New Zealand. The findings from the interview of the frequent hallucinogen users is strengthened by the triangulation with the interviews with KE, and findings from secondary data sources on hallucinogens. The validity of the trends found in the Hallucinogen Module can be further validated through comparison with the trends previously identified in the Methamphetamine Module. The conclusions made in the following paragraphs draw on this comparison for further validity.

A good reason to persist with the distinction between hallucinogen users and methamphetamine users is that these groups did appear to be genuinely separate groups with some important demographic differences. The frequent hallucinogen users were more likely than the frequent methamphetamine users to be European (81% vs. 64%), to be students (25% vs. 19%), and to hold some kind of tertiary qualification (63% vs. 48%) including a university degree (28% vs. 14%). As a group, the frequent hallucinogen users appeared to be younger than the frequent methamphetamine users (median age 24 years vs. 28 years). The frequent hallucinogen users had neither used opiates nor injected a drug in the previous six months. In contrast, one in five (22%) of the frequent methamphetamine users had used opiates in the last six months and one in six (18%) had injected opiates in the last six months. The frequent hallucinogen users were less likely than the frequent methamphetamine users to be in drug treatment (3% vs. 27%), to have been arrested in the last 12 months (12% vs. 31%), to have accessed Accident and Emergency services (6% vs. 14%) and to have accessed an ambulance (3% vs. 10%) in relation to their drug use in the last six months. The frequent hallucinogen users also reported lower levels of criminality than the frequent methamphetamine users, such as property crime and fraud. However, despite the differences in the demographic characteristics of the two samples of frequent drug users they often reported remarkably similar trends in regard to the same drug markets.

In the Methamphetamine Module it was concluded that ecstasy may be the drug type most 'on the move'. The frequent methamphetamine users reported decreasing prices and high availability of ecstasy. The frequent hallucinogen users appear to concur with this assessment. Four out of 10 (40%) of the frequent hallucinogen users indicated the price of ecstasy had 'decreased' in the last six months. A remarkably similar proportion (42%) of frequent methamphetamine users also said the price of ecstasy had fallen in the last six months. A similar proportion of both frequent hallucinogen users (55%) and frequent methamphetamine users (45%) described the current availability of ecstasy as 'easy'. Similar proportions of both frequent hallucinogen users (26%) and frequent methamphetamine users (23%) described the availability of ecstasy as becoming 'easier' in the preceding six months. As noted in the Methamphetamine Module, the possibility of the establishment of domestic manufacture of ecstasy would further facilitate the availability of ecstasy in New Zealand. It is also worth reflecting on the extent to which the substances sold as ecstasy in New Zealand are actually MDMA and not some of the other substances talked about in the interviews, such as the '2C' group of drugs, ketamine or even BZP. If this is the case then the growing availability of these drug types may explain the reports of the growing availability of 'ecstasy'. Both samples of frequent drug users considered ecstasy to be relatively low risk to purchase, with half of both frequent hallucinogen users (50%) and frequent methamphetamine users (50%) saying there was either 'no risk' or only a 'slight risk' involved in purchasing ecstasy.

The frequent hallucinogen users, like the frequent methamphetamine users, considered ecstasy to be a relatively lower health risk than methamphetamine. The differences in perceptions of the health risk associated with regular ecstasy versus regular methamphetamine use were even more pronounced among the frequent hallucinogen users than the frequent methamphetamine users. A third (32%) of the frequent hallucinogen users believed there was either 'no risk' or only a 'slight risk' from the regular use of ecstasy. In contrast, none of the frequent hallucinogen users felt there was such a low health risk attached to the regular use of methamphetamine. As recommended in the Methamphetamine Module, greater dissemination of the problems experienced by frequent ecstasy users within the 'at risk' social population may raise awareness of the health risks of ecstasy use with positive impacts on reducing demand. The detailed data collected in the Hallucinogen Module on the problems related to frequent ecstasy use could contribute to such an informational resource. There is also emerging research suggesting long term cognitive and behavioural harms from ecstasy use.

The frequent hallucinogen users also seemed to concur with the frequent methamphetamine users that LSD was in decline in New Zealand. Two thirds of the frequent hallucinogen users (67%) described the current availability of LSD to be either 'difficult' or 'very difficult'. This assessment of the current availability of LSD is consistent with the views of the frequent methamphetamine users from the Methamphetamine Module, and the findings from the recent national household drug surveys. Over half of both samples of frequent drug users said that the availability of LSD had 'fluctuated' or become 'more difficult' in the last six months. Approximately three quarters of the frequent hallucinogen users (72%) and the frequent methamphetamine users (77%) reported it would take them 'days' or 'weeks' to purchase LSD. As noted in the Methamphetamine Module, the popularity of LSD may have suffered from the recent emergence of ecstasy and methamphetamine.

However, as cautioned in the Methamphetamine Module, the market for LSD remains and it may be re-energised if there is a shift in preference away from the present popularity of synthetic amphetamines. As evidence of this risk of renewed demand, a third (36%) of the frequent hallucinogen users indicated that ‘more’ of their friends were using LSD compared to six months ago. This possibility may be offset to some extent by the fact that both the frequent hallucinogen users and the frequent methamphetamine users tended to consider the regular use of LSD to be a relatively greater health risk than the regular use of ecstasy.

The frequent hallucinogen users reported that methamphetamine is well established in the drug market place with high levels of availability. Four out of 10 (40%) of the frequent hallucinogen users described the current availability of methamphetamine as ‘very easy’ and a quarter (25%) said the price had ‘decreased’ in the previous six months. Similarly, over half (52%) of the frequent methamphetamine users described the current availability of methamphetamine as ‘very easy’ and a quarter (25%) said the price had ‘decreased’ in the preceding six months. Also consistent with the frequent methamphetamine users, a number of hallucinogen users commented that there was now ‘greater competition and falling prices for methamphetamine’, and new innovative marketing techniques, such as ‘starter packs’, being employed to attract new users.

On a more positive note, like the frequent methamphetamine users, the frequent hallucinogen users also indicated a high level of awareness concerning the health risks of regular methamphetamine use. Half of the frequent hallucinogen users believed that the regular use of methamphetamine posed an ‘extreme health’ risk. This finding was identical to the assessment of the frequent methamphetamine users. There is therefore some cause to be optimistic that this level of awareness of the health risks of methamphetamine use will eventually erode the perception of methamphetamine use as a ‘manageable risk’ among drug users, and in turn lead to declining levels of use. However, as noted in the methamphetamine module, declining numbers of users may, at least in the medium term, not necessarily translate into lower social costs as we may be left with a smaller, but more problematic, group of users.

Cannabis was a popular and frequently used drug among the frequent hallucinogen users. Participants considered it to be widely available with fairly stable prices. Cannabis was the only drug type which the frequent hallucinogen users had purchased from a ‘tinny’ house. Cannabis was perceived by the frequent hallucinogen users to have a low health risk and to be not very risky to purchase, suggesting ongoing high demand.

The frequent hallucinogen users had high levels of use of legal dance party pills and nitrous oxide. Approximately seven out of 10 of the frequent hallucinogen users had used these legal drugs in the last six months. The level of use of these substances by the frequent hallucinogen users was even higher than that found among the frequent methamphetamine users, who had levels of recent use closer to 50% of the sample. The relationship between these new restricted legal substances and illegal drugs deserves research attention. The high levels of use of these legal substances by both samples of frequent drug users in the IDMS may suggest they are not viewed as vastly inferior to the illicit substances available.

References

- Adamson, S., Sellman, J. and De Zwart, K. (2004) National Telephone Survey of the Alcohol and Drug Workforce, In *New Zealand Treatment Research Monograph: Alcohol, Drugs and Addiction. Research Proceedings from the Cutting Edge Conference, September 2004*, (ed, Adamson, S.).
- Adamson, S., Sellman, J., Futterman-Collier, A., Huriwai, T., Deering, D., Todd, F. and Robertson, P. (2000) A profile of alcohol and drug clients in New Zealand: Results from the 1998 national telephone survey. *New Zealand Medical Journal* **13**:414-416.
- Alcohol and Drug Association of New Zealand (2005) *Alcohol and Drug Helpline Annual Report 01 July - 30 June 2005*. ADANZ.
- Biernacki, P. and Waldorf, D. (1981) Snowball sampling: problems and techniques of chain referral sampling. *Sociological Methods and Research* **10**:141-163.
- Community Alcohol and Drug Services (CADS) (2005) *Six Monthly Community Alcohol & Drug Services Outputs by District Health Board January - June 2005*. Auckland:
- Copeland, J. and Dillon, P. (2005) The health and psycho-social consequences of ketamine use. *International Journal of Drug Policy* **16**:122-131.
- Expert Advisory Committee on Drugs (2001) *The Expert Advisory Committee on Drugs (EACD) Advice on: Gamma-Hydroxybutyric Acid and Related Substances (Fantasy)*. Wellington: EACD.
- Field, A. and Casswell, S. (1999a) *Drug Use in New Zealand: Comparison Surveys 1990 & 1998*, University of Auckland: Alcohol and Public Health Research Unit.
- Field, A. and Casswell, S. (1999b) *Drugs in New Zealand: A National Survey 1998*, University of Auckland: Alcohol and Public Health Research Unit.
- Gawin, F. and Ellinwood, E. (1988) Cocaine and other stimulants: actions, abuse and treatment. *New England Journal of Medicine* **318**:1173-1182.
- Gowing, L., Henry-Edwards, S., Irvine, R. and Ali, R. (2002) The health effects of ecstasy: a literature review. *Drug and Alcohol Review* **21**:53-63.
- Gowing, L., Henry-Hedwards, S., Irvine, R. and Ali, R. (2001) *Ecstasy: MDMA and Other Ring-Substituted Amphetamines*. Geneva: World Health Organization.
- Hall, W. and Hando, J. (1994) Route of administration and adverse effects of amphetamine use among young adults in Sydney, Australia. *Drug and Alcohol Review* **13**:277-284.
- Klee, H. (ed.) (1997) *Amphetamine Misuse: International Perspectives on Current Trends*. Amsterdam: Harwood Academic Publishers.
- Kuhn, C., Swartzwelder, S. and Wilson, W. (1998) *Buzzed: The Straight Facts About the Most Used and Abused Drugs from Alcohol to Ecstasy*, New York: W.W.Norton & Co.
- Matsumoto, T., Kamijo, A., Miyakawa, T., Endo, K., Yabana, T., Kishimoto, H., Okudaira, K., Iseki, E., Sakai, T. and Kosaka, K. (2002) Methamphetamine in Japan: the consequences of methamphetamine abuse as a function of route of administration. *Addiction* **97**:809-817.

- McKetin, R. and McLaren, J. (2004) *The methamphetamine situation in Australia: A review of routine data sources*. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
- National Drug Intelligence Bureau (2005) *New Zealand Illicit Drug Report 2004*. Wellington: NDIB.
- New Zealand Customs Service (2002) *Review of Customs Drug Enforcement Strategies 2002. Project Horizon Outcome Report*. Wellington: New Zealand Customs Service.
- Newbold, G. (2000) *Crime in New Zealand*, Palmerston North: Dunmore Press.
- Shearer, J., Sherman, J., Wodak, A. and van Beek, I. (2002) Substitution theory for amphetamine users. *Drug and Alcohol Review* **21**:179-185.
- Sheridan, J., McMillan, K., Wheeler, A., Lovell, C., Lee, M. and Ameratunga, S. (2005) *Exploring Methamphetamine and Injury: Feasibility Studies of Data Collection Methods*. October. Auckland: UniServices.
- Topp, L., Hando, J., Degenhardt, L., Dillon, P., Roche, A. and Solowij, N. (1998) *Ecstasy Use in Australia*. NDARC Technical Report No.39. Sydney: National Drug and Alcohol Research Centre & Queensland Alcohol and Drug Research Education Centre.
- United Nations Drug Control Programme (2001) *Global Illicit Drug Trends 2001*. United Nations Office for Drug Control and Crime Prevention, New York: Oxford.
- United Nations Office on Drugs and Crime (2005) *World Drug Report 2005*. Vienna: UNODC.
- Watters, J. and Biernacki, P. (1989) Targeted sampling: options for the study of hidden populations. *Social Problems* **36**:416-430.
- White, B., Breen, C. and Degenhardt, L. (2004) *New South Wales Party Drug Trends 2003: Findings from the Party Drugs Initiative (PDI)*. NDARC Technical Report No.182. Sydney: National Drug and Alcohol Research Centre, University of New South Wales.
- Wilkins, C. (2002) Designer amphetamines in New Zealand: challenges and policy initiatives. *Social Policy Journal of New Zealand* **19**:14-27.
- Wilkins, C., Bhatta, K. and Casswell, S. (2002a) The effectiveness of cannabis crop eradication operations in New Zealand. *Drug and Alcohol Review* **21**:369-374.
- Wilkins, C., Bhatta, K. and Casswell, S. (2002b) The emergence of amphetamine use in New Zealand: findings from the 1998 and 2001 national drug surveys. *New Zealand Medical Journal* **115**:256-263.
- Wilkins, C., Bhatta, K., Pledger, M. and Casswell, S. (2003) Ecstasy use in New Zealand: findings from the 1998 and 2001 National Drug Surveys. *New Zealand Medical Journal* **116**:383-393.
- Wilkins, C. and Casswell, S. (2003) Organised crime in cannabis cultivation in New Zealand: an economic analysis. *Contemporary Drug Problems* **30**:757-777.
- Wilkins, C., Casswell, S., Bhatta, K. and Pledger, M. (2002c) *Drug Use in New Zealand: National Surveys Comparison 1998 & 2001*. Auckland: Alcohol & Public Health Research Unit.
- Wilkins, C., Reilly, J. and Casswell, S. (2005a) Cannabis 'tinny' houses in New Zealand; implications for the use of cannabis and other drugs in New Zealand. *Addiction* **100**:971-980.
- Wilkins, C., Reilly, J., Rose, E. and Casswell, S. (2005b) Characteristics of amphetamine-type stimulants (ATS) use in New Zealand: informing policy responses. *Social Policy Journal of New Zealand* **25**:142-153.

- Wilkins, C., Reilly, J., Rose, E., Roy, D., Pledger, M. and Lee, A. (2004) *The Socio-Economic Impact of Amphetamine Type Stimulants in New Zealand: Final Report*. Auckland: Centre for Social and Health Outcomes Research and Evaluation, Massey University.
- Wilkins, C. and Rose, E. (2003a) *A Scoping Report on NZ-ADAM*. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE), Massey University.
- Wilkins, C. and Rose, E. (2003b) *A Scoping Report on the Illicit Drug Monitoring System (IDMS)*. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE), Massey University.
- Wilkins, C. and Sweetsur, P. (2005) *The Dollar Value and Seizure Rates of the Illicit Markets for Amphetamine and Ecstasy in New Zealand in 2003*. July. Auckland: Centre for Social and Health Outcomes Research and Evaluation & Te Ropu Whariki.
- Wilkins, C., Sweetsur, P. and Bala, M. (2005c) *Recent Trends in Amphetamine Type Stimulants (ATS) Drug Use in New Zealand*. June. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki.
- Yska, R. (1990) *New Zealand Green: The Story of Marijuana in New Zealand*, Auckland: David Bateman.