



**METHAMPHETAMINE AND
OTHER ILLICIT DRUG TRENDS
IN NEW ZEALAND 2005**

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

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CONTENTS

Acknowledgements.....	7
Executive Summary.....	8
Introduction.....	8
Method.....	8
Demographic characteristics of the frequent methamphetamine users.....	9
Patterns of drug use.....	9
Prices of different drug types.....	10
Availability of different drug types.....	11
Characteristics of the black market.....	13
New drug trends.....	15
User perceptions of different drug types.....	16
Harms from frequent methamphetamine use.....	17
Criminal history.....	19
Perceptions of police activity.....	19
Conclusion.....	19
1. Introduction.....	22
1.1 Study aims.....	22
1.2 Methods.....	23
1.3 Survey of frequent methamphetamine users.....	23
1.4 Survey of key experts (KE).....	25
1.5 Secondary data sources.....	26
2. Overview of frequent methamphetamine users.....	27
2.1 Demographic characteristics of the frequent methamphetamine user sample.....	27
2.2 Key experts' descriptions of frequent methamphetamine users.....	29
3. Drug use history and current drug use.....	30
4. Methamphetamine.....	32
4.1 Introduction.....	32
4.2 Patterns of methamphetamine use by the frequent methamphetamine users.....	33
4.3 Amphetamine use in the general population.....	35
4.4 Physical description.....	36
4.5 Users' perceptions.....	37
4.6 Purchasing behaviour.....	38
4.7 Price of methamphetamine.....	38
4.8 Purity of methamphetamine.....	39
4.9 Availability of methamphetamine.....	40
4.10 The black market for methamphetamine.....	41
4.11 Health related harms.....	43
4.12 Law enforcement.....	45
5. Crystal methamphetamine.....	46
5.1 Introduction.....	46
5.2 Crystal methamphetamine use among the frequent methamphetamine users.....	46
5.3 Crystal methamphetamine use in the general population.....	46

5.4 Price	47
5.5 Purity.....	48
5.6 Availability	48
5.7 The black market for crystal methamphetamine.....	49
5.8 Law enforcement	51
6. Cannabis.....	52
6.1 Introduction.....	52
6.2 Cannabis use among the frequent methamphetamine users	52
6.3 Cannabis use in the general population	52
6.4 Price	53
6.5 Purity.....	54
6.6 Availability	54
6.7 The black market for cannabis.....	56
6.8 Law enforcement	58
7. LSD.....	59
7.1 Introduction.....	59
7.2 LSD use among frequent methamphetamine users.....	59
7.3 LSD use in the general population.....	59
7.4 Price	60
7.5 Purity.....	61
7.6 Availability	61
7.7 The black market for LSD	62
7.8 Law enforcement	64
8. Ecstasy (MDMA).....	65
8.1 Introduction.....	65
8.2 Ecstasy use among frequent methamphetamine users	66
8.3 Ecstasy use in the general population	66
8.4 Price	67
8.5 Purity.....	68
8.6 Availability	68
8.7 The black market for ecstasy	69
8.8 Law enforcement	71
9. Cocaine	72
9.1 Introduction.....	72
9.2 Cocaine use among frequent methamphetamine users	72
9.3 Cocaine use in the general population	72
9.4 Price	72
9.5 Purity.....	73
9.6 Availability	73
9.7 Law enforcement	75
10. Ketamine	76
10.1 Introduction.....	76
10.2 Ketamine use among frequent methamphetamine users.....	76
10.3 Ketamine use in the general population.....	77
10.4 Price	77
10.5 Purity.....	78

10.6 Availability	78
10.7 Law enforcement	79
11. GHB	80
11.1 Introduction.....	80
11.2 GHB use among frequent methamphetamine users.....	80
11.3 GHB use in the general population.....	80
11.4 Price	81
11.5 Purity.....	81
11.6 Availability	82
11.7 Law enforcement	83
12. Opiates	84
12.1 Introduction.....	84
12.2 Opiate use among frequent methamphetamine users.....	84
12.3 Opiate use in the general population.....	84
12.4 Knowledge of opiate trends	85
12.5 Price	85
12.6 Purity.....	86
12.7 Availability	86
12.8 The black market for opiates.....	87
12.9 Law enforcement	89
13. Drug related harm	90
13.1 Life impacts	90
13.2 Drug use and driving.....	91
13.3 Accessing health services	91
14. Criminal behaviour and perceptions of drug policing	93
14.1 Property crime.....	93
14.2 Drug dealing.....	93
14.3 Fraud	94
14.4 Violent crime	94
14.5 Arrest experience	94
14.6 Conviction and prison experience.....	95
14.7 Perceptions of changes in police activity.....	95
14.8 Perceptions of the impact of police.....	95
14.9 Number of friends arrested	95
15. Risk of drug use and drug purchase.....	96
15.1 Perceptions of the health risk of different drugs.....	96
15.2 Perceptions of the risk of buying different drugs.....	97
16. Emerging trends.....	98
16.1 New trends in drug use	98
16.2 New trends in drug selling	99
16.3 New types of amphetamine.....	100
17. Secondary data sources on drug use	101
17.1 Drug Helpline.....	101
17.2 Hospital admissions	102

17.3 Drug Treatment Services	103
18. Conclusions.....	107
References.....	110

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Executive Summary

Introduction

This report presents findings on recent trends in methamphetamine 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 Methamphetamine Module of the IDMS, which interviews frequent methamphetamine users and addresses recent trends in methamphetamine and other illicit drug use in New Zealand. Two other modules are produced from the IDMS: the Hallucinogen Module, which interviews frequent ecstasy and LSD 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 78 frequent methamphetamine users were interviewed for the study 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 be 16 years or older, to have used methamphetamine monthly or more often in the last six months, and to have resided in the site location for the past 12 months. To place the information provided by the frequent methamphetamine users in greater context, twenty-five KE who had regular contact with frequent methamphetamine users through their work, were also interviewed. KE included those working in alcohol and drug treatment agencies, St. Johns ambulance, hospital emergency departments, youth services, medical centres, prisons and pharmacists. 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, 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 frequent methamphetamine users

Two thirds (67%) of the sample of frequent methamphetamine users were male with a median age of 28 years old (range 16-49 years). Two thirds of the sample was European and approximately a quarter (26%) were Maori. Half of the sample were employed (50%), one in five (19%) were students and three out of 10 (28%) were recipients of government income support. One third (33%) of respondents had no school qualifications, while nearly half (48%) had some kind of post secondary school qualification. Three out of 10 (28%) of the sample earned less than \$20,000 gross annual income, and half (51%) earned \$20,000-\$70,000. One in six (17%) participants earned over \$70,000 gross income per year. Reported income included both legal and illegal sources. Just over a quarter of the sample was currently in some kind of drug treatment. Three out of 10 (31%) of the participants had been arrested in the last 12 months. Nearly half (47%) of the frequent methamphetamine users lived in Auckland, a quarter (27%) lived in Christchurch, one in eight (13%) lived in Wellington, a similar number lived in Whangarei (12%) and the remainder were from Hamilton (1%).

Patterns of drug use

The frequent methamphetamine users interviewed had high levels of other drug use. Participants had used an average of eight drug types in the previous six months (range 1-16). In addition to methamphetamine, the other drug types most often used in the last six months were cannabis (79%), crystal methamphetamine (64%), ecstasy (45%), LSD (31%), opiates (22%), GHB (21%) and cocaine (15%) (Table 1). The drug types which were most commonly injected by six month users were opiates (82%), methamphetamine (31%) and crystal methamphetamine (27%). Also of interest, approximately half of the frequent methamphetamine users had used 'legal dance party pills' (58%) and nitrous oxide (47%) in the previous six months. Three quarters (73%) of the frequent methamphetamine 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 methamphetamine (70%), alcohol (42%), crystal methamphetamine (39%), cannabis (33%), ecstasy (28%) and legal dance party pills (26%). The average length of participants' longest binge was 129 hours, or just over five days.

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

n=78	Methamphetamine	Crystal Methamphetamine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
Ever tried (%)	100	78	95	77	82	55	32	46	53
Ever injected (%)	42	33	-	12	25	36	8	6	66
Age first used (median)	21	24	-	18	21	22	20	22	20
Last 6 months (%)	100	64	79	31	45	15	8	21	22
Median days used last six months	18	12	100	2	6	2	4	12	35
Main way taken	Smoked/Inject/snort	Smoked/Inject/snort	smoked	swallow	Swallow/Inject/snort	Snort/inject	Snort/swallow	Swallow/inject	Inject/Smoke/swallow
Injected last six months (%)	31	27	-	8	6	17	0	13	82
Median qty taken typical occasion	1 point	1 point	1 joint	1 tab	1 pill	0.7 grams	1 gram	4 mls	-
Most taken typical occasion (median)	2.5 points	2.5 points	4 joints	1 tab	2.5 pills	1 gram	2.5 grams	10 mls	-

Prices of different drug types

Current prices

The different drug types came in a range of saleable forms and quantities and there were large differences in the prices commonly paid (Table 2). 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 ‘foil’ (1.5 grams) of cannabis was reported to cost \$20. A ‘foil’ or ‘tinny’ of cannabis generally contains sufficient cannabis for about three joints and is often wrapped in tin foil.

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

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
No. who commented	n=48	n=32	n=53	n=29	n=36	n=9	n=4	n=12	n=14
Median price (\$)	\$100 point	\$100 point	\$20 foil	\$35 trip	\$60 pill	\$350 gram	\$125 gram	\$5 millilitre	\$100 for 100 milligrams

Change in prices in last six months

The drug types for which the greatest proportion of users indicated an ‘increase’ in the price in the previous six months were ketamine (75%) and GHB (69%) (Table 3). The drug types for which the greatest proportion of users indicated a ‘decrease’ in price were ecstasy (42%) and opiates (39%). The most stable drug prices were those for cannabis (70%) and cocaine (75%).

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

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
No. who commented	n=64	n=37	n=64	n=25	n=38	n=8	n=8	n=16	n=18
Increase (%)	13	19	6	20	5	0	75	69	6
Stable (%)	53	62	70	60	39	75	25	19	50
Decrease (%)	25	16	9	8	42	0	0	0	39
Fluctuates (%)	9	3	14	12	13	25	0	13	6

Availability of different drug types

Current availability

The drug types which the largest proportion of participants considered to be ‘very easy’ to obtain were cannabis (70%) and methamphetamine (52%) (Table 4). A large proportion of the frequent methamphetamine users said crystal methamphetamine (46%) and ecstasy (45%) were ‘easy’ to get at present. The drug types which the largest proportion of participants considered to be ‘very difficult’ to obtain at the moment were cocaine (58%) and ketamine (25%). A large proportion of participants thought LSD (50%) and GHB (38%) were ‘difficult’ to get at the moment.

Table 4: Current availability of different drug types

	Methamphetamine	Crystal Methamphetamine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
No. who commented	n=71	n=39	n=67	n=28	n=40	n=12	n=9	n=16	n=17
Very easy (%)	52	38	70	11	35	-	11	13	47
Easy (%)	38	46	28	32	45	25	33	31	29
Difficult (%)	10	15	2	50	20	17	33	38	18
Very difficult (%)	0	0	0	7	0	58	22	19	6

Change in availability in the last six months

The drug types which the greatest proportion of frequent methamphetamine users indicated had become ‘easier’ to obtain in the last six months, were methamphetamine (28%) and crystal methamphetamine (26%) (Table 5). Results were very close for this question, with similar proportions of participants also indicating that ecstasy (23%) and opiates (22%) had become ‘easier’ to get in the preceding six months. The most ‘stable’ drug in terms of availability was cannabis (61%). The drug types for which the greatest proportion of participants indicated that availability had become ‘more difficult’ in the last six months were ketamine (40%), cocaine (36%) and LSD (29%). Fairly sizable proportions of users said the availability of GHB (31%) and LSD (25%) had ‘fluctuated’ in the preceding six months.

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

	Methamphetamine	Crystal Methamphetamine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
No. who commented	n=67	n=40	n=67	n=28	n=40	n=11	n=10	n=16	n=18
Easier (%)	28	26	19	4	23	0	0	19	22
Stable (%)	49	56	61	43	40	45	50	25	61
More difficult (%)	13	9	11	29	20	36	40	25	17
Fluctuates (%)	9	9	9	25	18	18	10	31	-

Perceptions of change in the number of people using different drugs

The drug types which the greatest proportion of frequent methamphetamine users thought ‘more’ of the people they know were using, were crystal methamphetamine (46%), methamphetamine (44%) and ecstasy (33%) (Table 6). The drug types which the greatest proportion of frequent methamphetamine users perceived that ‘less’ of the people they know were using were LSD (53%), opiates (50%) and GHB (43%).

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

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)	Cocaine	Ketamine	GHB	Opiates
No. who commented	n=71	n=26	n=43	n=21	n=24	n=7	n=6	n=7	n=12
More (%)	44	46	21	5	33	14	0	14	17
Same (%)	38	42	67	40	58	57	67	43	33
Less (%)	17	12	12	53	8	29	33	43	50

Trends in population level drug use in New Zealand

National household drug surveys conducted in 1998, 2001 and 2003 indicate that there was an increase in amphetamine use in 2001 compared to 1998, followed by a levelling out of use in 2003. Levels of crystal methamphetamine use had also increased in 2001 and then did not change in 2003. The population level use of cannabis remained stable in all three waves of household drug surveying. There were statistically significant falls in the recent use of LSD in 2003 compared to 2001. Similar to amphetamine, ecstasy use had increased in 2001 compared to 1998 but had stabilised in 2003. There was no statistically significant change in the population level use of ketamine, cocaine, GHB or opiates.

Trends in drug seizures

Detections of clandestine amphetamine laboratories appeared to plateau in 2004 after a number of years of large increases. Seizures of LSD fell quite dramatically around 1999, and were much reduced in subsequent years. Seizures of ecstasy have increased considerably each year from 2000 onwards, but were down in 2004. Seizures of cocaine have increased in the last two years, but in the years previous to that were low level and variable. There was a fairly large quantity of GHB seized in 2004, but in the years previous to that seizures were low level. Heroin seizures continue to be spasmodic.

Characteristics of the black market

Types of sellers

The frequent methamphetamine users had purchased drugs from a range of different people with friends, partners and family members often playing a major selling role. This was particularly the case for cannabis (86%) and ecstasy (81%) (Table 7). Drug dealers appeared to be most involved in the crystal methamphetamine market and least involved in selling LSD. Gangs appeared to be most involved in selling methamphetamine, with one in four (24%) frequent methamphetamine users reporting they had purchased methamphetamine from a gang member or gang associate in the previous six months.

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

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)
No. who commented	n=51	n=24	n=44	n=21	n=26
Friends (%)	75	67	86	67	81
Drug dealer /acquaintances (%)	70	79	62	43	69
Gang Member (%)	24	4	7	5	4

Venues where illicit drugs were purchased

The frequent methamphetamine users purchased drugs from a range of different venues in the previous six months. Private houses were often the most popular venues for drug transactions (Table 8). Cannabis was, by far, the drug type most often purchased from a ‘tinny house’ (19%). Methamphetamine was the only other drug participants reported purchasing from a ‘tinny’ house (2%). LSD and ecstasy were the drug types most commonly purchased from entertainment venues such as ‘clubs’ and ‘dance parties’. ‘Agreed public locations’ were fairly commonly used as places to buy drugs by purchasers of all drug types.

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

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)
No. who commented	n=50	n=24	n=42	n=20	n=26
Friends homes (%)	42	50	64	50	35
Nightclub/pub/rave (%)	12	13	14	25	31
Tinny house (%)	2	0	19	0	0
Agreed public location/street (%)	21	16	21	25	15

Time taken to purchase different illicit drugs

The frequent methamphetamine users reported taking different lengths of time to purchase different drug types. The drug types which the greatest proportion of participants could purchase in ‘less than 20 minutes’ were cannabis (36%), ecstasy (27%) and crystal methamphetamine (26%) (Table 9). Approximately half of the participants could purchase methamphetamine (57%) and crystal methamphetamine (48%) in ‘hours’. The drug types which the greatest proportion of participants could only purchase in ‘days’ were LSD (66%) and ecstasy (46%).

Table 9: Time taken to purchase different drug types

	Meth amphet amine	Crystal Meth amphet amine	Cannabis	LSD	Ecstasy (MDMA)
No. who commented	n=52	n=23	n=44	n=18	n=26
Weeks (%)	8	0	2	11	0
Days (%)	17	26	18	66	46
Hours (%)	57	48	43	11	27
Less than 20 mins (%)	17	26	36	11	27

New drug trends

New drug types

The frequent methamphetamine users noted the increased use of legal dance party pills and the marketing of more potent types of these dance pills, which one participant described as ‘more nasty party pills’. KE and several participants reported increased use of imported crystal methamphetamine, known as ‘ice’, in the previous six months. Several participants mentioned a new drug they had seen in the previous six months which they described as ‘Tryptomine’. Participants could not provide a more specific technical term, but this could refer to the potent hallucinogen, Dimethyltryptamine or DMT. One participant indicated more use of ‘rinse’ or GHB. Another participant reported a new amphetamine they had come across called PMA [paramethoxyamphetamine], which is a hallucinogenic amphetamine with effects similar to ecstasy (MDMA).

New drug selling methods

The frequent methamphetamine users reported the selling of small amounts of new drugs, such as methamphetamine, ketamine and ecstasy in ‘starter packs’, to encourage people to try a drug. They also reported the selling of drug ‘cocktails’ made up of combinations of drugs such as methamphetamine, ecstasy, ketamine and GHB. A number of participants and KE noted the increased selling of drugs by heavy drug users to cover the cost of the users’ own drug consumption. One participant observed that more users were ‘making their own methamphetamine’. Participants observed there was now ‘greater competition and lower prices for drugs’. On a similar theme, another participant said they were now getting ‘more for their money/larger quantities’. Participants also observed there was now a ‘greater variety’ of drugs being sold. One participant reported you could now buy methamphetamine in ‘\$50 rather than \$100 bags’. Another said that they could now buy methamphetamine for \$80 a point. Two participants reported more ‘injecting’ of methamphetamine. Another participant reported young people getting ‘IV kits for speed’, that is the utensils required to inject methamphetamine intravenously. Several participants mentioned it was now more easy to ‘score off the streets’ and that there were more ‘tinny’ houses.

User perceptions of different drug types

Health risk from regular use of different drug types

The drug types which the greatest proportion of participants thought the regular use of posed an ‘extreme health risk’ were methamphetamine (50%), crystal methamphetamine (49%) and GHB (42%) (Table 10). The drug types which the greatest proportion of participants thought the regular use posed of ‘no health risk’ were ‘legal dance party pills’ (24%) and ‘cannabis’ (21%).

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

Drug type	No. of respondents	Level of health risk from regular use				
		No risk (%)	Slight risk (%)	Moderate risk (%)	Great risk (%)	Extreme risk (%)
Cannabis	n=75	21	28	37	8	5
LSD	n=70	9	3	33	27	29
Ecstasy	n=70	11	7	31	34	16
Methamphetamine	n=76	9	3	13	25	50
Crystal meth	n=72	7	6	14	25	49
Amphetamine	n=71	7	10	25	30	28
Ketamine	n=48	11	8	19	25	38
GHB	n=52	6	10	17	25	42
Opiates	n=61	10	3	21	28	38
Legal dance party pills	n=63	24	19	25	21	11

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 (26%), methamphetamine (22%) and opiates (23%) (Table 11). The drug types which the greatest proportion of participants thought were ‘no risk’ to purchase were ‘legal dance party pills’ (90%) and ‘cannabis’ (42%).

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

Drug type	No. of respondents	Level of risk to buy				
		No risk (%)	Slight risk (%)	Moderate risk (%)	Great risk (%)	Extreme risk (%)
Cannabis	n=73	42	42	7	4	4
LSD	n=66	18	33	26	14	9
Ecstasy	n=66	21	29	24	15	11
Methamphetamine	n=74	12	23	26	18	22
Crystal meth	n=70	14	21	21	17	26
Amphetamine	n=68	24	24	24	15	14
Ketamine	n=48	23	23	27	8	19
GHB	n=53	28	19	30	6	17
Opiates	n=60	15	27	25	10	23
Legal dance party pills	n=71	90	4	3	0	3

Harms from frequent methamphetamine use

Physical problems

The physical problems commonly reported from frequent methamphetamine use were ‘poor appetite’ (77%), ‘loss of energy’ (57%), ‘weight loss’ (49%), ‘muscular aches’ (49%), ‘tremors/shakes’ (48%) and ‘heart palpitations’ (43%) (Table 12). Some of the participants had experienced the physical problems asked about ‘before they started using methamphetamine’, which suggests pre-existing physical problems.

Table 12: Physical problems from the frequent use of methamphetamine

Problem n=75	% experienced in last 6 months related to methamphetamine use	% experienced before started using methamphetamine
Poor appetite	77	35
Loss of energy	57	30
Muscular aches	49	22
Weight loss	49	19
Tremors/shakes	48	24
Heart palpitations	43	19
Skin problems	40	23
Stomach pains	32	16
Vomiting	28	21
Blurred vision	28	16
Inability to urinate	25	12
Chest pains	20	9
Fainting/pass out	11	4
Fits/seizures	5	3

Psychological problems

The psychological problems commonly reported from frequent methamphetamine use were ‘trouble sleeping’ (84%), ‘short temper’ (58%), ‘strange thoughts’ (56%), ‘paranoia’ (55%), and ‘anxiety’ (51%) (Table 13). Four out of 10 of the frequent methamphetamine users (43%) reported ‘depression’, one in five experienced (22%) ‘suicidal thoughts’; and one in eight (12%) ‘suicide attempts’ related to their methamphetamine use. One in four (23%) participants reported experiencing violent behaviour from their methamphetamine use. In some cases participants had experienced these psychological problems ‘before they started using methamphetamine’, indicating the presence of pre-existing psychological problems.

Table 13: Psychological problems from the frequent use of methamphetamine

Problem n=74	% experienced in last 6 months related to methamphetamine use	% ever experienced before started using methamphetamine
Trouble sleeping	84	30
Short temper	58	35
Strange thoughts	56	36
Paranoia	55	27
Anxiety	51	32
Depression	43	28
Sound hallucinations	36	15
Visual hallucinations	34	14
Panic attacks	32	19
Violent behaviour	23	12
Suicidal thoughts	22	16
Suicide attempts	12	8

Drug use and driving

Over one-third (36%) of the frequent methamphetamine users had driven under the influence of alcohol in the last six months. Over three-quarters (78%) 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 (68%), methamphetamine (60%), amphetamines (32%), crystal methamphetamine (30%), legal dance party pills (28%), ecstasy (22%) and GHB (13%).

Access to services

One in seven (14%) of the participants had accessed Accident and Emergency services and one in 10 (10%) had used an ambulance in relation to their drug use in the previous six months. One in 12 (8%) of the frequent methamphetamine users had been admitted into hospital in the last six months. One in five had accessed a drug and alcohol worker in the preceding six months.

Drug treatment

The number of people presenting to drug treatment services with amphetamine related problems has increased steadily over the last five years. Somewhere between 10%-20% of clients now present to drug treatment services with amphetamine as their primary drug problem. This has made amphetamine the third most common drug problem seen by drug treatment services. However alcohol, and to a lesser degree cannabis, remain the most common types of drug problems presenting to treatment services.

Criminal history

One in 11 (9%) of the frequent methamphetamine users reported they had committed a property crime in the previous month. Four out of 10 (45%) had sold illicit drugs in the previous month. One in 13 (8%) had committed fraud in the preceding month. One in 33 (3%) self reported they had committed a violent crime in the last month.

Three out of 10 (31%) participants had been arrested in the last 12 months. Approximately one in 12 (8%) had spent some time in prison in the last year. Nearly half (46%) had been convicted of a criminal offence, and one in four (23%) had spent time in prison in their lifetimes.

Perceptions of police activity

Four out of 10 (44%) of the frequent methamphetamine users had noticed 'more' police activity against drug users in the last six months. Three out of 10 (29%) participants had had 'more' of their friends arrested in the last six months. One in five (18%) said that police operations had made it 'more difficult' to obtain drugs in the preceding six months.

Conclusion

This report confirms the central role that methamphetamine now plays in the New Zealand illicit drug scene. Frequent methamphetamine users are poly drug users with experience in the use of a range of illicit substances and knowledge of the illicit markets in which they are traded. As a consequence, they are an appropriate population of drug users to monitor in order to track trends in illicit drug use in New Zealand, with the aim of informing a timely policy and strategic response.

The findings described in this report indicate a dynamic drug environment with new illicit and licit drug types emerging on the market, and ongoing innovative marketing techniques being employed to attract consumers. Methamphetamine is well established in the drug market place with high levels of availability. Over half of the participants described the availability of methamphetamine as 'very easy' and a quarter said the price had 'decreased' in the previous six months. Indeed, it may be the case that there is now a glut in the methamphetamine market with a number of participants mentioning greater competition and falling prices, and new marketing tactics being employed to attract new users.

The frequent methamphetamine users interviewed were aware of the health risks of regular methamphetamine use, which may indicate a declining image for the drug among users. Users reported a range of physical and psychological problems which they attributed to their methamphetamine use. It remains to be seen to what extent this awareness of the health risks of methamphetamine use translates into reduced demand. The reports of increased drug selling by heavy methamphetamine users may indicate that a new stage in the epidemic's life cycle has been reached, as some existing users seek to sustain heavier use via drug dealing. The likely decline of these heavy methamphetamine users into addiction may provide further negative role models to those seeking to begin use, and in the longer term add momentum to overall declining use. In the shorter time frame, we may experience a stabilisation of the number of people using methamphetamine, but with larger associated social costs as a larger proportion of existing users become problematic dependent users.

The recent rise in imported crystal methamphetamine may merely represent a change in supply strategy as domestic methamphetamine manufacture becomes relatively less attractive, due to new commercial and legislative controls and increasing enforcement focus. The reports from methamphetamine users concerning police activity and arrests indicate ongoing success by enforcement agencies in disrupting the local methamphetamine market. The continued rise in the number of clandestine methamphetamine laboratories detected by police, in the context of a levelling out of the population use of amphetamine, suggests increasing enforcement effectiveness. These efficiency gains in enforcement activity are likely to be the result of 'learning by doing', as police gain experience of amphetamine manufacture and the local amphetamine market. The frequent methamphetamine users were found to have fairly high contact with the criminal justice system and this underlines the rationale for offering drug treatment services to arrestees in these institutional contexts.

The high level of intravenous drug use among the frequent methamphetamine users is of great concern and indicates a crossover of traditional opiate users into methamphetamine use and methamphetamine using populations. It is imperative to prevent this crossover resulting in an expansion of the general intravenous drug using population. Heavy users of methamphetamine may switch to intravenous administration of methamphetamine to overcome their growing tolerance to the drug. Intravenous methamphetamine users are likely to pose a greater public health risk than intravenous opiate users, due to the greater stimulating effects of methamphetamine and methamphetamine users' lower contact with drug services and hence information on safe injecting practices. It was noted that frequent methamphetamine users were injecting a range of drugs apart from methamphetamine and the local opiates, such as ecstasy and GHB.

Ecstasy is the drug which may be most on 'the move', based on the study's findings. The frequent methamphetamine users reported declining prices and high availability. Ecstasy was perceived by the participants to be less of a health risk and less risky to purchase than either methamphetamine or crystal methamphetamine. This indicates strong ongoing consumer demand. Ecstasy does not appear to have the same negative public reputation as methamphetamine or opiates. The possibility of the establishment of domestic manufacture of ecstasy would provide further impetus to its spread in New Zealand. Greater dissemination of the problems experienced by frequent ecstasy users within the 'at risk' social population may raise awareness of the health risks of

this drug, with positive impacts on reducing demand. The Hallucinogen Module of the IDMS could be a source of information for such an educational resource. There is also emerging research suggesting long term cognitive and behavioural harms from ecstasy use.

The cocaine market appears stable with high prices and low availability. There was little evidence collected by this study that this is changing. Ketamine also appears fairly stable. The frequent methamphetamine users reported experiencing increasing prices and declining availability. However, participants did understand that there was currently a low legal risk of purchasing ketamine, which may make it an attractive alternative to methamphetamine and ecstasy. Similarly, GHB is reported to be increasing in price although some participants considered availability to be increasing. GHB was perceived by the participants to be a fairly high health risk. This may reflect awareness of the high risk of fatal overdose from GHB use. It would be interesting to know to what extent occasional drug users are aware of these risks. GHB was considered a relatively low risk to buy and this may make it more attractive to new drug users.

Cannabis remains a staple illicit drug in New Zealand and participants considered it widely available. There appeared to be an extensive black market for cannabis, with the drug commonly sold from public selling points such as 'tinny' houses. Cannabis was perceived by the participants to have a low health risk and to be not very risky to purchase, suggesting ongoing high demand. Prices and the availability of cannabis were reported to be generally stable.

The information provided by the frequent methamphetamine users in this report suggest LSD has been in decline in recent years. This is supported by national household drug survey findings for LSD and recent seizure statistics for LSD. Demand for LSD may have suffered from the recent emergence of ecstasy and methamphetamine. Over half of the participants said that 'less' of the people they know were using LSD compared to six months ago. The decline in demand for LSD appears to have in turn impacted the attractiveness of LSD supply. The frequent methamphetamine users who recently purchased LSD reported that LSD was relatively difficult to obtain and it would often take them a relatively long time to purchase it. The market for LSD remains however, and it may be re-energised if there is a shift in preference away from the present popularity of synthetic amphetamines. LSD is relatively cheap compared to methamphetamine and ecstasy and is not considered addictive. However, many users perceived LSD as a relatively serious health risk which may impede its return to popularity.

The use of legal dance party pills and nitrous oxide by the frequent methamphetamine users was surprisingly high. The relationship between these new restricted legal substances and illegal drugs deserves research attention. The high levels of use of these legal substances by the frequent methamphetamine users 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 in order to place the trends identified 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 helpline.

The value of the IDMS will increase over time as future waves are compared back to previous waves and valid 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 behaviours 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 to:

- 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 successfully used for a number of years overseas to monitor illicit drug trends (Wilkins and Rose, 2003). 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 Party Drug 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 Methamphetamine Module. Findings from the other modules are presented in separate reports.

1.3 Survey of frequent methamphetamine users

Frequent methamphetamine users are a sentinel group for detecting illicit drug trends in New Zealand. They have been found to be more likely to be users of a range of illicit drugs, to be able to comment on emerging trends in illicit drug use, and be involved in the purchase and manufacture of illicit drugs. Methamphetamine use has been found to be associated with a range of health and social harms, including physical and psychological problems, drug addiction, relationship and family

breakdown and violence, crime and violence, and drug driving (see Wilkins et al., 2004). The amphetamine black market in New Zealand is substantial with the total dollar value of the trade recently estimated to be \$97.4M per year (Wilkins and Sweetsur, 2005).

1.3.1 Recruitment

A total of 78 frequent methamphetamine users were interviewed in five sites nationwide for the Methamphetamine Module of the IDMS. Recruitment and interviewing were 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 methamphetamine users was obtained, a range of 'start points' for recruitment were chosen, based on the demographic profile of methamphetamine users and the venues and locations where they would congregate. The demographic characteristics of methamphetamine users were identified from the latest New Zealand national household drug survey (i.e. 2003 HBS-Drug Use) (see Wilkins et al., 2004, Wilkins et al., 2005b, Wilkins et al., 2005c) 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 methamphetamine users were likely to visit or congregate, such as cafes, bars, dance clubs, university campuses, gyms, needle exchanges, and IV outreach organisations.

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.

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 Methamphetamine Module, a respondent had to be 16 years or older, have used methamphetamine 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 knew 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) (see Wilkins and Casswell, 2001; (Wilkins et al., 2004).

The IDMS focuses on participants' behaviour and experience in the previous six months. The interview includes sections on: demographics of users; patterns of methamphetamine 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 methamphetamine 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 methamphetamine 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 methamphetamine users in the past six months. A total of 25 KE were interviewed for the Methamphetamine Module. KE were from a range of health and other drug related professions, including St. John ambulance, alcohol and drug treatment agencies, general practitioners, prison officers, hospital emergency department workers, youth drug and alcohol services, and pharmacists. KE from law enforcement were also interviewed, including drug squads and organised crime units. Two KE were actual participants in the methamphetamine market. One was a user, with numerous

connections with other users, and the other a methamphetamine manufacturer. The majority of KE interviews were conducted over the telephone.

1.5 Secondary data sources

A range of secondary data sources were collated and examined to validate the data collected from the 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 methamphetamine users

2.1 Demographic characteristics of the frequent methamphetamine user sample

2.1.1 Gender and age

Two thirds of the sample of 78 frequent methamphetamine users (67%) interviewed were male. The median age of the sample was 28 years old (SD 9 years; range 16-49 years).

2.1.2 Ethnicity

Two thirds of the sample (68%) identified as European, approximately a quarter (26%) were Maori, and one in 25 (4%) were Pacific Islanders. Only one respondent identified as Asian (ie. Chinese). One respondent was Indian.

2.1.3 Accommodation

Six out of 10 of the sample lived in 'rented premises' (64%), one in 10 (13%) lived in a 'parents or family's house', one in 10 (10%) lived in their 'own house' and a further one in 10 (10%) lived in a 'boarding house or hostel'. One participant lived in a 'shelter or refuge'.

2.1.4 Drug treatment

Just over a quarter of the sample (27%) were currently in some kind of drug treatment.

2.1.5 Employment status

Half of the sample was currently in some kind of paid employment, with four out of 10 (38%) in full time employment and one in 10 (12%) in part time employment. One in six (16%) of the participants were currently 'tertiary students', 2.6% were 'school students' and 1% were 'care givers'. Three out of 10 of the sample (28%) were currently recipients of government income assistance, with one in five (19%) on a 'sickness benefit' and one in 10 (9%) on the 'unemployment benefit'.

2.1.6 Occupation

Respondents reported doing a range of work. One in eight (12%) of the sample were 'professionals with a tertiary qualification', one in 20 (5%) were 'managers', and one in 39 (3%) were 'Directors'. One in six (18%) worked in 'clerical/sales/service', one in seven (14%) were 'manual workers/labourers' and one in nine (12%) were 'tradesmen/craftsmen'. A quarter of the sample (24%) were 'beneficiary/unemployed' only, and one in 11 (9%) were 'students'.

2.1.7 Education

One third (33%) of the sample had no secondary school qualifications at all. A further quarter (24%) had school certificate or NCEA Level 1 as their highest qualification. Half of the sample had a post secondary school qualification of some kind, including ‘diploma’ (12%) or ‘trade certificate’ (18%), with one in six (16%) having a ‘bachelors or higher university degree’.

2.1.8 Marital status and sexual orientation

Six out of 10 of the sample (58%) was single. One in five (22%) was married or in a ‘defacto’ relationship, and a further one in eight (12%) describe themselves as with a ‘regular partner’. Over eight out of 10 of the sample (85%) were heterosexual, and one in seven (14%) described themselves as bisexual.

2.1.9 Arrest and prison history

Three out of 10 (31%) of the participants had been arrested in the previous 12 months and one in 12 (8%) had spent some time in prison in the last 12 months.

2.1.10 Legal and illegal income

Three out of 10 (28%) of the participants had earned \$20,000 or less gross income (both legal and illegal) in the last 12 months. A further three out of 10 (31%) had earned between \$20,001-\$40,000 gross income in the previous year. One in five (20%) earned between \$40,001-\$70,000 and one in 10 (11%) earned over \$70,000 in the last year. One in 18 (6%) had earned more than \$100,000 in the preceding year. Half of the participants had earned income from illegal sources in the previous 12 months. Those who had earned illegal income reported that a median of 30% of their income was from illegal sources (mean 36%, range 1%-100%).

2.1.11 Sources of income used to pay for drugs

Three quarters of participants (75%) had used ‘paid employment’ to pay for the drugs they used in the last six months. Approximately eight out of 10 (78%) had received drugs as ‘gifts from friends’ in the previous six months. Just over four out of 10 (43%) participants had ‘bartered drugs and goods’ for the drugs they used, and one in eight (13%) had ‘pawned’ things they owned for drugs in the preceding six months. Participants also commonly used sources of credit to pay for drugs including receiving ‘credit from drug dealers’ (30%), ‘borrowing money from friends’ (30%), and ‘receiving money from parents’ (16%). Drug dealing was also a common source of money for drugs including ‘dealing drugs to provide own personal supply’ (37%) and ‘profit from drug dealing’ (28%). A quarter of participants (24%) had paid for drugs with unemployment and other social welfare benefits in the last six months. Some participants had paid for drugs through ‘fraud’ (7%) and ‘property crime’ (6%). A small proportion of participants paid for drugs with ‘sex work’ (7%) and by providing ‘sexual favours’ (4%).

2.1.12 Geographical location

Nearly half (47%) of the frequent methamphetamine users lived in Auckland, a quarter (27%) lived in Christchurch, one in eight (13%) lived in Wellington, a similar number lived in Whangarei (12%) and the remainder were from Hamilton (1%).

2.2 Key experts' descriptions of frequent methamphetamine users

KE descriptions of frequent methamphetamine users were consistent with the sample collected. The KE described the typical age of the methamphetamine users they saw as 20-30 years old with a range between 18-40 years old. Some non-law enforcement KE indicated an age range reaching as high as 50 years old. Nearly all KE indicated a male bias, with estimates between 60%-90%. Several non-law enforcement KE solely worked with women, either pregnant or incarcerated populations. The proportion of Maori methamphetamine users seen ranged from 20%-70%. Pacific Island or Asian methamphetamine users were rarely mentioned. One KE only saw European users. Most KE reported the highest qualification of the users they saw to be high school (ie. year 10). Approximately one third of KE saw methamphetamine users with university degrees. Some KE described the methamphetamine users they saw as on sickness or unemployment benefits, or working in the black economy as career criminals, drug dealers or prostitutes. Others described methamphetamine users as coming from a cross section of society, with many labourers and some professionals. Nearly all KE described the methamphetamine users they saw as mainly heterosexual (ie. 90%). Most KE indicated the users they saw had some prison history (only three KE said the users they saw had no prison history). Many KE (n=12) described the level of prison history as fairly high (40%-70%). Some KE described it as a lower proportion of users (<30%). Most KE indicated the users they saw were in drug treatment (only two KE said none of the users they saw were in drug treatment). The levels of drug treatment were described as ranging from 25%-100%.

3. Drug use history and current drug use

The frequent methamphetamine users were asked about their lifetime and recent use (ie. in the last six months) of twenty 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 13 drug types (range 3-20) and having used an average of eight drug types in the preceding six months (range 1-16).

There were high levels of lifetime use of cannabis (95%), alcohol (90%), ecstasy (82%), tobacco (82%), amphetamines (82%), crystal methamphetamine (78%), LSD (77%), nitrous oxide (77%) and legal dance party pills (71%). There were also notably high levels of lifetime use of cocaine (55%), opiates (53%), GHB (46%) and benzodiazepines (42%).

The other drug types most commonly used in the last six months by the frequent methamphetamine users were cannabis (79%), alcohol (74%), tobacco (71%), crystal methamphetamine (64%), legal dance party pills (58%), nitrous oxide (47%), ecstasy (45%) and LSD (31%). In the ‘other’ category, one in 13 (8%) had used hallucinogenic mushrooms and one in 33 (3%) had used Methylphenidate (Ritalin) in the previous six months.

Table 3.1: Lifetime and recent use of other drugs by frequent methamphetamine users

Drug type	Ever tried (%)	Last six months (%)
Methamphetamine	100	100
Cannabis	95	79
Alcohol	90	74
Amphetamine	82	28
Ecstasy (MDMA)	82	45
Tobacco	82	71
Crystal methamphetamine (Ice)	78	64
LSD	77	31
Nitrous oxide	77	47
Legal dance party pills	71	58
Amyl/Butyl nitrate	59	18
Cocaine	55	15
Opiates (homebake heroin)	53	22
GHB	46	21
Benzodiazepines	42	23
Other	41	19
Ketamine	32	8
Anti-depressants	32	13
Heroin	31	5
Methadone	31	12
MDA	30	9

Many KE noted that high proportions (75%+) of the methamphetamine users they saw used cannabis. Some KE (n=6) mentioned that methamphetamine users were often heavy tobacco smokers. Three KE reported that about half of the methamphetamine users they saw used ecstasy. Several KE said that about half of the methamphetamine users they know used antidepressants (benzodiazepines). Three KE reported that some methamphetamine users (approximately 15%) used GHB, and one KE said GHB was becoming more popular. Three KE indicated that approximately one in three methamphetamine users also used opiates, and one KE mentioned many users had histories of opiate use. Several KE mentioned that the methamphetamine users they saw used legal dance pills. Many KE (n=6) pointed out methamphetamine users did not distinguish crystal methamphetamine from local methamphetamine. Six KE reported some use of cocaine by the methamphetamine users with whom they had contact, but in general cocaine was rarely available. Four KE indicated greater use and availability of cocaine. Two KE said the methamphetamine users they saw only used methamphetamine.

4. Methamphetamine

4.1 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 and 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 which was 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 synthesis the drug from affiliate gangs in Australia and the United States. From the demand side, methamphetamine was more attractive than previously available powerful psychostimulants such as cocaine, due to its much longer duration of effects (ie. 4-12 hours vs. around 20 minutes) and hence greater perceived value for money (Wilkins et al., 2002b). 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).

4.2 Patterns of methamphetamine use by the frequent methamphetamine users

4.2.1 Age of first use

The median age at which the frequent methamphetamine users had first used methamphetamine was 21 years (mean 22, range 10-41 years).

4.2.2 Mode of administration

Six out of 10 (60%) of the frequent methamphetamine users indicated that ‘smoking it’ was the *main* way they had taken the drug in the last six months. Three out of 10 (30%) had mainly ‘injected’ their methamphetamine in the previous six months. The remaining participants had either mainly ‘swallowed it’ (6%) or mainly ‘snorted it’ (4%). Four out of 10 (42%) of the frequent methamphetamine users had injected methamphetamine in their lifetimes and three out of 10 (31%) had injected methamphetamine in the previous six months.

Most KE said that the majority of the methamphetamine users they saw smoked methamphetamine (75%-85%) with the remaining quarter (25%-33%) injecting it. Two KE indicated that some of the users (5%-10%) they see snorted their methamphetamine. A number of KE (n=4) indicated greater levels of intravenous methamphetamine use.

4.2.3 Frequency of use

The frequent methamphetamine users had used methamphetamine on a median of 18 days in the previous six months, or approximately once a fortnight (mean 46 days, range 1-182 days). The mean frequency of use of 46 days in the last six months is the equivalent of using once every 4 days. Six out of 10 (61%) of the frequent methamphetamine users had used methamphetamine weekly or more often and a quarter (23%) had used more than three times a week.

The KE reported that the users they saw had high frequencies of methamphetamine use, from ‘twice a week’ to ‘daily’ with the majority of users using ‘daily’ and some more than once per day.

4.2.4 Quantity used

The median number of points of methamphetamine taken on a typical occasion was 1 point (mean 2.9 points, range 0.25-50.0 points). The median ‘most’ number of points of methamphetamine taken on a single occasion was 2.5 points (mean 10.6 points, range 0.25-270 points).

KE reported users using between 1/2 to 2 grams of methamphetamine per week. Three KE noted that bingeing was common among the users they saw.

4.2.5 Other drugs used with methamphetamine

Nine out of 10 of the frequent methamphetamine users (92%) had used other drugs with methamphetamine. The drugs often used with methamphetamine were cannabis (68%), tobacco (68%), alcohol (46%), ecstasy (18%), crystal methamphetamine (17%), amphetamines (ie. 'speed') (14%), opiates (14%) and GHB (13%). One in 11 (9%) had used legal dance party pills with methamphetamine.

Eight out of 10 (79%) participants had used other drugs to help them 'recover from their methamphetamine use'. The drugs most commonly used to recover from methamphetamine were cannabis (66%), tobacco (49%), alcohol (25%), opiates (15%) and benzodiazepines (15%).

4.2.6 Binge use

Three quarters (73%) of the frequent methamphetamine 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 binged on were methamphetamine (70%), alcohol (42%), crystal methamphetamine (39%), cannabis (33%), ecstasy (28%), legal dance party pills (26%), amphetamines (21%), GHB (12%) and opiates (12%). When participants were asked to nominate the *one* drug which they had most often binged on in the last six months, the drug types most often named were methamphetamine (43%), crystal methamphetamine (15%), cannabis (10%), opiates (10%) and alcohol (8%). The average length of participants' longest binge in the last six months was 129 hours or just over five days (median 96 hours, range 48-480 hours).

4.2.7 Drug of choice

Approximately three out of 10 (28%) of the participants said cannabis was their 'main drug of choice (ie. their favourite or preferred drug)'. One in four (25%) named methamphetamine as their main drug of choice and one in six (18%) cited ecstasy as their main drug of choice. Cocaine (6%), heroin (6%) and other opiates (6%) were the next most popular drugs of choice.

4.2.8 Change in number of people using

Four out of 10 (44%) of the frequent methamphetamine users thought that 'more' people they know were using methamphetamine compared to six months ago. A slightly lower proportion (38%) said the 'same' number of people they know were using methamphetamine compared to six months ago. One in five (17%) reported that 'less' of the people they know were using methamphetamine compared to the previous six months.

Many KE (n=15) believed there had been some increase in the number of methamphetamine users in the last six months. Some KE (n=6) said the numbers using methamphetamine were stable. Several KE (n=2) thought the numbers using methamphetamine had reached a 'plateau'. Some KE (n=5) described more 'older' users. Other KE (n=3) described more younger users, and a similar number of KE (n=2) said there had been an increase in use by middle class people and European. Two KE noted that the new users they had seen were more aggressive.

4.2.9 Change in route, frequency, quantity and forms

Nearly all KE (n=21) believed there had been some changes in methamphetamine use in the last six months, although KE reported a number of different types of changes. Some KE (n=7) reported there was greater use of crystal methamphetamine and methamphetamine powder was now rare. Some KE (n=6) indicated there was more intravenous use of methamphetamine. A similar number of KE (n=6) reported that users were using larger quantities of methamphetamine and some KE (n=4) said users were using more frequently. A number of KE (n=4) mentioned more methamphetamine users going to drug treatment. A number of KE (n=3) thought that methamphetamine was becoming more socially acceptable among drug users. One KE thought methamphetamine use had gone more 'underground'.

4.3 Amphetamine use in the general population

4.3.1 Introduction

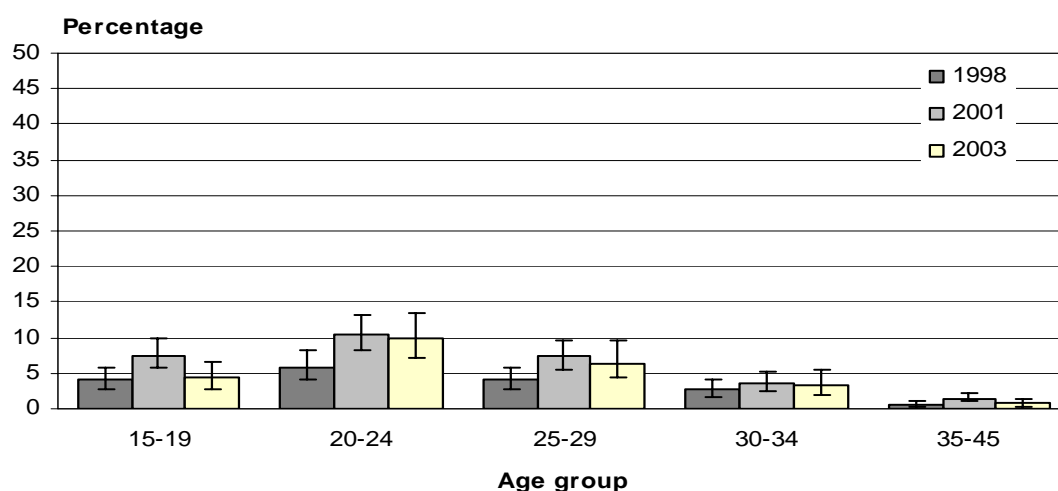
This section presents findings on the national prevalence of amphetamine/methamphetamine from three waves of New Zealand national household drug surveying conducted in 1998, 2001 and 2003. The National Household Drug Surveys ask about general amphetamine use which includes methamphetamine, but also includes the more traditional amphetamine sulphate or 'speed'. The most recent wave of surveying was conducted as the 2003 Health Behaviours Survey – Drug Use (2003 HBS-Drug Use) and was directly funded by the Ministry of Health. 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.

4.3.2 Population trends in amphetamine

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 4.1).

Figure 4.1: 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.

4.4 Physical description

4.4.1 Colour

Nearly two-thirds of participants (65%) described the colour of the methamphetamine they last used as 'white' or 'off-white or cream' or 'yellowish white'. Nearly three out of 10 (28%) described the methamphetamine they last used as 'clear crystals'. Other colours described were a 'blue/green' (3%) and 'brown/beige' (3%). One participant (1%) described a 'purplish' colour.

4.4.2 Texture

Seven out of 10 (70%) described the methamphetamine they last used as 'crystals'. One in 10 (10%) described the methamphetamine they last used as 'powder'. One in six (18%) described the methamphetamine they last used as 'rocks', 'ice chunks' or mixture of crystals and rocks. One participant (1%) reported using 'liquid' methamphetamine.

4.4.3 Size

A quarter of participants (25%) described the size of the methamphetamine they last used as 'big' crystals. Just over half (51%) described their methamphetamine as small crystals. One in six (16%) described a 'fine' powder. Two participants (4%) described a 'coarse' powder.

4.5 Users' perceptions

4.5.1 Three things most liked about methamphetamine

Four out of 10 (36%) participants mentioned the 'rush' or 'high' as one of the three things they most liked about methamphetamine. Similarly, other participants cited the 'relaxing effect' (5%), 'weightlessness' (1%), 'halluncinating' (1%) and 'feeling good' (14%) effects of methamphetamine as aspects they liked about the drug. One in four respondents (24%) mentioned increased 'energy' as one of the three things they most liked about methamphetamine. In relation to the energy enhancing attributes of methamphetamine, a number of participants liked the effect methamphetamine had on ability to do 'housework' (4%), provide 'motivation' (3%), and to 'stay busy'(3%). One in five (19%) participants liked the way methamphetamine use 'boosted their confidence'. One in five participants (19%) indicated that they liked methamphetamine's impact on their ability to think 'clearly', 'increase their attention span' and 'improve awareness'. One in seven (15%) noted they like the aphrodisiac effects of methamphetamine. One in 14 (7%) liked that methamphetamine made them more 'sociable'. Some participants (5%) liked the fact that methamphetamine use caused them to 'lose weight'. One participant said they liked the ability to 'drink more [alcohol]' while using methamphetamine. Another participant liked the money they made from methamphetamine.

4.5.2 Three things most disliked about methamphetamine

One half (48%) of the participants indicated that the 'cost/price' and 'money wasted' was one of the three things they most dislike about methamphetamine. Four out of 10 (41%) participants disliked the 'come down' from methamphetamine. In relation to the after effects of methamphetamine use, a number of participants mentioned 'inability to sleep' (18%), 'paranoia' (5%) and 'exhaustion' (4%) as things they most disliked about methamphetamine. One in five (20%) participants didn't like the legal penalties and legal risk associated with methamphetamine use. One in five (19%) participants mentioned the effect methamphetamine had on people's morals and on close personal relationships as things they most disliked about methamphetamine, including 'destruction of families', 'loss of friends', 'makes me sneaky and lie' and 'turns you into a monster'. Others (16%) mentioned the difficulty and risks of buying methamphetamine from the black market as one of the three things they most disliked about it, such as the 'scummy places have to go to get it'. One in six (16%) participants said 'addiction' and the 'craving' was one of the things they most disliked about methamphetamine. One participant said 'selling it to kids' was one of the three things they most disliked about using methamphetamine.

4.6 Purchasing behaviour

4.6.1 Extent of purchasing

Three out of 10 (27%) frequent methamphetamine users purchased 'some' of the methamphetamine they had used in the last six months. One in five (20%) purchased 'most' and one in 12 (8%) purchased 'all' of the methamphetamine they had used in the last six months. Approximately a quarter of the participants (24%) purchased 'hardly any' and one in five (20%) purchased 'none' of their methamphetamine.

4.6.2 Purchase from a 'tinny' house

Three quarters (76%) of those who had purchased methamphetamine in the last six months had bought 'none' from a 'tinny' house. One in 13 (8%) methamphetamine buyers had purchased 'some', one in 27 (3%) had purchased 'most', and one in 13 (8%) had purchased 'all' of their methamphetamine from a 'tinny' house in the last six months.

4.7 Price of methamphetamine

4.7.1 Price paid

Approximately nine out of 10 of the frequent methamphetamine users (88%) felt confident enough to comment on the price, purity and availability of methamphetamine in the previous six months.

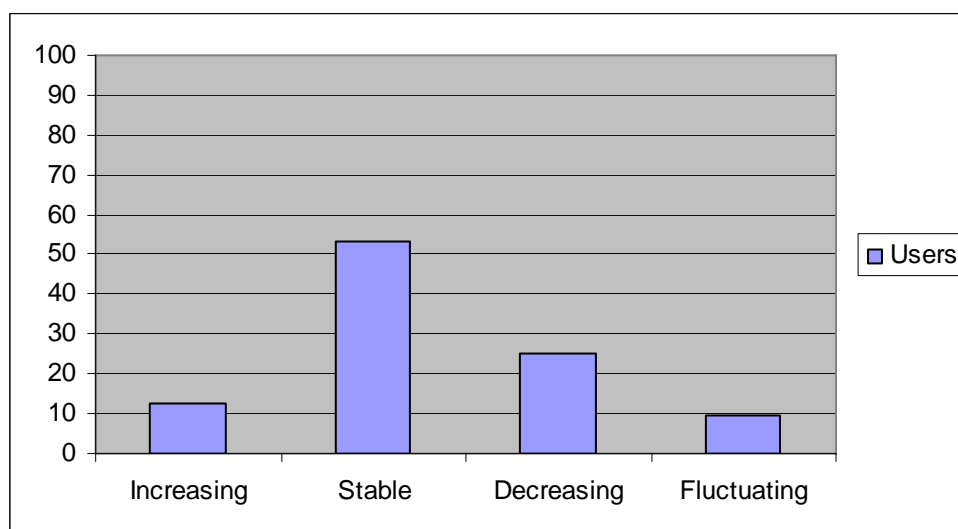
Those participants who commented on methamphetamine reported the current median price of a point of methamphetamine to be \$100 (mean \$101, range \$50-\$350). The current median price for a gram of methamphetamine was reported to be \$725 (mean \$688, range \$40-\$1000).

All the KE who commented on the price of methamphetamine (n=14) indicated the price of a point to be \$100 (range \$50-\$150). One law enforcement KE reported a point of crystal methamphetamine as \$150. Fewer KE (n=5) commented on the price of a gram of methamphetamine, but for those who provided answers the range was \$400-\$1100.

4.7.2 Change in price

Over half (53%) of participants who commented on methamphetamine thought the price of methamphetamine had been 'stable' in the previous six months (Figure 4.2). One in four (25%) said the price had 'decreased' over the last six months.

Figure 4.2: Change in the price of methamphetamine in the last six months



Most KE (n=13) described the price of methamphetamine as ‘stable’ in the previous six months. Four KE indicated the price had ‘decreased’ in the preceding six months. One KE said the price had ‘fluctuated’.

4.8 Purity of methamphetamine

4.8.1 Current purity

One third (37%) of the participants who commented on methamphetamine described the current purity as ‘fluctuating’. Approximately one in three (35%) described current purity as ‘high’ and a quarter (25%) described it as ‘medium’. Only one in 34 (3%) described the current strength as ‘low’.

Most KE described the purity of methamphetamine as high at present. Two KE said the purity was fluctuating. One KE described purity as low.

4.8.2 Change in purity

Four out of 10 (35%) of those who commented on methamphetamine thought the strength of methamphetamine had been ‘stable’ over the last six months. Three out of 10 (31%) thought the strength had ‘fluctuated’ in the preceding six months. One in five (21%) said that the strength of methamphetamine had ‘decreased’ in the previous six months. Only one in eight (13%) thought the strength of methamphetamine had ‘increased’.

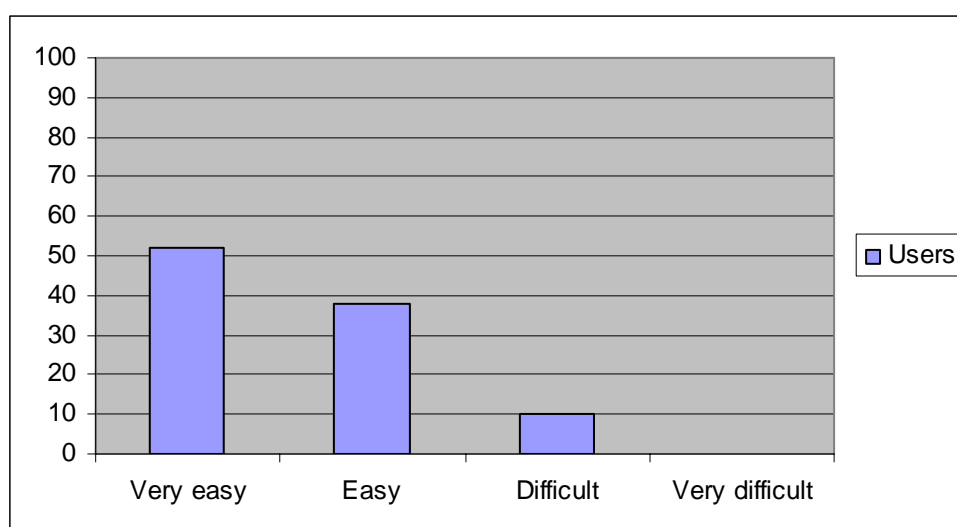
A number of KE ‘did not know’ whether the purity of methamphetamine had changed in the last six months. Of those KE who commented, most (n=6) said the purity of methamphetamine was stable compared to six months ago. Four said it had increased. Two said it had fluctuated in the past six months.

4.9 Availability of methamphetamine

4.9.1 Current availability

Just over half (52%) of the participants who commented on methamphetamine described the current availability of methamphetamine as ‘very easy’ (Figure 4.3). Approximately four out of 10 (38%) described the current availability of methamphetamine as ‘easy’. The remaining one in 10 (10%) who commented described the current availability as ‘difficult’.

Figure 4.3: Current availability of methamphetamine

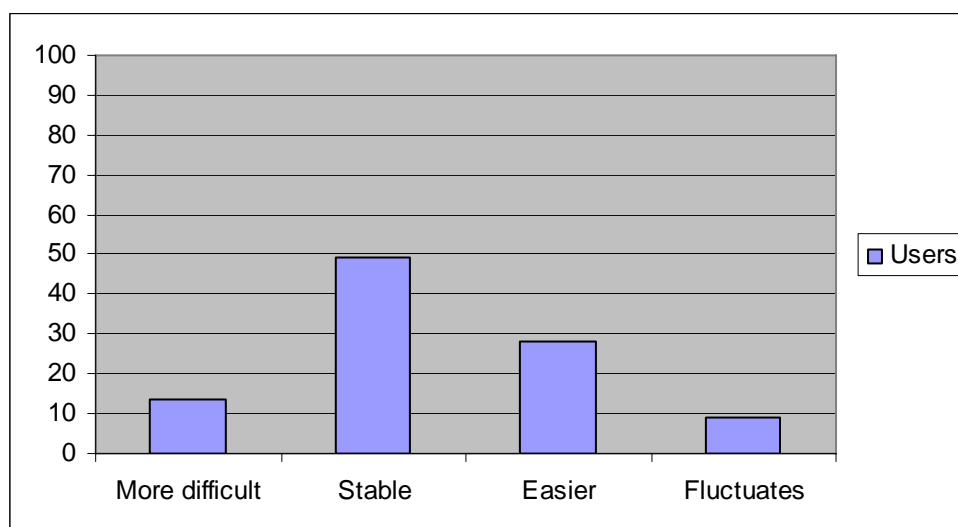


Most KE (n=12) described the current availability of methamphetamine as ‘very easy’. The remaining eight KE described availability as ‘easy’.

4.9.2 Change in availability

Half (49%) of those who commented on methamphetamine thought the availability of methamphetamine had been ‘stable’ in the preceding six months (Figure 4.4). Three out of 10 described the availability of methamphetamine as getting ‘easier’ (28%) in the last six months. One in eight (13%) thought the availability of methamphetamine had become ‘more difficult’ in the past six months.

Figure 4.4: Change in availability of methamphetamine in the last six months



Most KE (n=12) believed that the availability of methamphetamine had become 'easier' in the preceding six months. Some (n=8) thought availability had been 'stable'. One KE said availability had 'fluctuated'. Only one KE reported that the availability of methamphetamine had become 'more difficult'.

4.10 The black market for methamphetamine

4.10.1 Procurement of methamphetamine

Three quarters (75%) of those who commented on methamphetamine had purchased it in the last six months. Approximately one quarter (23%) had received all the methamphetamine they used for 'free', and one in 33 (3%) had manufactured all the methamphetamine they used.

4.10.2 Frequency of purchase

One in five (21%) of those who had bought methamphetamine had purchased 'once a week' in the last six months. One in 10 (9%) had purchased 'twice/three times a week', and one in 17 (6%) purchased 'daily' or more often. One in seven (15%) purchased 'monthly' and one in 10 (11%) purchased 'twice per month'. The remaining four out of 10 (38%) purchased less than monthly, with one in five (19%) having only purchased 'once or twice' in the last six months.

4.10.3 Different types of sellers

Three quarters of the methamphetamine buyers (75%) had purchased methamphetamine from a 'friend' in the last six months (Table 4.1). Four out of 10 (45%) purchased from a 'drug dealer' and one in four (25%) purchased from an 'acquaintance'. One in four (24%) had purchased from a 'gang member or associate' in the last six months. One in 10 (10%) of the methamphetamine buyers had also made methamphetamine themselves in the last six months.

Table 4.1: People purchased methamphetamine from in last six months

People	Users (%) (n = 51)
Friends	75
Drug dealers	45
Acquaintances	25
Gang member/associate	24
Workmates	10
Make it myself	10
Partner	4
Family member	4
Other	2

4.10.4 Method used to contact seller

Six out of 10 (62%) of the methamphetamine buyers usually contacted their seller by ‘calling or texting them on a mobile phone’. One in seven (15%) ‘visited a house or flat’. Only one in 25 (4%) usually called their dealer using a landline telephone. One in 17 buyers were either ‘already with the person they bought from’ (6%) or used a ‘third party’ (6%).

4.10.5 Venues of purchase

Private homes were common venues where the methamphetamine buyers had purchased methamphetamine in the last six months. Four out of 10 (42%) had purchased methamphetamine from a ‘friend’s home’, three out of 10 (32%) had purchased from a ‘dealer’s home’, one in five (21%) had purchased from their ‘own home’ and one in 10 (9%) had purchased from an ‘acquaintance’s home’ (Table 4.2). Outside areas were also places where buyers had purchased methamphetamine. One in six (17%) had purchased from an ‘agreed public location’ and one in 25 (4%) had purchased from the ‘street’ in the previous six months.

Table 4.2: Venues purchased methamphetamine from in the last six months

Venues	Users (%) (n = 50)
Friend's home	44
Dealer's home	34
Own home	22
Agreed public location	18
Acquaintances house	10
Private parties	8
Work	8
Nightclubs	6
Other	6
Pubs/bars	4
Educational institute	4
Street	4
Tinny house	2
Raves/dance parties	2

4.10.6 Time taken to purchase

One in 20 (17%) methamphetamine buyers said they could purchase methamphetamine in ‘less than twenty minutes’ (Table 4.3). Four out of 10 (40%) reported they could purchase in ‘one hour’, and one in 20 (17%) thought it would take ‘hours’. One in five (17%) said it take them ‘about one day’ to purchase methamphetamine.

Table 4.3: Time taken to purchase methamphetamine

Time	Users (%) (n = 52)
Weeks	8
About 1 day	17
Hours	17
1 hour	40
Less than 20 minutes	17

4.10.7 Number of sellers

The methamphetamine buyers had purchased from a median of three sellers in the previous six months (mean 3 sellers, range 1-10 sellers).

4.10.8 Other drug types purchased

Four out of 10 (41%) of the methamphetamine buyers had purchased other drug types from their methamphetamine seller in the last six months. The other drug types most frequently purchased were cannabis (54%) and ecstasy (38%).

4.11 Health related harms

4.11.1 Introduction

Participants were first asked whether they had experienced a range of physical and psychological problems from their methamphetamine 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 methamphetamine. They were then asked to estimate the extent to which their methamphetamine use was responsible for the specified problem and to express this as a percentage.

4.11.2 Physical problems

The physical problems most commonly reported from methamphetamine use were ‘poor appetite’ (77%), ‘teeth problems’ (61%), ‘profuse sweating’ (59%), ‘memory lapse’ (59%), ‘poor concentration’ (59%), ‘loss of energy’ (57%), ‘hot/cold flushes’ (53%), ‘weight loss’ (49%), ‘muscular aches’ (49%), ‘joint pains/stiffness’ (48%), ‘tremors/shakes’ (48%), and ‘headaches’ (47%) (Table 4.4). Some of the participants had experienced these physical problems ‘before they started using methamphetamine’, which suggests the presence of pre-existing physical problems. However, participants generally felt that their methamphetamine use had contributed

in large part to the physical problems they were currently experiencing (range 35%-81%).

Table 4.4: Self-reported physical problems from methamphetamine use experienced in the previous six months

Problem	% experienced in last 6 months from using methamphetamine	% experienced before started using methamphetamine	% of problem attributed to methamphetamine use
Poor appetite	77	35	81
Teeth problems	61	29	47
Profuse sweating	59	17	63
Memory lapse	59	35	49
Poor concentration	59	40	49
Loss of energy	57	30	58
Hot/cold flushes	53	23	67
Muscular aches	49	22	63
Weight loss	49	19	72
Tremors/shakes	48	24	60
Joint pains/stiffness	48	19	59
Headaches	47	36	35
Shortness of breath	44	23	49
Heart palpitations	43	19	67
Dizziness	41	20	52
Skin problems	40	23	73
Numbness/tingling	35	16	65
Stomach pains	32	16	46
Vomiting	28	21	29
Blurred vision	28	16	59
Inability to urinate	25	12	51
Chest pains	20	9	64
Fainting/pass out	11	4	54
Fits/seizures	5	3	44

4.11.3 Psychological problems

The psychological problems most commonly reported from methamphetamine use were ‘trouble sleeping’ (84%), ‘mood swings’ (69%), ‘confusion’ (58%), ‘short temper’ (58%), ‘loss of energy’ (57%), ‘strange thoughts’ (56%), ‘paranoia’ (55%), ‘irritability’ (51%) and ‘anxiety’ (51%) (Table 4.5). Four out of 10 (43%) reported ‘depression’, one in five (22%) ‘suicidal thoughts’ and one in eight (12%) ‘suicide attempts’. One in five (23%) reported experiencing ‘violent behaviour’. In many cases fairly high proportions of participants had experienced these psychological problems ‘before they started using methamphetamine’, indicating the presence of pre-existing psychological problems. However, participants often felt that their methamphetamine use had contributed to the psychological problems they had experienced (range 51%-76%).

Table 4.5: Self-reported psychological problems from methamphetamine use experienced in the previous six months

Problem	% experienced in last 6 months from using methamphetamine	% ever experienced before started using methamphetamine	% of problem attributed to methamphetamine use
Trouble sleeping	84	30	76
Mood swings	69	41	63
Short temper	58	35	63
Confusion	58	34	61
Strange thoughts	56	36	65
Paranoia	55	27	69
Anxiety	51	32	60
Irritability	51	34	63
Depression	43	28	55
Sound hallucinations	36	15	66
Visual hallucinations	34	14	59
Panic attacks	32	19	67
Flashbacks	27	11	61
Violent behaviour	23	12	82
Suicidal thoughts	22	16	51
Suicide attempts	12	8	51
Loss of sex urge	1	9	68

4.12 Law enforcement

4.12.1 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 the seizures of methamphetamine were made domestically by Police.

4.12.2 Clandestine laboratories

The annual number of clandestine methamphetamine laboratories detected by the New Zealand Police increased dramatically from nine in 2000, to 41 in 2001, to 170 in 2002. Annual 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.

4.12.3 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.

5. Crystal methamphetamine

5.1 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. 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 pure, than the locally manufactured methamphetamine (Wilkins et al., 2004).

5.2 Crystal methamphetamine use among the frequent methamphetamine users

Over three quarters (78%) of the frequent methamphetamine users had tried crystal methamphetamine in their lifetimes and six out of 10 (64%) had used crystal methamphetamine in the last six months. The median age at which the frequent methamphetamine users had first used crystal methamphetamine was 24 years (mean 25, range 16-41 years). Six out of 10 (63%) of those who had used crystal methamphetamine in the previous six months said the main way they took the drug was 'smoking it' (63%), with about one third (31%) 'injecting it', and the remainder 'snorting it' (6%). Participants had used crystal methamphetamine on a median of 12 days in the previous six months (mean 30 days, range 1-182 days). Nearly half (46%) of users had used crystal methamphetamine weekly or more often and one in eight (13%) had used more than three times a week. The median number of points of crystal methamphetamine taken on a typical occasion was 1 point (mean 2.4 point, range 0.2-10.0 points). The median greatest number of points of crystal methamphetamine taken on a typical occasion was 2.5 points (mean 11 points, range 0.3-270 points).

5.3 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%, $p = 0.745$).

5.4 Price

5.4.1 Current price

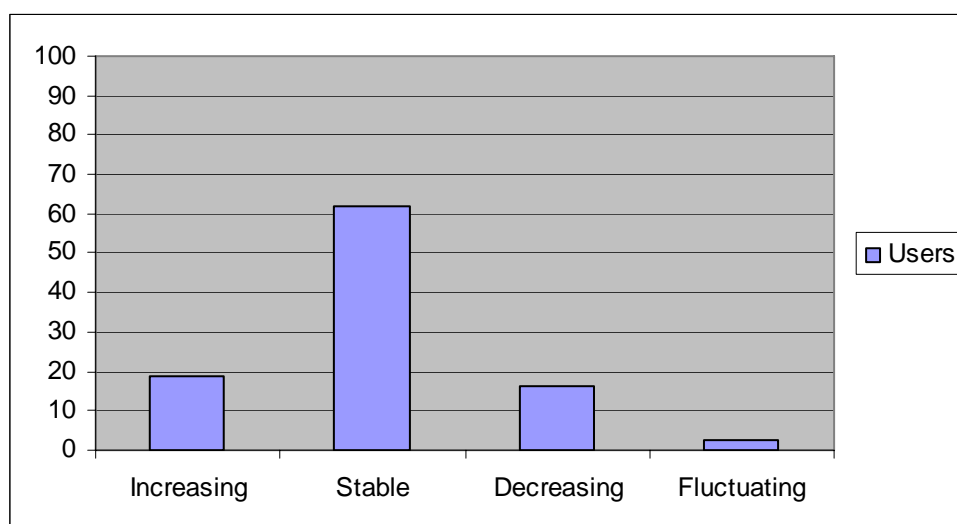
Just over half (52%) of the frequent methamphetamine users felt confident enough to comment on the price, purity and availability of crystal methamphetamine.

The median price reported for a point of crystal methamphetamine was \$100 (mean \$113, range \$50-\$350).

5.4.2 Change in price

Six out of 10 (62%) of the participants who commented on crystal methamphetamine thought the price had been 'stable' over the preceding six months (Figure 5.1). One in five (19%) thought the price had 'increased' in the last six months. One in six (16%) said it had 'decreased' in the last six months.

Figure 5.1: Change in the price of crystal methamphetamine in last six months



5.5 Purity

5.5.1 Current purity

Nearly six out of 10 (58%) of the participants who commented on crystal methamphetamine described the current strength as 'high'. One in five (20%) thought the current purity of crystal methamphetamine 'fluctuates'. One in eight (13%) described the current purity as 'medium' and one in 10 (10%) reported it as 'low'.

5.5.2 Change in purity

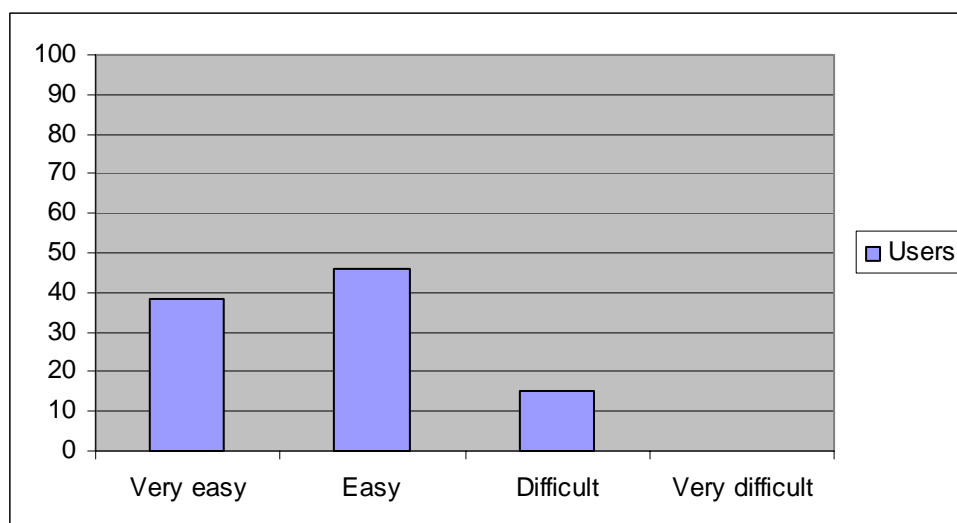
Over half (55%) of the participants who commented on crystal methamphetamine thought the purity of crystal methamphetamine had remained 'stable' over the preceding six months. One in four (24%) described the strength of ice as having 'increased' in the previous six months. One in six (16%) thought it had 'fluctuated' over the last six months. One in 20 thought the purity of crystal methamphetamine had 'decreased' over the last six months.

5.6 Availability

5.6.1 Current availability

Nearly half (46%) of the participants who commented on crystal methamphetamine described the current availability as 'easy'. A further four out of 10 (38%) reported the current availability as 'very easy'. The remaining one in seven (15%) thought the current availability of crystal methamphetamine was 'difficult'.

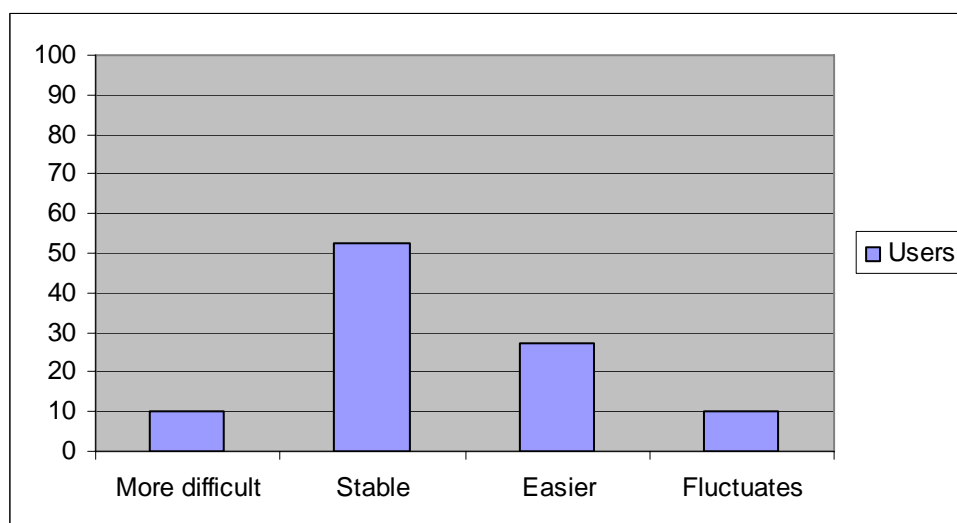
Figure 5.2: Current availability of crystal methamphetamine



5.6.2 Change in availability

Over half (53%) of the participants who commented on crystal methamphetamine said the availability of crystal methamphetamine had remained 'stable' over the preceding six months (Figure 5.3). Three out of 10 (28%) thought the availability had become 'easier' in the last six months.

Figure 5.3: Change in the availability of crystal methamphetamine in the last six months



5.6.3 Change in the number people using

Nearly half (46%) of those who commented on crystal methamphetamine reported that more of the people they know were using crystal methamphetamine compared to six months ago. Four out of 10 (42%) thought that the 'same' number of people they know were using crystal methamphetamine than in the previous six months. One in eight (12%) reported that 'less' of the people they know were using crystal methamphetamine than in the last six months.

5.7 The black market for crystal methamphetamine

5.7.1 Procurement of crystal methamphetamine

Nearly six out of 10 (57%) of the participants who commented on crystal methamphetamine had purchased crystal methamphetamine in the last six months. One third (33%) had received all the crystal methamphetamine they used for 'free' in the last six months. One respondent (2%) had 'made' all the crystal methamphetamine they used themselves in the previous six months. Three (7%) had not used any crystal methamphetamine themselves in the last six months.

5.7.2 Frequency of purchase

One in three (29%) of those who had bought crystal methamphetamine had purchased only ‘once or twice’ in the last six months. One in five (21%) had purchased ‘three or four times’, one in four (25%) purchased ‘once a month’, and one in eight (13%) purchased ‘twice a month’, in the last six months. One in 24 (13%) purchased ‘once a week’ and one in 12 (8%) purchased ‘twice/three times a week’.

5.7.3 Different types of sellers

Two thirds (67%) of the crystal methamphetamine buyers had purchased crystal methamphetamine from a ‘friend’ in the previous six months (Table 5.1). One third (33%) bought from a ‘drug dealer’ and one in four (25%) from an ‘acquaintance’. One in 12 (8%) participants purchased from a ‘family member’. Some of the buyers purchased crystal methamphetamine from a ‘gang member’ (4%) in the last six months.

Table 5.1: People bought crystal methamphetamine from in the last six months

People	Users (%) (n = 24)
Friends	67
Drug dealers	33
Acquaintances	25
Family member	8
Partner	4
Workmates	4
Gang member/associate	4
Other	4

5.7.4 Method used to contact seller

Just over half (54%) of the crystal methamphetamine buyers usually contacted their seller by ‘texting or calling them on a mobile phone’. Only one in 24 (4%) usually called their dealer on a landline telephone. One in four (25%) ‘visited a house or flat’. One in 13 (8%) were ‘already with the person they bought from’.

5.7.5 Venues of purchase

Private homes were common venues where crystal methamphetamine had been purchased in the last six months. Half of the crystal methamphetamine (50%) buyers had purchased from a ‘friend’s home’ and a similar proportion had purchased from a ‘dealer’s home’ (46%) (Table 5.2). A further one in eight (13%) had purchased from their ‘own home’. The next most popular venues for the purchase of crystal methamphetamine were ‘private parties’ (8%), ‘educational institutes’ (8%), the ‘street’ (8%) and an ‘agreed upon public location’ (8%). None of the buyers purchased crystal methamphetamine from a ‘tinny’ house.

Table 5.2: Venues purchased crystal methamphetamine from in the last six months

Venues	Users (%) (n = 24)
Friend's home	50
Dealer's home	46
Own home	13
Other	13
Private parties	8
Educational institute	8
Street	8
Agreed public location	8
Raves/dance parties	4
Nightclubs	4
Pubs/bars	4
Work	4
Acquaintance's house	4

5.7.6 Time taken to purchase

One in four (26%) crystal methamphetamine buyers said they could purchase crystal methamphetamine in 'less than 20 minutes' (Table 5.3). Four out of 10 (39%) said it would take about 'one hour' and one in 11 (9%) thought it would take them 'hours'. One in six (17%) felt it would take them about 'one day' to purchase crystal methamphetamine.

Table 5.3: Time taken to purchase methamphetamine

Time	Users (%) (n = 23)
Days	9
About 1 day	17
Hours	9
1 hour	39
Less than 20 minutes	26

5.8 Law enforcement

Seizures of crystal methamphetamine in New Zealand 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.

6. Cannabis

6.1 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).

6.2 Cannabis use among the frequent methamphetamine users

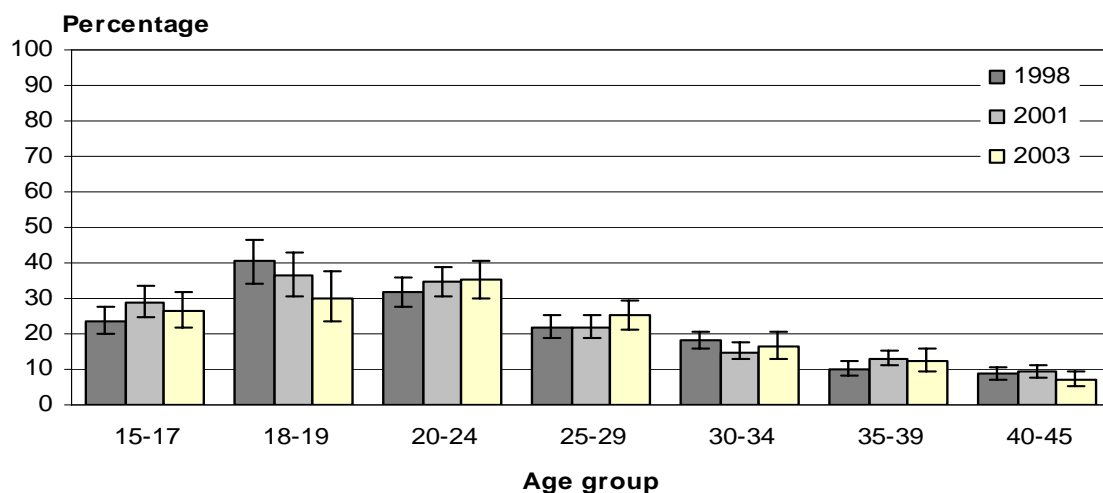
Over nine out of 10 (95%) of the frequent methamphetamine users had tried cannabis in their lifetimes and eight out of 10 (79%) had used cannabis in the last six months. All of those who had used cannabis in the previous six months said the main way they took the drug was 'smoking it' (100%). Participants had used cannabis on a median of 100 days in the previous six months (ie. once every two days) (mean 105 days, range 1-186 days). Eight out of 10 (84%) of users had used cannabis weekly or more often and six out of 10 (61%) had used more than three times a week. The median number of joints smoked on a typical occasion was one (mean 2.3 joint, range 0.25-10 joints). The median highest number of joints smoked on a typical occasion was four joints (mean 8.6 joints, range 1.0-28 joints).

6.3 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 (i.e. 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 6.1).

Figure 6.1. Proportion of the population reporting last year use of cannabis by age, 1998, 2001 and 2003



6.4 Price

6.4.1 Current price

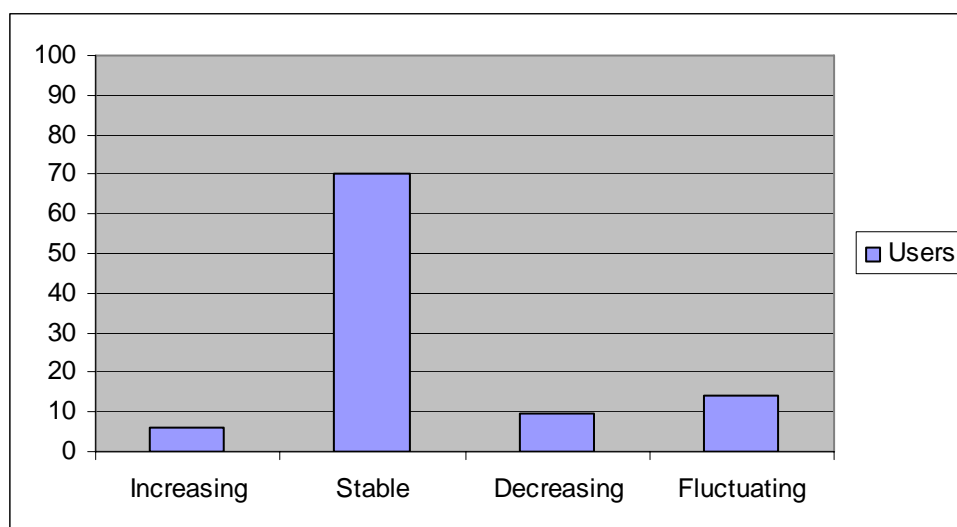
Nearly nine out of 10 (85%) of the frequent methamphetamine users felt confident enough to comment on the price, purity and availability of cannabis.

The median price paid for a ‘tinny’ of cannabis (1.5 grams) was \$20 (mean \$20, range \$20-\$25). The median price paid for an ounce of cannabis (28 grams) was \$300 (mean \$291, range \$150-\$450).

6.4.2 Change in price

Seven out of 10 (70%) of the participants who commented on cannabis thought the price had remained ‘stable’ in the previous six months (Figure 6.2). One in seven (14%) said the price had ‘fluctuated’ over the last six months.

Figure 6.2: Change in the price of cannabis in the last six months



6.5 Purity

6.5.1 Current purity

Almost eight out of 10 (77%) of the participants who commented on cannabis described the current strength of cannabis as 'high'. One in 11 (9%) described the current strength of cannabis as 'medium'. The remaining one in seven (14%) said the current strength 'fluctuates'.

6.5.2 Change in purity

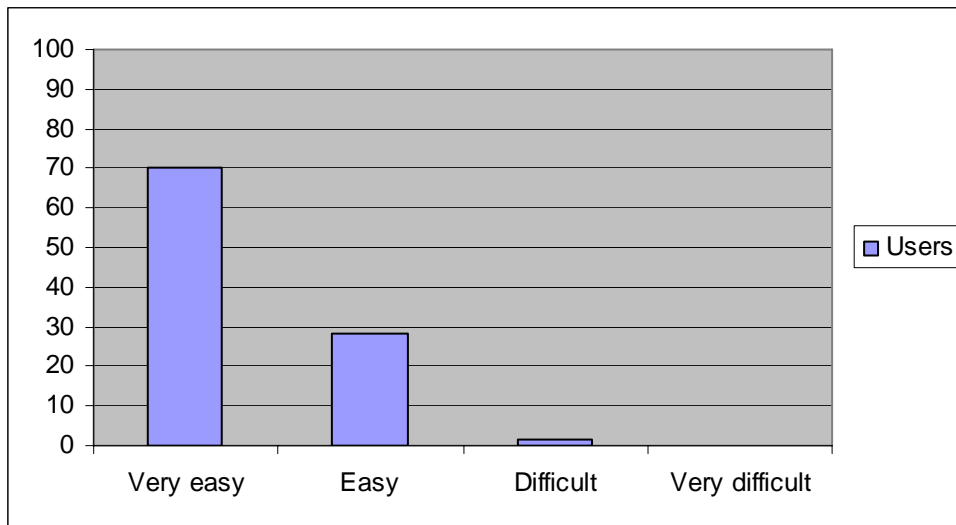
Nearly six out of 10 (56%) of those who commented on cannabis felt that the strength of cannabis had remained 'stable' over the previous six months. One in four (23%) said the strength of cannabis had 'fluctuated' over the preceding six months. One in five (20%) thought the strength of cannabis had 'increased' over the last six months. Only one respondent said the strength of cannabis had 'decreased' over the preceding six months.

6.6 Availability

6.6.1 Current availability

Seven out of 10 (70%) of the participants who commented on cannabis described the current availability of cannabis as 'very easy' (Figure 6.3). A further three out of 10 (28%) reported the current availability of cannabis to be 'easy'.

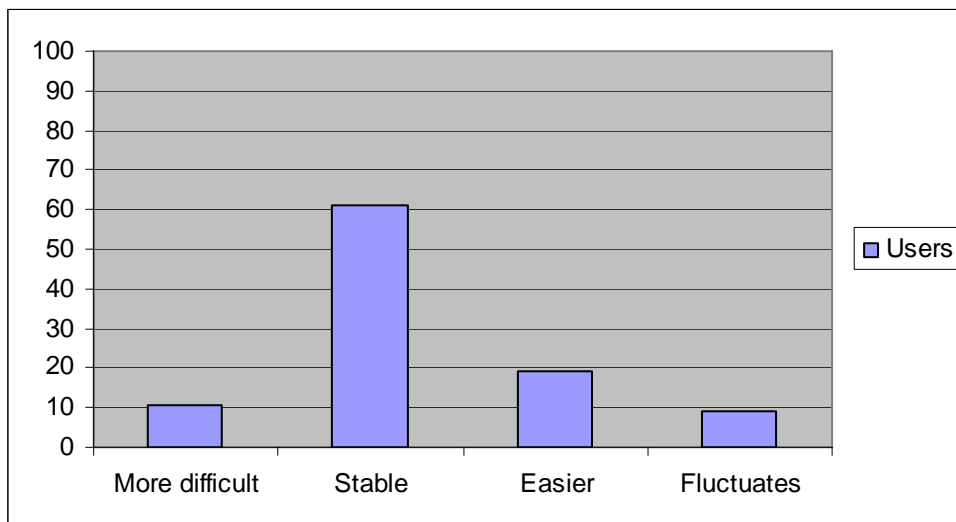
Figure 6.3: Current availability of cannabis



6.6.2 Change in availability

Six out of 10 (61%) of the participants who commented on cannabis thought the availability of cannabis had been 'stable' in the last six months (Figure 6.4). One in five (19%) said availability had become 'easier'.

Figure 6.4: Change in availability of cannabis in the last six months



6.6.3 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 five (21%) said that 'more' of the people they know were using cannabis. One in eight thought that 'less' of their friends were using cannabis compared to a year ago.

6.7 The black market for cannabis

6.7.1 Procurement of cannabis

More than six out of 10 (64%) of those who commented on cannabis had purchased cannabis in the last six months. One in five (21%) reported they had received it for 'free'. One in 14 (7%) had 'grown all their cannabis for their own use' in the previous six months. One in 17 (6%) had not used any cannabis in the last six months.

6.7.2 Frequency of purchase

Three out of 10 (30%) of the cannabis buyers had purchased cannabis 'once a week' in the last six months. One in five (19%) buyers purchased '2-5 times a week'. One in 20 (5%) had purchased cannabis 'once a day' in the previous six months, and one in 43 (2%) had purchased cannabis 'more than once a day' in the last six months. Approximately one in four cannabis buyers had either purchased 'once a month' (9%) or 'twice a month' (14%) in the preceding six months. One in five (21%) had purchased cannabis four times or less in the previous six months.

6.7.3 Different types of sellers

Over eight out of 10 (86%) cannabis buyers had purchased cannabis from 'friends' in the last six months (Table 6.1). One in six (16%) had purchased cannabis from a 'family member', and one in 20 (5%) had purchased from a 'partner', in the preceding six months. One in three (39%) had purchased from 'drug dealers', and one in four (23%) had purchased from 'acquaintances', in the previous six months. One in 14 (7%) had purchased cannabis from a 'gang member/associate' in the last six months.

Table 6.1: Different types of people bought cannabis from in the last six months

People	Users (%) (n = 44)
Friends	86
Drug dealers	39
Acquaintances	23
Family member	16
Workmates	9
Gang member/associate	7
Partner	5
Grow it myself	2
Unknown	2
Other	2

6.7.4 Method used to contact seller

Four out of 10 (42%) cannabis buyers usually contacted their cannabis seller by 'calling/texting them on a mobile telephone'. Approximately one-third (34%) usually 'visited a house or flat'. One in nine (11%) usually called their seller using a landline telephone. A few buyers were usually 'already with the seller' (5%), 'approached the seller in public' (3%) or arranged to buy through a 'third party' (3%).

6.7.5 Venues of purchase

Houses were common venues where cannabis buyers had purchased cannabis in the last six months. Over six out of 10 (64%) had purchased cannabis from a ‘friends house’, one in three (36%) had purchased from their ‘own home’, three out of 10 (31%) had purchased at their ‘dealer’s house’, and one in 10 (10%) had purchased from an ‘acquaintance’s house’ (Table 6.2). One in five (19%) had purchased cannabis from a ‘tinny’ house and one in 8 (12%) had purchased cannabis from the ‘street’.

Table 6.2: Venues cannabis purchased from in the last six months

Venues	Users (%) (n = 42)
Friend's home	64
Own Home	36
Dealer's home	31
Tinny house	19
Street	12
Agreed public location	10
Acquaintance's house	10
Pubs/bars	7
Nightclubs	5
Raves/dance parties	2
Private parties	2
Educational institute	2
Work	2

6.7.6 Time taken to purchase

Just over one-third (36%) of cannabis buyers said they could purchase cannabis in ‘less than 20 minutes’ (Table 6.3). A further one in four indicated it would take them ‘one hour’ to purchase some cannabis. One in 20 thought it would take them ‘hours’ to purchase the drug. One in 11 (9%) answered it would take them about ‘one day’ to purchase cannabis.

Table 6.3: Time taken to purchase cannabis

Time	Users (%) (n = 44)
Months	2
Days	9
About 1 day	9
Hours	18
1 hour	25
Less than 20 minutes	36

6.7.7 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 two (mean 4, range 1-30).

6.7.8 Other drug types purchased from cannabis seller

Just over one-third (36%) 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 methamphetamine (47%), ecstasy (47%), LSD (20%) and GHB (13%).

6.8 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.

7. LSD

7.1 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 1990-1994 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 (Wilkins et al., 2002b, Wilkins et al., 2002c)

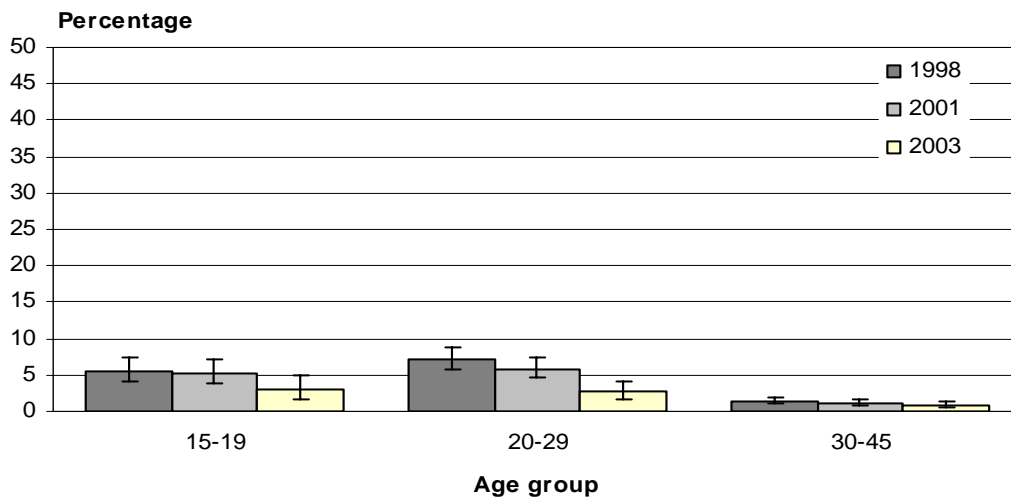
7.2 LSD use among frequent methamphetamine users

Eight out of 10 (77%) of the frequent methamphetamine users had tried LSD in their lifetimes and one third (31%) had used LSD in the last six months. The median age at which the frequent methamphetamine users had first used LSD was 18 years (mean 18, range 11-32 years). All of those who had used LSD in the previous six months said the main way they took the drug was 'swallowing it' (100%). Participants had used LSD on a median of two days in the previous six months (mean 3 days, range 1-7 days). Over nine out of 10 (95%) of users had used LSD six or less times in the last six months. The median number of tabs of LSD taken on a typical occasion was one (mean 1.2 tab, range 0.5-4.0 tabs). The median greatest number of tabs of LSD taken on a single occasion was one tab (mean 1.3 tabs, range 1.0-4.0 tabs).

7.3 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 7.1).

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



7.4 Price

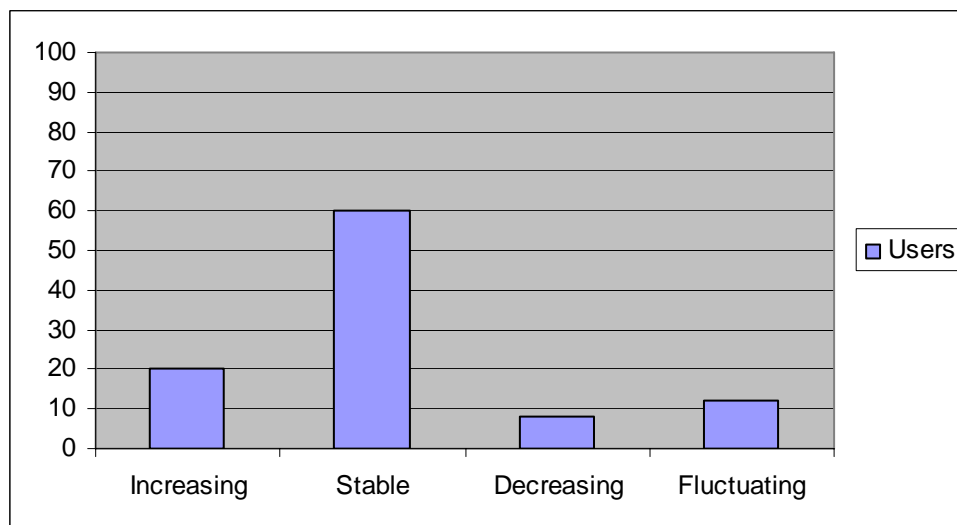
7.4.1 Current price

Four out of 10 frequent methamphetamine 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 \$36, range \$15-\$60).

7.4.2 Change in price

Six out of 10 (60%) of the participants who commented on LSD thought the price had remained 'stable' in the preceding six months (Figure 7.2). One in five (20%) reported the price of LSD had 'increased' in the previous six months.

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



7.5 Purity

7.5.1 Current purity

Nearly four out of 10 (37%) of the participants who commented on LSD described the current strength of LSD as 'low'. One third (33%) described the current strength as 'medium'. One in seven (15%) reported that the current strength of LSD was 'fluctuating'. A further one in seven (15%) described the strength of LSD as 'high'.

7.5.2 Change in purity

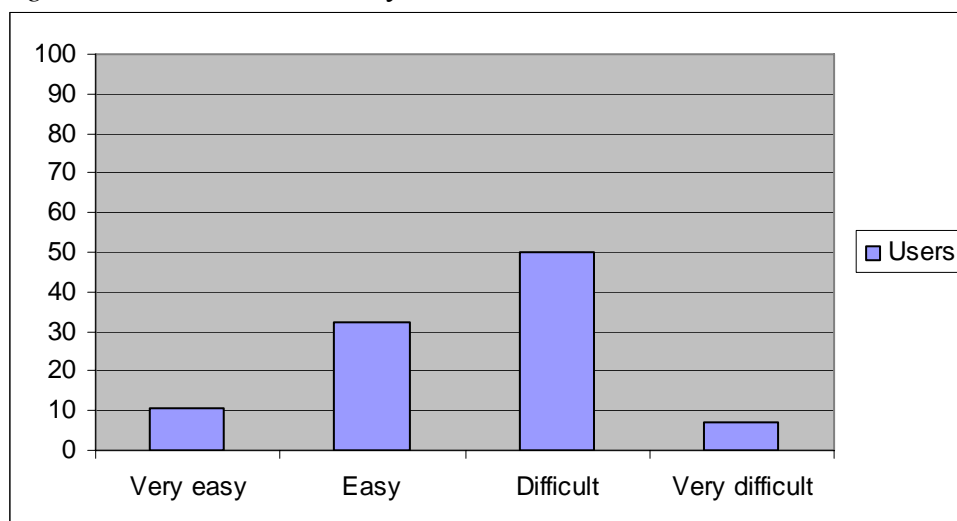
Four out of 10 (40%) of the participants who commented on LSD indicated that the strength of LSD had remained 'stable' over the last six months. One in four (24%) said the strength of LSD had 'decreased' over the last six months. A further one in four (28%) thought the strength of LSD had 'fluctuated' over the previous six months. Only one in 13 (8%) thought the strength of LSD had 'increased' over the previous six months.

7.6 Availability

7.6.1 Current availability

One half (50%) of the participants who commented on LSD described the current availability as 'difficult' (Figure 7.3). Three out of 10 (32%) participants described the current availability as 'easy'.

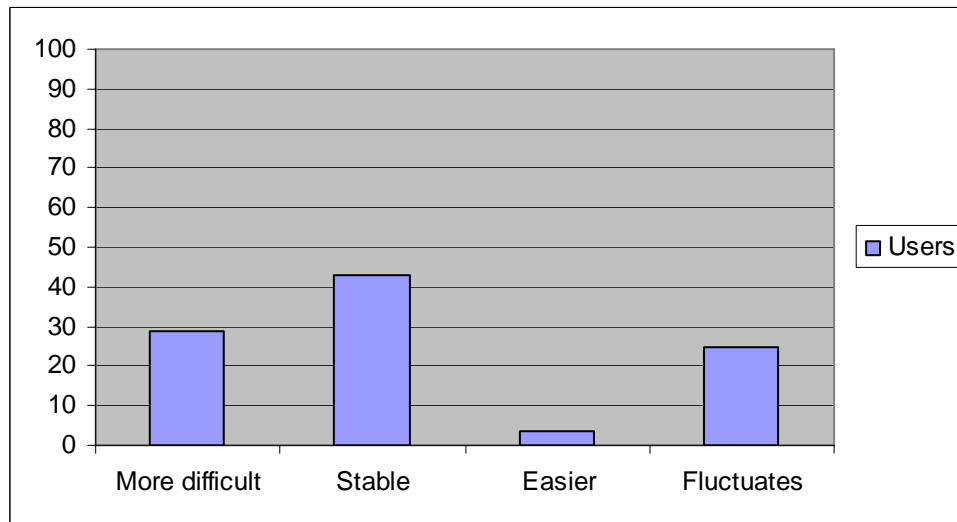
Figure 7.3: Current availability of LSD



7.6.2 Change in availability

Four out of 10 (43%) of the participants who commented on LSD said the availability of LSD had remained 'stable' over the last six months (Figure 7.4). Three out of 10 (29%) reported that the availability of LSD had become 'more difficult' over the preceding six months. One in four (25%) thought the availability of LSD had 'fluctuated' over the previous six months.

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



7.6.3 Change in the number of people using

Over half (53%) of the participants who commented on LSD reported that 'less' of the people they know are using LSD compared to six months ago. Four out of 10 (42%) said the 'same' number were using LSD. Only one in 20 (5%) thought that 'more' people they know were using LSD.

7.7 The black market for LSD

7.7.1 The procurement of LSD

Two-thirds (68%) of those who commented on LSD had purchased it in the last six months. One in 10 (10%) had received all the LSD they used for free in the last six months. One in four (23%) had not used LSD in the last six months.

7.7.2 Frequency of purchase

Approximately six out of 10 (62%) LSD buyers had purchased LSD only 'once or twice' in the last six months. One in five either purchased LSD 'three or four' times (19%) or 'once a month' (19%) in the previous six months.

7.7.3 Different types of sellers

Two thirds (67%) of the LSD buyers purchased LSD from ‘friends’ in the last six months (Table 7.1). One in four (24%) purchased from ‘acquaintances’ and one in five (19%) from drug dealers. One in 20 (5%) purchased LSD from a ‘gang member’.

Table 7.1: People LSD bought from in the last six months

People	Users (%) (n = 21)
Friends	67
Acquaintances	24
Drug dealers	19
Gang member/associate	5
Unknown	5

7.7.4 Method used to contact seller

Just over half (56%) of the LSD buyers usually contacted their LSD seller by ‘calling/texting them on a mobile telephone’. One in six (17%) usually ‘visited a house or flat’. One in nine either usually ‘approached the seller in public’ (11%) or through a ‘third party’ (11%). One respondent was ‘already with seller’.

7.7.5 Venues of purchase

Half of the LSD buyers purchased LSD from a ‘friend’s home’ (50%), one in four (25%) from their own home and one in five (20%) from a ‘dealer’s home’ (Table 7.2). One in five (20%) purchased LSD from an ‘agreed upon public location’. Some users also purchased from ‘pubs/bars’ (15%), ‘educational institutes’ (10%) and from ‘acquaintance’s houses’ (10%).

Table 7.2: Venues bought LSD from in the last six months

Venues	Users (%) (n = 20)
Friend's home	50
Own home	25
Dealer's home	20
Agreed public location	20
Pubs/bars	15
Educational institute	10
Acquaintances house	10
Raves/dance parties	5
Nightclubs	5
Street	5
Work	5

7.7.6 Time taken to purchase

Two-thirds of LSD buyers said it would take them either a ‘single day’ (33%) or ‘days’ (33%) to purchase LSD (Table 7.3). One in nine (11%) reported it would take them ‘weeks’ to purchase the drug. Only one in nine (11%) LSD buyers indicated they could purchase LSD in ‘less than 20 minutes’. The remaining one in nine (11%) LSD buyers could purchase the drug within ‘hours’.

Table 7.3: Time taken to purchase LSD

Time	Users (%) (n = 18)
Weeks	11
Days	33
About 1 day	33
Hours	6
1 hour	6
Less than 20 minutes	11

7.8 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.

8. Ecstasy (MDMA)

8.1 Introduction

Ecstasy (3,4-methylenedioxymethamphetamine, MDMA or 'E' or 'X') has both the properties of amphetamine 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 feelings 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, Gowing et al., 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 subsequent 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), resulting 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, Wilkins et al., 2003). 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 (New Zealand Customs Service, 2002, United Nations Office on Drugs and Crime, 2005).

8.2 Ecstasy use among frequent methamphetamine users

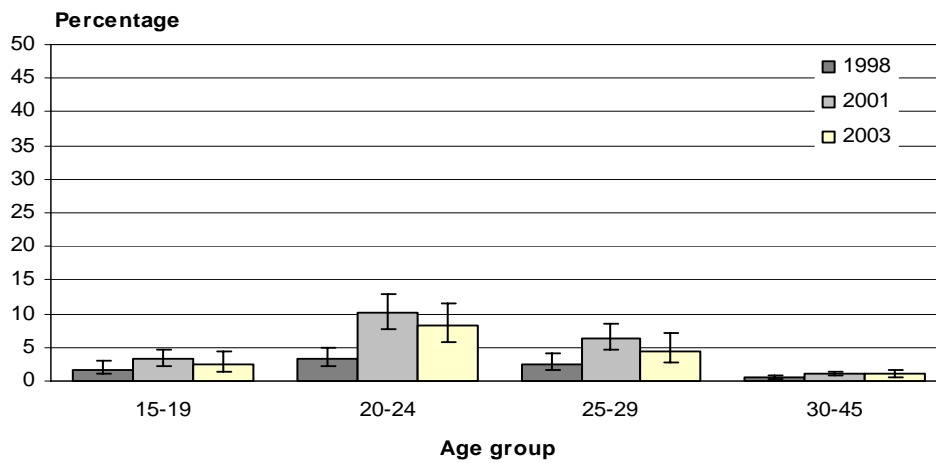
Eight out of 10 of the frequent methamphetamine users (82%) had tried ecstasy in their lifetimes and four out of 10 (45%) had used ecstasy in the last six months. The median age at which the frequent methamphetamine users had first used ecstasy was 21 years (mean 22, range 15-35 years). Most of those who had used ecstasy in the previous six months said the main way they took the drug was 'swallowing it' (82%) with the remainder 'snorting it' (9%) or 'injecting it' (9%). One in four (25%) of the participants had injected ecstasy in their lifetimes. Participants had used ecstasy on a median of six days in the previous six months (mean 12 days, range 1-78 days). One in four (26%) users had used ecstasy weekly or more often. Over half (54%) had used ecstasy six times or less in the previous six months. The median number of ecstasy pills taken on a typical occasion was one pill (mean 1.7 pills, range 0.25-6 pills). The median greatest number of ecstasy pills taken on a typical occasion was 2.5 pills (mean 4 pills, range 1-32 pills).

8.3 Ecstasy use in the general population

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%). 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 8.1).

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



8.4 Price

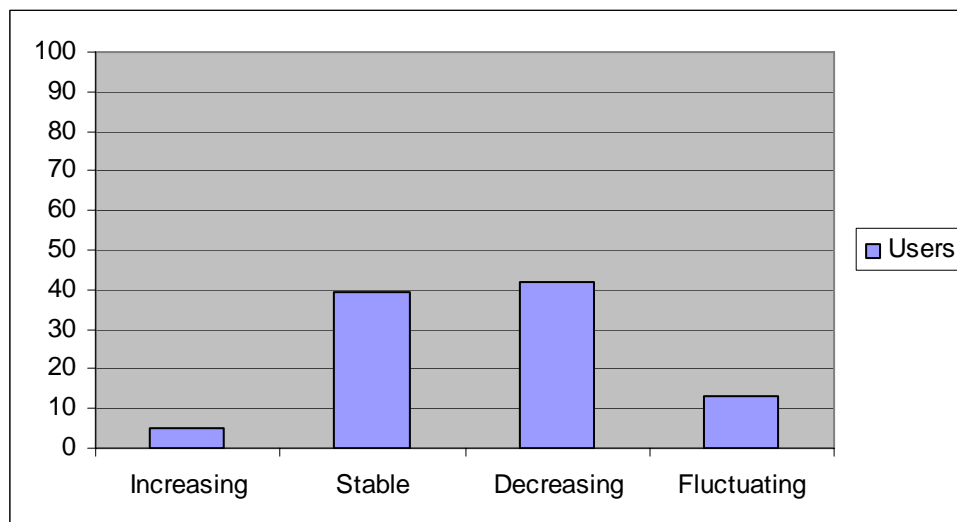
8.4.1 Current price

One-half of the frequent methamphetamine users were confident enough to comment on the price, purity and availability of ecstasy. The median price paid for a pill of ecstasy was \$60 (mean \$54, range \$10-\$100).

8.4.2 Change in price

Four out of 10 (42%) of the participants who commented on ecstasy thought the price had 'decreased' in the previous six months (Figure 8.2). A further four out of 10 (39%) described the price of ecstasy as 'stable' in the preceding six months. One in eight (13%) described the price as 'fluctuating'.

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



8.5 Purity

8.5.1 Current purity

There were mixed reports of the current strength of ecstasy. Approximately one quarter of respondents said the current strength of ecstasy was either ‘medium’ (28%) or ‘high’ (26%). A further quarter thought the strength ‘fluctuated’ and one in five (21%) thought it was ‘low’.

8.5.2 Change in purity

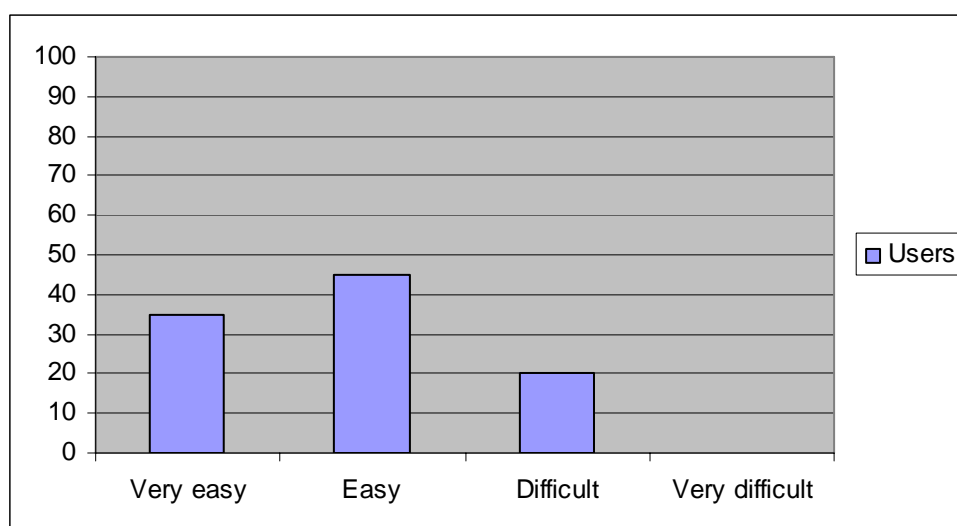
A third (33%) of the participants who commented on ecstasy indicated that the strength of ecstasy had ‘fluctuated’ over the previous six months. Approximately a quarter (23%) described the strength as ‘decreasing’ and one in eight (13%) described it as ‘increasing’. One in three (31%) reported the strength was ‘stable’ over the last six months.

8.6 Availability

8.6.1 Current availability

Four out of 10 (45%) participants who commented on ecstasy described the current availability of ecstasy as ‘easy’ (Figure 8.3). A further one-third (35%) reported that the availability of the drug was ‘very easy’. One in five (20%) described the current availability of ecstasy as ‘difficult’.

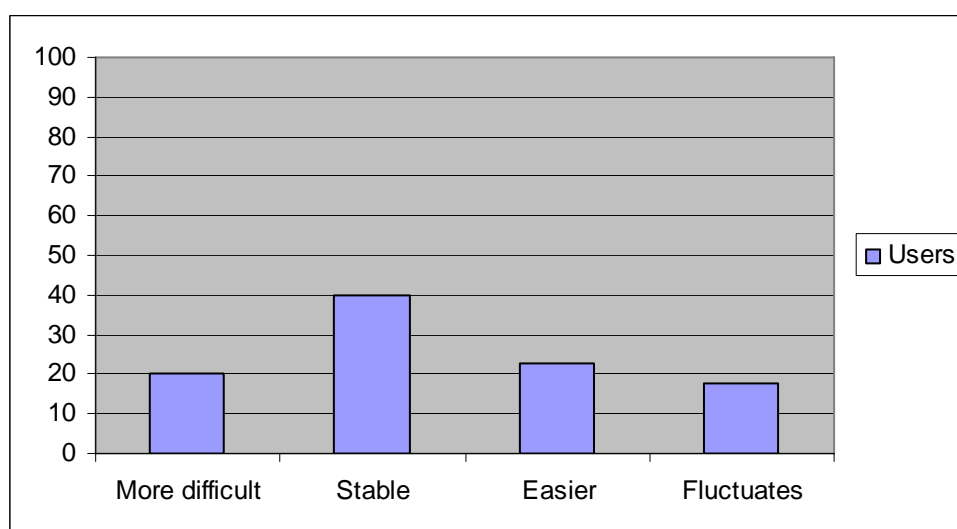
Figure 8.3: Current availability of ecstasy



8.6.2 Change in availability

Four out of 10 (40%) of the participants who commented on ecstasy reported that the availability of ecstasy had been 'stable' in the last six months (Figure 8.4). One in four (23%) thought the availability of ecstasy had become 'easier' in the preceding six months. One in five (20%) said that availability was 'more difficult'. One in five (20%) said that availability was 'more difficult'.

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



8.6.3 Change in number of people using

Nearly six out of 10 (58%) of the participants who commented on ecstasy reported that about the 'same' number of people they know were using ecstasy compared to six months ago. A third (33%) said 'more' people they know were using ecstasy than in the previous six months. Only one in 12 (8%) said that 'less' of the people they know were using ecstasy compared to six months ago.

8.7 The black market for ecstasy

8.7.1 Procurement of ecstasy

Two thirds (66%) of the participants who commented on ecstasy had purchased ecstasy in the last six months. One in six (17%) had received all their ecstasy for 'free' in the last six months and the same proportion (17%) had not used ecstasy in the previous six months.

8.7.2 Frequency of purchase

A third (33%) of ecstasy buyers had purchased ecstasy 'twice a month' in the preceding six months. One in seven (15%) had purchased 'once a month'. One in five (22%) had purchased only 'three or four times', and a further one in five (19%) had purchased only 'once or twice' in the preceding six months. Only one in nine (11%) purchased ecstasy 'weekly' or more often in the previous six months.

8.7.3 Different types of sellers

Eight out of 10 (81%) of the ecstasy buyers purchased ecstasy from ‘friends’ in the last six months (Table 8.1). Approximately half (46%) purchased from ‘drug dealers’, and one in four (23%) purchased from ‘acquaintances’. One in 25 (4%) ecstasy buyers purchased from a ‘gang member or associate’.

Table 8.1: Sellers ecstasy bought from in the last six months

People	Users (%) (n = 26)
Friends	81
Drug dealers	46
Acquaintances	23
Partner	4
Family members	4
Workmates	4
Gang member/associate	4

8.7.4 Method used to contact seller

Approximately six out of 10 (57%) of the ecstasy buyers usually contacted their ecstasy seller by ‘calling/texting them on a mobile telephone’. Three out of 10 (30%) usually ‘visited a house or flat’.

8.7.5 Venues of purchase

Houses were common places to purchase ecstasy. Four out of 10 (42%) of the ecstasy buyers purchased ecstasy from a ‘dealers house’, one in three (35%) from a ‘friend’s house’, one in five (19%) from their ‘own home’, and one in eight (12%) from an ‘acquaintance’s house’. Entertainment venues were also popular places to purchase ecstasy. One in eight (12%) purchased ecstasy at a ‘rave or dance party’, one in seven (15%) purchased at a ‘nightclub’, one in nine (12%) from a ‘private party’ and one in 26 (4%) from a ‘pub or bar’. One in seven (15%) purchased ecstasy from an ‘agreed upon public location’.

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

Venues	Users (%) (n = 26)
Dealer's home	42
Friend's home	35
Own home	19
Nightclubs	15
Agreed public location	15
Raves/dance parties	12
Private parties	12
Acquaintance's house	12
Pubs/bars	4
Educational institute	4
Work	4

8.7.6 Time taken to purchase

Approximately three out of 10 (27%) ecstasy buyers said they could purchase ecstasy in 'less than 20 minutes' (Table 8.3). One in four (23%) reported they could purchase ecstasy in 'hours'.

Table 8.3: Time taken to purchase ecstasy

Time	Users (%) (n = 26)
Days	27
About 1 day	19
Hours	23
1 hour	4
Less than 20 minutes	27

8.7.7 Number of sellers

The ecstasy buyers were asked how many different sellers they had purchased ecstasy from in the last six months. The median number of sellers purchased from was two (mean 3, range 1-7).

8.7.8 Other drug types purchased from ecstasy seller

Seven out of 10 (72%) of the ecstasy buyers had purchased other drug types from their ecstasy seller in the previous six months. The other drug types most commonly purchased were cannabis (65%), methamphetamine (41%), GHB (29%), amphetamines (18%), and LSD (18%).

8.8 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.

9. Cocaine

9.1 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, 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.

9.2 Cocaine use among frequent methamphetamine users

Half (55%) of the frequent methamphetamine users had tried cocaine in their lifetimes and one in seven (15%) had used cocaine in the last six months. The median age at which the frequent methamphetamine users had first used cocaine was 22 years (mean 23, range 16-35 years). Most of those who had used cocaine in the previous six months said the main way they took the drug was 'snorting it' (91%) with the remainder 'injecting it' (9%). Participants had used cocaine on a median of two days in the previous six months (mean 3.2 days, range 1-20 days). Eight out of 10 (83%) users had used cocaine six times or less in the preceding six months. The median number of grams of cocaine taken on a typical occasion was 0.7 grams (mean 0.4 grams, range 0.2-20.0 grams). The median greatest amount of cocaine taken on a single occasion was 1 gram (mean 4.2 grams, range 0.2-28.0 grams).

9.3 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 surveying. 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).

9.4 Price

9.4.1 Current price

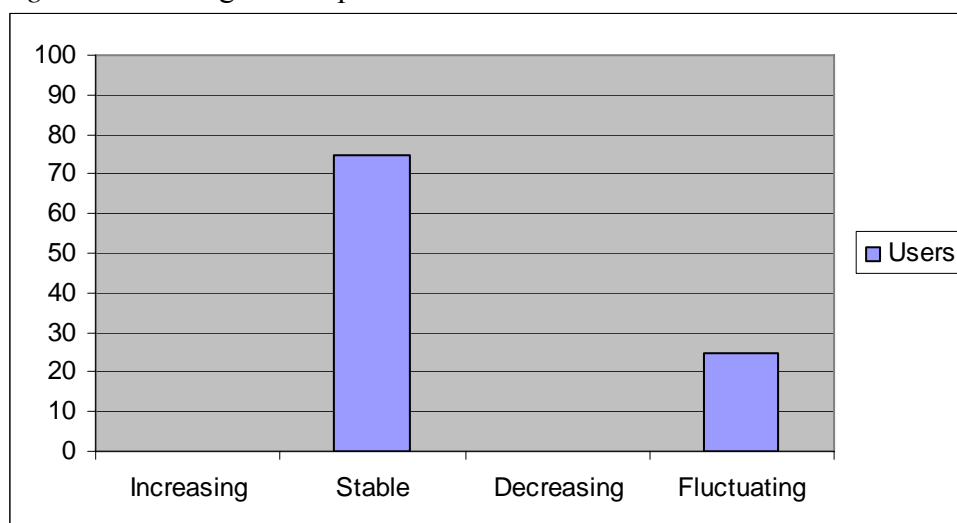
Only one in seven (14%) of the frequent methamphetamine users were confident enough to comment on the price, purity and availability of cocaine. The low number of participants answering the questions in this section (i.e. n=7-12) indicate the results

should be interpreted with some caution. The median price reported paid for a gram of cocaine was \$350 (mean \$432, range \$200-\$1200).

9.4.2 Change in price

Three quarters (75%) of the participants who commented on cocaine thought the price had remained 'stable' in the previous six months (Figure 9.1). The other quarter (25%) described the price as 'fluctuating'.

Figure 9.1: Change in the price of cocaine in the last six months



9.5 Purity

9.5.1 Current purity

Seven out of 10 (70%) of the participants who commented on cocaine described the current strength of cocaine as either 'medium' (40%) or 'high' (30%). One in five (20%) thought the strength was 'low' and one in ten (10%) said it 'fluctuated'.

9.5.2 Change in purity

Over four out of 10 (44%) of the participants who commented on cocaine indicated that the strength of cocaine had 'fluctuated' over the previous six months. One third (33%) described the strength as 'stable'. One in nine (11%) reported the strength was 'decreasing' and the same number (11%) described the strength as 'increasing' over the last six months.

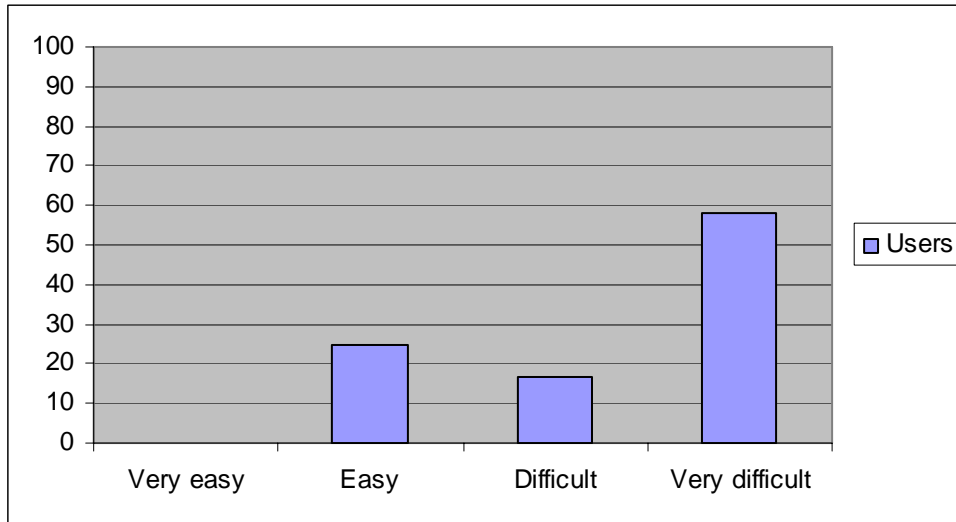
9.6 Availability

9.6.1 Current availability

Nearly six out of 10 (58%) participants who commented on cocaine described the current availability of cocaine as 'very difficult' (Figure 9.2). A further one in six

(17%) reported that the availability of cocaine was 'difficult'. A quarter (25%) described the current availability of cocaine to be 'easy'.

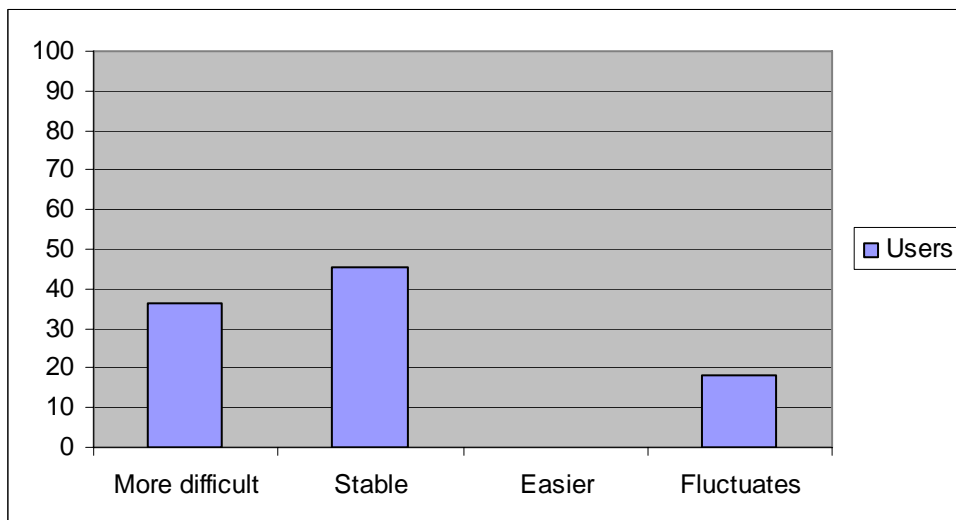
Figure 9.2: Current availability of cocaine



9.6.2 Change in availability

Approximately four out of 10 (45%) of the participants who commented on cocaine reported that the availability of cocaine had been 'stable' in the last six months (Figure 9.3). Approximately three out of 10 (36%) said the availability of cocaine had become 'more difficult' in the preceding six months. One in six (18%) reported that the availability of cocaine had 'fluctuated'.

Figure 9.3: Change in availability of cocaine in the last six months



9.6.3 Change in number of people using

Nearly six out of 10 (57%) of the participants who commented on cocaine reported that about the 'same' number of people they know were using cocaine compared to six months ago. A third (29%) said 'less' people they know were using cocaine than in the previous six months. Only one in seven (14%) said that 'more' of the people they know were using cocaine compared to six months ago.

9.7 Law enforcement

9.7.1 Seizures

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.

10. Ketamine

10.1 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 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).

10.2 Ketamine use among frequent methamphetamine users

Three out of 10 (32%) of the frequent methamphetamine users had tried ketamine in their lifetimes and one in 13 (8%) had used ketamine in the last six months. The median age at which the frequent methamphetamine users had first used ketamine was 20 years (mean 21, range 16-36 years). Six out of 10 of those who had used ketamine in the previous six months said the main way they took the drug was 'snorting it' (60%) with the remainder 'swallowing it' (40%). Participants had used ketamine on a median of 4 days in the previous six months (mean 6 days, range 1-20 days). Eight out of 10 (83%) users had used ketamine six times or less in the last six months. The median number of grams of ketamine taken on a typical occasion was 1.0 grams (mean 1.6 grams, range 0.25-4.0 grams). The median greatest amount of ketamine taken on a single occasion was 2.5 grams (mean 2.3 grams, range 0.5-4.0 grams).

10.3 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).

10.4 Price

10.4.1 Current price

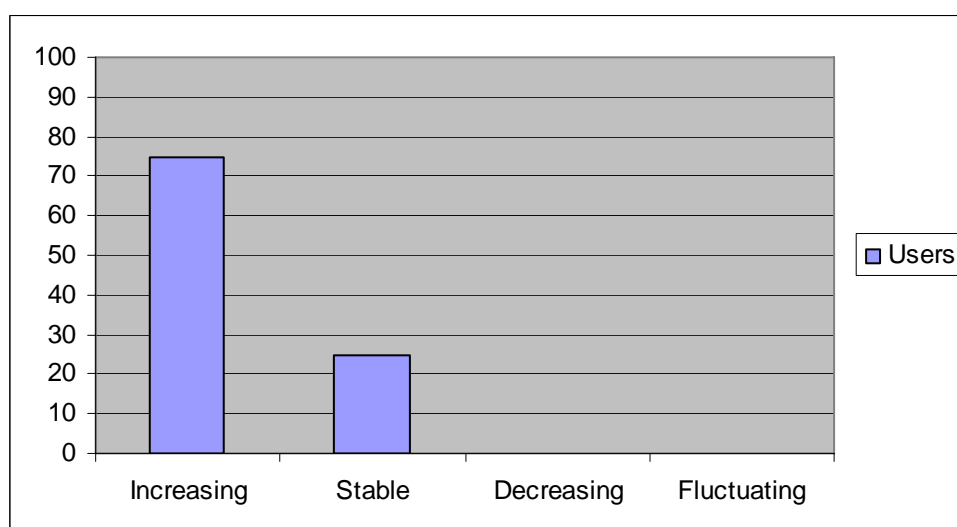
Only one in eight (13%) of the frequent methamphetamine users were confident enough to comment on the price, purity and availability of ketamine. The low number of participants answering the questions in this section (i.e. $n=8-10$) suggest the results should be interpreted with caution.

The median price reported paid for a gram of ketamine was \$125 (mean \$128, range \$100-\$160).

10.4.2 Change in price

Three quarters (75%) of the participants who commented on ketamine thought the price had 'increased' in the previous six months (Figure 10.1). The other quarter (25%) described the price as 'stable'.

Figure 10.1: Change in the price of ketamine in the last six months



10.5 Purity

10.5.1 Current purity

Seven out of 10 (70%) of the participants who commented on ketamine described the current strength of ketamine as ‘medium’. One in ten (10%) described the current strength as ‘high’, and a further one in 10 (10%) thought the current strength ‘fluctuates’ (10%). The remaining one in 10 (10%) said the current strength was ‘high’ (10%).

10.5.2 Change in purity

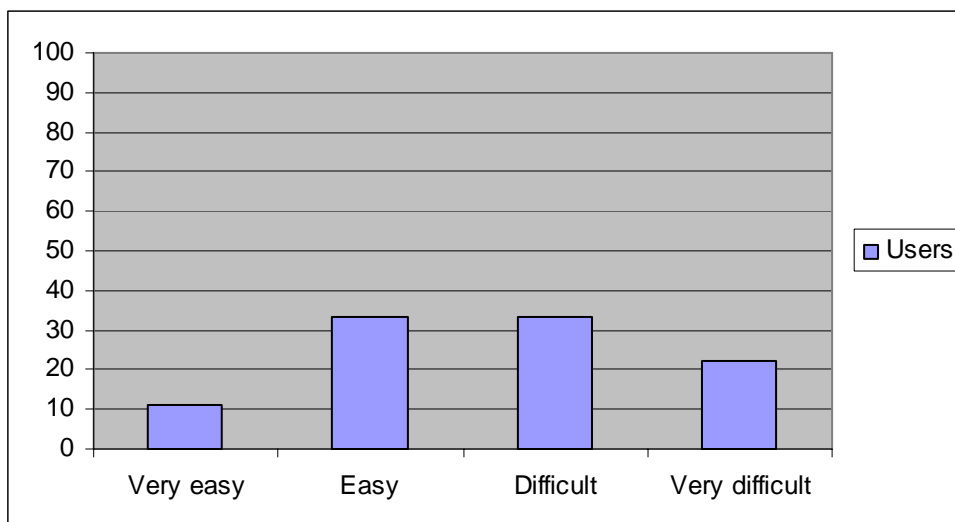
Six out of 10 (60%) of the participants who commented on ketamine indicated that the strength of cocaine had been ‘stable’ over the previous six months. Three out of 10 (30%) described the strength as ‘decreasing’ over the preceding six months. One in ten (10%) reported the strength of ketamine had ‘fluctuated’. No respondents reported that the strength of ketamine had ‘increased’.

10.6 Availability

10.6.1 Current availability

One in five (22%) participants who commented on ketamine described the current availability of ketamine as ‘very difficult’ (Figure 10.2). A further one in three (33%) reported that the availability of the ketamine was ‘difficult’. One third (33%) described the current availability of ketamine to be ‘easy’.

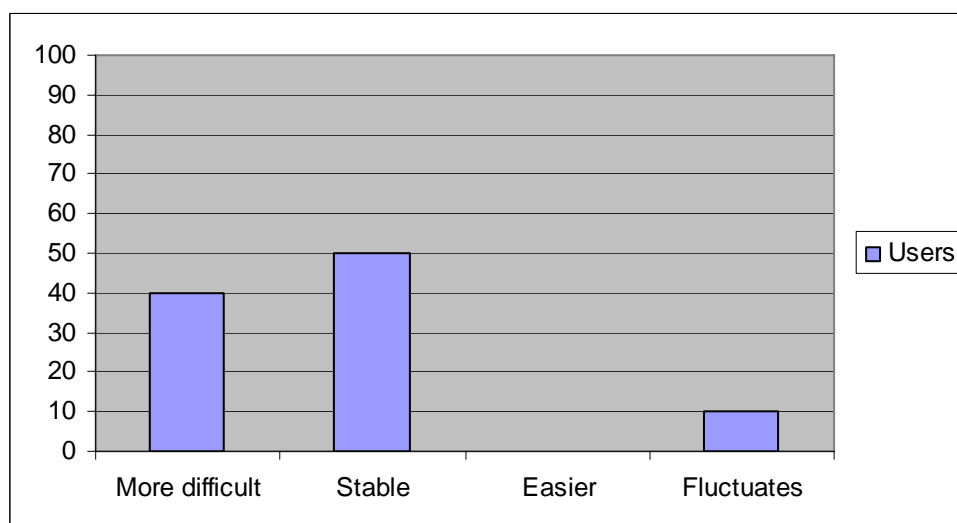
Figure 10.2: Current availability of ketamine



10.6.2 Change in availability

Half (50%) of the participants who commented on ketamine reported that the availability of ketamine had been 'stable' in the last six months (Figure 10.3). Four out of 10 (40%) said the availability of ketamine had become 'more difficult' in the preceding six months. One in 10 (10%) reported that availability of ketamine had 'fluctuated' over the last six months.

Figure 10.3: Change in availability of ketamine



10.6.3 Change in number of people using

Two thirds (67%) of the participants who commented on ketamine reported that about the 'same' number of people they know were using ketamine compared to six months ago. The remaining one-third (33%) said 'less' people they know were using ketamine than in the previous six months.

10.7 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.

11. GHB

11.1 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 (Community Alcohol and Drug Services (CADS), 2005, White et al., 2004).

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 (National Drug Intelligence Bureau, 2005). 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 had been attributed to the drug (Expert Advisory Committee on Drugs, 2001).

11.2 GHB use among frequent methamphetamine users

Half (46%) of the frequent methamphetamine users had tried GHB in their lifetimes and one in five (21%) had used GHB in the last six months. The median age at which the frequent methamphetamine users had first used GHB was 22 years (mean 24, range 15-38 years). Most of those who had used GHB in the previous six months said the main way they took the drug was 'swallowing it' (91%) with the remainder 'injecting it' (9%). Participants had used GHB on a median of 12 days in the previous six months (mean 22 days, range 1-100 days). Nearly half (47%) of users had used GHB six times or less in the last six months. One in five (20%) used GHB approximately weekly. The median number of millilitres of GHB taken on a typical occasion was four (mean 5.3 mls, range 1-20 mls). The median greatest of quantity of GHB taken on a single occasion was 10 millilitres (mean 9.9 mls, range 1-30 mls).

11.3 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 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).

11.4 Price

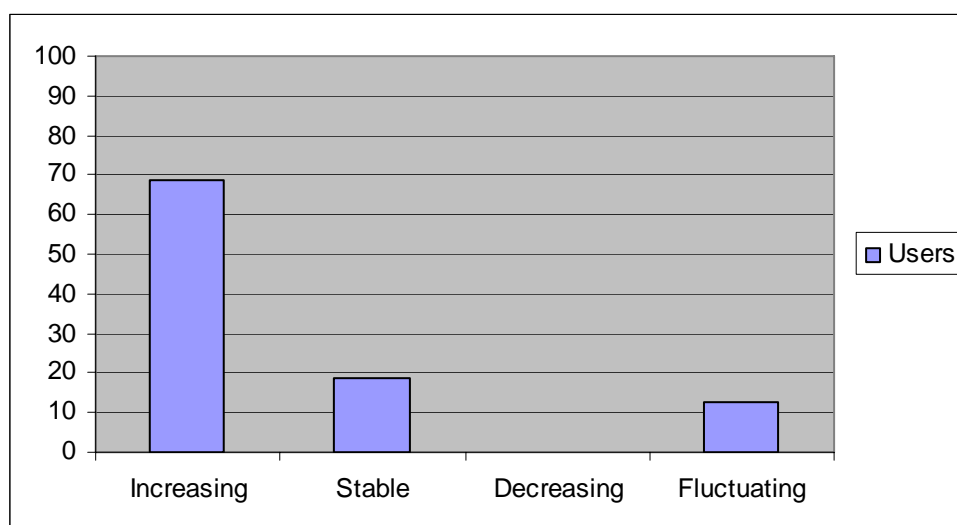
11.4.1 Current price

Only one in five (21%) of the frequent methamphetamine users were confident enough to comment on the price, purity and availability of GHB. The fairly low number of participants answering the questions in this section (i.e. n=15) indicate the results should be interpreted with some caution. The median price reported paid for a millilitre of GHB was \$5 (mean \$5, range \$1-\$8).

11.4.2 Change in price

Seven out of 10 (69%) of the participants who commented on GHB thought the price had 'increased' in the previous six months (Figure 11.1). One in five (19%) described the price as 'stable'. One in eight (13%) said the price had 'fluctuated' in the preceding six months.

Figure 11.1: Change in the price of GHB in the last six months



11.5 Purity

11.5.1 Current purity

Four out of 10 (70%) of the participants who commented on GHB described the current strength of GHB as 'high'. Approximately three out of 10 (27%) described the current strength as 'medium'. One in five (20%) thought the current strength 'fluctuates' (10%). The remaining one in eight (13%) said the current strength was 'low' (10%).

11.5.2 Change in purity

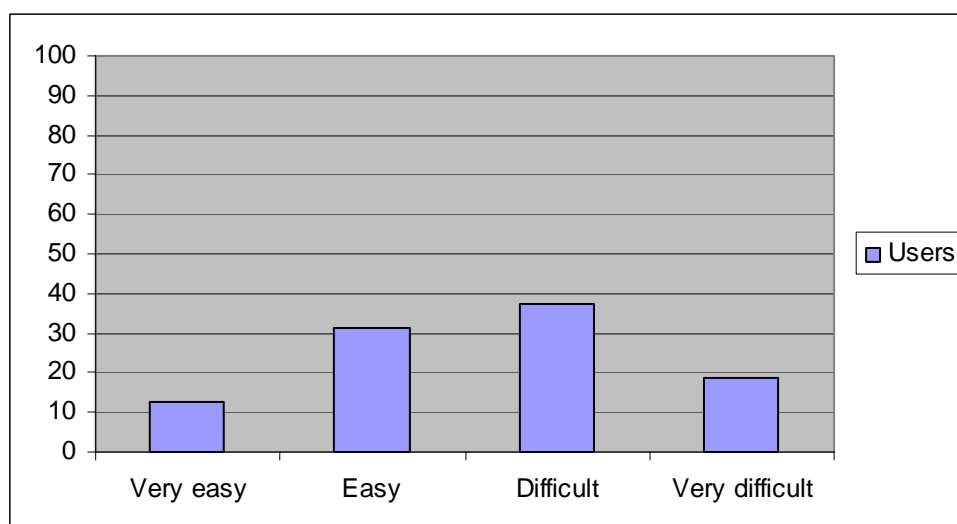
Six out of 10 (56%) of the participants who commented on GHB indicated that the strength of GHB had been 'stable' over the previous six months. One in five (19%) described the strength as 'decreasing' or 'fluctuating' over the preceding six months. Only one in 16 (6%) reported the strength of GHB had 'increased'.

11.6 Availability

11.6.1 Current availability

Four out of 10 (38%) of the participants who commented on GHB described the current availability of GHB as 'difficult' (Figure 11.2). A further one in five (19%) reported that the availability of GHB was 'very difficult'. In contrast, three out of 10 (31%) said the current availability of GHB was 'easy'.

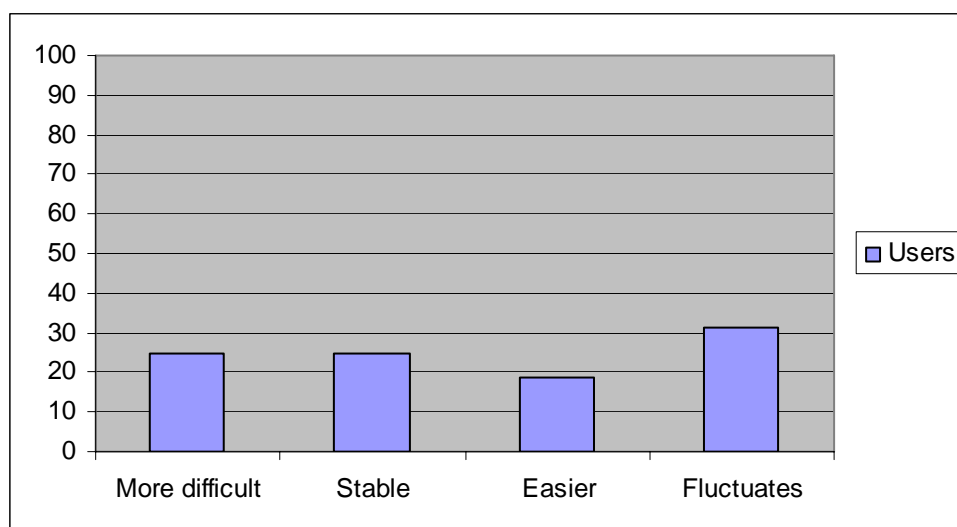
Figure 11.2: Current availability of GHB



11.6.2 Change in availability

Three out of 10 (31%) of the participants who commented on GHB reported that the availability of GHB had 'fluctuated' in the last six months (Figure 11.3). One in four (25%) said the availability of GHB had become 'more difficult' in the preceding six months. A further one in four (25%) reported that availability of GHB had been 'stable' over the last six months. One in five (19%) reported the availability of GHB had become 'easier' over the preceding six months.

Figure 11.3: Change in the availability of GHB in the last six months



11.6.3 Change in number of people using

Just over four out of 10 (43%) of the participants who commented on GHB reported that about the 'same' number of people they know in New Zealand were using GHB compared to six months ago. The same proportion (43%) said 'less' people they know were using GHB than in the previous six months. Only one in seven (14%) said that 'more' of the people they know were using GHB compared to six months ago.

11.7 Law enforcement

Drug enforcement agencies advise 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.

12. Opiates

12.1 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, including ‘homebake heroin’, by various means (New Zealand Customs Service, 2002). In contrast to New Zealand, 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 means of administration are often popular with new users and are gaining in general popularity.

12.2 Opiate use among frequent methamphetamine users

Half (53%) of the frequent methamphetamine users had tried opiates in their lifetimes and one in five (22%) had used opiates in the last six months. Most of those who had used opiates in the previous six months said the main way they took the drug was ‘injecting it’ (71%) with the remainder ‘smoking it’ (14%) or ‘swallowing it’ (14%). Participants had used opiates on a median of 35 days in the previous six months (mean 63 days, range 1-182 days). Nearly half of users (47%) had used opiates six times or less in the previous six months. A third (35%) used opiates more than three times a week.

12.3 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).

12.4 Knowledge of opiate trends

Approximately a quarter (23%) of the frequent methamphetamine users were confident enough to comment on the price, purity and availability of opiates. The fairly low number of participants answering the questions in this section (i.e. n=15-18) indicates the results should be interpreted with some caution.

Interpreting the responses is made more difficult by the range of opiate type drugs available for illicit use and sale in New Zealand including imported heroin, locally manufactured 'homebake' heroin, and opiates diverted from the medical system, such as morphine. With this difficulty in mind, we first asked participants the type of opiates they could confidently comment on. Eight out of 10 (83%) of the participants who commented on opiates said they would be referring to morphine or misties, four out of ten (39%) said homebake heroin, one in five (22%) said poppies, and one in nine (11%) said heroin.

12.5 Price

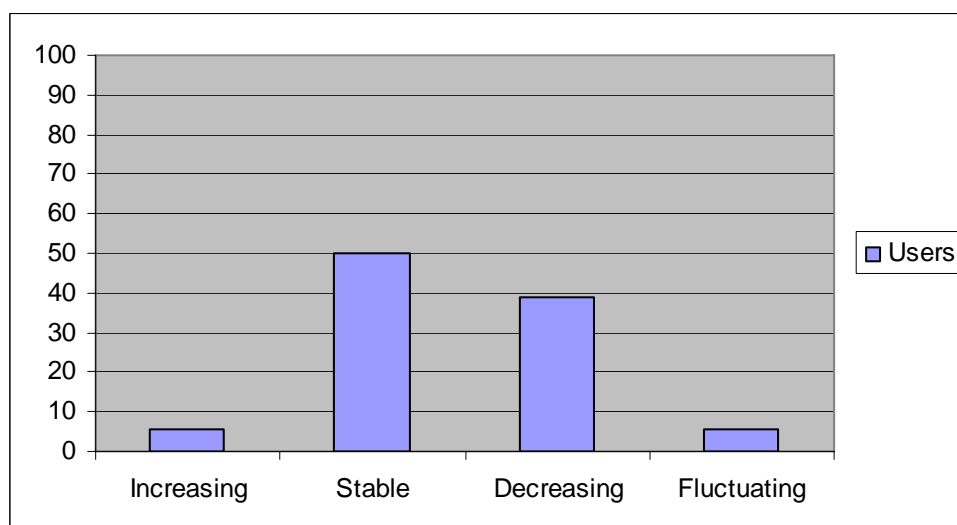
12.5.1 Current price

The median price reported paid for one hundred milligrams of opiates was \$100 (mean \$83, range \$30-\$133).

12.5.2 Change in price

Half (50%) of the participants who commented on opiates thought the price had been 'stable' in the previous six months (Figure 12.1). One in four (39%) thought the price had 'decreased' in the preceding six months.

Figure 12.1: Change in price of opiates in the last six months



12.6 Purity

12.6.1 Current purity

Half (53%) of the participants who commented on opiates described the current strength of opiates as ‘high’. Four out of ten (40%) described the current strength as ‘medium’. The remaining one in 14 (7%) said the current strength was ‘fluctuating’.

12.6.2 Change in purity

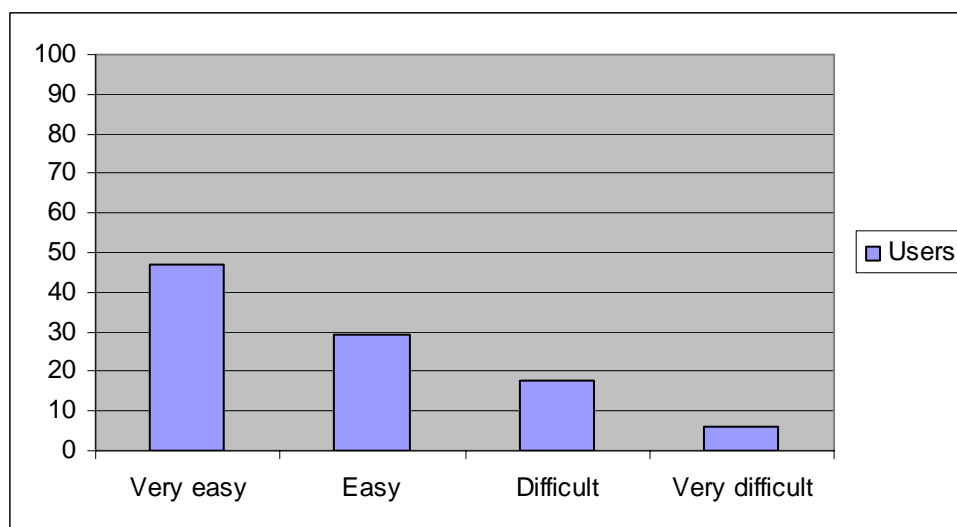
Nine out of 10 (88%) of the participants who commented on opiates indicated that the strength of opiates had been ‘stable’ over the previous six months. One in 17 (6%) described the strength of opiates as ‘decreasing’, and the same proportion (6%) reported the strength had ‘increased’ in the preceding six months.

12.7 Availability

12.7.1 Current availability

Half (47%) of the participants who commented on opiates described the current availability of opiates as ‘very easy’ (Figure 12.2). A further three out of 10 (29%) reported that the availability of opiates was ‘easy’. One in six (18%) said the current availability of opiates was ‘difficult’.

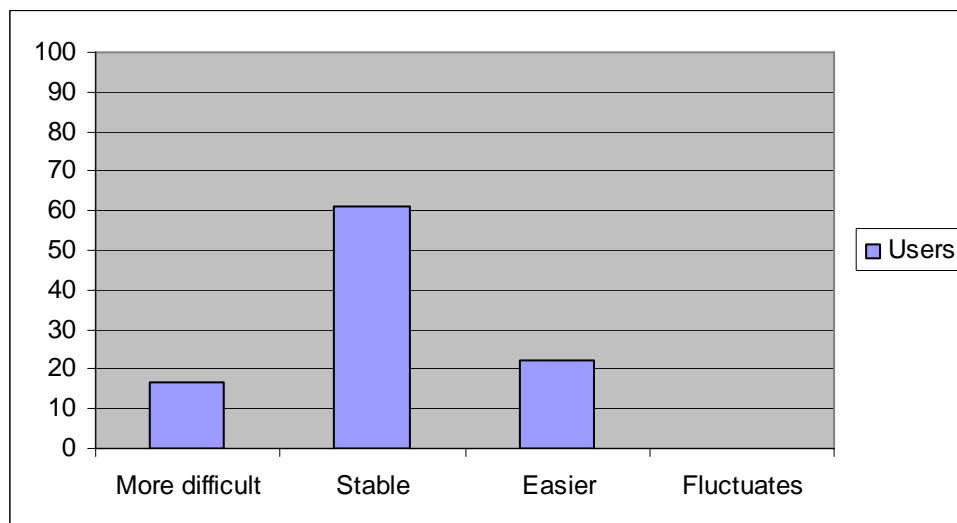
Figure 12.2: Current availability of opiates



12.7.2 Change in availability

Six out of 10 (61%) of the participants who commented on opiates reported that the availability of opiates had been ‘stable’ over the last six months (Figure 12.3). One in five (22%) said the availability of opiates had become ‘easier’ in the preceding six months. One in six (17%) reported that the availability of opiates had become ‘more difficult’ over the last six months.

Figure 12.3: Change in the availability of opiates



12.7.3 Change in number of people using

Half (50%) of the participants who commented on opiates said that ‘less’ people they know were using opiates compared to six months ago. One in three (33%) said about the ‘same’ number of people they know were using opiates than in the previous six months. Only one in five (17%) said that ‘more’ of the people they know were using opiates compared to six months ago.

12.8 The black market for opiates

12.8.1 Procurement of opiates

Two thirds (66%) of the participants who commented on opiates had purchased opiates in the last six months (n=12). One in six (17%) had received all their opiates for ‘free’ in the last six months and the same proportion (17%) had not used opiates in the previous six months.

12.8.2 Frequency of purchase

One in four (25%) of the opiate buyers had purchased opiates ‘once a day’ in the preceding six months. One third (33%) had purchased ‘2-5 times a week’ over the last six months. One in six (17%) had purchased ‘weekly’. The remaining quarter purchased ‘once a month’ (17%) or ‘once or twice’ only (8%) in the previous six months.

12.8.3 Different types of sellers

Three quarters (75%) of the opiate buyers purchased opiates from ‘drug dealers’ in the last six months (Table 12.1). Half (50%) had purchased from ‘friends’ and one in six (17%) had purchased from a ‘partner’. One-third (33%) had purchased from

‘acquaintances’. One in 13 (8%) had purchased opiates from a ‘gang member or associate’.

Table 12.1: People bought opiates from in the last six months

People	Users (%) (n = 12)
Drug dealers	75
Friends	50
Acquaintances	33
Partner	17
Gang member/associate	8

12.8.4 Method used to contact seller

Four out of 10 (45%) of the opiate buyers usually contacted their opiate seller by ‘calling/texting them on a mobile telephone’. Three out of 10 (27%) usually ‘visited a house or flat’.

12.8.5 Venues of purchase

House were common places to purchase opiates. Six out of 10 (64%) of the opiate buyers purchased opiates from a ‘dealer’s house’, one in four (36%) from a ‘friend’s house’, one in ten (10%) from an ‘acquaintance’s house’ (Table 12.2). One in five (18%) opiate buyers purchased opiates from an ‘agreed upon public location’.

Table 12.2: Venues opiates purchased from in the last six months

Venues	Users (%) (n = 11)
Dealer's home	64
Friend's home	36
Agreed public location	18
Acquaintance's house	9

12.8.6 Time taken to purchase

Three out of 10 (33%) of opiate buyers said they could purchase opiates in ‘less than 20 minutes’ (Table 12.3). One in four (25%) reported they could purchase opiates in ‘one hour’ and one in 12 (8%) could purchase in ‘hours’. A quarter (25%) thought it would take about ‘one day’.

Table 12.3: Time taken to purchase opiates

Time	Users (%) (n = 12)
Days	8
About 1 day	25
Hours	8
1 hour	25
Less than 20 minutes	33

12.8.7 Number of sellers

The opiate buyers were asked how many different sellers they had purchased opiates from in the last six months. The median number of sellers purchased from was four (mean 4, range 2-10).

12.8.8 Other drug types purchased from ecstasy seller

Half (50%) of the opiate buyers had purchased other drug types from their opiate seller in the previous six months. The other drug types most commonly purchased were benzodiazepines (33%), Ritalin (33%), cannabis (33%), amphetamines (17%), methamphetamine (17%), LSD (18%) and ecstasy (17%). No other drug types were mentioned.

12.9 Law enforcement

There has been considerable variation in quantity of heroin seized by New Zealand authorities over the last five years. Seizures varied from only 1 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 advise 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.

13. Drug related harm

13.1 Life impacts

13.1.1 Relationship/social problems

Six out of 10 (63%) 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). Four out of 10 (36%) of those who experienced relationship problems from their drug use said the most serious problem was 'arguments'. One in five (19%) said the most serious relationship problem was 'mistrust/anxiety'. A further one in five (21%) said the most serious relationship problem was 'ending a relationship'. One in 42 (2%) had experienced 'violence' and one in 10 (10%) had been 'kicked out of home'. The drug types most commonly cited as responsible for these relationship problems were methamphetamine (67%), opiates (13%), amphetamine (7%) and cannabis (4%).

13.1.2 Financial problems

Six out of 10 (57%) of participants indicated that their drug use had caused them some 'financial problems' in the preceding six months. One in five (19%) of those who experienced financial problems from their drug use said the most serious problem was 'no money for recreation or luxuries'. One in four (38%) said the most serious financial problem was 'in debt or owing money'. Three out of 10 (31%) said the most serious financial problem was 'no money for food or rent'. The drug types most commonly mentioned as responsible for these financial problems were methamphetamine (56%), opiates (15%), cannabis (10%), ecstasy (7%), and amphetamine (5%).

13.1.3 Legal/police problems

One in five (22%) participants indicated that their drug use had caused them some 'legal or police problems' in the preceding six months. One in five (19%) of those who experienced legal/police problems said the most serious problem was being 'arrested'. A further one in five (19%) said the most serious legal/police problem was 'feeling like being followed or put under surveillance by the police'. Three out of 10 (31%) said the most serious legal/police problem was being 'convicted of a crime'. One in four (25%) indicated the most serious legal/police problem was being 'imprisoned'. The drug types most commonly reported as responsible for these legal/police problems were methamphetamine (69%) and cannabis (13%).

13.1.4 Work/study problems

Four out of 10 (43%) of participants indicated that their drug use had caused them some 'work or study problems' in the preceding six months. One in eight (13%) of those who experienced work/study problems from their drug use said the most serious problem was 'reduced work performance'. One in five (20%) said the most serious work/study problem was being 'unmotivated'. Four out of 10 (37%) said the most

serious work/study problem was 'taking sick leave or not attending classes'. One in eight (13%) 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 methamphetamine (48%), opiates (23%), ecstasy (10%), cannabis (6%) and alcohol (6%).

13.2 Drug use and driving

13.2.1 Alcohol and driving

Over one-third (36%) of the frequent methamphetamine users had driven under the influence of alcohol in the last six months. Three out of 10 (28%) had completed 'some', one in 29 (3%) had completed 'most' and one in 14 (7%) had carried out 'all' of their driving under the influence of alcohol in the preceding six months. Six out of 10 (59%) had completed 'hardly any' driving under the influence of alcohol in the last six months.

13.2.2 Other drug use and driving

Over three-quarters of the frequent methamphetamine users (78%) had driven under the influence of drugs other than alcohol in the previous six months. Four out of 10 (37%) participants had completed 'some', one in five (22%) completed 'most', and one in 12 (8%) 'all' of their driving under the influence of drugs. A third (33%) had completed 'hardly any' driving under the influence of drugs in the preceding six months. The drugs which participants were most commonly under the influence of when driving were cannabis (68%), methamphetamine (60%), amphetamines (32%), crystal methamphetamine (30%), legal dance party pills (28%), ecstasy (22%) and GHB (13%).

13.3 Accessing health services

13.3.1 Medical services

Some participants had accessed medical services in relations to their drug use in the last six months. One in 36 (3%) participants had accessed 'First Aid', one in six (18%) had accessed a 'general practitioner', one in seven (14%) had accessed 'accident and emergency', one in 10 (10%) had accessed an 'ambulance', and one in 12 (8%) had been 'admitted to hospital'. The main drug types involved in being admitted to hospital were methamphetamine (50%) and alcohol (33%). The main drug types involved in accessing an ambulance were opiates (67%), methamphetamine (17%) and alcohol (17%). The main drugs involved in visiting an accident and emergency service were methamphetamine (50%), alcohol and opiates (20%).

13.3.2 General health and drug treatment services

A number of participants had accessed health and drug treatment services in relation to their drug use in the previous six months. One in five (18%) participants had

accessed a ‘counsellor’, one in five (18%) had accessed a ‘drug and alcohol worker’, one in 10 (10%) a ‘social worker’ and one in five (18%) a ‘psychologist’ or ‘psychiatrist’. The drug types most commonly involved in accessing ‘drug and alcohol workers’ were opiates (38%), methamphetamine (38%), alcohol (13%) and cannabis (13%).

14. Criminal behaviour and perceptions of drug policing

14.1 Property crime

One in 11 (9%) of the participants reported that they had committed a property crime in the previous month.

Both law enforcement (3) and non-law enforcement KE (2) had noticed increased property crime by methamphetamine users to pay for drugs. Burglaries and car crime were mentioned as the type of offences commonly committed. Some law enforcement (1) and non-law enforcement (5) KE indicated there had been no change in the level of property crime committed by methamphetamine users.

14.2 Drug dealing

14.2.1 Frequency of drug dealing

Four out of 10 (45%) of the participants said they had sold drugs in the previous month. One-third (36%) of those who had sold drugs had done so 'less than once a week'. Three out of 10 (27%) had sold drugs 'once a week'. A quarter of participants had sold drugs 'more than once a week' with one in 20 (5%) selling 'daily' in the last month.

Both law enforcement (2) and non-law enforcement KE (5) had noticed increased drug dealing by methamphetamine users. It was noted dealing was mostly carried out by heavy users to support their own use. Law enforcement KE (3) and one non-law enforcement KE (1) indicated greater involvement by Asians in drug trafficking. Several KE reported younger people involved in selling and trafficking drugs. One law enforcement KE reported more cannabis and methamphetamine 'tinny' houses. Some law enforcement (2) and non-law enforcement KE (5) felt there had been no change in the level of drug dealing by methamphetamine users.

14.2.2 Number of buyers

Those participants who had sold drugs in the preceding month had sold to a median of 5 people (mean 9, range 1-50)

14.2.3 Types of drugs sold

Six out of 10 (58%) of those who sold drugs in the last month had sold cannabis. Three out of 10 (30%) had sold methamphetamine, and just under three out of 10 (27%) had sold ecstasy, in the preceding month. One in eight (12%) had sold crystal methamphetamine in the previous month. Other drugs which had less commonly sold by respondents in the last month were GHB (6%), Ritalin (6%), amphetamines (6%) and opiates (6%).

14.2.4 Relationship to buyers

Six out of 10 (58%) of the participants who sold drugs in the previous month had sold 'none' to casual acquaintances (ie. only meet them once or twice). A further one seven (15%) sold 'hardly any' to casual acquaintances. However one in eight (12%) had sold 'all' their drugs to casual acquaintances in the previous month.

In a separate question, half (50%) of those who sold drugs in the previous month had sold 'all' their drugs to 'close friends or family members'. A further one in four (25%) sold 'most' of their drugs to 'close friends and family members in the preceding month. Only one in 16 (6%) had sold no drugs to 'close friends and family members' in the previous month.

14.3 Fraud

One in 13 (8%) of the participants reported that they had committed fraud in the previous month.

Law enforcement KE (2) mentioned increased fraud by methamphetamine users. Women were noted to be more commonly involved in fraud as a means to obtain money for drugs. Several non-law enforcement KE reported that female methamphetamine users were using prostitution support their drug use. Some non-law enforcement KE thought there had been no change in the level of fraud committed by methamphetamine users.

14.4 Violent crime

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

A high number of both law enforcement (4) and non-law enforcement (6) KE reported that there had been more violence related to methamphetamine in the last six months. Law enforcement KE noted the involvement of Asians in this drug related violence. Non-law enforcement KE indicated that methamphetamine users were both perpetrators and victims of drug related violence. This often occurred within personal relationships and families. Two non-law enforcement KE felt there had been no change in the level of violence by methamphetamine users in the last six months.

14.5 Arrest experience

Three out of 10 (31%) of the participants 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 two (mean 3, range 1-8). One in five (22%) were arrested for the 'use/possession of a drug', one in six (17%) were arrested for 'dealing/trafficking in a drug' and one in eight (13%) were arrested for 'manufacturing a drug'. One in five (22%) were arrested for a 'violent crime', one in five (22%) were arrested for a 'property crime', one in eight (13%) were arrested for 'fraud' and one in 11 (9%) were arrested for 'disorderly conduct'. One in eight (13%) were arrested for 'alcohol

and driving', one in 23 (4%) were arrested for 'other drugs and driving' and one in 11 (9%) were arrested for 'other driving' offences.

14.6 Conviction and prison experience

Over four out of 10 (46%) participants had been convicted of a criminal offence and approximately one in four (23%) had served time in prison.

One in 12 (8%) of the participants had spent time in prison in the last 12 months. One in five (22%) of those arrested in the last year had been arrested for the 'use/possession of drugs', a similar number (22%) had been arrested for 'dealing/trafficking' drugs and one in eight (13%) had been arrested for drug manufacture. One in five (22%) had been arrested for a violent crime. One in six (17%) had been arrested for a 'property crime'. One in eight (13%) had been arrested for 'drunk driving'. A similar number (13%) had been arrested for fraud.

14.7 Perceptions of changes in police activity

Four out of ten (44%) participants had noticed 'more' police activity against drug users in the last six months. One in four (26%) had noticed the 'same' level of activity in the last six months. Only one participant thought there had been 'less' police activity against drug users in the last six months. Three out of 10 (29%) participants had not noticed any police activity against drug users in the previous six months.

A large number of both law enforcement (4) and non-law enforcement (6) KE indicated a greater police focus on methamphetamine offending in the previous six months. Both groups explained that enforcement activity had become more 'sophisticated' and mentioned increased 'undercover' and 'surveillance' activity. One non-law enforcement KE said this increased 'peoples' confidence in passing on information on methamphetatmine' to the authorities.

14.8 Perceptions of the impact of police

Approximately one in five participants (18%) reported that police activity had made it 'more difficult' to get drugs in the last six months.

14.9 Number of friends arrested

Four out of 10 (44%) participants had 'no friends arrested' in the previous six months. Three out of 10 (29%) participants had 'more' friends arrested in the last six months. One in five (22%) had about the 'same' number of friends arrested. Only one in 24 (4%) had 'less' friends arrested in the preceding six months.

15. Risk of drug use and drug purchase

15.1 Perceptions of the health risk of different drugs

Three quarters of the participants considered the ‘regular’ use of methamphetamine to be a ‘great’ (25%) or ‘extreme’ (50%) health risk (Table 15.1). The ‘regular’ use of crystal methamphetamine was judged to pose a similar level of health risk. Approximately two-thirds of participants considered the ‘regular’ use of GHB (67%), opiates (66%) and ketamine (63%) to be a ‘great’ or ‘extreme’ health risk. In contrast, only one in 10 (13%) participants considered the ‘regular use’ of cannabis to be a ‘great’ or ‘extreme’ health risk.

Table 15.1: 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	80	15	4	1	0
Regularly	21	28	37	8	5
LSD					
Once or twice	43	27	19	9	3
Regularly	9	3	33	27	29
Ecstasy					
Once or twice	46	36	10	6	1
Regularly	11	7	31	34	16
Methamphetamine					
Once or twice	35	35	20	5	5
Regularly	9	3	13	25	50
Ice or crystal meth					
Once or twice	35	36	15	8	6
Regularly	7	6	14	25	49
Amphetamine					
Once or twice	42	32	16	7	3
Regularly	7	10	25	30	28
Ketamine					
Once or twice	31	24	18	16	12
Regularly	11	8	19	25	38
GHB					
Once or twice	31	17	19	17	15
Regularly	6	10	17	25	42
Opiates					
Once or twice	38	18	21	11	11
Regularly	10	3	21	28	38
Legal dance party pills					
Once or twice	66	18	12	0	3
Regularly	24	19	25	21	11

15.2 Perceptions of the risk of buying different drugs

Four of 10 participants considered buying crystal methamphetamine to be a ‘great’ (17%) or ‘extreme’ (26%) risk (Table 15.2). A similar appraisal is made of the risk of purchasing methamphetamine. Buying opiates was also considered to be high risk by many participants. Cannabis was considered the least risky illicit drug to purchase with only one in 12 (8%) believing that purchasing it was a ‘great’ or ‘extreme’ risk. Four out of 10 (42%) thought there was ‘no risk’ involved in purchasing cannabis.

Table 15.2: 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	42	42	7	4	4
LSD	18	33	26	14	9
Ecstasy	21	29	24	15	11
Methamphetamine	12	23	26	18	22
Ice or crystal meth	14	21	21	17	26
Amphetamine	24	24	24	15	14
Ketamine	23	23	27	8	19
GHB	28	19	30	6	17
Opiates	15	27	25	10	23
Legal dance party pills	90	4	3	0	3

16. Emerging trends

16.1 New trends in drug use

16.1.1 New drug types

One participant reported ‘poor quality ecstasy’ as a new drug which they had noticed in the previous six months. Several participants mentioned the rise in the level of use of legal dance party pills by young people, and the recent introduction of more potent varieties of these pills which they referred to as ‘more nasty party pills’. Two participants reported ‘Tryptomine’. This most likely refers 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. Three participants reported ‘Ritalin’ as a new drug they had noticed being used in the last six months. Three law enforcement KE reported more use and seizures of crystal methamphetamine. One law enforcement KE indicated a return to LSD by drug users.

16.1.2 Different types of users

Three participants and one KE reported an increase in numbers of younger methamphetamine users. Three participants indicated more people were ‘experimenting’ with methamphetamine. One participant commented that more violent people were now using methamphetamine. A participant reported young people getting ‘IV kits for speed’, that is the utensils required to intravenous inject drugs. Another participant reported that ‘more people were getting addicted’. One participant said more people were manufacturing their own methamphetamine due to the financial expense of use. Several participants mentioned more ‘academic’, ‘upper class’ and ‘family people’ were now using methamphetamine. A number of KE (4) indicated gangs were still heavily involved in drug manufacture and selling.

16.1.3 Increase in drug use

Six participants reported more people using ‘legal dance party pills’. Nine participants said more people were using ‘P’ (methamphetamine). One participant indicated more use of ‘GBH (rinse)’. Another participant noted more users and friends were ‘addicted’ and were becoming ‘junkies’. One participant observed there was more cannabis use. One KE observed there was more use of ‘ice’ (crystal metamphetmine). Four KE indicated there was greater availability and use of cocaine.

16.1.4 Different ways of administering drugs

Two participants said more people were ‘shafting’ or ‘shelving’ their drugs (ie. administering by placing the drug in their anal cavity). Two participants reported more ‘injecting’ methamphetamine.

16.2 New trends in drug selling

16.2.1 New drugs sold

One participant reported there was now 'more variety' in the type of drugs been sold. Several participants mentioned the increased use of 'party pills' and 'nos' (ie. nitrous oxide). Another participant said people were making herbal pills and selling them as 'ecstasy'. One participant reported that Ritalin was been sold for '\$5 a pill'.

16.2.2 New selling places

One participant reported it was now easier to 'score off the streets'. Two participants mentioned more 'tinny' houses.

16.2.3 Starter packs

Three participants reported the selling of 'starter packs' involving methamphetamine, ketamine and ecstasy. Another said that there were now 'cocktail variations' of drugs available for sale. One participant mentioned 'GHB, Nitrous Oxide and ecstasy' as combinations of drugs now sold.

16.2.4 New types of people selling

One participant observed there were lots more 'middlemen' selling drugs now. Two participants and two KE said there was a rise in the number of higher socio-economic people ('suits') selling methamphetamine. Another participant observed that more students were selling drugs now. One participant said 'more young girls were being used to sell drugs and be drug couriers' Law enforcement KE (2) indicated there were more users turning to drug selling. Three non-law enforcement KE also mentioned more users turning to selling drugs themselves. Two law enforcement KE believed there was more cooperation and coordination among gangs involved in manufacturing methamphetamine. A number of KE (5) noted that more precursors were now being imported into the country rather than been obtained locally from pharmacies, due to the stricter checks at pharmacies. Also some KE (3) noted more methamphetamine is being manufactured overseas and smuggled into the country. Two law enforcement KE reported that Asian students were involved in trafficking drugs and precursors across the border. One law enforcement KE said there was greater direct involvement by organised crime in the drugs market.

16.2.5 Changes in prices/quantities sold

Four participants said there was 'greater competition so lower prices'. Several (3) participants reported that methamphetamine was 'getting cheaper'. A further three participants reported they were getting 'more for their money/ larger quantities'. One participant reported you could get \$50 bags rather than \$100 bags of methamphetamine now. One participant said you could buy points for '\$80' now. Another participant mentioned they were getting 'less for their money'.

16.3 New types of amphetamine

The new amphetamines noticed in the last six months by the participants were ‘ice’ or ‘Chinese ice’, PMA [ie. paramethoxyamphetamine], Ritalin, and ‘Yabba’. Several participants mentioned the new legal dance party pills, such as ‘Hummer’.

17. Secondary data sources on drug use

17.1 Drug Helpline

17.1.1 Broad category of drug

Six out of 10 (59.5%) of all valid calls to the Drug Helpline were concerned with alcohol (Table 17.1). 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 nine (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 (Table 17.1).

Table 17.1: 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
1 st 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
2 nd 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
3 rd 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
4 th 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)

17.1.2 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 17.2). 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 appeared to be a steady increase in calls for all the drug types. Large increases in calls for cocaine and benzodiazepines were recorded.

Table 17.2: Telephone calls to the Drug Helpline 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)

17.2 Hospital admissions

17.2.1 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 by specific drug types. Patients are only recorded for the primary drug type involved in their hospitalisation.

17.2.2 Drug related poisonings

There were 198 publicly funded hospital admissions for drug related poisonings recorded in 2004. Just over half (53%) of the 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.

17.2.3 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 publicly funded hospital admissions involved cannabis. A third (36%) of admissions involved opioids and one in five (22%) involved stimulants (including amphetamine/methamphetamine). The remaining eight (2%) admissions involved hallucinogens (including ecstasy, GHB, LSD and magic mushrooms).

17.3 Drug Treatment Services

17.3.1 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 17.3). 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.

Table 17.3: 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)

17.3.2 Odyssey House

Drug problems presented

Statistics from Odyssey House show a steady rise in clients presenting for amphetamine related problems (Table 17.4 and 17.5). The amphetamine group as a whole is now the third largest among clients (after cannabis and alcohol).

Table 17.4: Amphetamine group use as reported by Odyssey clients, 2002-2005

RANKING	2002	2003	2004	2005
FIRST CHOICE	10%	13%	15%	17%
SECOND CHOICE		14%	12%	14%
THIRD CHOICE		9%	12%	12%

Source: Odyssey House (2005)

Methamphetamine has been separated out of the wider amphetamine category in Odyssey statistics since May 2004. When separated out, methamphetamine is the fourth largest drug (after cannabis, alcohol and tobacco), and amphetamines is the fifth largest.

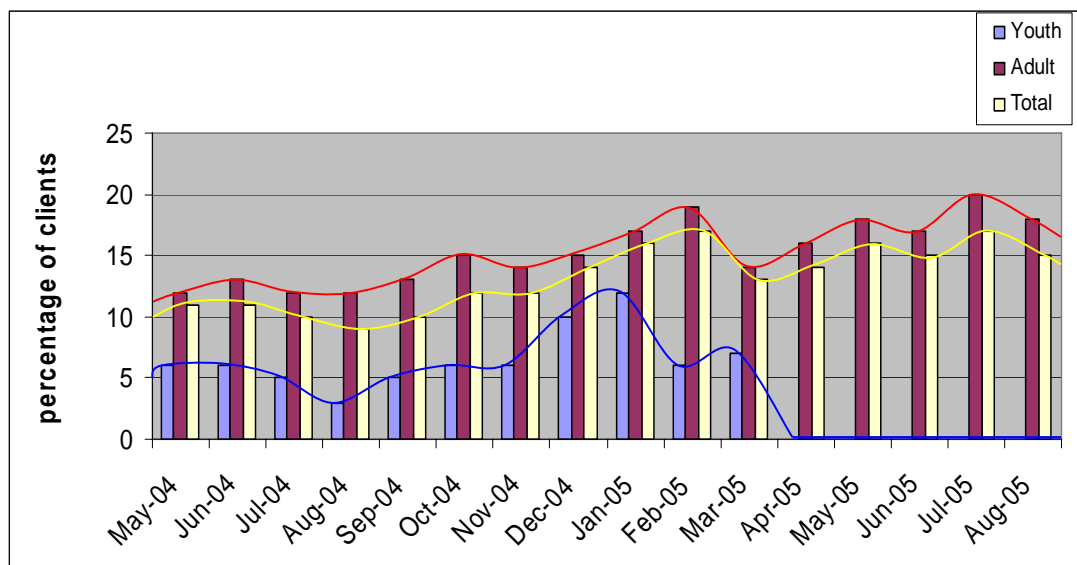
Table 17.5: Methamphetamine use as reported by Odyssey clients, 2004 & 2005

RANKING	2004	2005
FIRST CHOICE	8%	14%
SECOND CHOICE	4%	8%
THIRD CHOICE	5%	8%

Source: Odyssey House (2005)

The steady rise in presentations for methamphetamine at Odyssey is presented in further detail in Figure 17.6 which shows presentations for methamphetamine by month for May 2004 to July 2005 broken down by youth, adult and total populations. The decline in youth presentations for methamphetamine in mid 2005 is, according to the Odyssey statistician, partly explained by a decline in the total number of youth clients at Odyssey, and partly due to a shortage in methamphetamine, at this time.

Figure 17.6: Proportion of Odyssey clients nominating methamphetamine as their primary drug problem, May-June 2005



Source: Odyssey House (2005)

17.3.3 Community Alcohol and Drug Services (CADS)

Introduction

CADS provides alcohol and other drug services to the people of the Auckland region. CADS 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. A single client can return a positive screen for more than one drug type.

In the first six months of 2005, CADS treatment workers completed 1,290 drug screens of new clients. Six out of ten (64%) screens were positive for alcohol, three out of ten (30%) were positive for cannabis, one in six (17%) were positive for amphetamines, and one in 17 (6%) were positive for opiates (Table 17.7).

Table 17.7: 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)

18. Conclusions

This report confirms the central role that methamphetamine now plays in the New Zealand illicit drug scene. Frequent methamphetamine users are poly drug users with experience in the use of a range of illicit substances and knowledge of the illicit markets in which they are traded. As a consequence, they are an appropriate population of drug users to monitor in order to track trends in illicit drug use in New Zealand, with the aim of informing a timely policy and strategic response.

The findings described in this report indicate a dynamic drug environment with new illicit and licit drug types emerging on the market and ongoing innovative marketing techniques being employed to attract consumers. Methamphetamine is well established in the drug market place with high levels of availability. Over half of the participants described the availability of methamphetamine as ‘very easy’ and a quarter said the price had ‘decreased’ in the previous six months. Indeed, it may be the case that there is now a glut in the methamphetamine market with a number of participants mentioning greater competition and falling prices, and new innovative marketing techniques being employed to attract new users.

The frequent methamphetamine users interviewed were aware of the health risks of regular methamphetamine use, which may indicate a declining image for the drug among users. Users reported a range of physical and psychological problems which they attributed to their methamphetamine use. It remains to be seen to what extent this awareness of the health risks of methamphetamine use translates into reduced demand. The reports of increased drug selling by heavy methamphetamine users may indicate that a new stage in the epidemics life cycle has been reached, as some existing users seek to sustain heavier use via drug dealing. The inevitable decline of these heavy methamphetamine users into addiction may provide further negative role models to those seeking to begin use, and in the longer term add momentum to overall declining use. In the shorter time frame, we may experience a stabilisation of the number of people using methamphetamine but with larger associated social costs as a larger proportion of existing users become problematic addicted users.

The recent rise in imported crystal methamphetamine may merely represent a change in supply strategy as domestic methamphetamine manufacture becomes relatively less attractive due to new commercial and legislative controls and increasing enforcement focus. The reports from methamphetamine users concerning police activity and arrests indicate ongoing police success in disrupting the local methamphetamine market. The continued rise in the number of clandestine methamphetamine laboratories detected by the police, in the context of a levelling out of the population use of amphetamine, suggests increasing enforcement effectiveness. These efficiency gains in enforcement activity are likely to be the result of ‘learning by doing’, as police gain experience of amphetamine manufacture and the local amphetamine market. The frequent methamphetamine users were found to have fairly high contact with the criminal justice system and this underlines the rationale for offering drug treatment services to arrestees in these institutional contexts.

The high level of intravenous drug use among the frequent methamphetamine users is of great concern and indicates a crossover of traditional opiate users into

methamphetamine use and methamphetamine using populations. It is imperative to prevent this crossover resulting in an expansion of the general intravenous drug using population. Heavy users of methamphetamine may switch to intravenous administration of methamphetamine to overcome their growing tolerance to the drug. Intravenous methamphetamine users are likely to pose a greater public health risk than intravenous opiate users, due to the greater stimulating effects of methamphetamine and methamphetamine users' lower contact with drug services and hence information on safe injecting practices. It was noted that frequent methamphetamine users were injecting a range of drugs apart from methamphetamine and the local opiates, such as ecstasy and GHB.

Ecstasy is the drug which may be most on 'the move', based on the study's findings. The frequent methamphetamine users reported declining prices and high availability. Ecstasy was perceived by the participants to be less of a health risk and less risky to purchase than either methamphetamine or crystal methamphetamine. This indicates strong ongoing consumer demand. Ecstasy doesn't appear to have the same bad public reputation as methamphetamine or opiates. The possibility of the establishment of domestic manufacture of ecstasy would provide further impetus to its spread in New Zealand. Greater dissemination of the problems experienced by frequent ecstasy users within the 'at risk' social population may raise awareness of the health risks of this drug, with positive impacts on reducing demand. The Hallucinogen Module of the IDMS could be a source of information for such an educational resource. There is also emerging research suggesting long term cognitive and behavioural harms from ecstasy use.

The cocaine market appears stable with high prices and low availability. There was little evidence collected by this study that this is changing. Ketamine also appears fairly stable. The frequent methamphetamine users reported experiencing increasing prices and declining availability. However, participants did understand that there was a low legal risk of purchasing ketamine which may make it an attractive alternative to methamphetamine and ecstasy. Similarly, GHB is reported to be increasing in price although some participants considered availability to be increasing. GHB was perceived by the participants to be a fairly high health risk. This may reflect awareness of the high risk of fatal overdose from GHB use. It would be interesting to know to what extent occasional drug users are aware of these risks. GHB was considered a relatively low risk to buy and this may make it more attractive to new drug users.

Cannabis remains a staple illicit drug in New Zealand and participants considered it widely available. There appeared to be an extensive black market for cannabis, with the drug commonly sold from public selling points such as 'tinny' houses. Cannabis was perceived by the participants to have a low health risk and to be not very risky to purchase suggesting ongoing high demand. Prices and the availability of cannabis were reported to be generally stable.

The information provided by the frequent methamphetamine users in this report suggest LSD has been in decline in recent years. This is supported by national household drug survey findings for LSD and recent seizure statistics for LSD. Demand for LSD may have suffered from the recent emergence of ecstasy and methamphetamine. Over half of the participants said that 'less' of the people they

know were using LSD compared to six months ago. The decline in demand for LSD appears to have in turn impacted the attractiveness of LSD supply. The frequent methamphetamine users who recently purchased LSD reported that LSD was relatively difficult to obtain and it would often take them a relatively long time to purchase it. The market for LSD remains however, and it may be re-energised if there is a shift in preference away from the present popularity of synthetic amphetamines. LSD is relatively cheap compared to methamphetamine and ecstasy and is not considered addictive. However, many users perceived LSD as a relatively serious health risk which may impede its popular rehabilitation.

The use of legal dance party pills and nitrous oxide by the frequent methamphetamine users was surprisingly high. The relationship between these new restricted legal substances and illegal drugs deserves research attention. The high levels of use of these legal substances by the frequent methamphetamine users 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.
- Odyssey House (2005) *Monthly Report - Summary Statistics*. July. Auckland:
- 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. (2003) *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.