

New Zealand Arrestee Drug Use Monitoring (NZ-ADUM)

2016 Report

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Table of Contents

Acknowledgements.....	2
List of Figures.....	8
List of Tables.....	11
Executive Summary.....	14
Chapter 1 - Methodology.....	19
Introduction.....	19
Intended use.....	19
Background.....	19
Aims.....	20
Method.....	20
Analysis.....	25
Chapter 2 - Demographics.....	26
Introduction.....	26
Gender.....	26
Age.....	27
Ethnicity.....	29
Iwi affiliation.....	30
Education.....	31
Employment status.....	31
Marital status.....	33
Number of dependent children.....	33
Accommodation.....	34
Mental illness.....	34
Psychiatric inpatient.....	35
Current treatment or medication for mental illness.....	35
Summary.....	36
Chapter 3 – Alcohol.....	37
Introduction.....	37
Use of alcohol.....	37
Frequency of alcohol use.....	40
Quantity of alcohol consumed.....	41
Dependency on alcohol.....	43
Alcohol use at time of arrest.....	43
Current availability of alcohol.....	46

Change in availability of alcohol	49
Change in the price of alcohol	52
Time taken to purchase alcohol.....	55
Driving under the influence of alcohol.....	59
Summary	62
Chapter 4 - Methamphetamine.....	64
Introduction	64
Patterns of methamphetamine use	65
Frequency of methamphetamine use.....	70
Dependency on methamphetamine	70
Methamphetamine use at the time of arrest	70
Current availability of methamphetamine	72
Change in availability of methamphetamine	75
Current price of methamphetamine.....	78
Change in the price of methamphetamine.....	80
Current strength of methamphetamine	84
Change in strength of methamphetamine.....	85
Time taken to purchase methamphetamine	87
Driving under the influence of methamphetamine	90
Summary	93
Chapter 5 - Cannabis.....	95
Introduction	95
Use of cannabis	96
Frequency of cannabis use.....	100
Dependency on cannabis	101
Cannabis use at the time of arrest.....	101
Current availability of cannabis	102
Change in availability of cannabis	106
Current price of cannabis.....	109
Change in the price of cannabis.....	112
Current strength of cannabis	115
Change in strength of cannabis.....	117
Time taken to purchase cannabis	119
Driving under the influence of cannabis.....	123
Summary	126
Chapter 6 – Ecstasy.....	128
Introduction	128
Use of ecstasy	128
Frequency of ecstasy use	134

Dependency on ecstasy	134
Ecstasy use at the time of arrest.....	134
Current availability of ecstasy	134
Change in availability of ecstasy	137
Current price of ecstasy	140
Change in the price of ecstasy	142
Current strength of ecstasy.....	145
Change in strength of ecstasy	147
Time taken to purchase ecstasy.....	148
Driving under the influence of ecstasy	151
Summary	154
Chapter 7 - Opioids	155
Introduction	155
Use of opioids.....	155
Frequency of opioid use.....	159
Dependency on opioids	159
Opioid use at the time of arrest.....	159
Current availability of opioids	159
Change in availability of opioids	160
Current price of opioids	160
Change in the price of opioids	160
Current strength of opioids.....	161
Change in strength of opioids	162
Time taken to purchase opioids.....	162
Driving under the influence of opioids	163
Summary	164
Chapter 8 – Cocaine.....	165
Introduction	165
Use of cocaine	165
Frequency of cocaine use.....	169
Current availability of cocaine	169
Change in availability of cocaine.....	170
Current price of cocaine.....	171
Change in the price of cocaine.....	171
Current purity of cocaine	172
Change in purity of cocaine.....	172
Summary	173
Chapter 9 - New Drugs.....	174
Introduction	174

Drug types used for the first time in 2016	174
New drugs noticed	176
Summary	178
Chapter 10 – Urine test results for drug use	179
Introduction	179
Urine test results for cannabis use	179
Urine test results for methamphetamine use	180
Corroboration of self-reported drug use with urinalysis	183
Cannabis use	183
Methamphetamine use	184
Opioid use	185
Summary	185
Chapter 11 – Alcohol and other drug harm	186
Introduction	186
Extent of alcohol and other drug use.....	186
Extent of problems due to alcohol and other drug use	187
General problems due to alcohol and other drug use	187
Aggression due to alcohol and other drug use	189
Driving incidents due to alcohol and other drug use.....	191
Sexual harm incidents due to alcohol and other drug use	192
Main drug types attributed to alcohol and other drug-related problems in the previous 12 months	193
Alcohol and Driving	198
Drugs and Driving.....	201
Summary	204
Chapter 12 – Synthetic cannabinoids	207
Introduction	207
Use of synthetic cannabinoids	208
Frequency of synthetic cannabinoids use.....	210
Dependency on synthetic cannabinoids	210
Synthetic cannabinoid use at the time of arrest.....	211
Current availability of synthetic cannabinoids.....	212
Change in availability of synthetic cannabinoids	215
Price	217
Change in the price of synthetic cannabinoids	219
Current strength of synthetic cannabinoids	221
Change in strength of synthetic cannabinoids.....	222
Time taken to purchase synthetic cannabinoids	224

Summary 225
References 227

List of Figures

FIGURE 2.1: PROPORTION OF THE POLICE DETAINEES WHO WERE MALE BY LOCATION, 2010-2016.....	27
FIGURE 2.2: PROPORTION OF THE POLICE DETAINEES WHO WERE MAORI BY LOCATION, 2010-2016	30
FIGURE 2.3: PROPORTION OF POLICE DETAINEES WHO COMPLETED THE COMPULSORY YEARS OF HIGH SCHOOL EDUCATION BY LOCATION, 2010-2016.....	31
FIGURE 2.4: PROPORTION OF THE POLICE DETAINEES WHO WERE EMPLOYED BY LOCATION, 2010-2016	33
FIGURE 2.5: PROPORTION OF THE POLICE DETAINEES WITH DEPENDENT CHILDREN BY LOCATION, 2010-2016	34
FIGURE 2.6: PROPORTION OF THE POLICE DETAINEES WHO HAD EVER SUFFERED FROM A MENTAL ILLNESS BY LOCATION, 2010-2016.....	35
FIGURE 3 1: PROPORTION OF POLICE DETAINEES WHO USED ALCOHOL IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	40
FIGURE 3 2: MEAN NUMBER OF DAYS ALCOHOL CONSUMED IN THE PREVIOUS 12 MONTHS BY LOCATION, 2010-2016	41
FIGURE 3 3: MEAN NUMBER OF STANDARD ALCOHOL DRINKS CONSUMED BY POLICE DETAINEES ON A TYPICAL DAY BY LOCATION (OF THOSE WHO HAD DRUNK ALCOHOL IN THE PREVIOUS 12 MONTHS), 2010-2016.....	42
FIGURE 3 4: MEAN NUMBER OF DAYS ON WHICH MALE DETAINEES HAD DRUNK FIVE OR MORE STANDARD ALCOHOLIC DRINKS IN THE PAST 30 DAYS BY LOCATION (OF THOSE WHO HAD DRUNK ALCOHOL IN THE PREVIOUS MONTH), 2010-2016	43
FIGURE 3 5: PROPORTION OF POLICE DETAINEES WHO HAD BEEN DRINKING ALCOHOL PRIOR TO THEIR ARREST BY LOCATION, 2010-2016.....	44
FIGURE 3 6: MEAN NUMBER OF STANDARD ALCOHOLIC DRINKS CONSUMED AT THE TIME OF ARREST BY LOCATION, 2010-2016	46
FIGURE 3 7: CURRENT AVAILABILITY OF ALCOHOL BY LOCATION, 2010-2016.....	49
FIGURE 3 8: POLICE DETAINEES' PERCEPTIONS OF THE CHANGE IN THE PRICE OF ALCOHOL IN THE PAST SIX MONTHS BY LOCATION, 2010-2016.....	55
FIGURE 3 9: PROPORTION OF THE POLICE DETAINEES WHO COULD PURCHASE ALCOHOL IN ONE HOUR OR LESS BY LOCATION, 2010-2016	58
FIGURE 4.1: PROPORTION OF POLICE DETAINEES WHO HAD EVER USED METHAMPHETAMINE BY LOCATION, 2010-2016	65
FIGURE 4.2: PROPORTION OF POLICE DETAINEES WHO HAD USED METHAMPHETAMINE IN THE PAST 12 MONTHS BY LOCATION, 2010-2016.....	66
FIGURE 4.3: PROPORTION OF POLICE DETAINEES WHO HAD USED METHAMPHETAMINE IN THE PAST MONTH BY LOCATION, 2010-2016	67
FIGURE 4.4: MEAN NUMBER OF DAYS POLICE DETAINEES HAD USED METHAMPHETAMINE IN THE PAST 12 MONTHS BY LOCATION, 2010- 2016.....	70
FIGURE 4 5: MEAN SCORE OF CURRENT AVAILABILITY OF METHAMPHETAMINE BY LOCATION, 2010-2016	72
FIGURE 4 6: MEAN SCORE OF CHANGE IN THE AVAILABILITY OF METHAMPHETAMINE BY LOCATION, 2010-2016.....	75
FIGURE 4.7: MEAN PRICE PAID FOR A 'POINT' (0.1 GRAMS) OF METHAMPHETAMINE BY LOCATION, 2010-2016.....	78
FIGURE 4 8: MEAN PRICE PAID FOR A GRAM OF METHAMPHETAMINE BY LOCATION, 2010-2016	80

FIGURE 4 9: MEAN SCORE OF THE CHANGE IN THE PRICE OF METHAMPHETAMINE BY LOCATION, 2010-2016	81
FIGURE 4 10: PROPORTION OF POLICE DETAINEES WHO COULD PURCHASE METHAMPHETAMINE IN ONE HOUR OR LESS BY LOCATION, 2010-2016.....	87
FIGURE 5 1: PROPORTION OF POLICE DETAINEES WHO HAVE EVER USED CANNABIS BY LOCATION, 2010-2016	96
FIGURE 5 2: PROPORTION OF POLICE DETAINEES WHO HAD USED CANNABIS IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	99
FIGURE 5 3: PROPORTION OF POLICE DETAINEES WHO USED CANNABIS IN THE PAST MONTH BY LOCATION, 2010-2016	100
FIGURE 5 4: MEAN NUMBER DAYS OF CANNABIS USE IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	100
FIGURE 5 5: PROPORTION OF POLICE DETAINEES WHO HAD FELT DEPENDENT ON CANNABIS IN THE PAST YEAR BY LOCATION (OF THOSE WHO HAD USED CANNABIS IN THE PAST 12 MONTHS), 2010-2016	101
FIGURE 5 6: CURRENT AVAILABILITY OF CANNABIS BY LOCATION, 2010-2016	103
FIGURE 5 7: CHANGE IN THE AVAILABILITY OF CANNABIS BY LOCATION, 2010-2016	109
FIGURE 5 8: MEAN PRICE OF AN OUNCE OF CANNABIS BY LOCATION, 2010-2016	112
FIGURE 5 9: PROPORTION OF POLICE DETAINEES WHO COULD PURCHASE CANNABIS IN ONE HOUR OR LESS, 2010-2016.....	122
FIGURE 6.1: PROPORTION OF POLICE DETAINEES WHO HAD EVER USED ECSTASY BY LOCATION, 2010-2016	129
FIGURE 6 2: PROPORTION OF POLICE DETAINEES WHO HAD USED ECSTASY IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	130
FIGURE 6 3: PROPORTION OF POLICE DETAINEES WHO HAD USED ECSTASY IN THE PAST MONTH BY LOCATION, 2010-2016	131
FIGURE 6 4: MEAN SCORE OF THE CURRENT AVAILABILITY OF ECSTASY BY LOCATION, 2010-2016	137
FIGURE 6 5: MEAN SCORE FOR PERCEPTIONS OF THE CHANGE IN THE AVAILABILITY OF ECSTASY BY LOCATION, 2010-2016	140
FIGURE 7 1: PROPORTION OF POLICE DETAINEES WHO HAD USED OPIOIDS IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	156
FIGURE 8 1: PROPORTION OF POLICE DETAINEES WHO HAD EVER USED COCAINE BY LOCATION, 2010-2016	166
FIGURE 8 2: PROPORTION OF POLICE DETAINEES WHO HAD USED COCAINE IN THE PAST 12 MONTHS BY LOCATION, 2010-2016	169
FIGURE 9 1: PROPORTION OF POLICE DETAINEES WHO HAD TRIED A DRUG FOR THE FIRST TIME IN THE PAST 12 MONTHS BY LOCATION, 2010-2016.....	175
FIGURE 9 2: PROPORTION OF POLICE DETAINEES WHO HAD TRIED SYNTHETIC CANNABINOIDS FOR THE FIRST TIME IN THE PAST 12 MONTHS BY LOCATION (OF THOSE WHO HAD TRIED A DRUG FOR THE FIRST TIME), 2010-2016	176
FIGURE 9 3: PROPORTION OF POLICE DETAINEES WHO HAD HEARD OF A NEW DRUG BEING USED BY LOCATION, 2010-2016	177
FIGURE 10 1: PROPORTION OF DETAINEES WHO TESTED POSITIVE FOR METHAMPHETAMINE AT THE TIME OF INTERVIEW BY LOCATION (OF THE 198 DETAINEES TESTED), 2010-2016.....	180
FIGURE 10 2: PROPORTION OF POLICE DETAINEES WHO TESTED POSITIVE FOR CANNABIS USE AND WHO ALSO SELF-REPORTED CANNABIS USE IN THE PREVIOUS MONTH, 2016	183

FIGURE 10 3: PROPORTION OF POLICE DETAINEES WHO TESTED POSITIVE FOR METHAMPHETAMINE USE AND WHO ALSO SELF-REPORTED METHAMPHETAMINE USE IN THE PAST MONTH, 2016.....	184
FIGURE 11 1: PROPORTION OF POLICE DETAINEES WHO ‘OVERDOSED’ ON DRUGS (OF THOSE WHO USED ALCOHOL AND OTHER DRUGS IN THE PAST 12 MONTHS), 2010-2016	189
FIGURE 11 2: PROPORTION OF POLICE DETAINEES WHO ‘PHYSICALLY HURT SOMEONE’ AS A RESULT OF THEIR ALCOHOL AND OTHER DRUG USE BY LOCATION (OF THOSE WHO HAD USED A SUBSTANCE IN THE PAST 12 MONTHS), 2010-2016.....	190
FIGURE 11 3: PROPORTION OF POLICE DETAINEES WHO WERE ‘PHYSICALLY ASSAULTED’ AS A RESULT OF THEIR ALCOHOL AND DRUG USE BY LOCATION (OF THOSE WHO HAD USED A SUBSTANCE IN THE PAST 12 MONTHS), 2010-2016.....	191
FIGURE 11 4: PROPORTION OF POLICE DETAINEES WHO ‘DROVE TOO FAST’, WERE ‘CHARGED WITH A DRIVING OFFENCE’ AND HAD A ‘CAR CRASH’ AS A RESULT OF THEIR ALCOHOL AND OTHER DRUG USE (OF THOSE WHO HAD USED A SUBSTANCE IN THE PAST 12 MONTHS AND DROVE), 2010-2016.....	192
FIGURE 11 5: PROPORTION OF POLICE DETAINEES WHO HAD ‘UNPROTECTED SEX’ AS A RESULT OF THEIR ALCOHOL AND OTHER DRUG USE BY LOCATION (OF THOSE WHO HAD USED A SUBSTANCE IN THE PAST 12 MONTHS), 2010-2016.....	193
FIGURE 11 6: PROPORTION OF POLICE DETAINEES WHO ATTRIBUTED THEIR SUBSTANCE USE RELATED PROBLEMS TO ALCOHOL BY LOCATION (OF THOSE DETAINEES WHO HAD EXPERIENCED AN ALCOHOL AND OTHER DRUG PROBLEM IN THE PAST 12 MONTHS), 2010-2016	195
FIGURE 11 7: PROPORTION OF POLICE DETAINEES WHO ATTRIBUTED THEIR SUBSTANCE USE RELATED PROBLEMS TO CANNABIS BY LOCATION (OF THOSE DETAINEES WHO HAD EXPERIENCED AN ALCOHOL AND OTHER DRUG PROBLEM IN THE PAST 12 MONTHS), 2010-2016	196
FIGURE 11 8: PROPORTION OF POLICE DETAINEES WHO ATTRIBUTED THEIR SUBSTANCE USE RELATED PROBLEMS TO METHAMPHETAMINE BY LOCATION (OF THOSE DETAINEES WHO HAD EXPERIENCED AN ALCOHOL AND OTHER DRUG PROBLEM IN THE PAST 12 MONTHS), 2010-2016.....	197
FIGURE 11 9: PROPORTION OF POLICE DETAINEES WHO ATTRIBUTED THEIR SUBSTANCE USE RELATED PROBLEMS TO SYNTHETIC CANNABINOIDS BY LOCATION (OF THOSE DETAINEES WHO HAD EXPERIENCED AN ALCOHOL AND OTHER DRUG PROBLEM IN THE PAST 12 MONTHS), 2010-2016.....	198
FIGURE 11 10: MEAN SCORE OF LIKELIHOOD OF BEING STOPPED WHILE DRIVING UNDER THE INFLUENCE OF ALCOHOL BY LOCATION (OF THOSE DETAINEES WHO HAD USED ALCOHOL AND OTHER DRUGS IN THE PAST YEAR AND WHO DROVE), 2010-2016.....	201
FIGURE 11 11: MEAN SCORE OF LIKELIHOOD OF BEING STOPPED WHILE UNDER THE INFLUENCE OF DRUGS (OTHER THAN ALCOHOL) BY LOCATION (OF THOSE DETAINEES WHO HAD USED ALCOHOL AND OTHER DRUGS IN THE PAST YEAR AND WHO DROVE), 2010-2016.....	204
FIGURE 12 1: PROPORTION OF POLICE DETAINEES WHO HAD USED SYNTHETIC CANNABINOIDS IN THE PAST 12 MONTHS BY LOCATION, 2013-2016	208
FIGURE 12 2: MEAN NUMBER OF DAYS POLICE DETAINEES USED SYNTHETIC CANNABINOIDS IN THE PAST 12 MONTHS BY LOCATION (OF THOSE WHO HAD USED SYNTHETIC CANNABINOIDS IN THE PAST 12 MONTHS), 2010- 2016	210
FIGURE 12 3: PROPORTION OF POLICE DETAINEES WHO FELT DEPENDENT ON SYNTHETIC CANNABINOIDS IN THE PAST YEAR BY LOCATION (OF THOSE WHO HAD USED SYNTHETIC CANNABINOIDS IN THE PAST 12 MONTHS), 2013-2016	211
FIGURE 12 4: CURRENT AVAILABILITY OF SYNTHETIC CANNABINOIDS BY LOCATION, 2013-2016	213
FIGURE 12 5: CHANGE IN AVAILABILITY OF SYNTHETIC CANNABINOIDS BY LOCATION, 2013-2016	217
FIGURE 12 6: MEAN PRICE OF SYNTHETIC CANNABINOIDS PER GRAM BY LOCATION, 2013-2016	218

FIGURE 12 7: MEAN SCORE OF THE CHANGE IN THE PRICE OF SYNTHETIC CANNABINOIDS BY LOCATION, 2013-2016	219
FIGURE 12 8: PROPORTION OF POLICE DETAINEES WHO COULD PURCHASE SYNTHETIC CANNABINOIDS IN ONE HOUR OR LESS BY LOCATION, 2013-2016.....	225

List of Tables

TABLE 1.1: DISTRIBUTION OF INTERVIEWS BY DAY OF THE WEEK BY LOCATION, 2010-2016	23
TABLE 2.1: MEAN AGE OF THE POLICE DETAINEES BY LOCATION, 2010-2016.....	28
TABLE 2.2: PRIMARY ETHNICITY OF THE POLICE DETAINEES BY LOCATION, 2010-2016.....	29
TABLE 2.3: EMPLOYMENT STATUS (%) OF POLICE DETAINEES BY LOCATION 2010-2016	32
TABLE 3 1: POLICE DETAINEES’ PATTERNS OF ALCOHOL USE BY LOCATION, 2010-2016.....	38
TABLE 3 2: PROPORTION OF POLICE DETAINEES WHO HAD BEEN DRINKING ALCOHOL PRIOR TO THEIR ARREST BY LOCATION, 2010-2016	45
TABLE 3 3: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF ALCOHOL BY LOCATION, 2010-2016	47
TABLE 3 4: CHANGE IN THE AVAILABILITY OF ALCOHOL BY LOCATION, 2010-2016.....	50
TABLE 3 5: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN THE PRICE OF ALCOHOL IN THE PAST SIX MONTHS BY LOCATION, 2010-2016	53
TABLE 3 6: TIME TAKEN BY POLICE DETAINEES TO PURCHASE ALCOHOL BY LOCATION, 2010-2016	56
TABLE 3 7: EXTENT POLICE DETAINEES WHO DROVE AND WHO HAD USED ALCOHOL IN THE PAST 12 MONTHS HAD DRIVEN UNDER THE INFLUENCE OF ALCOHOL BY LOCATION, 2010-2016.....	60
TABLE 4 1: POLICE DETAINEES’ PATTERNS OF METHAMPHETAMINE USE BY LOCATION, 2010-2016	68
TABLE 4 2: METHAMPHETAMINE USE BY POLICE DETAINEES AT TIME OF ARREST BY LOCATION, 2010-2016	71
TABLE 4 3: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF METHAMPHETAMINE BY LOCATION, 2010-2016	73
TABLE 4 4: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN AVAILABILITY OF METHAMPHETAMINE BY LOCATION, 2010-2016	76
TABLE 4 5: CURRENT MEDIAN (MEAN) PRICE PAID BY POLICE DETAINEES FOR A ‘POINT’ AND GRAM OF METHAMPHETAMINE (NZD) BY LOCATION, 2010-2016	79
TABLE 4 6: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN THE PRICE OF METHAMPHETAMINE IN THE PAST SIX MONTHS BY LOCATION, 2010-2016.....	82
TABLE 4 7: POLICE DETAINEES’ PERCEPTIONS OF CURRENT STRENGTH OF METHAMPHETAMINE IN 2012-2016	84
TABLE 4 8: POLICE DETAINEES’ PERCEPTIONS OF CHANGE IN STRENGTH OF METHAMPHETAMINE IN THE PAST SIX MONTHS IN 2012-2016	86
TABLE 4 9: TIME TAKEN BY POLICE DETAINEES TO PURCHASE METHAMPHETAMINE BY LOCATION, 2010-2016	88
TABLE 4 10: EXTENT TO WHICH POLICE DETAINEES WHO DROVE AND WHO HAD USED METHAMPHETAMINE IN THE PAST 12 MONTHS HAD DRIVEN UNDER THE INFLUENCE OF METHAMPHETAMINE BY LOCATION, 2010-2016	91
TABLE 5 1: POLICE DETAINEES’ PATTERNS OF CANNABIS USE BY LOCATION, 2010-2016	97
TABLE 5 2: CANNABIS USE BY POLICE DETAINEES AT TIME OF ARREST BY LOCATION, 2010-2016	102

TABLE 5 3: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF CANNABIS BY LOCATION, 2010-2016	104
TABLE 5 4: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN AVAILABILITY OF CANNABIS BY LOCATION, 2010 – 2016.....	107
TABLE 5 5: CURRENT MEDIAN (MEAN) PRICE PAID BY POLICE DETAINEES FOR CANNABIS (NZD) BY LOCATION, 2010-2016	110
TABLE 5 6: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN THE PRICE OF CANNABIS IN THE PAST SIX MONTHS BY LOCATION, 2010-2016.....	113
TABLE 5 7: POLICE DETAINEES’ PERCEPTIONS OF CURRENT STRENGTH OF CANNABIS IN THE PAST SIX MONTHS, 2012-2016	116
TABLE 5 8: POLICE DETAINEES’ PERCEPTIONS OF CHANGE IN STRENGTH OF CANNABIS IN THE PAST SIX MONTHS, 2012-2016	118
TABLE 5 9: TIME TAKEN BY POLICE DETAINEES TO PURCHASE CANNABIS BY LOCATION, 2010-2016.....	120
TABLE 5 10: MEAN SCORE OF EXTENT TO WHICH POLICE DETAINEES WHO DROVE AND WHO HAD USED CANNABIS IN THE PAST 12 MONTHS HAD DRIVEN UNDER THE INFLUENCE OF CANNABIS BY LOCATION, 2010 - 2016	124
TABLE 7 1: POLICE DETAINEES’ PATTERNS OF OPIOID USE BY LOCATION, 2010-2016	157
TABLE 7 2: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF OPIOIDS, 2010-2016.....	159
TABLE 7 3: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN AVAILABILITY OF OPIOIDS, 2010-2016.....	160
TABLE 7 4: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN THE PRICE OF OPIOIDS IN THE PAST SIX MONTHS, 2010-2016	161
TABLE 7 5: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT STRENGTH OF OPIOIDS IN THE PAST SIX MONTHS, 2012-2016	161
TABLE 7 6: POLICE DETAINEES’ PERCEPTIONS OF CHANGE IN PURITY OF OPIOIDS IN THE PAST SIX MONTHS IN 2016.....	162
TABLE 7 7: TIME TAKEN BY POLICE DETAINEES TO PURCHASE OPIOIDS, 2010-2016.....	162
TABLE 7 8: EXTENT TO WHICH POLICE DETAINEES WHO DROVE AND WHO HAD USED OPIOIDS IN THE PAST 12 MONTHS HAD DRIVEN UNDER THE INFLUENCE OF OPIOIDS, 2010-2016	163
TABLE 8 1: POLICE DETAINEES’ PATTERNS OF COCAINE USE BY LOCATION, 2010-2016	167
TABLE 8 2: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF COCAINE, 2010-2016.....	170
TABLE 8 3: POLICE DETAINEES’ PERCEPTIONS OF THE CURRENT AVAILABILITY OF COCAINE, 2010-2016.....	170
TABLE 8 4: POLICE DETAINEES’ PERCEPTIONS OF THE CHANGE IN THE PRICE OF COCAINE IN THE PAST SIX MONTHS, 2010-2016	171
TABLE 8 5: POLICE DETAINEES’ PERCEPTIONS OF CURRENT PURITY OF COCAINE IN THE PAST SIX MONTHS, 2012-2016	172
TABLE 8 6: POLICE DETAINEES’ PERCEPTIONS OF CHANGE IN PURITY OF COCAINE IN THE PAST SIX MONTHS, 2012-2016	172
TABLE 10 1: PROPORTION OF POLICE DETAINEES WHO TESTED POSITIVE FOR DRUG USE AT THE TIME OF INTERVIEW (OF THE 202 DETAINEES TESTED), 2010-2016	181
TABLE 10 2: COMPARISON OF TEST RESULTS FOR THE PRESENCE OF CANNABIS USE WITH SELF-REPORTED CANNABIS USE IN THE PAST MONTH, 2010-2016	183
TABLE 10 3: COMPARISON OF TEST RESULTS FOR THE PRESENCE OF METHAMPHETAMINE USE WITH SELF-REPORTED METHAMPHETAMINE USE IN THE PAST MONTH, 2010-2016.....	184
TABLE 11 1: PROPORTION OF ALCOHOL AND OTHER DRUG USING POLICE DETAINEES WHO EXPERIENCED PROBLEMS DUE TO THEIR SUBSTANCE USE IN THE PREVIOUS 12 MONTHS BY LOCATION, 2010-2016	188

TABLE 11 2: PROPORTION OF ALCOHOL AND OTHER DRUG USING DETAINEES WHO REPORTED AGGRESSION DUE TO THEIR SUBSTANCE USE IN THE PAST 12 MONTHS, 2010-2016.....	189
TABLE 11 3: DRUG TYPE(S) WHICH THE POLICE DETAINEES NOMINATED AS RESPONSIBLE FOR THEIR SUBSTANCE RELATED PROBLEMS IN THE PAST 12 MONTHS BY LOCATION, 2010-2016.....	194
TABLE 11 4: POLICE DETAINEES' PERCEPTIONS OF THE LIKELIHOOD OF BEING STOPPED BY POLICE WHILST DRIVING UNDER THE INFLUENCE OF ALCOHOL BY LOCATION (OF THOSE DETAINEES WHO HAD USED ALCOHOL AND OTHER DRUGS IN THE PAST YEAR AND WHO DROVE), 2010-2016	199
TABLE 11 5: POLICE DETAINEES' PERCEIVED LIKELIHOOD OF BEING STOPPED BY THE POLICE WHILST DRIVING UNDER THE INFLUENCE OF DRUGS OTHER THAN ALCOHOL BY LOCATION (OF THOSE DETAINEES WHO HAD USED ALCOHOL AND DRUGS IN THE PAST YEAR AND WHO DROVE), 2010- 2016	202
TABLE 12 1: POLICE DETAINEES' PATTERNS OF SYNTHETIC CANNABINOID USE BY LOCATION, 2013-2016.....	209
TABLE 12 2: SYNTHETIC CANNABINOID USE BY POLICE DETAINEES AT TIME OF ARREST BY LOCATION, 2013-2016.....	212
TABLE 12 3: POLICE DETAINEES' PERCEPTIONS OF THE CURRENT AVAILABILITY OF SYNTHETIC CANNABINOIDS BY LOCATION, 2013-2016.....	214
TABLE 12 4: POLICE DETAINEES' PERCEPTIONS OF THE CHANGE IN AVAILABILITY OF SYNTHETIC CANNABINOIDS BY LOCATION, 2016	216
TABLE 12 5: CURRENT PRICE OF SYNTHETIC CANNABINOIDS BY LOCATION , 2016.....	218
TABLE 12 6: POLICE DETAINEES' PERCEPTIONS OF THE CHANGE IN THE PRICE OF SYNTHETIC CANNABINOIDS IN THE PAST SIX MONTHS BY LOCATION, 2016	220
TABLE 12 7: POLICE DETAINEES' PERCEPTIONS OF CURRENT STRENGTH OF SYNTHETIC CANNABINOIDS IN THE PAST SIX MONTHS, 2013-2016	221
TABLE 12 8: POLICE DETAINEES' PERCEPTIONS OF CHANGE IN STRENGTH OF SYNTHETIC CANNABINOIDS IN THE PAST SIX MONTHS, 2016	223
TABLE 12 9: TIME TAKEN BY POLICE DETAINEES TO PURCHASE SYNTHETIC CANNABINOIDS BY LOCATION, 2016	224

Executive Summary

The aim of the New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study is to monitor trends in alcohol and other drug use among police detainees in New Zealand, and to document the harms associated with this substance use. NZ-ADUM tracks key indicators of illegal drug markets, such as availability and price, and identifies emergent new drug types, such as synthetic cannabinoids. NZ-ADUM also assesses the level of demand for drug treatment services among police detainees, and the barriers they experience in accessing these services. The 2016 NZ-ADUM interviewed 800 police detainees at four central city police watch houses (i.e. Whangarei, Auckland Central, Wellington Central and Christchurch Central) from June to October 2016. Urine samples were collected from 202 of the interviewed detainees to confirm the drug types used. This report presents the findings from the 2016 NZ-ADUM and compares them with the previous five years of the study.

Supply of methamphetamine remains high

Consistent with recent record border seizures of methamphetamine made in New Zealand and Australia, we found increasing use and availability of methamphetamine and declining prices. The proportion of detainees who reported using methamphetamine in the past year increased from 26% in 2010 to 38% in 2016. The mean number of days methamphetamine was used increased from 68 in 2010 to 84 in 2016. The mean price of a gram of methamphetamine decreased from \$788 in 2014 to \$620 in 2016. The United Nations Office of Drugs and Crime (UNODC) reported recently that the quantity of methamphetamine seized in East and South-East Asia “almost quadrupled” from 2009 to 2014 (UNODC, 2016).

Increases in methamphetamine supply in Christchurch and Wellington

There were increases in the proportion of detainees who reported using methamphetamine in the past year in Christchurch (up from 20% in 2012 to 32% in 2016) and Wellington (up from 22% in 2011 to 40% in 2016). The availability of methamphetamine was reported to have increased in Christchurch from 2010 to 2016. The price of a gram of methamphetamine declined in

Christchurch (from \$1,120 in 2014 to \$765 in 2016) and Wellington (from \$876 in 2010 to \$640 in 2016). Growing supply of methamphetamine to Christchurch may reflect the general recovery of the city following the earthquakes there, and greater organised gang involvement in the drugs market.

Some evidence of a cannabis drought

The proportion of detainees in Christchurch who had used cannabis in the past year declined from 81% in 2010 to 66% in 2016. Cannabis was considered increasingly difficult to obtain in Whangarei, Wellington and Christchurch. The mean price of an ounce of cannabis increased from \$323 in 2014 to \$340 in 2016. There were increases in the mean price of an ‘ounce’ of cannabis in Auckland (up from \$325 in 2011 to \$349 in 2016) and Christchurch (up from \$316 in 2012 to \$343 in 2016). These findings support anecdotal reports of a “cannabis drought”, particularly in the South Island, and may reflect the higher profits available from synthetic cannabinoids and other drugs, and the effectiveness of Police cannabis crop eradication operations.

Lower levels of synthetic cannabinoid use following bans but more dependent use

The banning of all “legal high” products in May 2014 has reduced the use and availability of synthetic cannabinoids, but appears to have left a residual group of dependent users. The proportion of detainees who had used synthetic cannabinoids in the previous 12 months declined from 47% in 2013 to 20% in 2016. There was a decline the proportion of detainees who had used synthetic cannabinoids in the previous year in Whangarei (down from 44% in 2014 to 5% in 2016), Auckland (down from 40% in 2013 to 20% in 2016), Wellington (down from 50% in 2014 to 21% in 2016) and Christchurch (down from 53% in 2013 to 26% in 2016). However, the proportion of detainees who used synthetic cannabinoids and felt dependent on them increased from 17% in 2013 to 29% in 2016. Christchurch continues to be a hotspot for synthetic cannabinoid use, although levels of use there are now more consistent with the other locations. The proportion of Christchurch Central detainees who used synthetic cannabinoids and felt dependent on them increased from 24% in 2013 to 47% in 2016. These findings suggest there is a need to attract more synthetic cannabinoid users to drug treatment and other help services.

Rising prices for black market synthetic cannabinoids

The impact of the May 2014 “legal high” ban can also be seen in rising prices for synthetic cannabinoids. The mean price of a gram of synthetic cannabinoid increased from \$11 in 2013 to \$19 in 2016. The gram price of synthetic cannabinoids increased in Whangarei (up from \$10 in 2014 to \$22 in 2016), Auckland (\$11 in 2013 to \$19 in 2016), Wellington (\$9 in 2013 to \$24 in 2016) and Christchurch (\$11 in 2013 to \$17 in 2016).

A developing black market for synthetic cannabinoids

The 2014 ban on synthetic cannabinoids appears to have been particularly effective in reducing the availability of these products in Whangarei, perhaps due to the easier availability of natural cannabis as an alternative. In contrast, the availability of synthetic cannabinoids was reported to be increasing over the past year in Auckland, Wellington and Christchurch in 2016, suggesting a developing black market for these products. Synthetic cannabinoids are manufactured overseas, sold from websites and shipped via international mail. They contain untested and often toxic compounds manufactured without any safety standards.

Alcohol, methamphetamine and cannabis most responsible for drug related harm

The detainees named three drug types as mainly responsible for their substance use problems: alcohol (78%), methamphetamine (33%) and cannabis (32%). Nine percent attributed their substance use problems to synthetic cannabinoids. There were increases in the proportion of detainees who attributed their substance use problems to alcohol (up from 69% in 2014 to 78% in 2016), cannabis (up from 23% in 2014 to 32% in 2016) and methamphetamine (up from 14% in 2010 to 33% in 2016). Increases in the proportion of detainees who attributed their substance use problems to methamphetamine were found in Whangarei (from 12% in 2010 to 35% in 2016), Auckland (up from 21% in 2010 to 35% in 2016), Wellington (up from 14% in 2010 to 37% in 2016) and Christchurch (up from 8% in 2010 to 27% in 2016).

Declining levels of heavy drinking?

The mean number of days on which the detainees reported drinking alcohol in the previous year declined from 101 in 2013 to 76 in 2016. The number of standard drinks consumed on a typical day of use decreased from 17 in 2013 to 15 in 2016. The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2016. There are a number of possible explanations for this reduced drinking among the interviewed detainees, including greater use of Pre-Charge Warnings for minor alcohol offences and hence fewer heavy drinkers available for interview in police cells, and reduced opening hours for alcohol venues which may have a greater impact on heavy drinkers.

Declining use and availability of ecstasy

The proportion of detainees who had used “ecstasy” in the previous year decreased from 28% in 2011 to 14% in 2016. Use of ecstasy in the previous year declined in Whangarei (down from 36% in 2011 to 10% in 2016) and Christchurch (down from 29% in 2011 to 13% in 2016). The availability of ecstasy was reported to be ‘stable/more difficult’ in the previous six months. The mean price of a pill of ecstasy declined from \$50 in 2010 to \$38 in 2016. Major police operations against domestic syndicates manufacturing ecstasy substitutes in 2011 and 2012 appear to have led to declining use and availability of ecstasy. A range of substitute compounds, rather than the traditional MDMA, are now commonly found in “ecstasy” in New Zealand and this practice has led to declining prices and increased risk of adverse effects.

Cocaine use remains low

While there has been increasing lifetime experience of cocaine use, there was little change in current use of cocaine which remains fairly low (6%). The detainees had used cocaine on a mean of only nine days in the previous 12 months. Seventy percent of detainees described the current availability of cocaine as either ‘difficult’ or ‘very difficult’. A possible explanation for growing lifetime use of cocaine may be people taking the opportunity to use the drug while overseas during holidays or for work.

The illicit opioid market remains stable

There was no change in the proportion of detainees who had used an opioid in the previous year from 2010 to 2016 (i.e. 8% to 5%). Forty-four percent of the opioid using detainees felt they were dependent on opioids, and this had not changed from previous years. There was no change in the current availability or price of opioids.

Chapter 1 - Methodology

Introduction

The New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study monitors levels of alcohol and other drug use, and related criminal offending, among police detainees in Whangarei, Auckland, Wellington and Christchurch central city police stations (see Wilkins et al., 2010b). NZ-ADUM tracks key substances of concern, including alcohol, methamphetamine, cannabis, opioids, pharmaceutical medicines and new psychoactive substances (NPS), such as synthetic cannabinoids and NBOMe. NZ-ADUM monitors changes in key drug market indicators, such as availability and price, and documents levels of alcohol and drug related harm and demand for drug treatment services. This report presents the findings from the 2016 NZ-ADUM and compares them with the findings from the previous four years of the study.

Intended use

NZ-ADUM contributes to the understanding of the drivers of crime and substance misuse, informs strategic and policy responses to alcohol and other drug issues, and provides evaluation data on the effectiveness of policy interventions.

Background

NZ-ADUM¹ was adapted from the ADAM methodology (Arrestee Drug Abuse Monitoring System) which was first developed in the United States during the mid-1980s (Hart, 2003; Taylor, 2002). Studies employing the core ADAM methodology are conducted in Australia (Drug Use Monitoring in Australia or DUMA) and England and Wales (New England and Wales Arrestee Drug Abuse Monitoring Research or NEW-ADAM) (see Boreham et al., 2007; Gaffney et al., 2010) and the United States (ADAM) (Office of National Drug Control Policy, 2009, 2011). The core component of the ADAM methodology is the interviewing of individuals detained in police stations about their alcohol and other drug use and criminal offending (Hunt & Rhodes, 2001; National Institute

¹ NZ-ADUM was originally known as the NZ-ADAM (New Zealand Arrestee Drug Abuse Monitoring System)

of Justice, 2003). Self-reported drug use is objectively verified through the scientific testing of urine samples from detainees.

NZ-ADUM was adapted from the international ADAM in 2003 (Wilkins & Rose, 2003) and a local pilot of the NZ-ADUM methodology was completed in 2004 at the Papakura Police Station (Wilkins et al., 2004). A national NZ-ADUM was conducted from 2005 to 2009 and the NZ-ADUM methodology refreshed in 2010 (Wilkins, et al., 2010b).

Aims

- To measure the level of alcohol, illegal drug, pharmaceutical drug, and 'legal high' use among police detainees
- To monitor trends in alcohol and other drug use including the emergence of new drug types
- To investigate the role alcohol and other drug use plays in criminal offending
- To document the level of harm related to alcohol and other drug use
- To monitor trends in the availability and price of key drugs of concern
- To identify the level of demand for help services for substance use problems among police detainees

Method

NZ-ADUM is conducted in four central city police watch houses in New Zealand (i.e. Whangarei, Auckland Central, Wellington Central and Christchurch Central). The study involves the face-to-face interviewing of approximately 800 police detainees at the four selected police watch houses. Interviews are conducted at each police watch house over a period of approximately four months each year. The four police watch houses were selected as sites for the study as they are considered to be key strategic locations, and likely to provide a broadly representative picture of

the police detainee population in each site location. The selected watch houses were required to have sufficient numbers of detainees to allow interviewing, and the facilities to accommodate private interviews and urine sampling.

It is not ethical, safe or practical to interview some detainees due to their violent behavior, intoxication, emotional state, mental illness or lack of English language competency. Detainees were excluded from the study if they were:

- under 17 years of age;
- unfit for interview due to intoxication from alcohol/drugs or medication;
- unfit for interview due to mental health issues;
- unable to understand the questions due to poor English language comprehension;
- unfit for interview due to threatening or violent behavior;
- held in custody for more than 48 hours;
- deemed unavailable by watch house staff due to ongoing legal/administrative proceedings

Police watch house staff were responsible for assessing the suitability of detainees to be interviewed (based on the factors outlined above). Those detainees who were interested in participating in the study were escorted to a private interview room where the ADUM interviewer introduced the study and invited them to participate in an interview. The interviewer explained to the detainee that they were an independent researcher from Massey University, participation in the study was voluntary, everything they said would be confidential, no individual information would be shared with police, the results of the study would only be reported in aggregate, and they could choose not to answer any question if they didn't want to. The interviewer specifically asked the detainee to not provide any information about specific people, places, times or events. The interviewers were directed to terminate an interview if detainees started to voluntarily provide specific details about offending to avoid the risk of the study becoming embroiled in any subsequent legal proceedings. The ethical protocols used in NZ-

ADUM have been reviewed and approved by the Massey University Human Subjects Ethics Committee.

Interviewing for the study was completed from early June to mid-October 2016. A total of 800 interviews, and 202 urine samples were collected, as part of the 2016 NZ-ADUM study. The interviewers were present at morning and evening shifts on every day of the week for the whole three months of interviewing. The interviewing shift times were selected to match the two periods of the day when the police cells were at their fullest (i.e. following the night shift and following the day shift), and in the hours before the detainees were transported to court and the cells cleared. Table 1.1 shows completed interviews by day of the week for 2010, 2011, 2012, 2013, 2014, 2015 and 2016. A higher proportion of interviews tend to be conducted on a Sunday as watch houses are often busiest on a Saturday night and no court is in operation on Sunday for them to attend.

Table 1 1: Distribution of interviews by day of the week by location, 2010-2016

Days %	Year	N-value	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Whangarei	2010	(n=114)	7	25	7	24	16	12	9
	2011	(n=150)	25	13	7	15	13	12	14
	2012	(n=151)	19	14	13	11	19	14	11
	2013	(n=153)	23	13	11	14	11	14	13
	2014	(n=150)	23	15	13	8	21	15	5
	2015	(n=167)	8	13	10	17	17	16	20
	2016	(n=131)	15	14	10	14	11	12	25
Auckland Central	2010	(n=282)	23	9	8	13	14	17	16
	2011	(n=316)	31	9	10	10	12	13	16
	2012	(n=247)	26	15	9	12	16	9	13
	2013	(n=300)	25	14	13	11	13	12	12
	2014	(n=315)	27	12	13	12	8	16	13
	2015	(n=266)	15	13	14	13	15	9	21
	2016	(n=220)	10	9	14	10	6	16	35
Wellington Central	2010	(n=151)	23	15	13	12	12	13	13
	2011	(n=171)	22	11	8	12	16	15	15
	2012	(n=101)	21	14	11	10	14	16	15
	2013	(n=106)	19	10	11	8	17	19	15
	2014	(n=95)	22	15	15	12	11	16	11

	2015	(n=107)	17	7	18	16	14	7	22
	2016	(n=213)	15	10	11	11	17	13	22
Christchurch Central	2010	(n=262)	20	15	13	11	9	16	15
	2011	(n=191)	20	13	17	16	14	10	10
	2012	(n=301)	18	13	14	14	13	14	16
	2013	(n=285)	17	12	10	17	19	14	12
	2014	(n=272)	18	14	7	23	14	13	12
	2015	(n=291)	17	9	13	14	15	11	21
	2016	(n=233)	18	13	13	15	11	12	19
All Sites	2010	(n=809)	20	14	11	14	12	15	14
	2011	(n=828)	26	11	11	13	13	13	14
	2012	(n=800)	21	14	12	12	15	13	14
	2013	(n=844)	21	13	11	13	15	14	12
	2014	(n=832)	23	13	11	15	13	15	11
	2015	(n=831)	15	11	13	15	15	11	21
	2016	(n=797)	14	11	12	13	11	13	25

Analysis

The 2011, 2012, 2013, 2014, 2015 and 2016 NZ-ADUM survey waves were weighted to match the locational distribution of interviews completed in 2010 to ensure consistent comparisons over time. The number of interviews completed in each site location has generally been fairly similar from year to year, so the impact of the weighting is low. The exception was Christchurch Central in 2011 where the earthquakes prevented the usual number of interviews being completed in that site.

The statistical analyses in this report compare the results from the 2016 wave with the previous five annual waves, and between the four locational sites of the study for 2016. When a statistically significant difference was found over the six years (i.e. 2010-2016), additional tests were conducted to compare specific years to each other, with the *p*-values adjusted for multiple comparisons using the simulation method in SAS. Differences between proportions (e.g. ever used cannabis) were tested using logistic regression and differences between continuous variables (e.g. age) were tested using ANOVA. Ordered categorical questions, such as availability measures, were assigned numbers and the means tested using ANOVA (e.g. very difficult=1 – very easy=4). Some continuous variables were highly positively skewed (e.g. frequency of use of drug use, number of alcoholic drinks consumed), hence statistical testing was run on the log-transformed values for these items to reduce the influence of outliers. Analysis was only completed for questions where there were sufficient numbers of detainees answering the question (i.e. $n > 10$). All analysis was run using SAS version 9.3.

Chapter 2 - Demographics

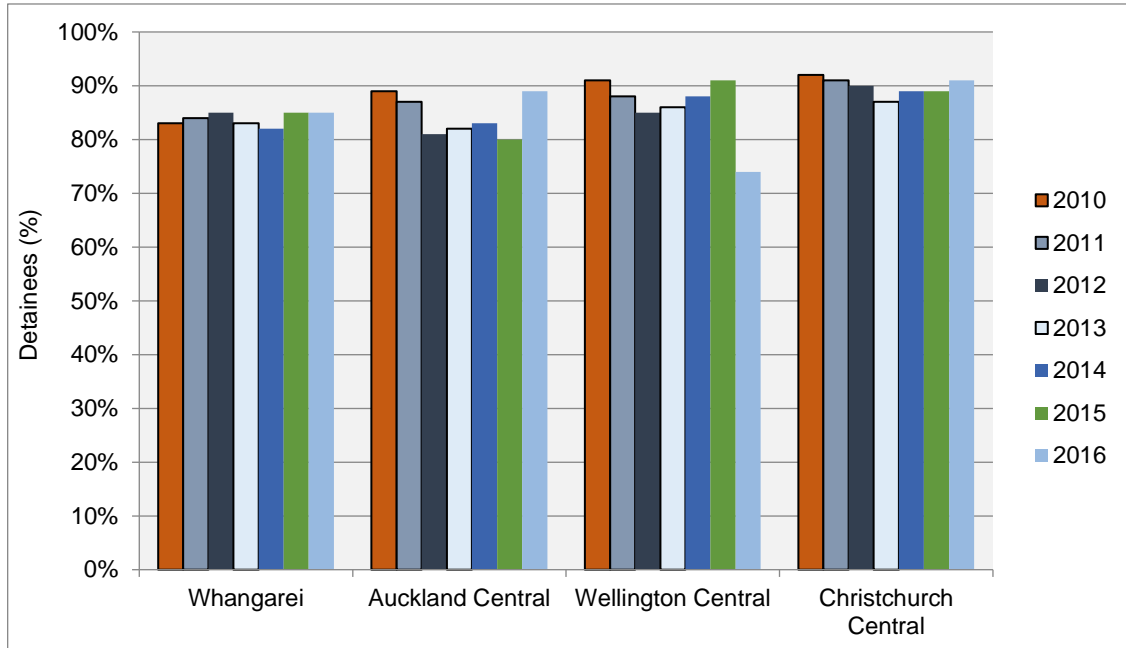
Introduction

Police detainees are an 'at risk' population who are associated with a range of social and health problems in addition to their criminal offending. Detainee populations around the world tend to be disproportionately male, young, poorly educated, unemployed, have poor mental health, and be members of disadvantaged ethnic minorities (see Boreham, et al., 2007; Gaffney, et al., 2010; Office of National Drug Control Policy, 2009). Similarly, in New Zealand, 85% of the 2015 NZ-ADUM sample were male, 51% were on an unemployment or sickness benefit, 36% had not completed the compulsory years of high school education, and 29% had suffered from a mental illness at some point in their lives (Wilkins et al., 2012a). The detainees interviewed were also disproportionately Maori (42%) compared to the wider population (Wilkins, et al., 2012a). This chapter presents the demographic characteristics of the detainees interviewed for the 2016 NZ-ADUM and examines the extent to which these characteristics may have changed over the past seven years of the study.

Gender

In 2016, 85% of the detainees interviewed were male. Overall, there was no statistically significant change in the proportion of detainees who were male in 2016 compared to previous years (Figure 2 1). The proportion of Wellington Central detainees who were male declined from 91% in 2015 to 74% in 2016 ($p=0.0157$).

Figure 2 1: Proportion of the police detainees who were male by location, 2010-2016



Age

In 2016, the mean age of the detainees was 29 years (median 26 years, range 17-70 years) (Table 2 1). There was no statistically significant change in the mean age of the detainee sample from 2010 to 2016.

Table 2 1: Mean age of the police detainees by location, 2010-2016

Site	2010		2011		2012		2013		2014		2015		2016	
	Mean age (years)	Age range	Mean age (years)	Age range	Mean age (years)	Age range	Mean age (years)	Age range	Mean age (years)	Age range	Mean age (years)	Age range	Mean age (years)	Age range
Whangarei	n=114		n=148		n=151		n=153		n =151		n=168		n= 131	
	27	17-60	28	17-62	28	17-56	30	17-71	33	17-74	29	13-56	31	17-70
Auckland Central	n=284		n=311		n=246		n=300		n=315		n=266		n=221	
	29	17-63	28	17-67	28	17-58	29	17-65	28	17-69	26	17-54	29	17-69
Wellington Central	n=152		n=171		n=99		n=106		n=95		n=107		n=213	
	28	17-62	28	17-61	27	17-58	29	17-66	28	17-63	28	17-63	28	17-63
Christchurch Central	n=262		n=191		n=302		n=288		n=273		n=292		n=235	
	27	17-63	29	17-77	29	17-70	30	17-61	29	17-69	28	17-65	28	17-69
All sites	n=812		n=821		n=798		n=847		n= 834		n=833		n=800	
	28	17-63	28	17-77	28	17-70	29	17-71	29	17 -74	28	13-65	29	17-70

Ethnicity

The detainees were asked two questions about their ethnicity: 'Which ethnic group do you mainly belong to?'; and 'Is there any other ethnic group you belong to?'. For the purposes of this report we have classified the detainees by their primary ethnicity. In 2016, 45% of the detainees were Maori, 38% were European, 13% were Pacific Islanders and 3% were Asian (Table 2 2). There was no statistically significant change in the ethnic mix of the detainee sample from 2010 to 2016.

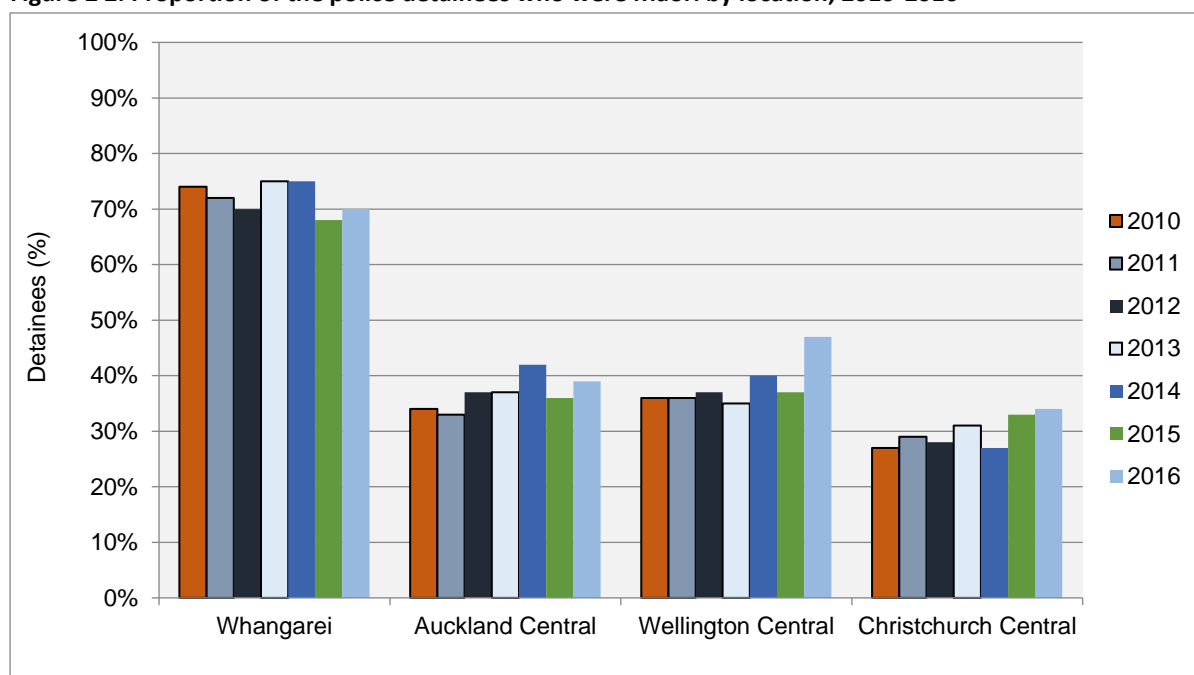
Table 2 2: Primary ethnicity of the police detainees by location, 2010-2016

Sites	Year	N-value	European	Maori	Pacific	Asian	Other
Whangarei	2010	n=114	23	74	4	0	0
	2011	n=148	24	72	4	0	0
	2012	n=150	26	70	4	0	0
	2013	n=153	28	75	5	1	1
	2014	n=150	22	75	3	0	0
	2015	n=169	25	68	5	1	1
	2016	n=131	25	70	4	0	1
Auckland Central	2010	n=285	32	34	24	5	5
	2011	n=315	29	33	31	4	3
	2012	n=246	35	37	25	2	2
	2013	n=300	31	37	24	3	6
	2014	n=315	28	42	24	2	3
	2015	n=267	26	36	30	3	5
	2016	n=221	25	39	27	7	3
Wellington Central	2010	n=151	42	36	15	1	6
	2011	n=169	43	36	11	7	3
	2012	n=101	44	37	9	3	8
	2013	n=104	47	35	12	4	3
	2014	n=95	34	40	18	3	5
	2015	n=106	47	37	8	4	5
	2016	n=213	37	47	11	4	1
Christchurch Central	2010	n=262	67	27	5	0	<1
	2011	n=191	64	29	6	0	1
	2012	n=303	64	28	5	1	1
	2013	n=289	62	31	5	1	1
	2014	n=273	66	27	5	1	1
	2015	n=291	59	33	4	1	2
	2016	n=235	58	34	6	0	1

All sites	2010	n=812	44	38	14	2	3
	2011	n=823	39	40	16	3	2
	2012	n=801	45	40	11	1	2
	2013	n=846	41	41	13	2	3
	2014	n=833	40	43	13	1	2
	2015	n=833	40	42	13	2	3
	2016	n=800	38	45	13	3	1

In 2016, a higher proportion of detainees in Whangarei were Maori compared to Auckland Central (70% vs. 39%, $p < 0.0001$), Wellington Central (70% vs. 47%, $p < 0.0001$) and Christchurch Central (70% vs. 34%, $p < 0.0001$) (Figure 2 2). The proportion of detainees who were Maori in Wellington Central was also higher than in Christchurch Central (47% vs. 34%, $p = 0.0358$).

Figure 2 2: Proportion of the police detainees who were Maori by location, 2010-2016



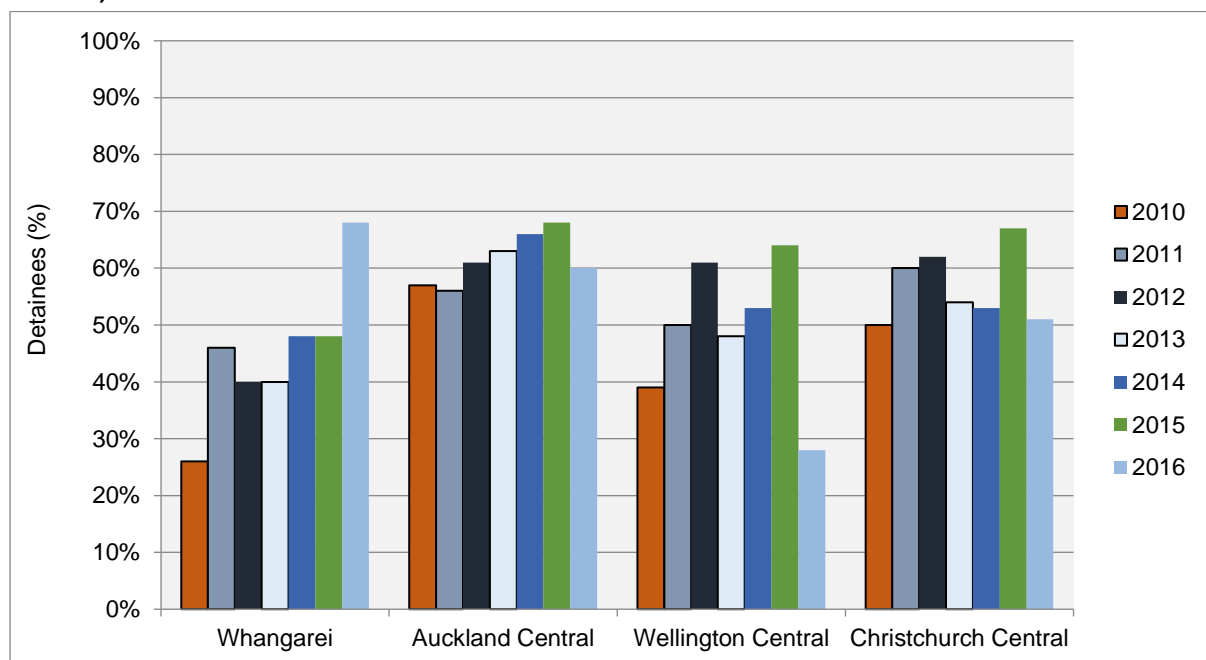
Iwi affiliation

The detainees who identified as Maori were asked if they knew their iwi affiliation. In 2016, 88% of the detainees who identified their primary ethnicity as Maori knew their iwi.

Education

The proportion of detainees who had completed the compulsory years of high school education decreased from 64% in 2015 to 52% in 2016 ($p < 0.0001$). The proportion of Whangarei detainees who had completed the compulsory years of education increased from 26% in 2010 to 68% in 2016 ($p < 0.0001$). Conversely, there was a decline in completion of high school education in Wellington Central (down from 64% in 2015 to 28% in 2016, $p < 0.0001$) and Christchurch Central (down from 67% in 2015 to 51% in 2016, $p = 0.0018$). In 2016, the Whangarei detainees were more likely to have completed the compulsory years of high school than detainees in Christchurch Central (68% vs. 51%, $p = 0.0077$) and Wellington Central (68% vs. 28%, $p < 0.0001$). The Wellington Central detainees were less likely to have completed the compulsory years of high school than detainees in Auckland Central (28% vs. 60%, $p < 0.0001$) and Christchurch Central (28% vs. 51%, $p < 0.0001$) (Figure 2 3).

Figure 2 3: Proportion of police detainees who completed the compulsory years of high school education by location, 2010-2016



Employment status

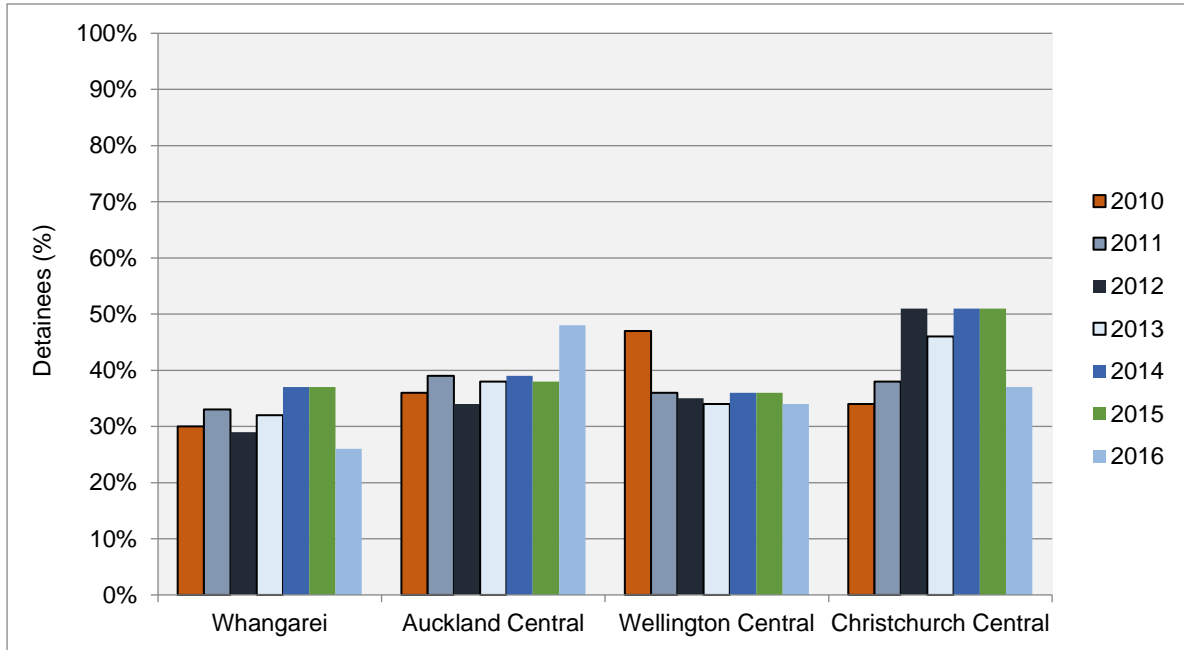
In 2016, 56% of the detainees were unemployed or on a sickness benefit, 39% were employed (9% part-time and 30% full-time), and 5% were students (Table 2 3). The proportion of

detainees from Christchurch Central who were unemployed increased from 46% in 2015 to 60% in 2016 ($p=0.0326$). In 2016, detainees from Auckland Central were more likely to be employed than those in the other three sites ($p<0.0001$) (Figure 2 4).

Table 2 3: Employment status (%) of police detainees by location 2010-2016

Locations	Year	N-value	Unemployed/ sickness	Employed	Students
Whangarei	2010	n=151	64	30	5
	2011	n=149	61	33	6
	2012	n=150	61	29	10
	2013	n=151	63	32	5
	2014	n=150	56	37	7
	2015	n=169	59	37	4
	2016	n=131	68	26	6
Auckland Central	2010	n=283	55	36	9
	2011	n=315	54	39	7
	2012	n=247	55	34	11
	2013	n=298	51	38	11
	2014	n=314	52	39	10
	2015	n=267	47	38	15
	2016	n=220	45	48	7
Wellington Central	2010	n=152	45	47	8
	2011	n=170	52	36	12
	2012	n=101	55	35	10
	2013	n=106	55	34	11
	2014	n=95	57	36	7
	2015	n=107	61	36	4
	2016	n=213	62	34	4
Christchurch Central	2010	n=262	61	34	5
	2011	n=191	56	38	6
	2012	n=297	45	51	4
	2013	n=289	53	46	1
	2014	n=273	48	51	2
	2015	n=292	46	51	2
	2016	n=234	60	37	3
All sites	2010	n=812	56	37	7
	2011	n=825	55	37	8
	2012	n=796	55	38	8
	2013	n=847	54	39	7
	2014	n=834	52	42	6
	2015	n=835	51	42	7
	2016	n=797	56	39	5

Figure 2 4: Proportion of the police detainees who were employed by location, 2010-2016



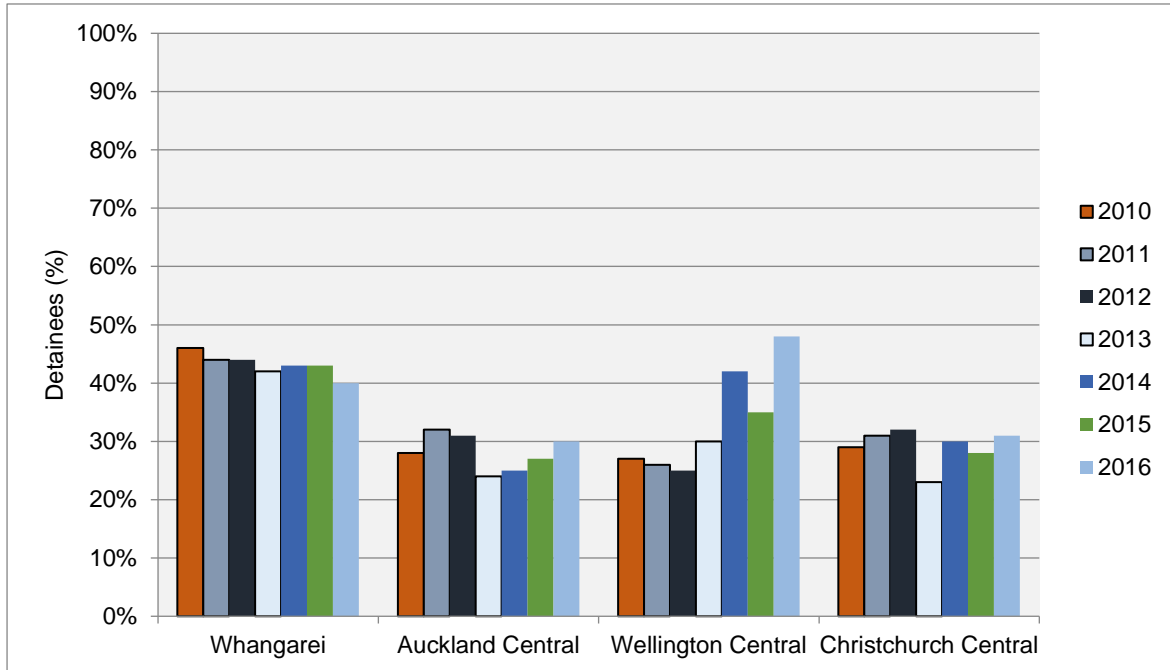
Marital status

In 2016, 61% of the detainees were single, 27% were living in a de facto relationship and 7% were married. There was no statistically significant change in the marital status of the detainees from 2010 to 2016. In 2016, Whangarei detainees were less likely to be single than those in Christchurch Central (44% vs. 71%, $p < 0.0001$), Wellington Central (44% vs. 61%, $p = 0.0132$) and Auckland Central (44% vs. 60%, $p = 0.0258$). The detainees in Auckland Central were also less likely to be single than those in Christchurch Central (60% vs. 71%, $p = 0.0474$).

Number of dependent children

In 2016, 36% of the detainees had dependent children. There was a slight increase in the proportion of detainees who had dependent children from 2010 to 2016 (up from 31% to 36%, $p = 0.0506$). The proportion of Wellington Central detainees who had dependent children increased from 27% in 2010 to 48% in 2016 ($p = 0.0013$) (Figure 2 5). In 2016, the detainees in Wellington Central were more likely to have dependent children than those in Auckland Central (48% vs. 30%, $p = 0.0011$), and Christchurch Central (48% vs. 31%, $p = 0.0021$).

Figure 2 5: Proportion of the police detainees with dependent children by location, 2010-2016



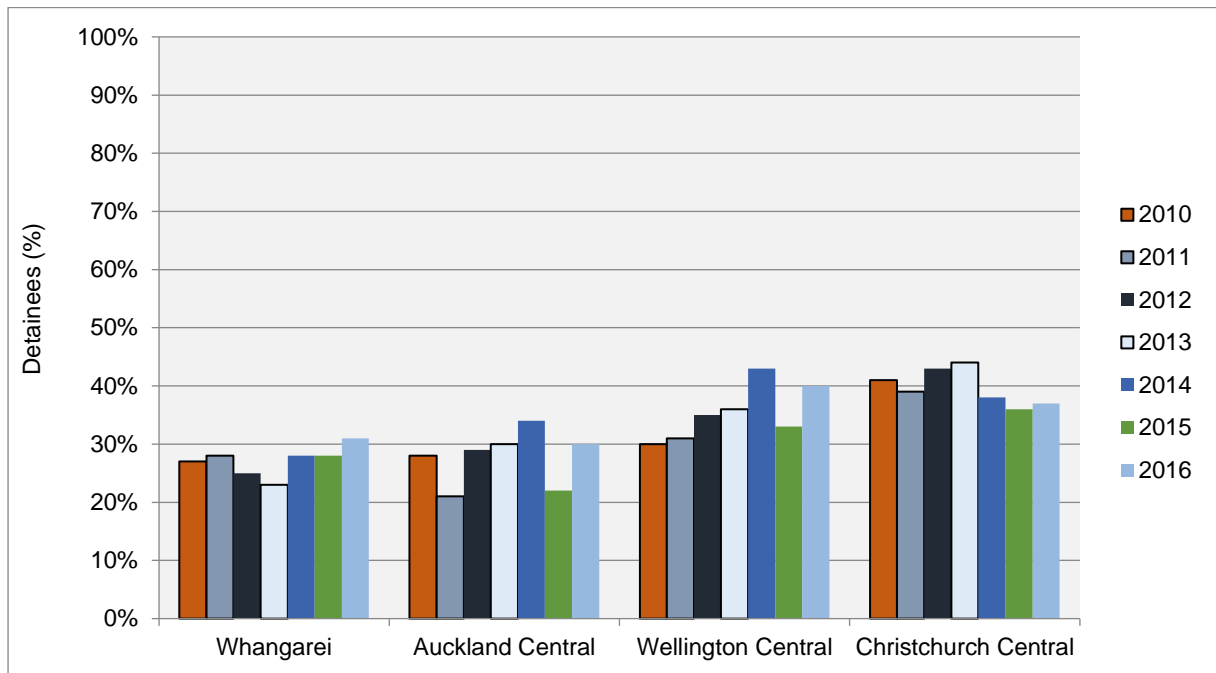
Accommodation

In 2016, 39% of the detainees were living in a house or apartment, either owned or rented, and 49% in someone else's house or apartment in the previous 30 days. Five percent of the detainees had no fixed address.

Mental illness

In 2016, 34% of the detainees reported having had a mental illness at some stage in their lives (Figure 2 6).

Figure 2 6: Proportion of the police detainees who had ever suffered from a mental illness by location, 2010-2016



Psychiatric inpatient

In 2016, 9% of the detainees had been a patient in a psychiatric ward or hospital for an overnight stay or longer at some point in their lives.

Current treatment or medication for mental illness

In 2016, 8% of the detainees were currently receiving treatment or medication for a mental illness at the time of their arrest.

Summary

- In 2016, 85% of the detainee sample was male with a mean age of 29 years
- The proportion of Wellington Central detainees who were male declined from 91% in 2015 to 74% in 2016
- In 2016, 45% of the detainees were Maori, 38% were European, 13% were Pacific and 3% were Asian
- A higher proportion of detainees in the Whangarei were Maori compared to those in the other three sites
- The proportion of detainees who were Maori was also higher in Wellington Central than Christchurch Central
- The proportion of detainees who had completed the compulsory years of high school education declined from 64% in 2015 to 52% in 2016
- There were declines in the completion of compulsory high school education in Wellington Central and Christchurch Central, and conversely an increase in high school completion in Whangarei
- In 2016, 56% of the detainees were unemployed or on a sickness benefit, 39% were employed and 5% were students
- The proportion of detainees in Christchurch Central who were unemployed increased from 46% in 2015 to 60% in 2016
- In 2016, detainees in Auckland Central were more likely to be employed than those in the other three sites
- In 2016, 36% of the detainees had dependent children
- The proportion of Wellington Central detainees who had dependent children increased from 27% in 2010 to 48% in 2016
- In 2016, 34% of the police detainees had suffered from a mental illness in their lifetimes, 9% had been a patient in a psychiatric hospital, and 8% were currently receiving treatment or medication for a mental illness

Chapter 3 – Alcohol

Introduction

Alcohol consumption contributes to a range of anti-social and criminal behaviour including public nuisance, physical assault, sexual assault, family violence, dangerous driving and accidents (Babor et al., 2010a; Kleiman, 1992). Alcohol use is also a risk factor in many health disorders including lethal overdose, liver damage, cardiovascular disease, pancreatitis, hypertension, cancer, brain damage and alcoholism (Babor, et al., 2010a).

Recent NZ-ADUM surveys have found a surprising decline in drinking among the police detainees. The mean number of days on which the detainees had drunk alcohol in the previous year declined from 101 days in 2013 to 82 days in 2015. The mean number of alcoholic drinks consumed on a typical day of use decreased from 18 in 2013 to 15 in 2015. The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2015. The reduction in drinking in the study may reflect a number of policy and enforcement initiatives including the greater use of Pre-Charge Warnings for alcohol offences and the impact of new government restrictions on alcohol premise opening hours (as part of the *Sale and Supply of Alcohol Act 2012*). Greater use of Pre-Charge Warnings for minor alcohol offences means heavy alcohol-using offenders are no longer held in the cells and consequently are not available to be interviewed for NZ-ADUM. The changes to premise opening hours may be more likely to have impacted younger drinkers and heavier drinkers involved in extended drinking sessions.

Use of alcohol

The proportion of detainees who drank alcohol in the previous year declined from 92% in 2011 to 87% in 2016 ($p=0.0035$) (Figure 3.1). The proportion of detainees in Whangarei who had drunk alcohol in the past year declined from 93% in 2011 to 78% in 2016 ($p=0.0075$).

Table 3 1: Police detainees’ patterns of alcohol use by location, 2010-2016

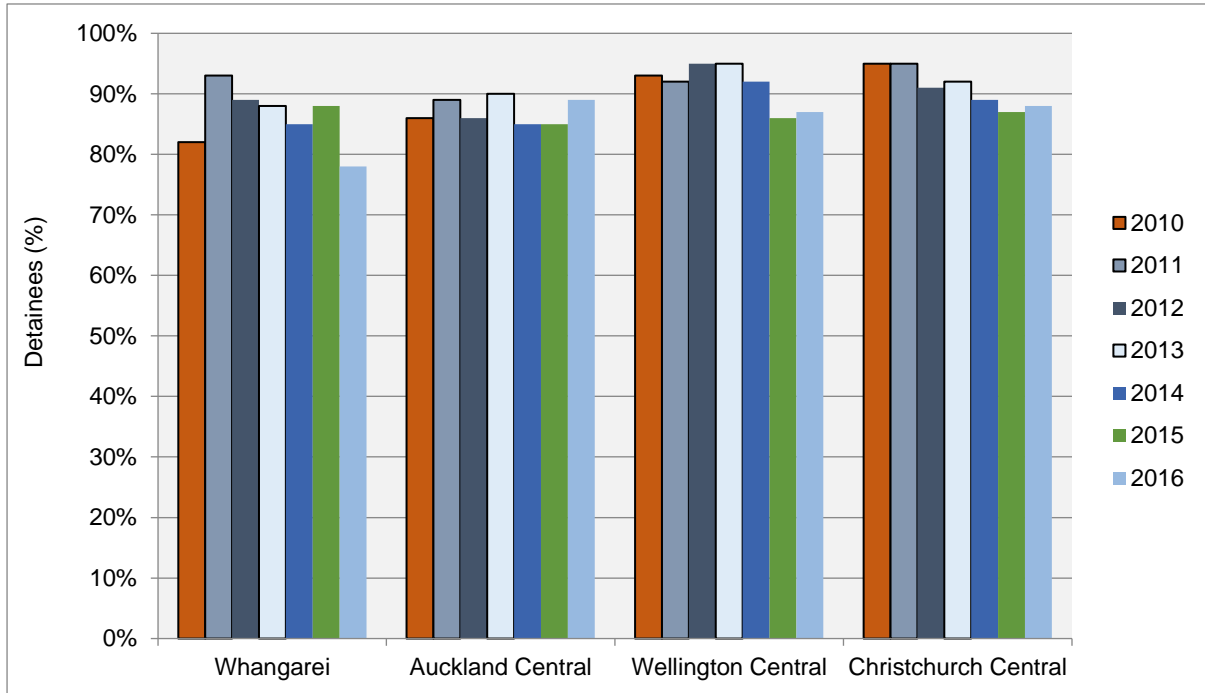
Sites	Year	N - value	Ever used (%)	Mean age first used (years)	Used in past 12 months (%)	Mean number of days used in past 12 months*	Mean number of standard drinks per day*	Felt dependent in past 12 months [%]*	Used in past month [%]	Mean number of days used in past month**	Mean number of days males had 5 or more drinks in past month**	Mean number of days females had 5 or more drinks in past month**
Whangarei	2010	n= 115	97%	13	82%	89	15	21%	74%	8	6	7
	2011	n=149	99%	12	93%	85	17	19%	83%	8	7	11
	2012	n=151	100%	13	89%	70	16	22%	77%	6	6	7
	2013	n=153	99%	14	88%	84	18	26%	75%	9	8	11
	2014	n=151	98%	13	85%	86	18	19%	70%	8	7	9
	2015	n=169	99%	12	88%	71	13	13%	74%	6	5	5
	2016	n=131	100%	13	78%	57	14	11%	66%	6	5	4
Auckland Central	2010	n=285	97%	13	86%	118	11	26%	76%	10	8	8
	2011	n=316	99%	14	89%	107	13	26%	78%	10	10	6
	2012	n=247	98%	13	86%	92	16	21%	80%	8	7	10
	2013	n=299	98%	14	90%	101	17	26%	78%	10	8	11
	2014	n=315	98%	14	85%	95	16	24%	74%	9	8	8
	2015	n=267	99%	14	85%	75	14	19%	70%	8	7	9
	2016	n=221	100%	13	89%	94	16	23%	73%	8	8	7
Wellington Central	2010	n=152	99%	13	93%	100	13	26%	84%	8	8	2
	2011	n=171	99%	12	92%	111	16	24%	81%	10	9	9
	2012	n=101	100%	14	95%	100	19	23%	87%	8	8	7
	2013	n=106	100%	13	95%	98	15	30%	84%	10	10	3
	2014	n=95	98%	12	92%	81	15	20%	79%	8	8	8
	2015	n=107	99%	13	86%	95	15	18%	77%	9	8	7
	2016	n=213	100%	13	87%	64	13	15%	69%	6	6	5
	2010	n=262	100%	13	95%	109	12	21%	86%	9	9	7

Christchurch Central	2011	n=191	100%	13	95%	107	14	21%	85%	10	9	12
	2012	n=303	99%	14	91%	100	15	25%	84%	9	8	11
	2013	n=289	99%	13	92%	109	18	22%	81%	9	9	11
	2014	n=273	100%	13	89%	103	15	15%	79%	9	8	12
	2015	n=292	100%	12	87 %	87	15	17%	71%	8	8	6
	2016	n=235	99%	12	88%	70	15	14%	70%	7	7	6
All Sites	2010	n=814	98%	13	90%	108	12	23%	80%	9	8	7
	2011	n=827	99%	13	92%	105	14	23%	81%	9	9	9
	2012	n=802	99%	13	90%	93	16	23%	82%	8	7	9
	2013	n=850	99%	13	91%	101	17	26%	80%	9	9	10
	2014	n=835	99%	13	87%	94	16	19%	76%	9	8	9
	2015	n=835	99%	13	86%	82	15	17%	72%	8	7	8
	2016	n=800	100%	13	87%	76	15	17%	70%	7	7	6

* of those who drank alcohol in the past 12 months

** of those who drank alcohol in the past month

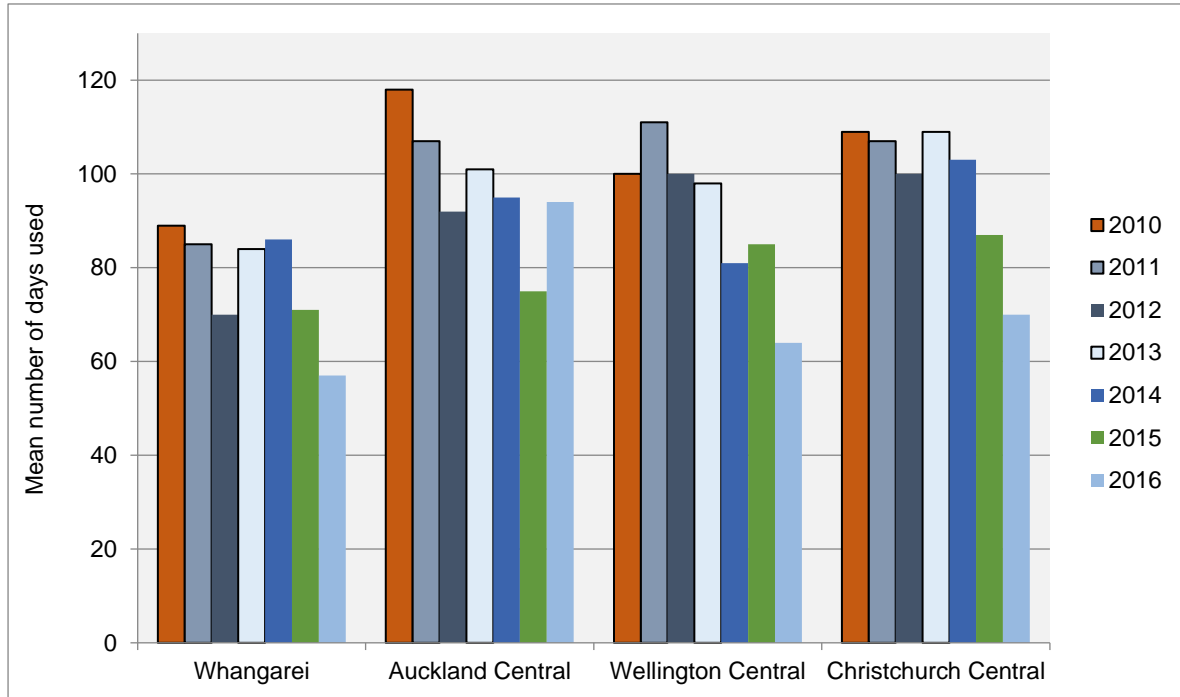
Figure 3 1: Proportion of police detainees who used alcohol in the past 12 months by location, 2010-2016



Frequency of alcohol use

The detainees drank alcohol on a mean of 76 days in the previous 12 months in 2016 (median 48, range 1-365 days). The mean number of days on which the detainees had drunk alcohol in the previous year declined from 101 days in 2013 to 76 days in 2016 ($p=0.0002$). There were declines in number of days of alcohol consumption in Wellington Central (down from 111 days in 2011 to 64 days in 2016, $p=0.0002$) and in Christchurch Central (down from 103 days in 2014 to 70 days in 2016, $p=0.0007$) (Figure 3.2).

Figure 3 2: Mean number of days alcohol consumed in the previous 12 months by location, 2010-2016



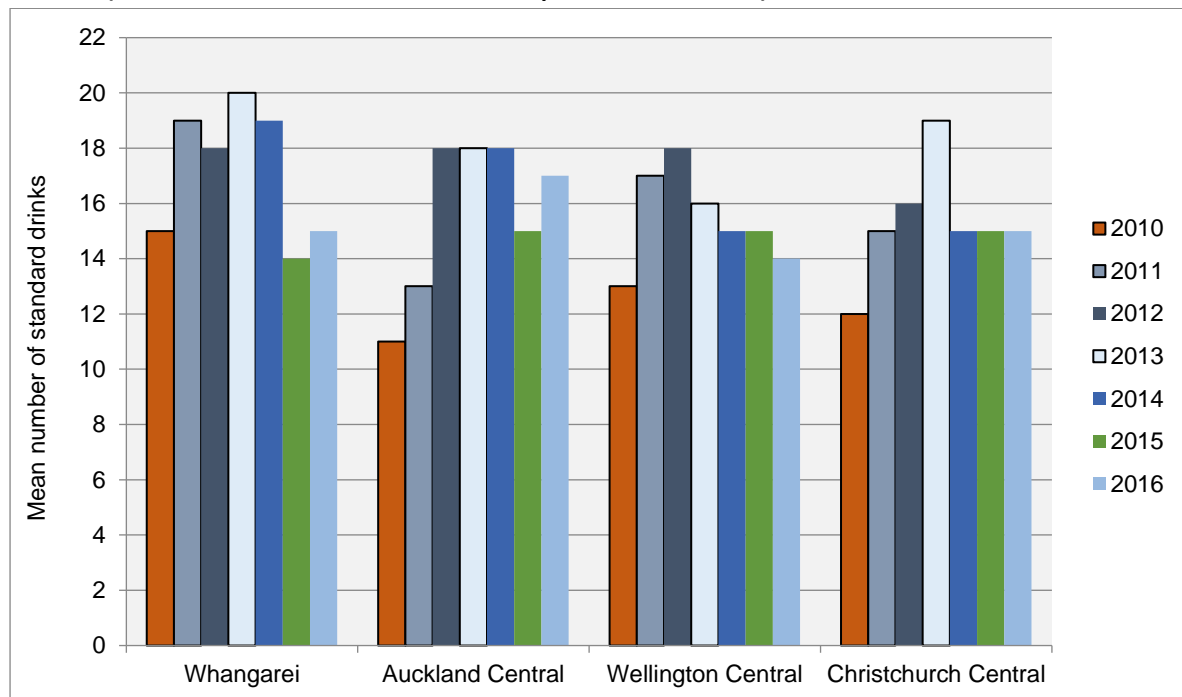
The detainees had consumed alcohol on an average of seven days in the previous month in 2016. The mean number of days of alcohol consumption in the past month decreased from 9.5 days in 2013 to 7.0 days in 2016 ($p < 0.0001$). The mean number of days detainees had consumed alcohol in the past month declined in Wellington Central (down from 10.0 days in 2011 to 6.0 days in 2016, $p = 0.0261$), and in Christchurch Central (down from 10.0 days in 2011 to 7.0 days in 2016, $p = 0.0475$).

Quantity of alcohol consumed

The detainees were asked how much alcohol they would consume on a typical day of use. The interviewers collected detailed information on each detainee's alcohol consumption including the alcohol type they consumed (e.g. beer, spirits, wine), the container type (e.g. bottle, glass, shot) and number of units. A small number of detainees reported extraordinarily high levels of alcohol consumption consistent with prolonged drinking sessions by problem drinkers over an entire day. To control for the influence of these outliers we capped the amount consumed on a single occasion to 60 standard drinks.

The mean number of alcoholic drinks consumed on a typical day of use decreased from 17 in 2013 to 15 in 2016 ($p=0.0384$). The number of drinks consumed by Auckland Central detainees increased from 11 in 2010 to 16 in 2016 ($p=0.0009$) (Figure 3.3). The number of drinks consumed by Wellington Central detainees decreased from 18 in 2012 to 13 in 2016 ($p=0.0260$).

Figure 3 3: Mean number of standard alcohol drinks consumed by police detainees on a typical day by location (of those who had drunk alcohol in the previous 12 months), 2010-2016

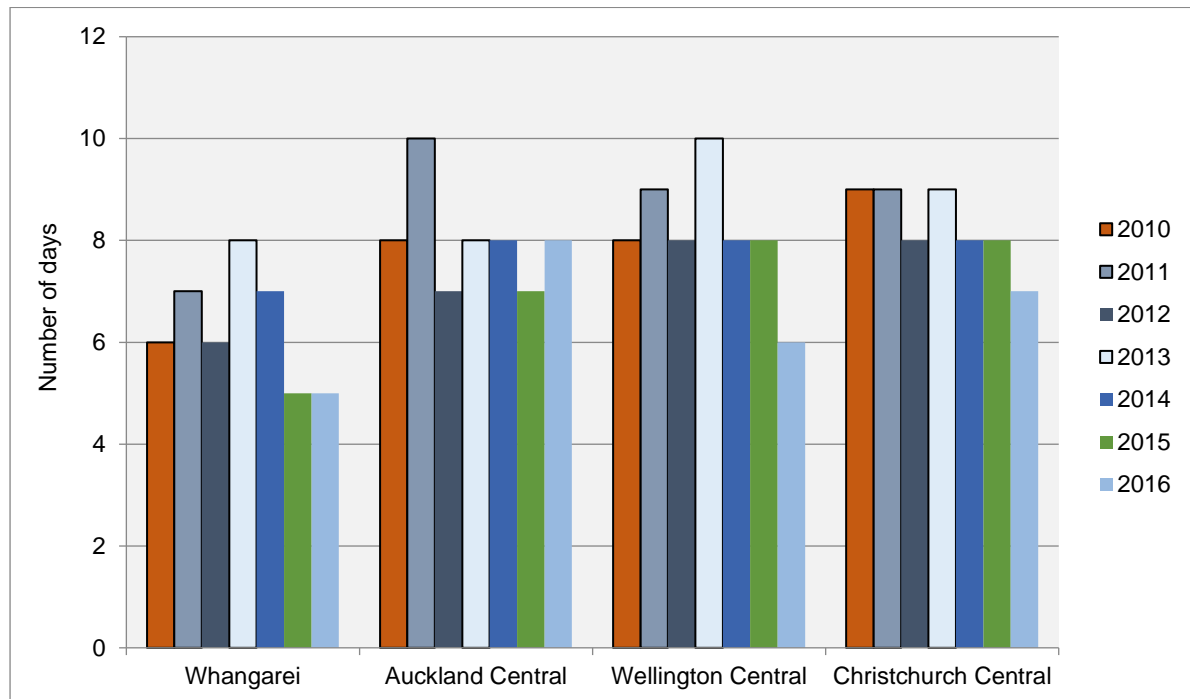


The detainees who had drunk alcohol in the past month were asked on how many days during the past month they had drunk larger quantities of alcohol (i.e. five or more drinks for men on a single occasion, or three or more drinks for women on a single occasion). The proportion of male detainees who drank five or more drinks in a single day in the past month declined from 88% in 2011 to 69% in 2016 ($p<0.0001$). There were also declines in the proportion of male detainees who drank five or more drinks in the past month in Auckland Central (down from 90% in 2011 to 72% in 2016, $p=0.0002$) and Christchurch Central (down from 89% in 2011 to 65% in 2016, $p<0.0001$).

The number of days the male detainees had drunk five or more standard drinks in the past month declined from 8.9 days in 2011 to 7.0 days in 2016 ($p=0.0012$). The number of days the

male detainees from Wellington Central had drunk five or more standard drinks in the past month also declined from 9.4 days in 2011 to 6.0 days in 2016 ($p=0.0140$) (Figure 3.4).

Figure 3 4: Mean number of days on which male detainees had drunk five or more standard alcoholic drinks in the past 30 days by location (of those who had drunk alcohol in the previous month), 2010-2016



Dependency on alcohol

The detainees who had drunk alcohol in the past 12 months were asked if they felt they were dependent on alcohol during this time. The proportion of detainees who felt they were dependent on alcohol declined from 26% in 2013 to 17% in 2016 ($p=0.0013$). The proportion of detainees in Christchurch Central who felt they were dependent on alcohol also declined from 25% in 2012 to 14% in 2016 ($p=0.0290$).

Alcohol use at time of arrest

The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2016 ($p<0.0001$) (Table 3.2). Levels of drinking prior to arrest declined in Whangarei (down from 53% in 2012 to 26% in 2016, $p=0.0011$) and Wellington Central (down from 45% in 2013 to 20% in 2016, $p=0.0002$) (Figure 3.5).

Figure 3 5: Proportion of police detainees who had been drinking alcohol prior to their arrest by location, 2010-2016

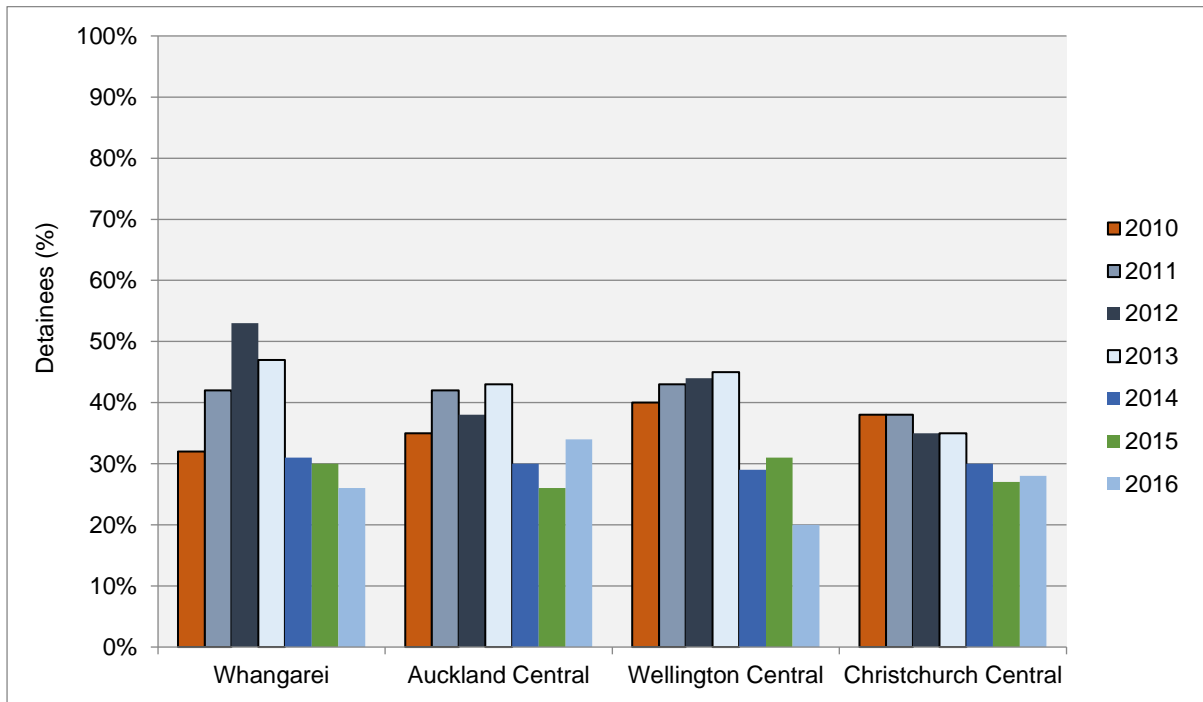


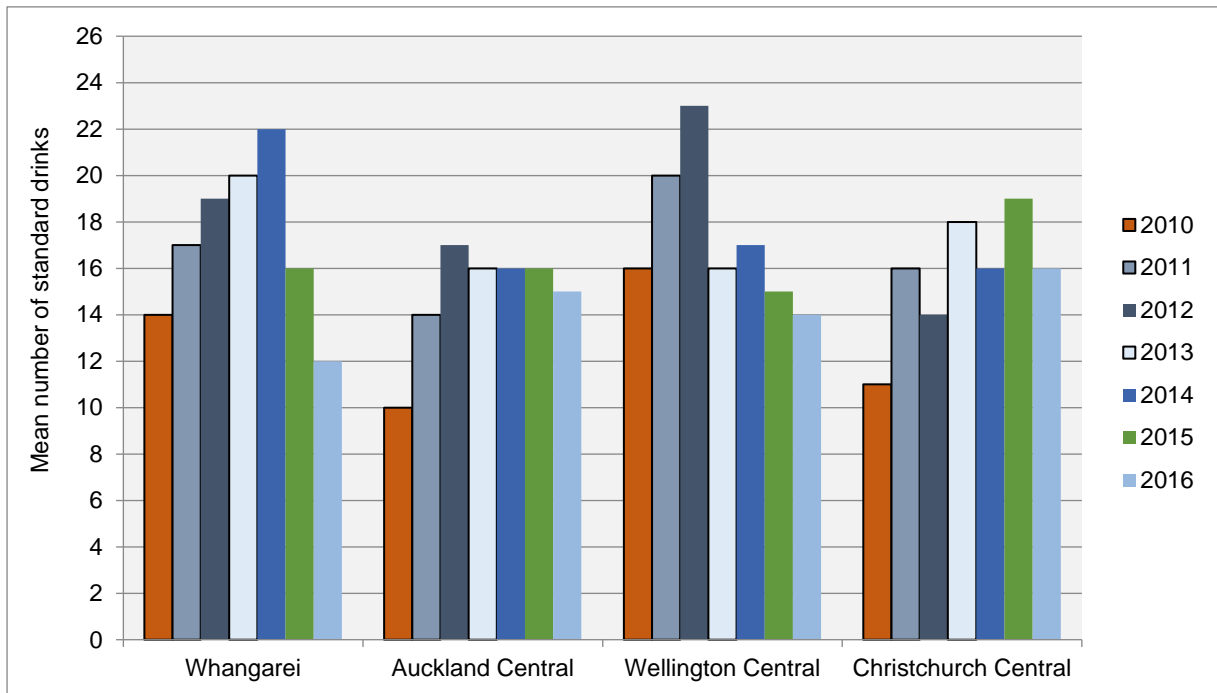
Table 3 2: Proportion of police detainees who had been drinking alcohol prior to their arrest by location, 2010-2016

Sites	Year	N - value	Using when arrested (%)	Mean number of standard drinks before arrest *
Whangarei	2010	n=111	32	14
	2011	n=149	42	17
	2012	n=146	53	19
	2013	n=150	47	20
	2014	n=151	31	22
	2015	n=166	30	16
	2016	n=129	26	12
Auckland Central	2010	n=283	35	10
	2011	n=310	42	14
	2012	n=243	38	17
	2013	n=293	43	16
	2014	n=315	30	16
	2015	n=266	26	16
	2016	n=220	34	15
Wellington Central	2010	n=147	40	16
	2011	n=170	43	20
	2012	n=98	44	23
	2013	n=104	45	16
	2014	n=95	29	17
	2015	n=106	31	15
	2016	n=221	20	14
Christchurch Central	2010	n=262	38	11
	2011	n=189	38	16
	2012	n=299	35	14
	2013	n=288	35	18
	2014	n=273	30	16
	2015	n=290	27	19
	2016	n=235	28	16
All Sites	2010	n=803	36	12
	2011	n=818	41	16
	2012	n=786	40	18
	2013	n=838	41	17
	2014	n=835	30	17
	2015	n=829	28	17
	2016	n=796	28	15

* of those who had been drinking alcohol when arrested

The detainees consumed a mean of 14 drinks before their arrest in 2016 (Figure 3.6).

Figure 3 6: Mean number of standard alcoholic drinks consumed at the time of arrest by location, 2010-2016



Current availability of alcohol

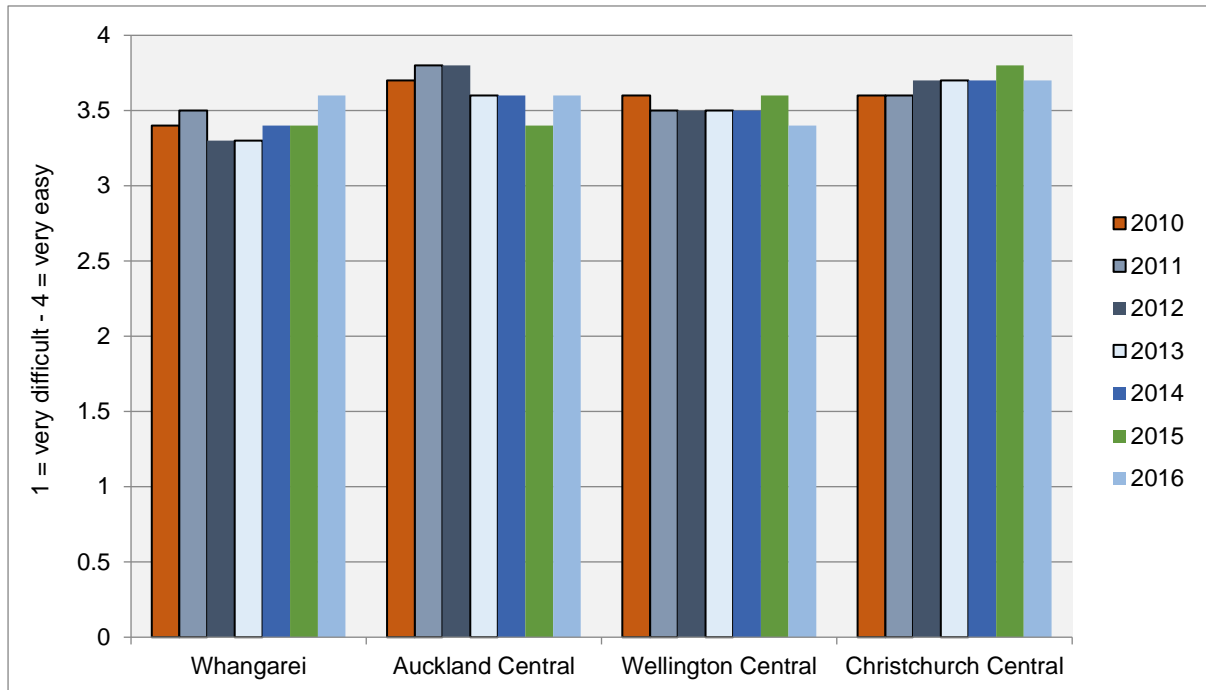
The detainees reported the current availability of alcohol was 'very easy/easy' in 2016 (Table 3.3). Overall, there was no change in the current availability of alcohol in 2016 compared to previous years. However, the current availability of alcohol in Auckland Central declined from 2011 to 2016 (down from 3.8 to 3.6, $p=0.0058$) (Figure 3.7). The availability of alcohol was reported to be more difficult in Wellington Central than Auckland Central (3.4 vs. 3.6, $p=0.0198$) and Christchurch Central (3.4 vs. 3.7, $p<0.0001$).

Table 3 3: Police detainees’ perceptions of the current availability of alcohol by location, 2010-2016

Current availability of alcohol	Year	N - value	Very Easy [4]	Easy [3]	Difficult [2]	Very difficult [1]	Average availability [1=very difficult - 4=very easy]	Overall current availability
Whangarei	2010	n=97	49%	41%	7%	2%	3.4	Very easy / easy
	2011	n=139	60%	28%	10%	2%	3.5	Very easy / easy
	2012	n=131	49%	37%	9%	5%	3.3	Very easy / easy
	2013	n=117	46%	38%	12%	3%	3.3	Very easy / easy
	2014	n=123	59%	28%	8%	4%	3.4	Very easy / easy
	2015	n=147	62%	20%	13%	5%	3.4	Very easy/ easy
	2016	n=101	70%	19%	9%	2%	3.6	Very easy
Auckland Central	2010	n=245	77%	17%	4%	2%	3.7	Very easy
	2011	n=278	85%	12%	2%	1%	3.8	Very easy
	2012	n=211	85%	11%	3%	1%	3.8	Very easy
	2013	n=269	69%	25%	3%	3%	3.6	Very easy / easy
	2014	n=261	68%	24%	7%	2%	3.6	Very easy / easy
	2015	n=225	52%	40%	5%	3%	3.4	Very easy / easy
	2016	n=196	64%	32%	4%	1%	3.6	Very easy / easy
Wellington Central	2010	n=138	70%	23%	5%	1%	3.6	Very easy
	2011	n=155	61%	28%	8%	3%	3.5	Very easy / easy
	2012	n=94	57%	35%	5%	2%	3.5	Very easy / easy
	2013	n=94	67%	24%	4%	4%	3.5	Very easy / easy
	2014	n=85	64%	28%	7%	1%	3.6	Very easy / easy
	2015	n=92	63%	32%	4%	1%	3.6	Very easy / easy
	2016	n=182	46%	50%	4%	1%	3.4	Easy / very easy
Christchurch Central	2010	n=248	72%	18%	9%	2%	3.6	Very easy
	2011	n=181	69%	24%	6%	2%	3.6	Very easy / easy
	2012	n=275	76%	22%	3%	1%	3.7	Very easy
	2013	n=265	77%	15%	5%	3%	3.7	Very easy

	2014	n=241	75%	20%	3%	2%	3.7	Very easy
	2015	n=254	82%	14%	3%	2%	3.8	Very easy
	2016	n=206	74%	23%	2%	1%	3.7	Very easy
All Sites	2010	n=728	70%	22%	6%	2%	3.6	Very easy
	2011	n=753	71%	21%	6%	2%	3.6	Very easy
	2012	n=712	71%	23%	4%	2%	3.6	Very easy / easy
	2013	n=745	69%	23%	4%	3%	3.6	Very easy / easy
	2014	n=710	68%	24%	6%	2%	3.6	Very easy / easy
	2015	n=716	65%	27%	5%	3%	3.5	Very easy/ easy
	2016	n=689	65%	31%	4%	1%	3.6	Very easy/ easy

Figure 3 7: Current availability of alcohol by location, 2010-2016



Change in availability of alcohol

The detainees reported the availability of alcohol had been 'stable' over the past six months in 2016 (Table 3.4). In 2016, 75% of detainees described the availability of alcohol as "stable". The availability of alcohol increased slightly from 2014 to 2016 (up from 2.1 to 2.2, $p=0.0036$). The availability of alcohol increased in Auckland Central from 2014 to 2016 (up from 2.0 to 2.3, $p<0.0001$).

Table 3 4: Change in the availability of alcohol by location, 2010-2016

Change in availability of alcohol	Year	N - value	Easier [3]	Stable [2]	Fluctuates [2]	More difficult [1]	Mean change in availability [1=more difficult - 3=easier]	Overall change in availability
Whangarei	2010	n=96	26%	64%	5%	5%	2.2	Stable / easier
	2011	n=137	18%	67%	4%	11%	2.1	Stable / easier
	2012	n=125	15%	69%	6%	10%	2.1	Stable / more difficult
	2013	n=113	19%	64%	5%	12%	2.1	Stable / easier
	2014	n=119	17%	68%	8%	8%	2.1	Stable / easier
	2015	n=135	28%	63%	2%	7%	2.2	Stable / easier
	2016	n=99	13%	78%	6%	3%	2.1	Stable
Auckland Central	2010	n=242	22%	69%	2%	7%	2.2	Stable / easier
	2011	n=269	19%	77%	2%	2%	2.2	Stable
	2012	n=204	19%	76%	1%	3%	2.2	Stable
	2013	n=262	18%	70%	2%	10%	2.1	Stable
	2014	n=254	17%	67%	3%	13%	2.0	Stable / easier
	2015	n=217	23%	64%	4%	10%	2.1	Stable/ easier
	2016	n=194	31%	62%	3%	4%	2.3	Stable/ easier
Wellington Central	2010	n=137	19%	71%	3%	7%	2.1	Stable
	2011	n=151	11%	83%	1%	5%	2.1	Stable
	2012	n=92	21%	68%	4%	7%	2.1	Stable / easier
	2013	n=93	12%	83%	4%	1%	2.1	Stable
	2014	n=84	4%	95%	0%	1%	2.0	Stable
	2015	n=89	7%	89%	0%	4%	2.0	Stable
	2016	n=183	7%	90%	2%	2%	2.1	Stable
Christchurch Central	2010	n=248	21%	67%	6%	6%	2.2	Stable / easier
	2011	n=180	23%	69%	0%	7%	2.2	Stable / easier
	2012	n=275	20%	73%	1%	5%	2.1	Stable
	2013	n=263	21%	68%	2%	9%	2.1	Stable / easier

	2014	n=240	13%	81%	<1%	5%	2.1	Stable
	2015	n=252	11%	85%	0%	4%	2.1	Stable
	2016	n=206	17%	79%	<1	4%	2.1	Stable
All Sites	2010	n=723	22%	68%	4%	6%	2.2	Stable / easier
	2011	n=737	18%	74%	2%	6%	2.1	Stable
	2012	n=697	19%	76%	3%	6%	2.1	Stable
	2013	n=731	18%	71%	3%	8%	2.1	Stable
	2014	n=697	13%	78%	2%	7%	2.1	Stable
	2015	n=693	17%	75%	2%	6%	2.1	Stable
	2016	n=685	20%	75%	2%	4%	2.2	Stable

Change in the price of alcohol

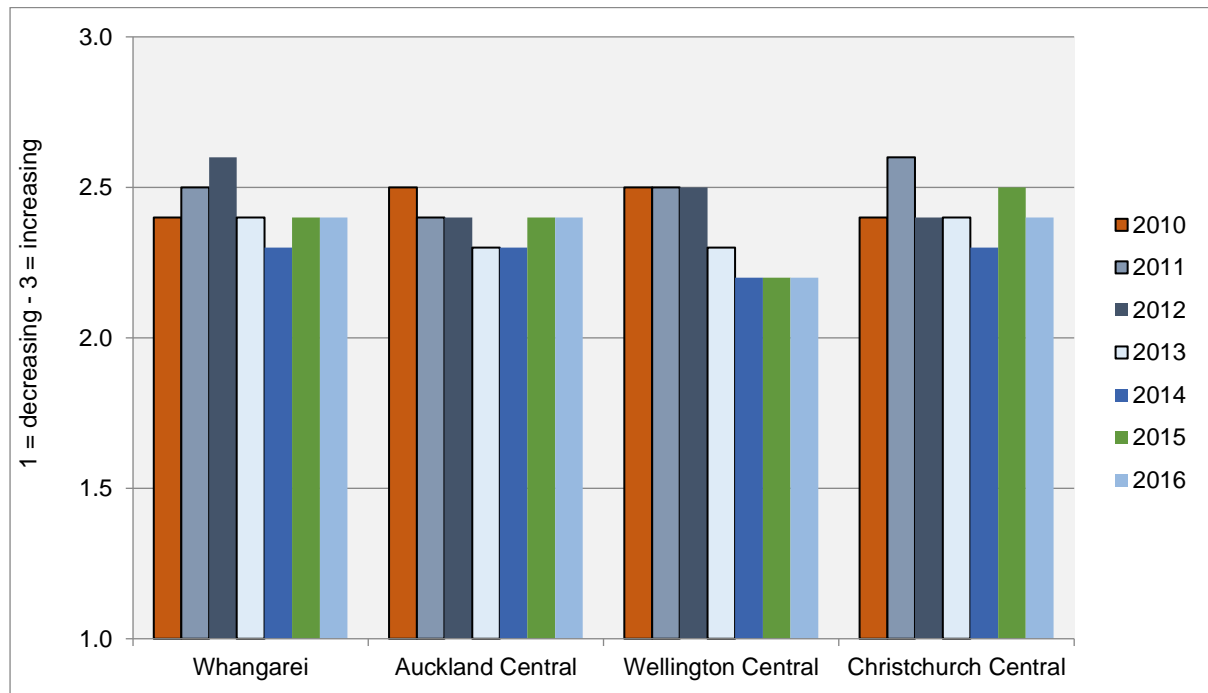
The detainees reported the price of alcohol had been 'stable/increasing' over the previous six months in 2016 (Table 3 5). A lower proportion of detainees reported the price of alcohol had been 'increasing' from 2010 to 2016 (down from 53% to 39%, $p=0.0027$). A lower proportion of detainees said the price of alcohol was 'increasing' in Whangarei (down from 66% in 2012 to 44% in 2016, $p=0.0470$), Central Wellington (down 57% in 2010 to 21% in 2016, $p<0.0001$) and Central Christchurch (down from 65% in 2011 to 44% in 2016, $p=0.0336$) (Figure 3 8).

Table 3 5: Police detainees’ perceptions of the change in the price of alcohol in the past six months by location, 2010-2016

Change in price of alcohol	Year	N - value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing	Mean change in price [1=decreasing - 3=increasing]	Overall change in availability
Whangarei	2010	n=91	46%	22%	24%	8%	2.4	Increasing / stable
	2011	n=121	56%	12%	22%	10%	2.5	Increasing / stable
	2012	n=127	66%	5%	25%	4%	2.6	Increasing / stable
	2013	n=120	47%	18%	26%	9%	2.4	Increasing / stable
	2014	n=116	34%	22%	34%	9%	2.3	Increasing / stable
	2015	n=132	43%	6%	43%	8%	2.4	Stable / increasing
	2016	n=90	44%	6%	42%	8%	2.4	Increasing / stable
Auckland Central	2010	n=224	54%	9%	29%	8%	2.5	Increasing / stable
	2011	n=256	52%	12%	29%	7%	2.4	Increasing / stable
	2012	n=197	48%	13%	32%	7%	2.5	Increasing / stable
	2013	n=249	41%	15%	35%	8%	2.3	Increasing / stable
	2014	n=242	43%	9%	38%	9%	2.3	Increasing / stable
	2015	n=210	45%	9%	40%	7%	2.4	Increasing / Stable
	2016	n=185	43%	6%	43%	8%	2.4	Increasing / Stable
Wellington Central	2010	n=116	57%	9%	28%	6%	2.5	Increasing / stable
	2011	n=143	52%	13%	30%	4%	2.5	Increasing / stable
	2012	n=85	51%	19%	25%	6%	2.5	Increasing / stable
	2013	n=85	31%	15%	49%	5%	2.3	Stable / increasing
	2014	n=79	24%	15%	58%	3%	2.2	Stable / increasing
	2015	n=85	19%	25%	55%	1%	2.2	Stable / fluctuating
	2016	n=164	21%	23%	54%	2%	2.2	Stable / fluctuating
Christchurch Central	2010	n=238	53%	5%	32%	9%	2.4	Increasing / stable
	2011	n=171	65%	8%	22%	5%	2.6	Increasing / stable
	2012	n=257	47%	9%	40%	4%	2.4	Increasing / stable
	2013	n=257	49%	13%	34%	5%	2.4	Increasing / stable

	2014	n=229	36%	16%	45%	3%	2.3	Stable / increasing
	2015	n=239	52%	10%	35%	3%	2.5	Increasing / stable
	2016	n=195	44%	7%	47%	3%	2.4	Stable / increasing
All Sites	2010	n=669	53%	10%	29%	8%	2.5	Increasing / stable
	2011	n=691	57%	11%	26%	7%	2.5	Increasing / stable
	2012	n=667	51%	11%	32%	5%	2.5	Increasing / stable
	2013	n=711	43%	15%	36%	7%	2.4	Increasing / stable
	2014	n=672	36%	15%	44%	6%	2.3	Stable / increasing
	2015	n=666	42%	12%	42%	5%	2.4	Increasing / Stable
	2016	n=641	39%	9%	46%	5%	2.3	Stable / increasing

Figure 3 8: Police detainees’ perceptions of the change in the price of alcohol in the past six months by location, 2010-2016



Time taken to purchase alcohol

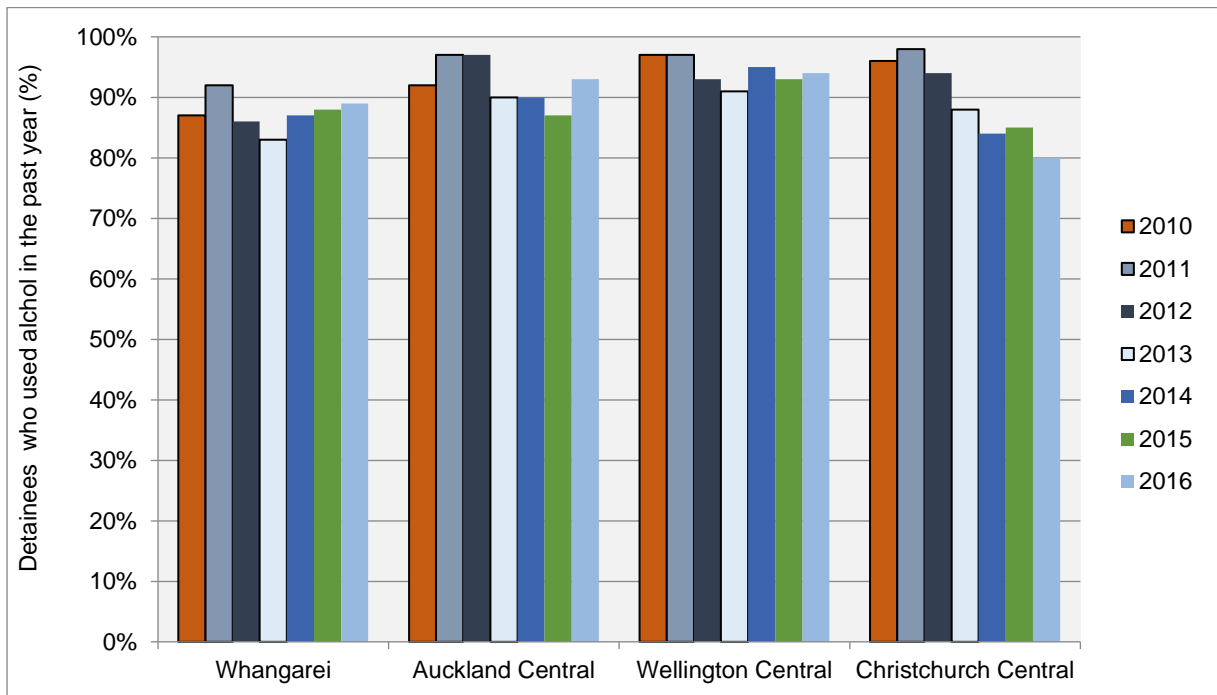
Eighty-nine percent of the detainees could purchase alcohol in one hour or less in 2016. Seventy-eight percent could purchase it in less than 20 minutes. The proportion of detainees who could purchase alcohol in one hour or less declined from 97% in 2011 to 89% in 2016 ($p < 0.0001$) (Table 3 6). Lower proportions of detainees could purchase alcohol in one hour or less in Christchurch Central (down from 98% in 2011 to 80% in 2016, $p = 0.0002$) (Figure 3 9).

Table 3 6: Time taken by police detainees to purchase alcohol by location, 2010-2016

Time taken to purchase alcohol (%)	Year	N - value	Months	Weeks	Days	About 1 day	Hours	1 hour	Less than 20 minutes
Whangarei	2010	n=96	0%	2%	6%	1%	4%	13%	74%
	2011	n=138	0%	2%	2%	1%	2%	18%	74%
	2012	n=133	0%	1%	0%	6%	8%	16%	70%
	2013	n=129	0%	2%	2%	5%	9%	17%	65%
	2014	n=126	1%	2%	2%	0%	8%	19%	67%
	2015	n=145	1%	3%	2%	3%	3%	8%	80%
	2016	n=99	0%	3%	2%	3%	4%	5%	83%
Auckland Central	2010	n=216	0%	1%	1%	3%	3%	14%	78%
	2011	n=276	1%	0%	<1%	<1%	1%	9%	88%
	2012	n=209	<1%	0%	1%	1%	<1%	8%	89%
	2013	n=270	1%	1%	0%	3%	5%	7%	83%
	2014	n=268	1%	1%	1%	3%	4%	7%	83%
	2015	n=223	<1%	2%	1%	4%	4%	10%	78%
	2016	n=196	0%	0%	2%	2%	3%	10%	84%
Wellington Central	2010	n=137	0%	0%	0%	1%	3%	15%	82%
	2011	n=154	0%	0%	0%	1%	3%	11%	86%
	2012	n=93	1%	0%	1%	2%	2%	6%	87%
	2013	n=98	0%	1%	0%	1%	7%	16%	74%
	2014	n=84	0%	0%	0%	2%	2%	10%	86%
	2015	n=89	1%	0%	2%	0%	3%	13%	80%
	2016	n=177	1%	0%	1%	1%	3%	12%	82%
Christchurch Central	2010	n=247	0%	<1%	0%	0%	3%	12%	84%
	2011	n=181	0%	0%	0%	1%	2%	16%	82%
	2012	n=273	<1%	1%	1%	1%	4%	12%	82%
	2013	n=267	1%	<1%	1%	2%	8%	10%	78%
	2014	n=238	0%	1%	1%	1%	13%	13%	71%

	2015	n=253	<1%	0%	2%	2%	11%	9%	76%
	2016	n=205	<1	1%	6%	2%	10%	14%	67%
All Sites	2010	n=696	0%	1%	1%	1%	3%	13%	80%
	2011	n=752	<1%	<1%	1%	1%	2%	13%	83%
	2012	n=708	<1%	<1%	1%	2%	3%	10%	84%
	2013	n=769	1%	1%	1%	2%	7%	11%	77%
	2014	n=720	<1%	1%	1%	2%	8%	11%	77%
	2015	n=708	<1%	1%	2%	2%	6%	10%	78%
	2016	n=683	<1	1%	3%	2%	6%	11%	78%

Figure 3 9: Proportion of the police detainees who could purchase alcohol in one hour or less by location, 2010-2016



Driving under the influence of alcohol

Those detainees who had drunk alcohol in the past year were asked how often they drove under the influence of alcohol. Twenty-one percent of the alcohol using detainees said they did not drive and a further 10% said their driver licence was suspended in 2016. Nineteen percent of the detainees who drove and drank alcohol had completed at least some of their driving under the influence of alcohol in 2016 (Table 3 7).

Table 3 7: Extent police detainees who drove and who had used alcohol in the past 12 months had driven under the influence of alcohol by location, 2010-2016

Extent drove under the influence of alcohol [%]	Year	N - value	All [4]	Most [3]	Some [2]	Hardly any [1]	None [0]
Whangarei	2010	n=79	3%	3%	14%	37%	44%
	2011	n=100	2%	0%	8%	26%	64%
	2012	n=96	1%	5%	14%	25%	55%
	2013	n=95	2%	8%	13%	17%	60%
	2014	n=98	2%	4%	12%	13%	68%
	2015	n=125	2%	2%	10%	21%	66%
	2016	n=60	2%	0%	17%	15%	67%
Auckland Central	2010	n=165	2%	3%	18%	19%	58%
	2011	n=198	2%	5%	20%	20%	54%
	2012	n=145	1%	6%	15%	16%	61%
	2013	n=109	3%	4%	14%	32%	47%
	2014	n=174	1%	3%	14%	21%	61%
	2015	n=142	2%	5%	8%	28%	56%
	2016	n=127	6%	4%	12%	24%	54%
Wellington Central	2010	n=91	4%	3%	14%	18%	60%
	2011	n=98	2%	3%	14%	18%	62%
	2012	n=72	1%	3%	6%	22%	68%
	2013	n=56	5%	2%	11%	20%	63%
	2014	n=59	5%	7%	5%	24%	59%
	2015	n=66	2%	0%	24%	26%	48%
	2016	n=120	4%	3%	18%	13%	62%
Christchurch Central	2010	n=54	2%	6%	19%	18%	55%
	2011	n=124	0%	3%	18%	19%	60%
	2012	n=208	1%	2%	19%	22%	56%
	2013	n=182	2%	2%	11%	23%	62%
	2014	n=178	2%	3%	15%	23%	57%

	2015	n=180	2%	3%	9%	23%	62%
	2016	n=158	2%	3%	7%	28%	60%
All Sites	2010	n=489	3%	4%	17%	21%	55%
	2011	n=520	1%	3%	16%	20%	59%
	2012	n=521	1%	4%	14%	21%	60%
	2013	n=520	3%	4%	12%	25%	56%
	2014	n=513	2%	4%	12%	21%	60%
	2015	n=505	2%	3%	12%	25%	58%
	2016	n=470	4%	3%	12%	23%	59%

Summary

- The proportion of detainees who drank alcohol in the previous year declined from 92% in 2011 to 87% in 2016
- The proportion of Whangarei detainees who drank alcohol in the previous year declined from 93% in 2011 to 78% in 2016
- The mean number of days on which the detainees had drunk alcohol in the previous year declined from 101 days in 2013 to 76 days in 2016
- There were declines in number of days of alcohol consumption in Wellington Central (down from 111 days in 2011 to 64 days in 2016) and in Christchurch Central (down from 103 days in 2014 to 70 days in 2016)
- The mean number of alcoholic drinks consumed on a typical day of use decreased from 17 in 2013 to 15 in 2016
- The number of drinks consumed by Auckland Central detainees on a typical occasion increased from 11 in 2010 to 16 in 2016
- The number of drinks consumed by Wellington Central detainees on a typical occasion decreased from 18 in 2012 to 13 in 2016
- The number of days the male detainees had drunk five or more standard drinks in the past month declined from 8.9 days in 2011 to 7.0 days in 2016
- The number of days the male detainees from Wellington Central had drunk five or more standard drinks in the past month also declined, from 9.4 days in 2011 to 6.0 days in 2016
- The proportion of detainees who felt they were dependent on alcohol declined from 26% in 2013 to 17% in 2016
- The proportion of Christchurch Central detainees who felt they were dependent on alcohol declined from 25% in 2012 to 14% in 2016
- The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2016
- Levels of drinking prior to arrest declined in Whangarei (down from 53% in 2012 to 26% in 2016) and Wellington Central (down from 45% in 2013 to 20% in 2016)

- The current availability of alcohol in Auckland Central declined from 2011 to 2016
- The proportion of detainees who could purchase alcohol in one hour or less declined slightly from 97% in 2011 to 89% in 2016
- The proportion of Christchurch Central detainees who could purchase alcohol in one hour or less declined from 98% in 2011 to 80% in 2016
- In 2016, 19% of the detainees who drank alcohol and drove had completed at least some of their driving under the influence of alcohol

Chapter 4 - Methamphetamine

Introduction

Methamphetamine, known colloquially in New Zealand as “P”, is a powerful and addictive psycho-stimulant (Gawin & Ellinwood, 1988; Hall & Hando, 1994; Kuhn et al., 1998; Shearer et al., 2002). Chronic and high dose use of methamphetamine can cause hostility, paranoia, hallucinations, obsessive behaviour, psychosis resembling schizophrenia, and drug dependency (Hall & Hando, 1994; Kuhn, et al., 1998; Shearer, et al., 2002).

Methamphetamine use emerged in New Zealand in the late-1990s, peaking at the population level in the mid-2000s before declining over subsequent years (Wilkins et al., 2002a; Wilkins & Sweetsur, 2008). The most recent population estimate, from a household survey conducted in 2014/15, found 0.9% of New Zealanders aged 16-64 years had used ‘amphetamines’² in the previous year (Ministry of Health, 2015), similar to the levels found in the previous two years (Ministry of Health, 2014).

Higher levels of methamphetamine use have been found among ‘at risk’ populations, such as police detainees (Wilkins, et al., 2012a; Wilkins et al., 2011). Recent NZ-ADUM and IDMS annual surveys found increasing methamphetamine supply and lower prices (Wilkins et al., 2016a; Wilkins et al., 2015). The proportion of detainees who reported using methamphetamine in the previous year increased from 28% in 2012 to 36% in 2015 (Wilkins, et al., 2016a). The mean price of a gram of methamphetamine decreased from \$788 in 2014 to \$672 in 2015 (Wilkins, et al., 2016a).

These findings are consistent with the record seizures of methamphetamine made by New Zealand Police and New Zealand Customs Service over the past two years, including a one-off seizure of 494 kilograms in July 2016 (NDIB, 2016). Record seizures of methamphetamine have

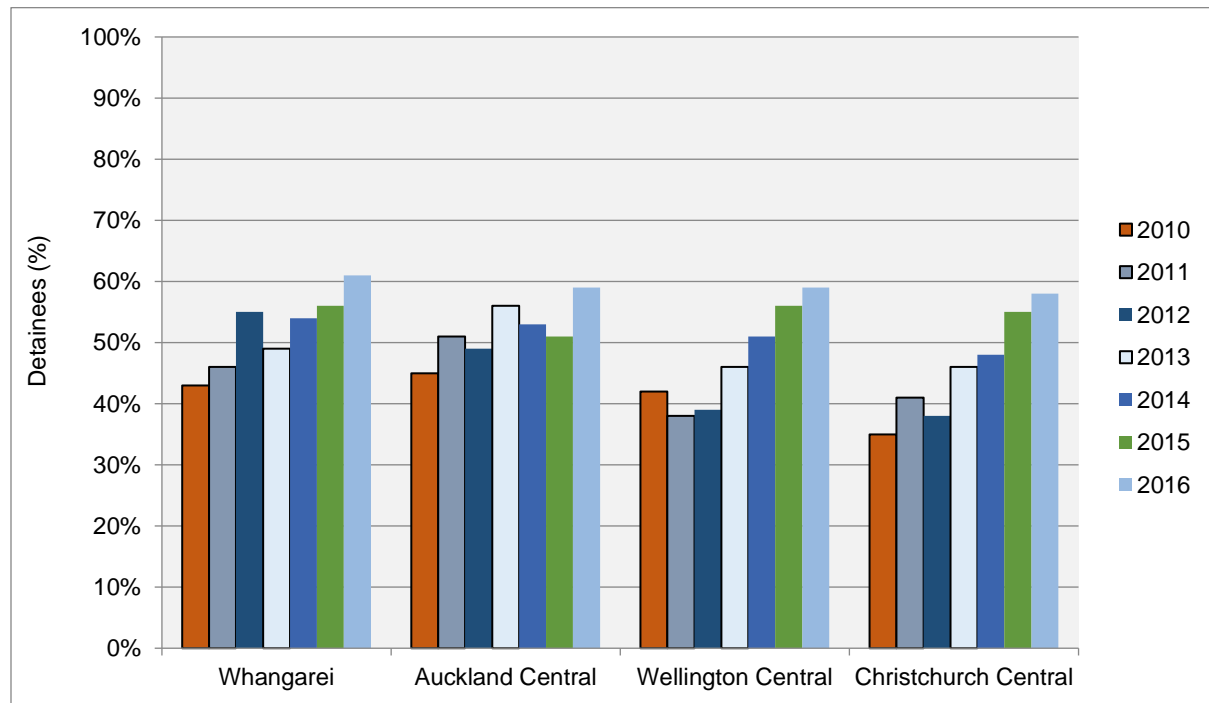
² In this survey the term ‘amphetamines’ referred to a number of amphetamine type drugs including methamphetamine, crystal methamphetamine (Ice) and amphetamine sulphate (‘speed’)

also been made at the Australia border (ACC, 2015), and in Europe (EMCDDA, 2016). In March 2017, a one-off seizure of 540 kilograms of methamphetamine was made in Western Sydney. Similarly, the United Nations Office of Drugs and Crime (UNODC) reported the quantity of methamphetamine seized in East and South-East Asia ‘almost quadrupled’ from 2009 to 2014 (UNODC, 2016). The UNODC also note the methamphetamine market is increasingly globally interconnected (UNODC, 2016). For example, methamphetamine seized in South-East Asia was found to have been made in West Africa and the Americas (UNODC, 2015).

Patterns of methamphetamine use

The proportion of detainees who reported having ever used methamphetamine in their lifetimes increased from 41% in 2010 to 59% in 2016 ($p < 0.0001$). There was an increase in the lifetime use of methamphetamine in Auckland, Wellington and Christchurch from 2010 to 2016 (Figure 4.1).

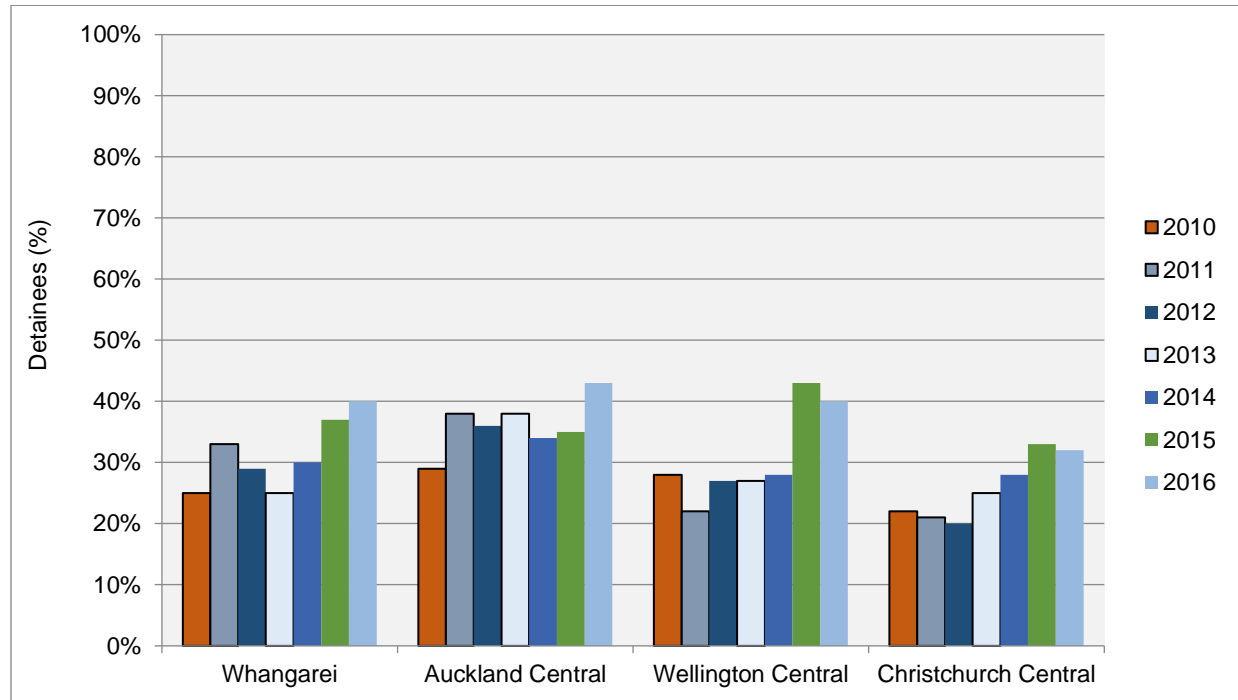
Figure 4.1: Proportion of police detainees who had ever used methamphetamine by location, 2010-2016



The proportion of detainees who had used methamphetamine in the previous 12 months increased from 26% in 2010 to 38% in 2016 ($p < 0.0001$). There were increases in last year use of

methamphetamine in Wellington Central (up from 22% in 2011 to 40% in 2016, $p=0.0029$) and Christchurch Central (up from 20% in 2012 to 32% in 2016, $p=0.0244$) (Figure 4.2).

Figure 4.2: Proportion of police detainees who had used methamphetamine in the past 12 months by location, 2010-2016



The proportion of detainees who had used methamphetamine in the previous month increased from 14% in 2010 to 22% in 2016 ($p=0.0017$) (Figure 4.3). The proportion of Wellington Central detainees who had used methamphetamine in the previous month increased from 12% in 2010 to 26% in 2016 ($p=0.0159$).

Figure 4.3: Proportion of police detainees who had used methamphetamine in the past month by location, 2010-2016

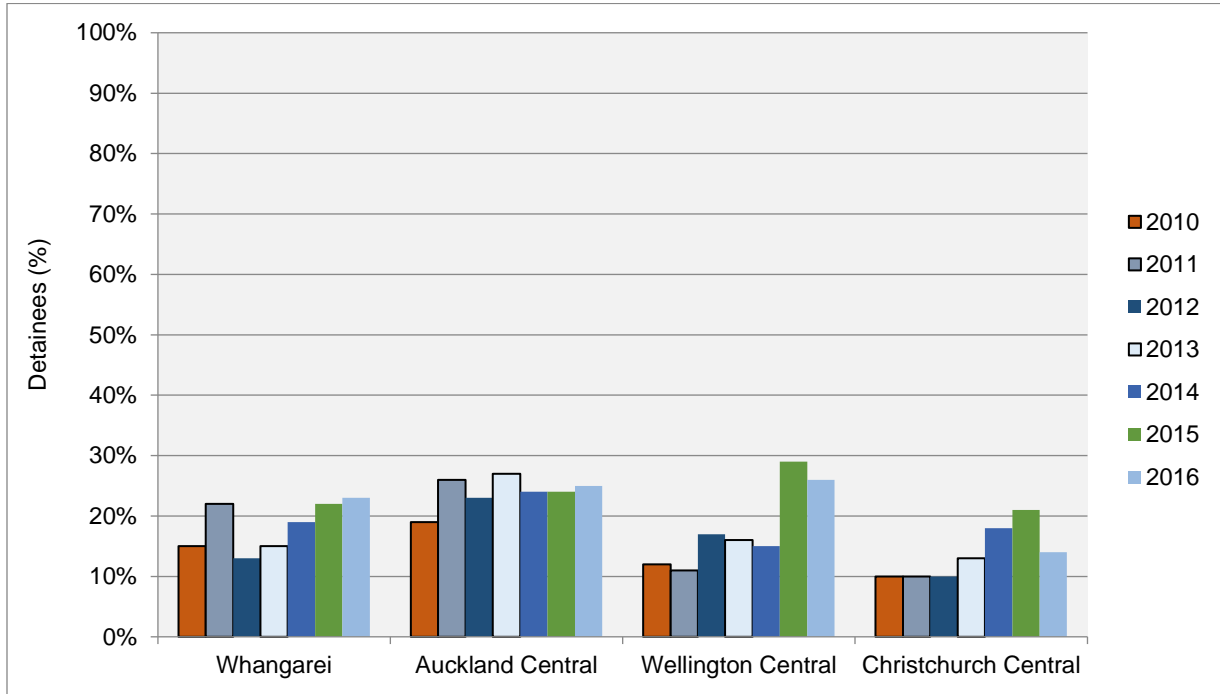


Table 4 1: Police detainees' patterns of methamphetamine use by location, 2010-2016

Use of methamphetamine (%)	Year	N -Value	Ever used	Mean age first used (years)*	Used in past 12 months	Mean number of days used in past 12 months **	Injected in the past 12 months **	Felt dependent in past 12 months **	Used in past month	Mean number of days used in past month***
Whangarei	2010	n=115	43%	22	25%	44	10%	19%	15%	7
	2011	n=149	45%	21	33%	77	8%	16%	22%	10
	2012	n=151	55%	21	29%	55	8%	24%	13%	9
	2013	n=153	49%	20	25%	45	6%	19%	15%	7
	2014	n=151	54%	22	30%	86	5%	26%	19%	12
	2015	n=169	56%	20	37%	70	10%	26%	22%	11
	2016	n=131	61%	20	40%	55	10%	25%	23%	7
Auckland Central	2010	n=284	45%	22	29%	102	29%	36%	19%	12
	2011	n=316	51%	22	38%	82	20%	31%	26%	8
	2012	n=247	49%	21	36%	81	28%	29%	23%	11
	2013	n=294	56%	22	38%	105	22%	37%	27%	12
	2014	n=315	53%	21	34%	117	14%	37%	24%	13
	2015	n=267	51%	20	35%	90	25%	44%	24%	11
	2016	n=221	59%	21	43%	94	20%	32%	25%	11
Wellington Central	2010	n=152	42%	22	28%	67	18%	28%	12%	9
	2011	n=171	38%	23	22%	77	16%	24%	11%	10
	2012	n=101	39%	21	27%	58	7%	21%	17%	10
	2013	n=106	46%	20	27%	90	17%	37%	16%	14
	2014	n=95	51%	21	28%	78	12%	31%	15%	12
	2015	n=107	56%	20	43%	94	13%	36%	29%	13
	2016	n=213	59%	20	40%	109	18%	35%	26%	13
Christchurch Central	2010	n=262	35%	22	22%	35	15%	7%	10%	5
	2011	n=191	41%	22	21%	59	19%	8%	10%	8
	2012	n=303	38%	23	20%	58	28%	20%	10%	10
	2013	n=287	46%	21	25%	55	15%	18%	13%	7
	2014	n=273	48%	21	28%	105	11%	45%	18%	12
	2015	n=292	55%	22	33%	94	14%	26%	21%	12

	2016	n=235	58%	21	32%	70	17%	21%	14%	10
All sites	2010	n=813	41%	22	26%	68	20%	25%	14%	9
	2011	n=827	45%	22	29%	75	17%	23%	18%	8
	2012	n=802	44%	21	28%	68	21%	25%	16%	10
	2013	n=843	50%	21	30%	82	17%	30%	19%	10
	2014	n=835	51%	21	30%	102	12%	37%	19%	13
	2015	n=835	54%	21	36%	89	17%	34%	24%	12
	2016	n=800	59%	21	38%	85	18%	28%	22%	11

* of those who had ever tried

** of those who had used in the past 12 months

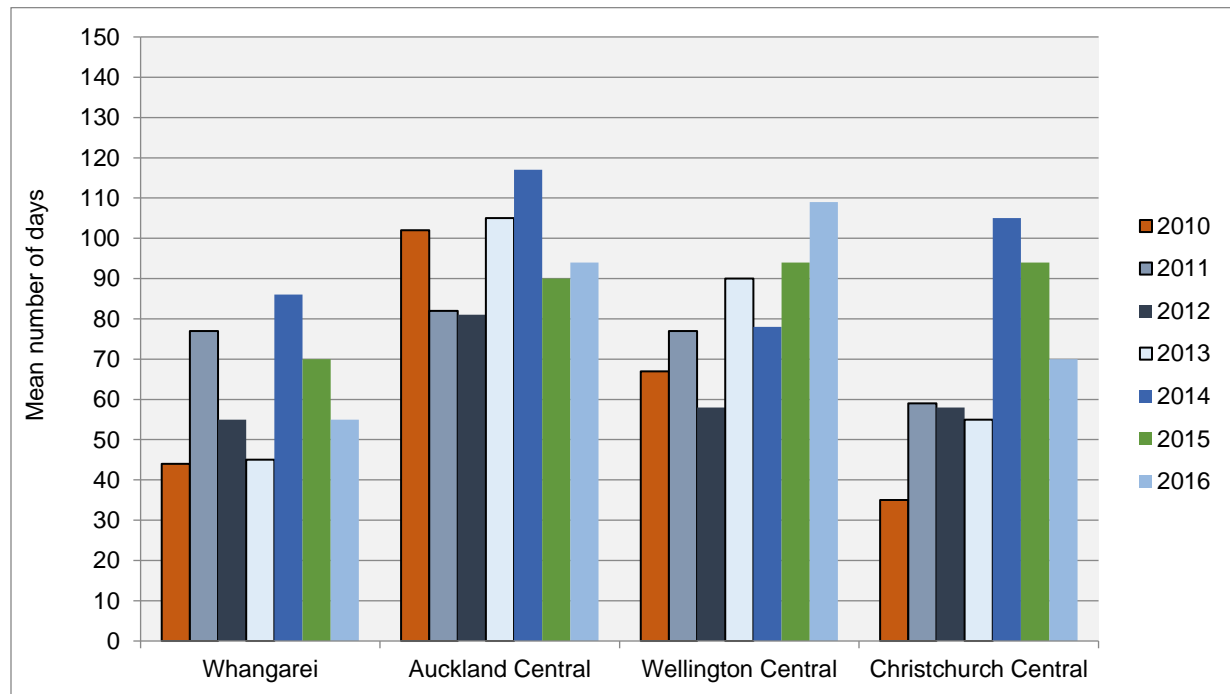
*** of those who had used in the past month

Eighteen percent of the detainees who had used methamphetamine in the past 12 months in 2016 had injected it.

Frequency of methamphetamine use

The mean number of days the detainees had used methamphetamine increased from 68 days in 2010 to 84 days in 2016 ($p=0.0039$) (Figure 4.4).

Figure 4.4: Mean number of days police detainees had used methamphetamine in the past 12 months by location, 2010- 2016



Dependency on methamphetamine

The detainees who had used methamphetamine in the previous year were asked if they had felt dependent on methamphetamine during the past 12 months. In 2016, 28% of the methamphetamine using detainees felt they were dependent on methamphetamine (Figure 4.5).

Methamphetamine use at the time of arrest

Six percent of the detainees (of the entire sample) reported they were using methamphetamine prior to being arrested in 2016 (Table 4.2).

Table 4 2: Methamphetamine use by police detainees at time of arrest by location, 2010-2016

	Year	N -Value	Using methamphetamine when arrested (%)
Whangarei	2010	n=113	2%
	2011	n=148	5%
	2012	n=144	4%
	2013	n=145	2%
	2014	n=145	5%
	2015	n=168	8%
	2016	n=131	5%
Auckland Central	2010	n=280	6%
	2011	n=309	8%
	2012	n=243	7%
	2013	n=290	9%
	2014	n=314	7%
	2015	n=265	7%
	2016	n=219	7%
Wellington Central	2010	n=149	3%
	2011	n=170	3%
	2012	n=99	4%
	2013	n=106	7%
	2014	n=93	5%
	2015	n=106	8%
	2016	n=212	8%
Christchurch Central	2010	n=262	1%
	2011	n=190	2%
	2012	n=299	2%
	2013	n=281	4%
	2014	n=270	7%
	2015	n=291	7%
	2016	n=232	4%
All sites	2010	n=804	3%
	2011	n=817	5%
	2012	n=785	5%
	2013	n=827	6%
	2014	n=827	6%
	2015	n=830	8%
	2016	n=793	6%

Current availability of methamphetamine

The detainees reported the current availability of methamphetamine to be 'very easy/easy' in 2016 (Table 4.3). The current availability of methamphetamine increased from 3.0 in 2010 to 3.3 in 2016 ($p=0.0074$). The current availability of methamphetamine increased in Christchurch Central from 2.9 in 2010 to 3.4 in 2016 ($p=0.0478$) (Figure 4.5).

Figure 4 5: Mean score of current availability of methamphetamine by location, 2010-2016

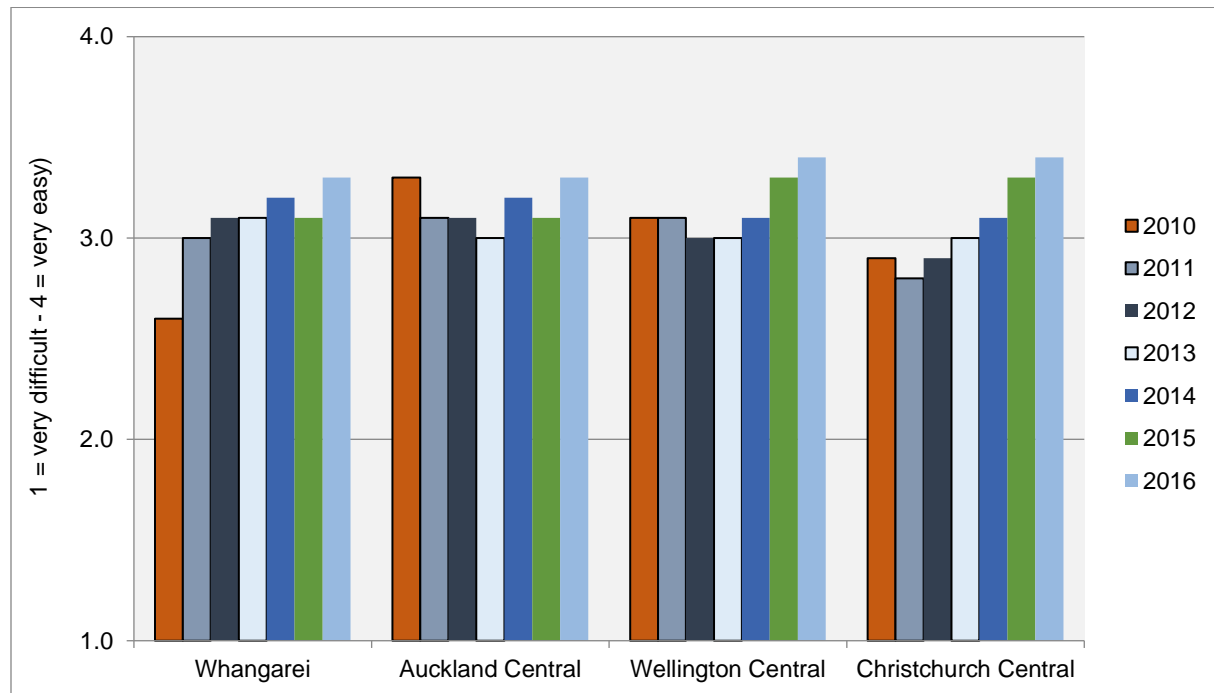


Table 4 3: Police detainees’ perceptions of the current availability of methamphetamine by location, 2010-2016

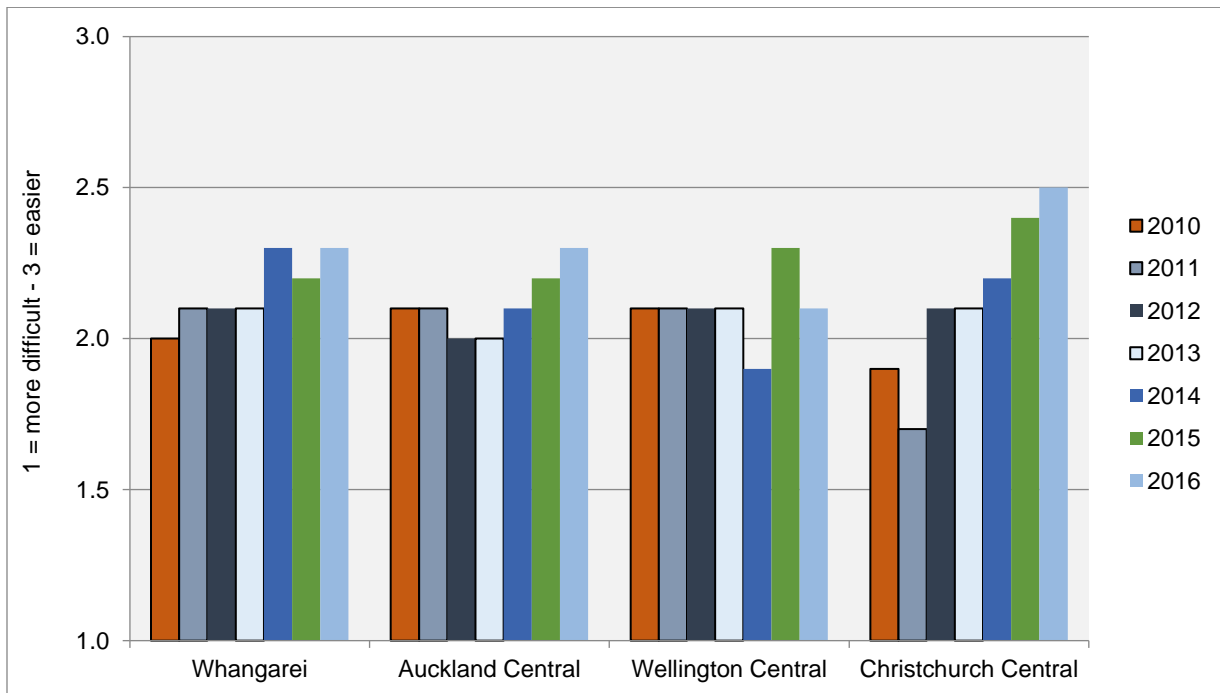
Current availability of methamphetamine	Year	N -Value	Very easy [4]	Easy [3]	Difficult [2]	Very difficult [1]	Average availability score (1=very difficult - 4=very easy)	Overall current status
Whangarei	2010	n=29	17%	38%	34%	10%	2.6	Easy / difficult
	2011	n=48	35%	33%	27%	4%	3.0	Very easy / easy
	2012	n=37	41%	32%	19%	8%	3.1	Very easy / easy
	2013	n=37	35%	43%	22%	0%	3.1	Easy / very easy
	2014	n=43	51%	30%	2%	16%	3.2	Very easy / easy
	2015	n=59	49%	22%	15%	14%	3.1	Very easy / easy
	2016	n=51	61%	20%	10%	10%	3.3	Very easy / easy
Auckland Central	2010	n=82	50%	28%	20%	2%	3.3	Very easy / easy
	2011	n=121	38%	38%	18%	5%	3.1	Very easy / easy
	2012	n=83	41%	36%	13%	10%	3.1	Very easy / easy
	2013	n=110	41%	32%	18%	9%	3.0	Very easy / easy
	2014	n=100	45%	30%	20%	5%	3.2	Very easy / easy
	2015	n=88	35%	44%	14%	7%	3.1	Very easy / easy
	2016	n=91	44%	41%	13%	2%	3.3	Very easy / easy
Wellington Central	2010	n=39	44%	31%	13%	13%	3.1	Very easy / easy
	2011	n=33	36%	45%	12%	6%	3.1	Easy / very easy
	2012	n=25	32%	36%	24%	8%	3.0	Easy / very easy
	2013	n=26	35%	35%	23%	8%	3.0	Very easy / easy
	2014	n=25	36%	44%	12%	8%	3.1	Easy / very easy
	2015	n=41	46%	41%	7%	5%	3.3	Very easy / easy
	2016	n=83	58%	28%	10%	5%	3.4	Very easy / easy
Christchurch Central	2010	n=54	35%	33%	19%	13%	2.9	Very easy / easy
	2011	n=34	29%	29%	32%	9%	2.8	Very easy / easy
	2012	n=53	36%	28%	23%	13%	2.9	Very easy / easy
	2013	n=72	43%	28%	18%	11%	3.0	Very easy / easy
	2014	n=75	43%	29%	20%	8%	3.1	Very easy / easy

	2015	n=96	56%	27%	8%	8%	3.3	Very easy / easy
	2016	n=70	59%	29%	10%	3%	3.4	Very easy / easy
All sites	2010	n=204	40%	31%	20%	8%	3.0	Very easy / easy
	2011	n=227	36%	37%	21%	6%	3.0	Easy / very easy
	2012	n=198	38%	34%	18%	10%	3.0	Very easy / easy
	2013	n=245	40%	32%	19%	8%	3.0	Very easy / easy
	2014	n=241	44%	32%	16%	8%	3.1	Very easy / easy
	2015	n=286	46%	35%	11%	8%	3.2	Very easy / easy
	2016	n=294	53%	32%	11%	4%	3.3	Very easy / easy

Change in availability of methamphetamine

In 2016, 43% of the detainees reported the availability of methamphetamine had been 'stable', 40% said it had become 'easier' and 9% said it had become 'more difficult' (Table 4 4). The overall availability of methamphetamine increased from 2010 to 2016 (up from 2.0 in 2010 to 2.3 in 2016, $p < 0.0001$). The availability of methamphetamine increased in Christchurch Central (up from 1.9 in 2010 to 2.5 in 2016, $p < 0.0001$) (Figure 4 6).

Figure 4 6: Mean score of change in the availability of methamphetamine by location, 2010-2016



In 2016, the availability of methamphetamine was increasing at a higher rate in Christchurch Central compared to Auckland Central (2.5 vs. 2.3, $p = 0.0259$) and Wellington Central (2.5 vs. 2.1, $p < 0.0001$).

Table 4 4: Police detainees' perceptions of the change in availability of methamphetamine by location, 2010-2016

Change in availability of methamphetamine	Year	N -Value	Easier [3]	Stable [2]	Fluctuates [2]	More difficult [1]	Average change in availability score [1=more difficult - 3=easier]	Overall recent change
Whangarei	2010	n=27	19%	33%	26%	22%	2.0	Stable / fluctuates
	2011	n=48	31%	33%	19%	17%	2.1	Stable / easier
	2012	n=37	30%	41%	14%	16%	2.1	Stable / easier
	2013	n=36	22%	53%	11%	14%	2.1	Stable / easier
	2014	n=39	46%	36%	5%	13%	2.3	Easier / stable
	2015	n=53	36%	40%	11%	13%	2.2	Stable / easier
	2016	n=51	39%	41%	6%	14%	2.3	Stable / easier
Auckland Central	2010	n=76	32%	32%	12%	25%	2.1	Stable / easier
	2011	n=104	20%	50%	15%	14%	2.1	Stable / easier
	2012	n=73	21%	48%	8%	23%	2.0	Stable / more difficult
	2013	n=99	24%	39%	12%	24%	2.0	Stable / easier
	2014	n=94	24%	50%	12%	14%	2.1	Stable / easier
	2015	n=85	35%	44%	7%	14%	2.2	Stable / easier
	2016	n=89	40%	38%	8%	13%	2.3	Easier / stable
Wellington Central	2010	n=30	27%	33%	27%	13%	2.1	Stable / easier
	2011	n=30	20%	63%	7%	10%	2.1	Stable / easier
	2012	n=25	28%	28%	24%	20%	2.1	Easier / stable
	2013	n=24	21%	50%	17%	13%	2.1	Stable / easier
	2014	n=23	17%	57%	0%	26%	1.9	Stable / more difficult
	2015	n=40	33%	58%	5%	5%	2.3	Stable / easier
	2016	n=77	16%	64%	14%	6%	2.1	Stable / easier
Christchurch Central	2010	n=51	16%	39%	16%	29%	1.9	Stable / more difficult
	2011	n=34	6%	47%	12%	35%	1.7	Stable / more difficult
	2012	n=48	27%	38%	17%	19%	2.1	Stable / easier
	2013	n=67	31%	39%	10%	19%	2.1	Stable / easier
	2014	n=72	43%	26%	8%	22%	2.2	Easier / stable
	2015	n=91	45%	33%	14%	8%	2.4	Easier / stable

	2016	n=68	57%	37%	3%	3%	2.5	Easier / stable
All sites	2010	n=184	24%	34%	17%	24%	2.0	Stable / easier
	2011	n=216	20%	48%	14%	18%	2.0	Stable / easier
	2012	n=183	25%	41%	14%	21%	2.0	Stable / easier
	2013	n=226	25%	43%	12%	20%	2.1	Stable / easier
	2014	n=226	33%	41%	8%	18%	2.1	Stable / easier
	2015	n=272	38%	43%	9%	10%	2.3	Stable / easier
	2016	n=285	40%	43%	7%	9%	2.3	Stable / easier

Current price of methamphetamine

The detainees reported the median price of a 'point' (0.1 grams) of methamphetamine was \$100 (mean \$109) in 2016 (Table 4 5). There was no statistically significant change in the overall mean price of a 'point' of methamphetamine from 2010 to 2016. In 2016, the mean price paid for a 'point' of methamphetamine was higher in Christchurch Central than in Auckland Central (\$126 vs. \$102, $p < 0.0001$), Wellington Central (\$126 vs. \$103, $p < 0.0001$), and Whangarei (\$126 vs. \$106, $p = 0.0013$) (Figure 4 7).

Figure 4 7: Mean price paid for a 'point' (0.1 grams) of methamphetamine by location, 2010-2016

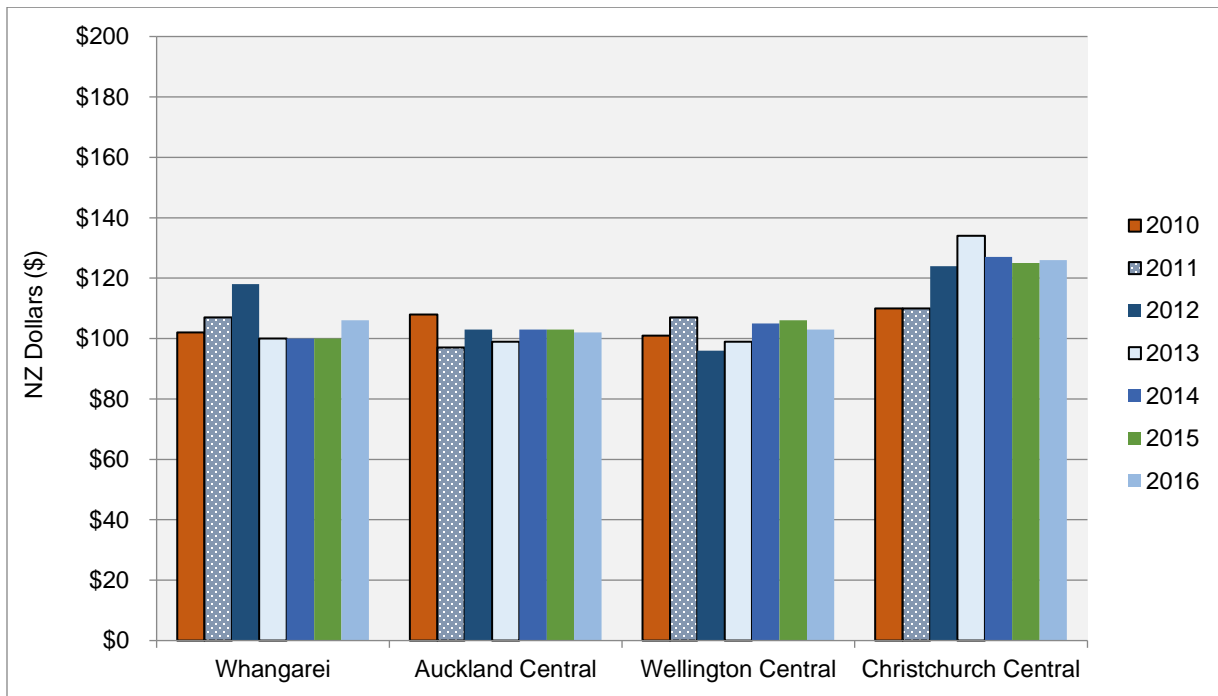
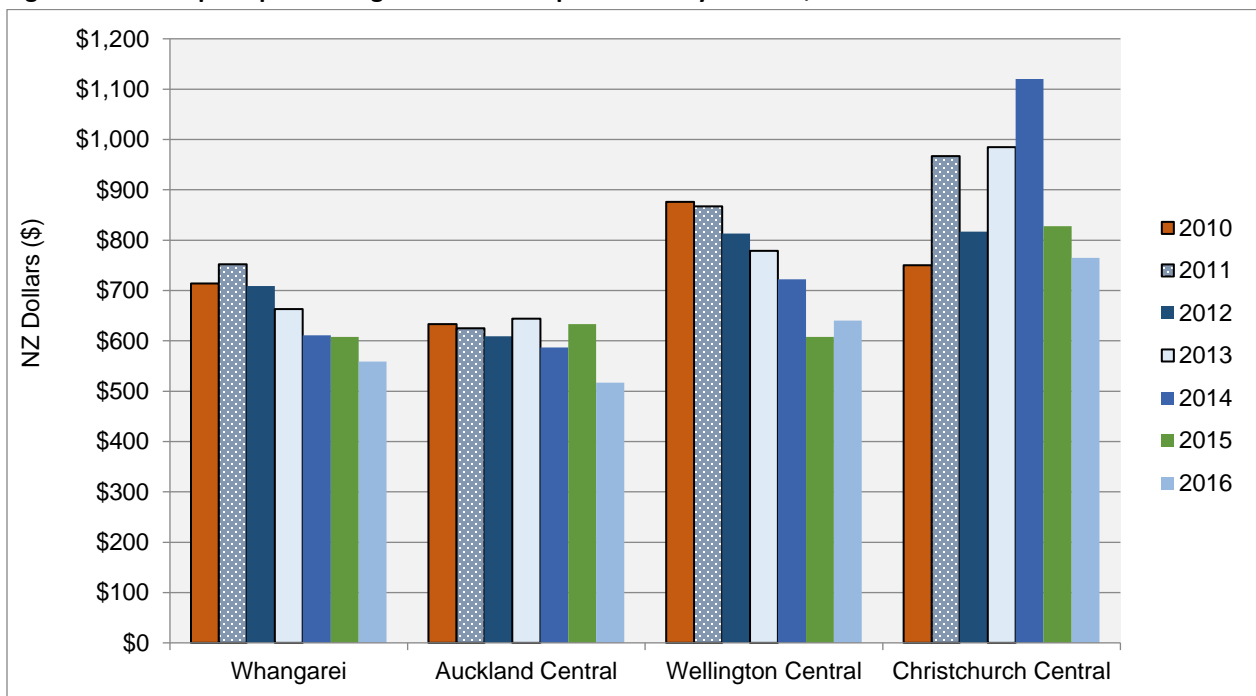


Table 4 5: Current median (mean) price paid by police detainees for a ‘point’ and gram of methamphetamine (NZD) by location, 2010-2016

Current price of methamphetamine (\$)	Median (mean) price ‘point’ (0.1 grams)				Median (mean) price gram			
	Number with Knowledge		Median	Mean	Number with Knowledge		Median	Mean
Whangarei	2010	n=24	100	102	2010	n=7	800	714
	2011	n=36	100	107	2011	n=22	775	752
	2012	n=28	100	118	2012	n=19	700	708
	2013	n=25	100	100	2013	n=23	700	663
	2014	n=35	100	100	2014	n=29	600	611
	2015	n=52	100	100	2015	n=41	600	608
	2016	n=40	100	106	2016	n=33	550	559
Auckland Central	2010	n=63	100	108	2010	n=34	600	633
	2011	n=89	100	97	2011	n=34	600	625
	2012	n=59	100	103	2012	n=35	600	609
	2013	n=92	100	99	2013	n=70	625	644
	2014	n=93	100	103	2014	n=77	600	587
	2015	n=83	100	103	2015	n=62	600	633
	2016	n=78	100	102	2016	n=51	525	517
Wellington Central	2010	n=22	100	101	2010	n=18	850	876
	2011	n=25	100	107	2011	n=16	888	867
	2012	n=15	100	96	2012	n=6	825	813
	2013	n=20	100	99	2013	n=13	750	779
	2014	n=20	100	105	2014	n=18	800	722
	2015	n=36	100	106	2015	n=34	650	608
	2016	n=47	100	103	2016	n=51	600	640
Christchurch Central	2010	n=47	100	110	2010	n=12	900	750
	2011	n=20	100	110	2011	n=15	1000	967
	2012	n=41	120	124	2012	n=18	900	817
	2013	n=58	150	134	2013	n=48	1000	985
	2014	n=68	138	127	2014	n=55	1000	1120
	2015	n=73	125	126	2015	n=55	850	828
	2016	n=58	125	126	2016	n=48	775	765
All sites	2010	n=156	100	107	2010	n=71	700	723
	2011	n=170	100	102	2011	n=87	750	778
	2012	n=143	100	109	2012	n=78	650	691
	2013	n=195	100	109	2013	n=154	700	766
	2014	n=216	100	111	2014	n=179	700	788
	2015	n=244	100	109	2015	n=190	600	672
	2016	n=223	100	109	2016	n=183	600	620

In 2016, the median price of a gram of methamphetamine was \$600 (mean \$620). The mean price of a gram of methamphetamine had decreased from \$788 in 2014 to \$620 in 2016 ($p=0.0002$). The gram price had decreased in Wellington from \$876 in 2010 to \$640 in 2016 ($p<0.0001$) (Figure 4 8). The price of a gram of methamphetamine in Christchurch Central had also decreased, from \$1,120 in 2014 to \$765 in 2016 ($p=0.0054$). The mean price of a gram of methamphetamine in 2016 was still higher in Christchurch Central than in Auckland Central (\$765 vs. \$517, $p<0.0001$) and Whangarei (\$765 vs. \$559, $p=0.0014$). The mean price of a gram of methamphetamine was also higher in Wellington Central than in Auckland Central (\$640 vs. \$517, $p=0.0087$).

Figure 4 8: Mean price paid for a gram of methamphetamine by location, 2010-2016



Change in the price of methamphetamine

Fifty percent of the detainees said the price of methamphetamine had been 'stable', 21% said it had been 'fluctuating', and 17% said it had been 'decreasing' over the previous six months in 2016 (Table 4 6). The detainees were more likely to describe the price of methamphetamine as

declining from 2010 to 2016 (down from 2.1 to 1.9, $p=0.0028$) (Figure 4 9). The detainees reported a decline in the price of methamphetamine in Christchurch Central (down from 2.3 in 2011 to 1.9 in 2016, $p=0.0212$).

Figure 4 9: Mean score of the change in the price of methamphetamine by location, 2010-2016

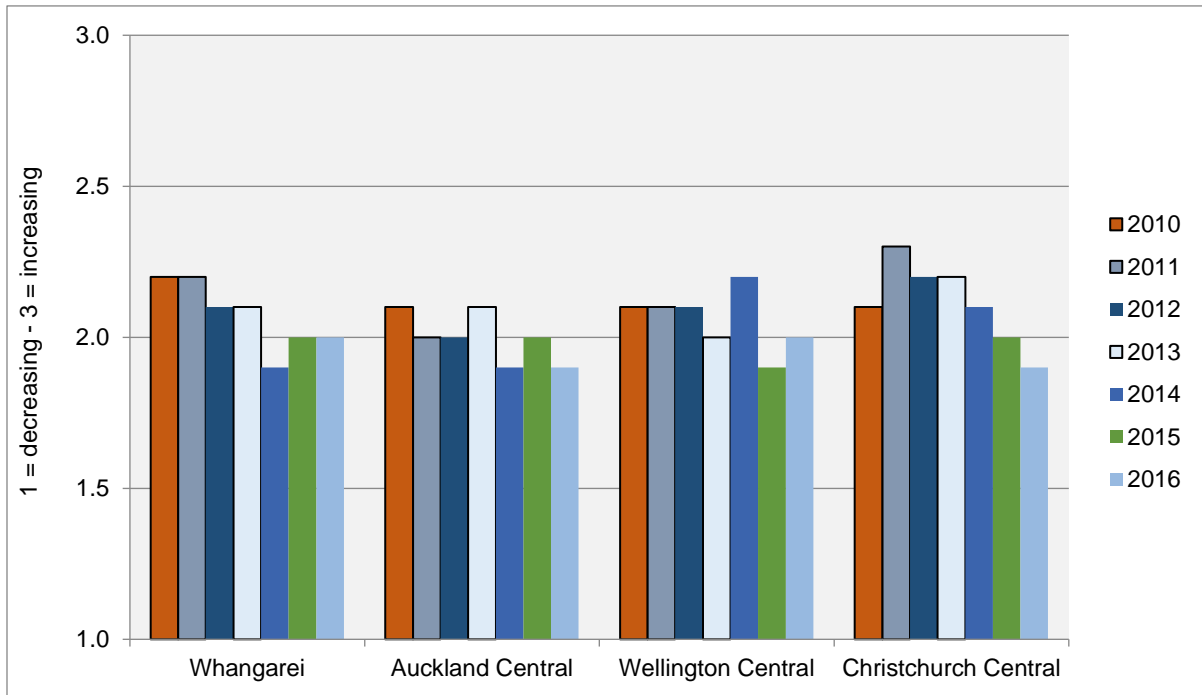


Table 4 6: Police detainees’ perceptions of the change in the price of methamphetamine in the past six months by location, 2010-2016

Change in price of methamphetamine	Year	N -Value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing [1]	Average change in price [1=decreasing - 3 =increasing]	Overall recent change
Whangarei	2010	n=28	21%	18%	57%	4%	2.2	Stable / increasing
	2011	n=42	29%	21%	43%	7%	2.2	Stable / increasing
	2012	n=36	17%	17%	56%	11%	2.1	Stable / increasing
	2013	n=32	19%	28%	41%	13%	2.1	Stable / fluctuating
	2014	n=39	13%	21%	41%	26%	1.9	Stable / decreasing
	2015	n=51	22%	12%	49%	18%	2.0	Stable / increasing
	2016	n=51	8%	25%	57%	10%	2.0	Stable / fluctuating
Auckland Central	2010	n=81	22%	10%	58%	10%	2.1	Stable / increasing
	2011	n=100	8%	22%	58%	12%	2.0	Stable / fluctuating
	2012	n= 73	12%	14%	66%	8%	2.0	Stable / fluctuating
	2013	n=96	16%	24%	51%	9%	2.1	Stable / fluctuating
	2014	n=99	7%	20%	61%	12%	1.9	Stable / fluctuating
	2015	n=85	9%	12%	65%	14%	2.0	Stable / decreasing
	2016	n=86	9%	14%	58%	19%	1.9	Stable / decreasing
Wellington Central	2010	n=31	23%	10%	52%	16%	2.1	Stable / increasing
	2011	n=32	16%	19%	59%	6%	2.1	Stable / fluctuating
	2012	n=22	18%	18%	55%	9%	2.1	Stable / increasing
	2013	n=24	0%	29%	67%	4%	2.0	Stable / fluctuating
	2014	n=22	27%	27%	41%	5%	2.2	Stable / increasing
	2015	n=41	0%	24%	63%	12%	1.9	Stable / fluctuating
	2016	n=77	8%	31%	56%	5%	2.0	Stable / fluctuating
Christchurch Central	2010	n=50	20%	8%	64%	8%	2.1	Stable / increasing
	2011	n=33	30%	9%	58%	3%	2.3	Stable / increasing
	2012	n=45	24%	18%	53%	4%	2.2	Stable / increasing
	2013	n=67	24%	15%	57%	4%	2.2	Stable / increasing
	2014	n=71	14%	31%	48%	7%	2.1	Stable / fluctuating
	2015	n=88	10%	28%	47%	15%	2.0	Stable / fluctuating

	2016	n=64	20%	22%	28%	30%	1.9	Decreasing / stable
All sites	2010	n=190	22%	11%	58%	9%	2.1	Stable / increasing
	2011	n=207	17%	19%	55%	9%	2.1	Stable / fluctuating
	2012	n=176	17%	16%	60%	8%	2.1	Stable / increasing
	2013	n=219	16%	23%	54%	7%	2.1	Stable / fluctuating
	2014	n=231	13%	25%	51%	11%	2.0	Stable / fluctuating
	2015	n=265	9%	20%	57%	14%	1.9	Stable / fluctuating
	2016	n=277	12%	21%	50%	17%	1.9	Stable / fluctuating

Current strength of methamphetamine

In 2016, 31% of the detainees reported the current strength of methamphetamine as 'high', 28% said it 'fluctuates', and 26% said it was 'medium'. The overall current strength of methamphetamine was described 'high/fluctuating' (Table 4 7).

Table 4 7: Police detainees' perceptions of current strength of methamphetamine in 2012-2016

Current strength of methamphetamine (%)	Year	N - Value	High [3]	Medium [2]	Fluctuates [2]	Low [1]	Average strength [1=low - 3=high]	Overall current status
Whangarei	2012	n=36	31%	39%	28%	3%	2.3	Medium / high
	2013	n=37	49%	14%	22%	16%	2.3	High / fluctuates
	2014	n=40	38%	28%	18%	18%	2.1	High / medium
	2015	n=55	45%	18%	18%	18%	2.3	High / medium
	2016	n=50	42%	18%	20%	20%	2.2	High / fluctuates / low
Auckland Central	2012	n=80	30%	29%	20%	21%	2.1	High / medium
	2013	n=100	33%	18%	34%	15%	2.2	Fluctuates / high
	2014	n=100	38%	24%	27%	11%	2.3	High / fluctuates
	2015	n=88	30%	23%	31%	17%	2.1	Fluctuates / high
	2016	n=88	35%	23%	26%	16%	2.2	High / fluctuates
Wellington Central	2012	n=23	26%	39%	22%	13%	2.1	Medium / high
	2013	n=25	48%	16%	12%	24%	2.2	High / low
	2014	n=22	23%	27%	41%	9%	2.1	Fluctuates /medium
	2015	n=39	28%	33%	23%	15%	2.1	Medium / high
	2016	n=76	20%	39%	29%	12%	2.1	Medium / fluctuates
Christchurch Central	2012	n=49	51%	24%	18%	6%	2.4	High / medium
	2013	n=69	42%	22%	17%	19%	2.2	High / medium
	2014	n=74	43%	18%	20%	19%	2.2	High / fluctuates
	2015	n=91	34%	23%	23%	20%	2.1	High/ medium
	2016	n=64	31%	19%	34%	16%	2.2	High / fluctuates
All sites	2012	n=188	35%	31%	21%	13%	2.2	High / medium
	2013	n=231	40%	18%	25%	17%	2.2	High / fluctuates
	2014	n=236	38%	23%	25%	14%	2.2	High / fluctuates
	2015	n=273	34%	23%	25%	18%	2.1	High / fluctuates
	2016	n=278	31%	26%	28%	15%	2.2	High / fluctuates

Change in strength of methamphetamine

In 2016, 36% of the detainees reported the strength of methamphetamine had been 'stable', 28% said it had been 'fluctuating' and 22% said it had been 'declining' during the previous six months (Table 4.8). There was no change in the detainees' perceptions of the change in the strength of methamphetamine from 2012 to 2016.

Table 4 8: Police detainees’ perceptions of change in strength of methamphetamine in the past six months in 2012-2016

Change in strength of methamphetamine (%)	Year	N -Value	Increasing [3]	Stable [2]	Fluctuating [2]	Decreasing [1]	Average strength [1=low - 3=high]	Overall current status
Whangarei	2012	n=33	12%	42%	21%	24%	1.9	Stable / decreasing
	2013	n=28	21%	25%	21%	25%	2.0	Stable / fluctuating
	2014	n=36	22%	42%	17%	19%	2.0	Stable / increasing
	2015	n=47	21%	23%	23%	32%	1.9	Decreasing / Stable
	2016	n=50	18%	28%	28%	26%	1.9	Stable / fluctuating
Auckland Central	2012	n=74	12%	35%	23%	30%	1.8	Stable / decreasing
	2013	n=95	12%	37%	29%	22%	1.9	Stable / fluctuating
	2014	n=92	14%	36%	25%	25%	1.9	Stable / fluctuating
	2015	n=83	17%	45%	25%	13%	2.0	Stable / fluctuating
	2016	n=79	19%	43%	20%	18%	2.0	Stable / fluctuating
Wellington Central	2012	n=21	14%	57%	19%	10%	2.0	Stable / fluctuating
	2013	n=23	13%	43%	22%	22%	1.9	Stable / fluctuating
	2014	n=19	11%	32%	37%	21%	1.9	Fluctuating / stable
	2015	n=38	8%	63%	18%	11%	2.0	Stable / fluctuating
	2016	n=67	7%	40%	37%	15%	1.9	Stable / fluctuating
Christchurch Central	2012	n=41	5%	46%	32%	17%	1.9	Stable / fluctuating
	2013	n=61	11%	48%	18%	23%	1.9	Stable / decreasing
	2014	n=69	17%	38%	32%	13%	2.0	Stable / fluctuating
	2015	n=84	14%	31%	27%	27%	1.9	Stable / fluctuating
	2016	n=56	13%	27%	29%	32%	1.8	Decreasing / fluctuating
All sites	2012	n=169	11%	42%	24%	23%	1.9	Stable / fluctuating
	2013	n=207	13%	39%	25%	23%	1.9	Stable/ fluctuating
	2014	n=216	16%	37%	27%	20%	2.0	Stable / fluctuating
	2015	n=252	15%	39%	25%	21%	2.0	Stable/ fluctuating
	2016	n=252	14%	36%	28%	22%	1.9	Stable/ fluctuating

Time taken to purchase methamphetamine

Seventy-four percent of the detainees who had used methamphetamine in the previous 12 months were able to purchase it in one hour or less in 2016 (Table 4 9). The proportion of detainees who could purchase methamphetamine in one hour or less increased from 57% in 2010 to 74% in 2016 ($p=0.0015$). There were increases in the proportion of detainees who could purchase methamphetamine in one hour or less in Christchurch Central (up from 31% in 2011 to 66% in 2016, $p=0.0113$) and Wellington Central (up from 50% in 2010 to 80% in 2016, $p=0.0245$) (Figure 4 10).

Figure 4 10: Proportion of police detainees who could purchase methamphetamine in one hour or less by location, 2010-2016

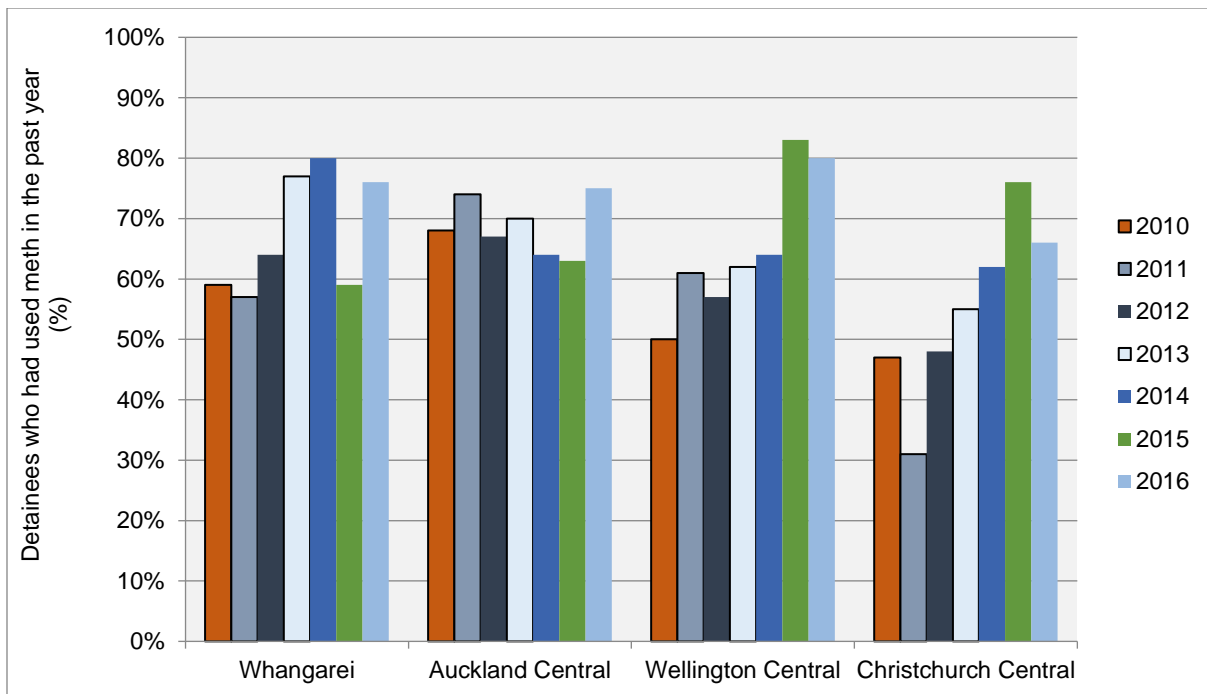


Table 4 9: Time taken by police detainees to purchase methamphetamine by location, 2010-2016

Time to purchase methamphetamine (%)	Years	N - Value	Months	Weeks	Days	About 1 day	Hours	1 Hour	Less than 20 minutes
Whangarei	2010	n=29	0	7	7	10	17	34	24
	2011	n=49	0	4	18	4	16	22	35
	2012	n=39	5	3	8	13	8	33	31
	2013	n=35	0	3	6	3	11	37	40
	2014	n=44	5	0	2	5	9	32	48
	2015	n=56	0	5	7	5	23	13	46
	2016	n=51	2	0	6	2	14	20	57
Auckland Central	2010	n=81	0	3	5	8	16	34	34
	2011	n=106	2	2	0	8	14	37	37
	2012	n=83	2	1	4	7	18	27	41
	2013	n=103	1	1	3	7	18	30	40
	2014	n=106	2	2	5	8	20	19	44
	2015	n=92	2	1	3	5	25	28	35
	2016	n=88	0	1	7	2	15	30	45
Wellington Central	2010	n=31	0	3	11	8	28	11	39
	2011	n=31	3	3	6	6	19	23	39
	2012	n=21	0	0	14	0	29	29	29
	2013	n=26	8	0	8	4	19	27	35
	2014	n=25	0	0	0	12	24	16	48
	2015	n=40	0	0	5	3	10	23	60
	2016	n=80	1	1	1	3	14	21	59
Christchurch Central	2010	n=50	0	4	4	16	29	25	22
	2011	n=36	3	0	17	17	33	11	19
	2012	n=52	6	4	12	10	21	21	27
	2013	n=71	1	0	11	4	28	28	27
	2014	n=73	1	3	4	8	22	23	38
	2015	n=94	0	0	4	2	18	30	46

	2016	n=71	1	0	7	4	21	30	37
All Sites	2010	n=194	0	4	6	11	22	27	30
	2011	n=214	2	2	8	9	19	27	33
	2012	n=199	3	2	8	7	19	27	34
	2013	n=236	2	1	6	5	21	30	35
	2014	n=244	2	2	3	8	20	22	44
	2015	n=285	1	1	4	4	20	25	45
	2016	n=289	1	1	6	3	16	26	47

Driving under the influence of methamphetamine

Those detainees who had used methamphetamine in the past year were asked how often they drove under the influence of methamphetamine. In 2016, 24% of the methamphetamine using detainees said they did not drive and a further 12% said their driver licence was suspended. Of those who used methamphetamine and drove, 48% had completed at least some of their driving under the influence of methamphetamine (Table 4 10).

Table 4 10: Extent to which police detainees who drove and who had used methamphetamine in the past 12 months had driven under the influence of methamphetamine by location, 2010-2016

Extent drove under the influence of methamphetamine	Years	N - Value	All [4]	Most [3]	Some [2]	Hardly any [1]	None [0]	Mean score of extent drove under the influence (0=none - 4=all)
Whangarei	2010	n=26	8%	12%	27%	15%	38%	1.3
	2011	n=34	12%	9%	24%	9%	47%	1.3
	2012	n=34	18%	9%	24%	0%	50%	1.4
	2013	n=26	15%	12%	31%	8%	35%	1.7
	2014	n=38	21%	8%	34%	3%	34%	1.8
	2015	n=49	8%	8%	18%	12%	53%	1.1
	2016	n=30	3%	23%	23%	20%	30%	1.5
Auckland Central	2010	n=54	7%	17%	20%	13%	43%	1.3
	2011	n=73	10%	10%	34%	15%	31%	1.5
	2012	n=61	7%	15%	23%	15%	41%	1.3
	2013	n=69	6%	22%	17%	17%	38%	1.4
	2014	n=67	19%	10%	15%	19%	36%	1.6
	2015	n=60	5%	17%	23%	22%	33%	1.4
	2016	n=50	8%	14%	22%	18%	38%	1.4
Wellington Central	2010	n=29	28%	10%	14%	10%	38%	1.8
	2011	n=23	43%	9%	4%	17%	26%	2.3
	2012	n=21	10%	5%	38%	5%	43%	1.3
	2013	n=21	29%	0%	10%	5%	57%	1.4
	2014	n=21	24%	10%	19%	14%	33%	1.8
	2015	n=27	22%	7%	26%	11%	33%	1.7
	2016	n=54	46%	9%	9%	7%	28%	2.4
Christchurch Central	2010	n=30	10%	3%	10%	17%	60%	0.9
	2011	n=26	8%	8%	12%	23%	50%	1.0
	2012	n=36	11%	6%	19%	14%	50%	1.1
	2013	n=55	11%	7%	15%	18%	49%	1.1

	2014	n=54	17%	15%	24%	15%	30%	1.7
	2015	n=66	18%	18%	18%	12%	33%	1.8
	2016	n=55	11%	13%	16%	22%	38%	2.4
All Sites	2010	n=139	12%	12%	18%	14%	44%	2.3
	2011	n=151	14%	9%	23%	16%	38%	2.5
	2012	n=157	10%	10%	25%	10%	45%	2.3
	2013	n=173	12%	12%	17%	14%	44%	2.3
	2014	n=180	20%	11%	22%	14%	33%	2.7
	2015	n=200	13%	14%	21%	15%	37%	2.5
	2016	n=187	16%	14%	18%	17%	35%	2.6

Summary

- The proportion of detainees who had used methamphetamine in the previous year increased from 26% in 2010 to 38% in 2016
- There were increases in methamphetamine use in the past year in Christchurch Central (up from 20% in 2012 to 32% in 2016) and Wellington Central (up from 22% in 2011 to 40% in 2016)
- The proportion of detainees who had used methamphetamine in the past month increased from 14% in 2010 to 22% in 2016
- The proportion of Wellington Central detainees who had used methamphetamine in the past month increased from 12% in 2010 to 26% in 2016
- The mean number of days the detainees had used methamphetamine in the past year increased from 68 days in 2010 to 84 days in 2016
- In 2016, 28% of methamphetamine using detainees felt dependent on the drug and 18% had injected it
- The availability of methamphetamine increased from 2010 to 2016
- The availability of methamphetamine increased in Christchurch Central from 2010 to 2016
- The mean price of a gram of methamphetamine decreased from \$788 in 2014 to \$620 in 2016
- Declines in the mean price of a gram of methamphetamine were found in Christchurch Central (from \$1,120 in 2014 to \$765 in 2016) and Wellington Central (from \$876 in 2010 to \$640 in 2016)
- The detainees were more likely to describe the price of methamphetamine as declining from 2010 to 2016
- In 2016, the mean price of a gram of methamphetamine was higher in Christchurch Central than in Auckland Central (\$765 vs. \$517), and in Whangarei (\$765 vs. \$559)
- The gram price was also higher in Wellington Central than Auckland Central (\$640 vs. \$517)
- In 2016, the mean price of a 'point' of methamphetamine was higher in Christchurch Central than Auckland Central, Wellington Central and Whangarei

- The proportion of detainees who could purchase methamphetamine in one hour or less increased from 57% in 2010 to 74% in 2016
- There were increases in the proportion of detainees who could purchase methamphetamine in one hour or less in Christchurch Central (up from 31% in 2011 to 66% in 2016) and Wellington Central (up from 50% in 2010 to 80% in 2016)

Chapter 5 - Cannabis

Introduction

Cannabis has been the most widely used illegal drug in many countries around the world, including New Zealand, for many decades (Wilkins et al., 2002b). New Zealand has been self-sufficient in the supply of illegal cannabis since the early 1980s with large scale domestic clandestine cultivation occurring in a number of rural areas, and more recently in indoor growing facilities (Wilkins & Casswell, 2003).

Cannabis use is associated with a number of health and social problems, including respiratory illness, low educational achievement, mental illness, drug dependency and vehicle crashes (Room et al., 2010). Approximately 10% of those who have ever used cannabis develop dependency, and this increases to 17% among adolescent users and one third among daily users (World Health Organization, 2016). A number of studies have shown a consistent dose-response relationship between cannabis use in adolescence and the risk of developing psychotic symptoms, including schizophrenia. Daily cannabis use in adolescence is associated with a range of negative outcomes including early school-leaving, cognitive impairment, increased use of other drugs, depression and suicidal ideation (World Health Organization, 2016).

There is ongoing debate in New Zealand about the provision of cannabis for medical reasons (Newton-Howes & McBride, 2016; Wilkins, 2016). A public poll conducted in late 2016 found 79% of New Zealanders supported legal medicinal cannabis (RNZ, 2016). Medicinal cannabis is currently legally available in 10 countries and 28 U.S. states (Pacula et al., 2015). Australia passed legislation legalising medicinal cannabis in October 2016 (Therapeutic Goods Administration Department of Health, 2016).

There have been anecdotal reports in recent years of a 'cannabis drought' in New Zealand, particularly in the South Island. Recent NZ-ADUM and IDMS surveys have found declines in cannabis use and availability consistent with these reports. The proportion of detainees who had used cannabis in the previous year decreased from 76% in 2011 to 69% in 2015. The

proportion of cannabis users who were able to purchase cannabis in one hour or less declined from 81% in 2011 to 72% in 2015. Possible explanations for these trends include greater availability of synthetic cannabinoids which are often not detectable in standard drug testing assays, and the increasing effectiveness of the cannabis crop eradication operations. New Zealand Police have indicated a greater focus on organised criminal groups involved in cannabis cultivation as part of these operations and this may have negatively impacted cannabis supply.

Use of cannabis

The proportion of detainees who had ever tried cannabis in their lifetimes increased from 87% in 2010 to 92% in 2016 ($p=0.0428$) (Figure 5 1).

Figure 5 1: Proportion of police detainees who have ever used cannabis by location, 2010-2016

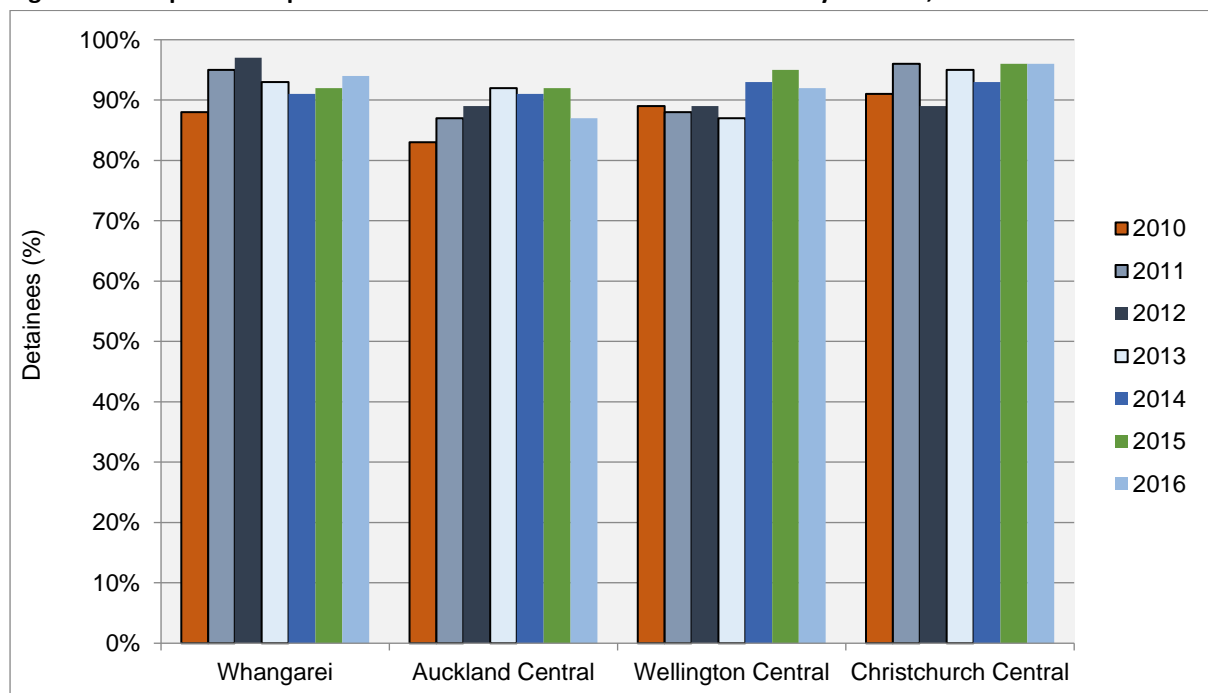


Table 5 1: Police detainees' patterns of cannabis use by location, 2010-2016

Use of cannabis (%)	Year	N- Value	Ever used [%]	Mean age first used (years)*	Used in past 12 months [%]	Mean number of days used in past 12 months**	Felt dependent in the past 12 months** [%]	Used in past month	Mean number of days used in past month*** [%]
Whangarei	2010	n=115	88%	15	68%	160	30%	58%	16
	2011	n=149	95%	14	83%	186	36%	73%	17
	2012	n=151	97%	13	78%	186	37%	64%	20
	2013	n=153	93%	14	64%	155	42%	45%	17
	2014	n=151	91%	13	67%	156	31%	59%	15
	2015	n=169	92%	15	74%	166	34%	63%	15
	2016	n=131	94%	13	70%	198	36%	62%	19
Auckland Central	2010	n=285	83%	14	63%	196	43%	57%	17
	2011	n=316	87%	14	69%	151	30%	58%	15
	2012	n=246	89%	14	64%	150	31%	52%	15
	2013	n=299	92%	15	70%	146	32%	56%	15
	2014	n=314	91%	14	67%	162	36%	54%	16
	2015	n=266	92%	15	67%	146	35%	52%	15
	2016	n=221	87%	14	69%	163	33%	59%	15
Wellington Central	2010	n=152	89%	15	76%	181	44%	63%	18
	2011	n=171	88%	14	75%	178	42%	63%	17
	2012	n=100	89%	13	74%	183	39%	63%	17
	2013	n=106	87%	14	70%	156	40%	59%	14
	2014	n=95	93%	13	73%	210	40%	61%	20
	2015	n=106	95%	14	72%	173	41%	61%	16
	2016	n=213	92%	14	66%	169	36%	54%	16
Christchurch Central	2010	n=262	91%	14	81%	191	34%	71%	18
	2011	n=191	96%	14	79%	169	34%	67%	16
	2012	n=303	89%	15	70%	162	29%	57%	16
	2013	n=288	95%	14	74%	173	32%	62%	16
	2014	n=273	93%	14	67%	169	24%	54%	17
	2015	n=292	96%	14	66%	149	27%	53%	15

	2016	n=235	96%	14	66%	162	26%	52%	17
All Sites	2010	n=814	87%	14	72%	187	38%	63%	18
	2011	n=827	91%	14	76%	168	35%	64%	16
	2012	n=799	90%	14	70%	166	33%	58%	17
	2013	n=849	92%	14	70%	158	34%	57%	15
	2014	n=834	92%	14	68%	173	32%	56%	17
	2015	n=832	94%	14	69%	155	34%	56%	15
	2016	n=800	92%	14	68%	169	32%	56%	17

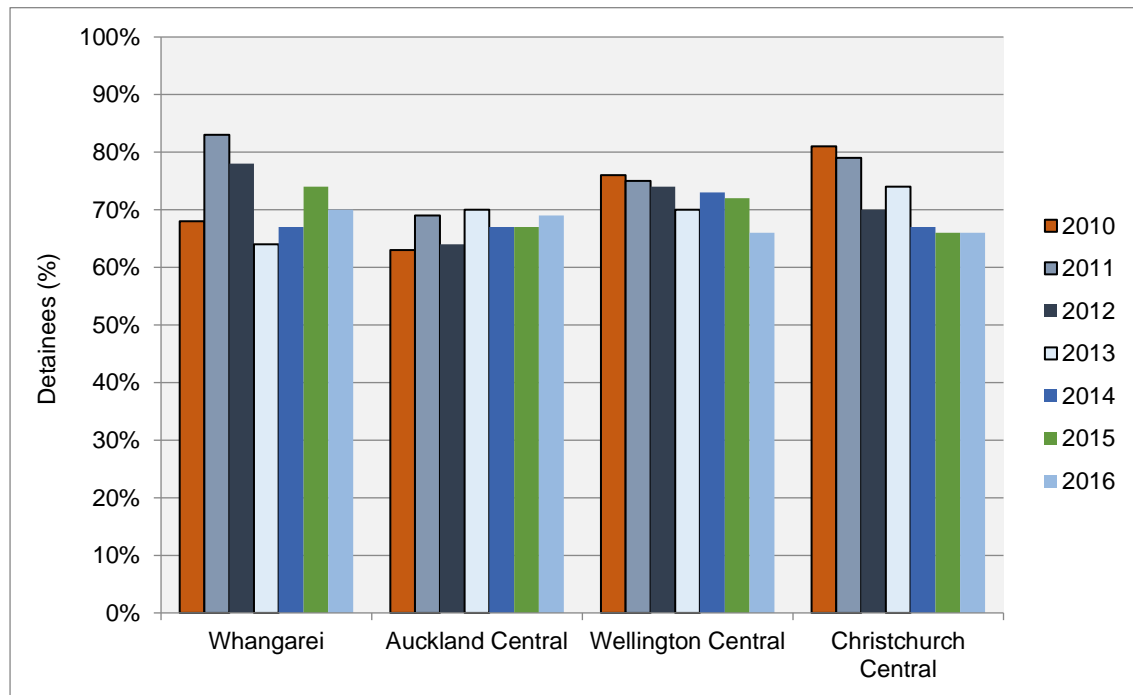
* of those who had ever tried

** of those who had used in the past 12 months

*** of those who had used in the past month

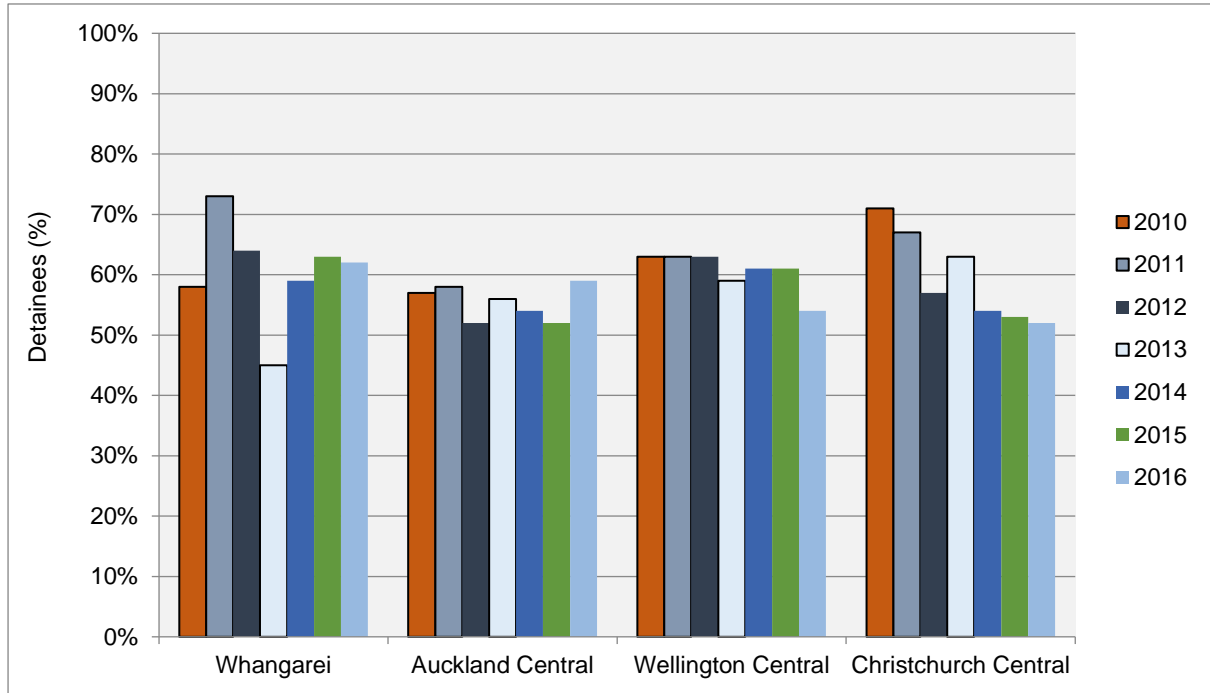
The proportion of detainees who had used cannabis in the previous 12 months declined from 76% in 2011 to 68% in 2016 ($p=0.0071$). The proportion of Christchurch Central detainees who had used cannabis in the previous year declined from 81% in 2010 to 66% in 2016 ($p=0.0037$) (Figure 5 2).

Figure 5 2: Proportion of police detainees who had used cannabis in the past 12 months by location, 2010-2016



The proportion of detainees who reported using cannabis in the past month decreased from 64% in 2011 to 56% in 2016 ($p=0.0251$). There was also a decrease in the proportion of Christchurch Central detainees who had used cannabis in the previous month from 71% in 2010 to 52% in 2016 ($p=0.0004$) (Figure 5 3).

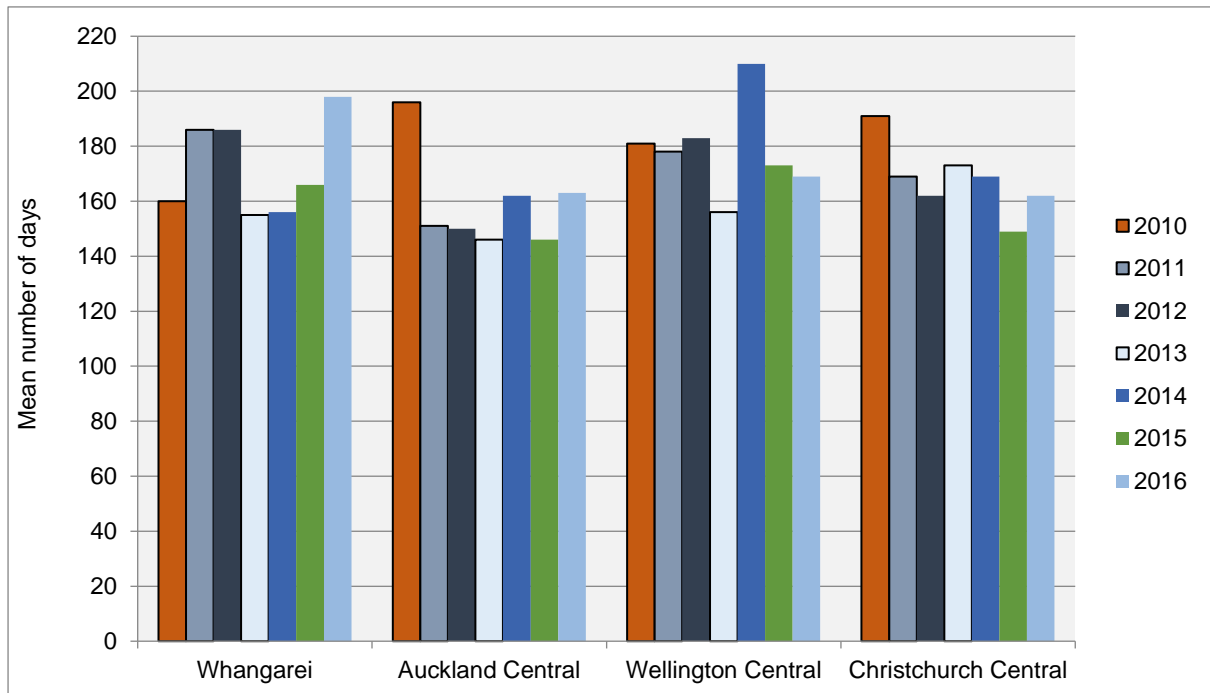
Figure 5 3: Proportion of police detainees who used cannabis in the past month by location, 2010-2016



Frequency of cannabis use

The detainees had used cannabis on a mean of 169 days in the past 12 months in 2016 (median 104, 1-365 days) (Figure 5 4).

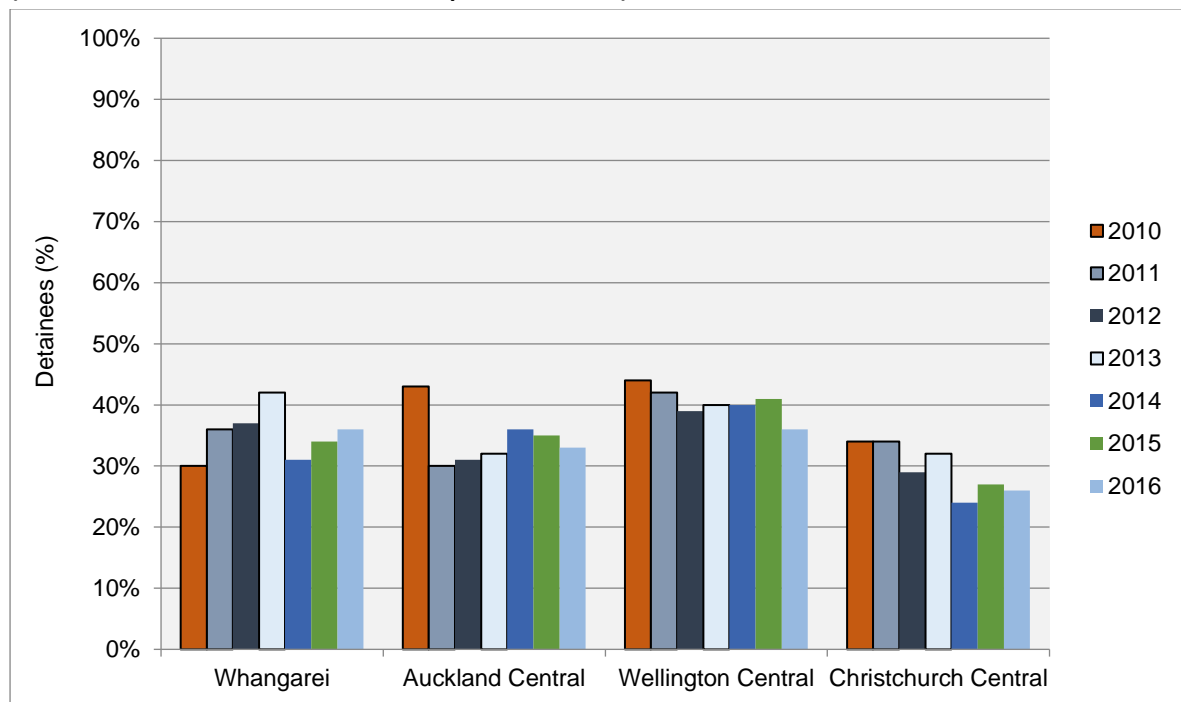
Figure 5 4: Mean number days of cannabis use in the past 12 months by location, 2010-2016



Dependency on cannabis

In 2016, 32% of the detainees who had used cannabis in the previous year felt they were dependent on the drug (Figure 5 5).

Figure 5 5: Proportion of police detainees who had felt dependent on cannabis in the past year by location (of those who had used cannabis in the past 12 months), 2010-2016



Cannabis use at the time of arrest

Sixteen percent of the detainees reported using cannabis prior to their arrest in 2016 (Table 5 2).

Table 5 2: Cannabis use by police detainees at time of arrest by location, 2010-2016

Use of Cannabis	Year	N -Value	Using when arrested [%]
Whangarei	2010	n=110	18%
	2011	n=149	21%
	2012	n=147	25%
	2013	n=145	13%
	2014	n=150	17%
	2015	n=169	18%
	2016	n=131	12%
Auckland Central	2010	n=281	13%
	2011	n=310	14%
	2012	n=240	12%
	2013	n=288	17%
	2014	n=311	13%
	2015	n=264	14%
	2016	n=219	18%
Wellington Central	2010	n=150	24%
	2011	n=168	22%
	2012	n=96	23%
	2013	n=104	22%
	2014	n=93	10%
	2015	n=105	20%
	2016	n=211	15%
Christchurch Central	2010	n=259	20%
	2011	n=188	15%
	2012	n=299	18%
	2013	n=283	14%
	2014	n=273	17%
	2015	n=286	12%
	2016	n=232	16%
All Sites	2010	n=800	18%
	2011	n=815	17%
	2012	n=780	18%
	2013	n=824	17%
	2014	n=828	14%
	2015	n=823	15%
	2016	n=793	16%

Current availability of cannabis

The current availability of cannabis was described as ‘very easy/easy’ in 2016. The current availability of cannabis had declined from 2010 to 2016 (down from 3.3 to 3.1, $p < 0.0001$). The availability of cannabis had also declined in Auckland Central (down from 3.4 in 2010 to 2.9 in

2016, $p < 0.0001$) (Figure 5 6). In 2016, the current availability of cannabis was lower in Auckland Central than in Wellington Central (2.9 vs. 3.2, $p = 0.0443$) and Christchurch Central (2.8 vs. 3.2, $p = 0.0221$).

Figure 5 6: Current availability of cannabis by location, 2010-2016

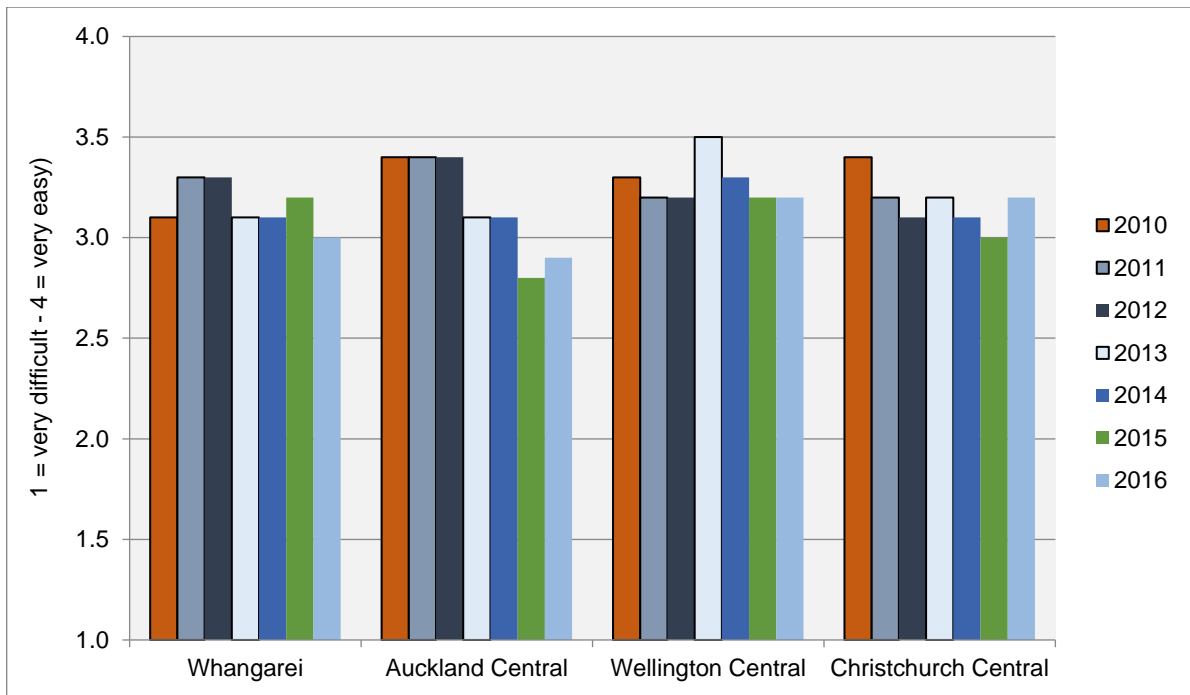


Table 5 3: Police detainees' perceptions of the current availability of cannabis by location, 2010-2016

Current availability of cannabis (%)	Year	N-Value	Very easy [4]	Easy [3]	Difficult [2]	Very difficult [1]	Average availability score [1=very difficult - 4=very easy]	Overall current status
Whangarei	2010	n=80	41%	34%	21%	4%	3.1	Very easy / easy
	2011	n=121	45%	39%	12%	3%	3.3	Very easy / easy
	2012	n=114	57%	25%	10%	8%	3.3	Very easy / easy
	2013	n=89	40%	38%	16%	6%	3.1	Very easy / easy
	2014	n=96	40%	39%	13%	8%	3.1	Very easy / easy
	2015	n=121	49%	26%	22%	3%	3.2	Very easy / easy
	2016	n=89	40%	29%	19%	11%	3.0	Very easy / easy
Auckland Central	2010	n=175	55%	30%	13%	2%	3.4	Very easy / easy
	2011	n=205	53%	34%	11%	4%	3.4	Very easy / easy
	2012	n=151	58%	24%	17%	2%	3.4	Very easy / easy
	2013	n=207	40%	40%	14%	6%	3.1	Very easy / easy
	2014	n=201	41%	33%	19%	6%	3.1	Very easy / easy
	2015	n=169	22%	47%	24%	7%	2.8	Easy / difficult
	2016	n=148	31%	38%	24%	7%	2.9	Easy / very easy
Wellington Central	2010	n=110	54%	31%	11%	5%	3.3	Very easy / easy
	2011	n=125	46%	31%	15%	7%	3.2	Very easy / easy
	2012	n=71	45%	35%	13%	7%	3.2	Very easy / easy
	2013	n=72	54%	39%	6%	1%	3.5	Very easy / easy
	2014	n=66	45%	38%	14%	3%	3.3	Very easy / easy
	2015	n=74	46%	34%	19%	1%	3.2	Very easy / easy
	2016	n=138	45%	35%	17%	4%	3.2	Very easy / easy
Christchurch Central	2010	n=209	58%	28%	12%	2%	3.5	Very easy / easy
	2011	n=143	48%	31%	15%	5%	3.2	Very easy / easy
	2012	n=204	40%	36%	21%	3%	3.1	Very easy / easy
	2013	n=215	50%	26%	16%	9%	3.2	Very easy / easy
	2014	n=179	48%	27%	15%	10%	3.1	Very easy / easy
	2015	n=187	43%	25%	22%	10%	3.0	Very easy / easy

	2016	n=153	49%	29%	17%	5%	3.2	Very easy / easy
All Sites	2010	n=574	54%	30%	13%	3%	3.3	Very easy / easy
	2011	n=594	49%	33%	13%	5%	3.3	Very easy / easy
	2012	n=536	49%	30%	16%	4%	3.2	Very easy / easy
	2013	n=587	46%	35%	13%	6%	3.2	Very easy / easy
	2014	n=546	44%	33%	16%	7%	3.1	Very easy / easy
	2015	n=549	38%	34%	22%	6%	3.0	Very easy / easy
	2016	n=529	41%	33%	20%	6%	3.1	Very easy / easy

Change in availability of cannabis

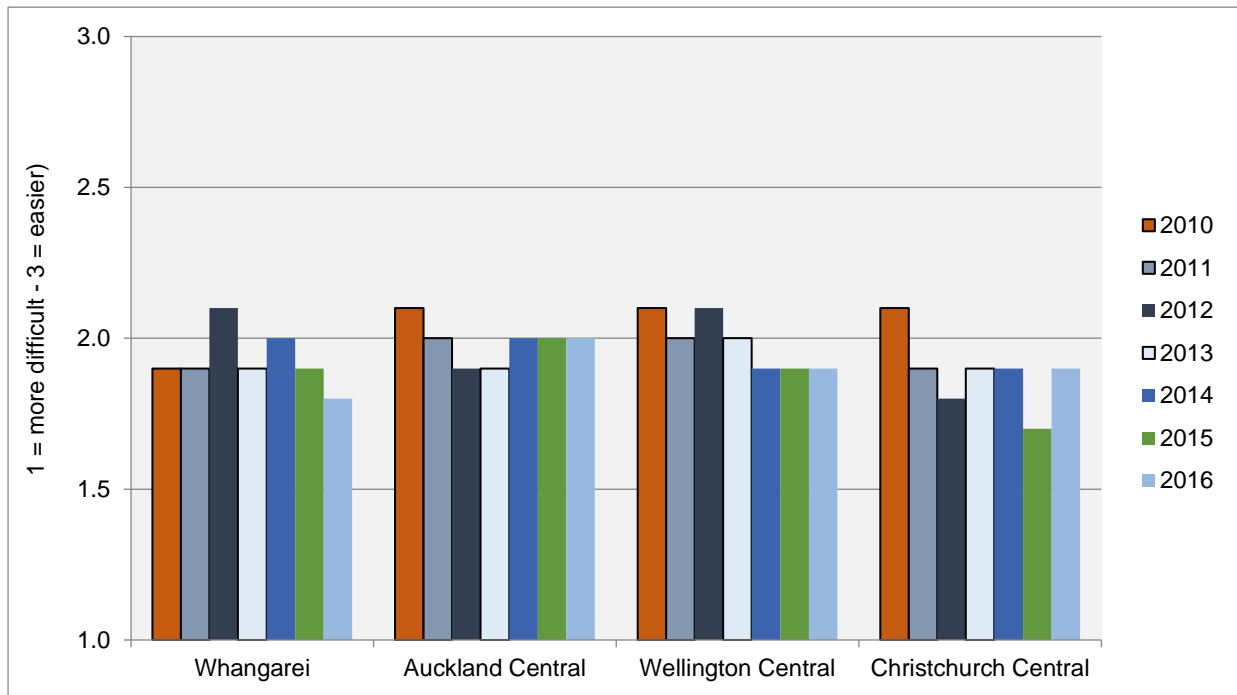
The detainees reported the availability of cannabis had been 'stable/more difficult' over the previous six months in 2016 (Table 5 4). The availability of cannabis was reported to have become more difficult from 2010 to 2016 (down from 2.1 to 1.9, $p < 0.0001$). The availability of cannabis had declined in Whangarei (down from 2.1 in 2012 to 1.8 in 2016, $p = 0.0075$), Wellington Central (down from 2.1 in 2010 to 1.9 in 2016, $p = 0.0330$) and Christchurch Central (down from 2.1 in 2010 to 1.9 in 2016, $p = 0.0366$) (Figure 5 7).

Table 5 4: Police detainees’ perceptions of the change in availability of cannabis by location, 2010 – 2016

Change in availability of cannabis (%)	Year	N- Value	Easier [3]	Stable [2]	Fluctuates [2]	More difficult [1]	Average change in availability score [1=very difficult - 4=very easy]	Overall current status
Whangarei	2010	n=78	12%	58%	10%	21%	1.9	Stable / more difficult
	2011	n=120	15%	45%	18%	23%	1.9	Stable / more difficult
	2012	n=108	25%	52%	9%	14%	2.1	Stable / easier
	2013	n=84	17%	48%	10%	26%	1.9	Stable / more difficult
	2014	n=91	21%	44%	15%	20%	2.0	Stable / easier
	2015	n=114	18%	41%	17%	25%	1.9	Stable / more difficult
	2016	n=88	8%	52%	11%	28%	1.8	Stable / more difficult
Auckland Central	2010	n=167	25%	49%	13%	13%	2.1	Stable / easier
	2011	n=203	17%	63%	7%	13%	2.0	Stable / easier
	2012	n=142	14%	54%	9%	23%	1.9	Stable / more difficult
	2013	n=199	17%	54%	7%	22%	1.9	Stable / more difficult
	2014	n=190	14%	58%	9%	18%	2.0	Stable / more difficult
	2015	n=170	18%	46%	14%	22%	2.0	Stable / more difficult
	2016	n=146	25%	37%	10%	27%	2.0	Stable / more difficult
Wellington Central	2010	n=109	21%	62%	7%	9%	2.1	Stable / easier
	2011	n=117	13%	64%	11%	12%	2.0	Stable / easier
	2012	n=69	19%	55%	13%	13%	2.1	Stable / easier
	2013	n=67	16%	63%	4%	16%	2.0	Stable / more difficult
	2014	n=63	14%	57%	6%	22%	1.9	Stable / more difficult
	2015	n=73	8%	60%	14%	18%	1.9	Stable / more difficult
	2016	n=133	4%	68%	14%	14%	1.9	Stable / fluctuates
Christchurch Central	2010	n=206	18%	59%	12%	11%	2.1	Stable / easier
	2011	n=141	12%	50%	13%	25%	1.9	Stable / more difficult
	2012	n=191	7%	47%	18%	28%	1.8	Stable / more difficult
	2013	n=214	17%	38%	13%	32%	1.9	Stable / more difficult

	2014	n=180	16%	48%	8%	28%	1.9	Stable / more difficult
	2015	n=184	14%	36%	11%	39%	1.7	More difficult / stable
	2016	n=149	20%	36%	9%	34%	1.9	Stable / more difficult
All Sites	2010	n=560	20%	57%	11%	13%	2.1	Stable /easier
	2011	n=582	15%	56%	12%	18%	2.0	Stable / more difficult
	2012	n=511	15%	51%	13%	21%	1.9	Stable / more difficult
	2013	n=564	17%	49%	9%	25%	1.9	Stable / more difficult
	2014	n=530	16%	52%	9%	23%	1.9	Stable / more difficult
	2015	n=541	15%	45%	13%	27%	1.9	Stable / more difficult
	2016	n=518	17%	45%	11%	27%	1.9	Stable / more difficult

Figure 5 7: Change in the availability of cannabis by location, 2010-2016



Current price of cannabis

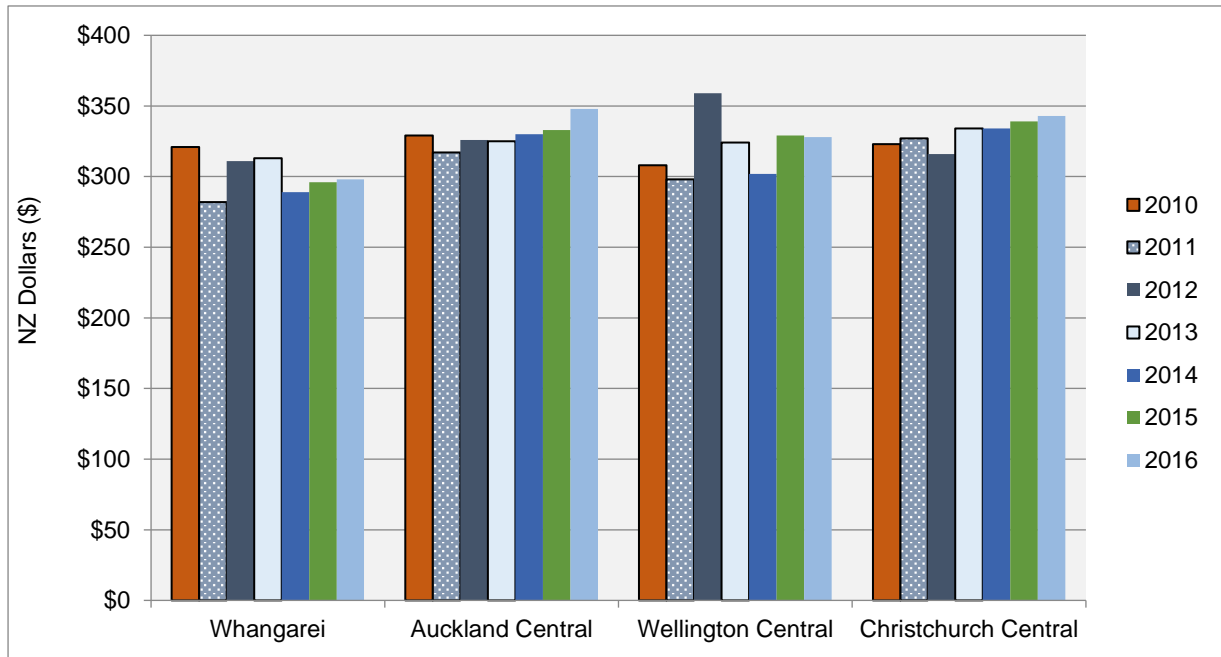
The detainees reported paying a median price of \$20 for a ‘tinny’ of cannabis and \$350 for an ounce of cannabis (Table 5 5). The mean price for an ounce of cannabis increased from \$323 in 2014 to \$340 in 2016 ($p=0.0133$). There were increases in the mean price of an ‘ounce’ of cannabis in Auckland Central (up from \$325 in 2011 to \$349 in 2016, $p=0.0134$) and Christchurch Central (up from \$316 in 2012 to \$343 in 2016, $p<0.0001$) (Figure 5 10). In 2016, the mean price for an ounce of cannabis was lower in Whangarei than in Christchurch Central (\$298 vs. \$343, $p<0.0001$), Wellington Central (\$298 vs. \$328, $p=0.0259$) and Auckland Central (\$298 vs. \$348, $p<0.0001$). The mean price of a pound of cannabis also increased in Christchurch Central from \$2,955 in 2012 to \$4,294 in 2016 ($p=0.0007$).

Table 5 5: Current median (mean) price paid by police detainees for cannabis (NZD) by location, 2010-2016

Current price of Cannabis (\$)	Median (mean) price per 'Tinny'				Median (mean) price per Ounce				Median (mean) price per Pound			
	Number with Knowledge		Median	Mean	Number with Knowledge		Median	Mean	Number with Knowledge		Median	Mean
Whangarei	2010	n=73	\$20	\$20	2010	n=6	\$325	\$321	2010	n=2	\$1,925	\$1,925
	2011	n=106	\$20	\$20	2011	n=42	\$275	\$282	2011	n=11	\$2,500	\$2,582
	2012	n=97	\$20	\$20	2012	n=74	\$330	\$311	2012	n=47	\$3,000	\$3,042
	2013	n=74	\$20	\$20	2013	n=51	\$300	\$313	2013	n=25	\$3,000	\$3,022
	2014	n=88	\$20	\$20	2014	n=56	\$300	\$289	2014	n=33	\$3,000	\$2,674
	2015	n=114	\$20	\$20	2015	n=70	\$300	\$296	2015	n=27	\$2,500	\$2,791
	2016	n=73	\$20	\$20	2016	n=27	\$300	\$298	2016	n=10	\$3,125	\$2,933
Auckland Central	2010	n=124	\$20	\$20	2010	n=41	\$350	\$329	2010	n=16	\$3,100	\$2,677
	2011	n=187	\$20	\$20	2011	n=58	\$350	\$317	2011	n=12	\$2,550	\$2,558
	2012	n=130	\$20	\$20	2012	n=41	\$350	\$326	2012	n=15	\$4,000	\$3,496
	2013	n=195	\$20	\$20	2013	n=145	\$350	\$325	2013	n=71	\$3,700	\$3,312
	2014	n=202	\$20	\$20	2014	n=166	\$350	\$330	2014	n=57	\$3,000	\$3,037
	2015	n=171	\$20	\$20	2015	n=109	\$350	\$333	2015	n=42	\$4,000	\$3,538
	2016	n=143	\$20	\$20	2016	n=98	\$350	\$348	2016	n=33	\$3,500	\$3,349
Wellington Central	2010	n=87	\$20	\$20	2010	n=26	\$300	\$308	2010	n=10	\$1,240	\$2,152
	2011	n=93	\$20	\$20	2011	n=30	\$300	\$298	2011	n=1	\$2,500	\$2,500
	2012	n=59	\$20	\$20	2012	n=16	\$350	\$359	2012	n=4	\$4,150	\$3,950
	2013	n=59	\$20	\$20	2013	n=20	\$350	\$324	2013	n=10	\$2,625	\$2,605
	2014	n=67	\$20	\$20	2014	n=36	\$300	\$302	2014	n=15	\$3,500	\$2,987
	2015	n=72	\$20	\$20	2015	n=43	\$350	\$329	2015	n=17	\$3,000	\$2,759
	2016	n=124	\$20	\$20	2016	n=50	\$350	\$328	2016	n=19	\$3,500	\$3,300
Christchurch Central	2010	n=191	\$20	\$20	2010	n=33	\$340	\$323	2010	n=14	\$3,500	\$3,700
	2011	n=135	\$20	\$20	2011	n=66	\$345	\$327	2011	n=13	\$4,500	\$4,346
	2012	n=169	\$20	\$20	2012	n=108	\$320	\$316	2012	n=38	\$3,000	\$2,955
	2013	n=211	\$20	\$20	2013	n=187	\$350	\$334	2013	n=81	\$4,000	\$3,363
	2014	n=178	\$20	\$20	2014	n=157	\$350	\$334	2014	n=73	\$3,500	\$3,414
	2015	n=179	\$20	\$21	2015	n=119	\$350	\$339	2015	n=28	\$4,050	\$4,054

	2016	n=202	\$20	\$20	2016	n=106	\$350	\$343	2016	n=39	\$4,000	\$4,294
All sites	2010	n=475	\$20	\$20	2010	n=107	\$325	\$322	2010	n=41	\$3,100	\$2,857
	2011	n=521	\$20	\$20	2011	n=197	\$325	\$313	2011	n=37	\$3,500	\$3,298
	2012	n=455	\$20	\$20	2012	n=239	\$325	\$321	2012	n=104	\$3,000	\$3,156
	2013	n=539	\$20	\$20	2013	n=403	\$350	\$328	2013	n=187	\$3,500	\$3,244
	2014	n=535	\$20	\$20	2014	n=415	\$350	\$323	2014	n=178	\$3,200	\$3,137
	2015	n=536	\$20	\$20	2015	n=341	\$350	\$329	2015	n=114	\$3,500	\$3,364
	2016	n=483	\$20	\$20	2015	n=281	\$350	\$340	2015	n=101	\$3,575	\$3,688

Figure 5 8: Mean price of an ounce of cannabis by location, 2010-2016



Change in the price of cannabis

The detainees reported the price of cannabis had been ‘stable’ over the previous six months in 2016 (Table 5 6). Seventy percent described the price as ‘stable’. The detainees were slightly more likely to describe the price of cannabis as increasing from 2014 to 2016 (up from 2.06 to 2.13, $p=0.0208$). The Christchurch Central detainees were more likely to report the price of cannabis was increasing from 2010 to 2016 (up from 2.06 to 2.21, $p=0.0109$).

Table 5 6: Police detainees' perceptions of the change in the price of cannabis in the past six months by location, 2010-2016

Change in price of cannabis (%)	Year	N-Value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing [1]	Average change in price score [1=decreasing - 3=increasing]	Overall current status
Whangarei	2010	n=77	8%	9%	82%	1%	2.1	Stable
	2011	n=122	16%	7%	70%	6%	2.1	Stable
	2012	n=109	18%	7%	70%	5%	2.1	Stable
	2013	n=84	15%	10%	74%	1%	2.1	Stable
	2014	n=86	10%	16%	65%	8%	2.0	Stable / fluctuating
	2015	n=113	20%	9%	68%	3%	2.2	Stable / increasing
	2016	n=88	20%	5%	70%	5%	2.2	Stable
Auckland Central	2010	n=168	9%	5%	85%	1%	2.1	Stable
	2011	n=203	10%	9%	80%	1%	2.1	Stable
	2012	n=136	7%	4%	88%	2%	2.1	Stable
	2013	n=200	8%	6%	83%	4%	2.0	Stable
	2014	n=203	9%	3%	85%	3%	2.1	Stable
	2015	n=171	9%	2%	86%	4%	2.1	Stable
	2016	n=144	15%	9%	72%	4%	2.1	Stable
Wellington Central	2010	n=97	11%	10%	76%	2%	2.1	Stable
	2011	n=120	7%	8%	81%	4%	2.0	Stable
	2012	n=69	13%	10%	77%	0%	2.1	Stable
	2013	n=66	5%	8%	88%	0%	2.0	Stable
	2014	n=67	6%	10%	82%	0%	2.1	Stable
	2015	n=71	3%	15%	82%	0%	2.0	Stable
	2016	n=137	5%	17%	78%	0%	2.1	Stable
Christchurch Central	2010	n=204	8%	8%	82%	1%	2.1	Stable
	2011	n=143	10%	6%	82%	2%	2.1	Stable
	2012	n=185	14%	14%	80%	3%	2.1	Stable
	2013	n=213	15%	10%	83%	1%	2.1	Stable
	2014	n=180	11%	17%	71%	2%	2.1	Stable
	2015	n=183	19%	8%	69%	4%	2.2	Stable / increasing

	2016	n=151	25%	11%	62%	3%	2.2	Stable / increasing
All Sites	2010	n=546	9%	8%	82%	1%	2.1	Stable
	2011	n=588	11%	8%	79%	3%	2.1	Stable
	2012	n=500	12%	9%	77%	2%	2.1	Stable
	2013	n=563	11%	8%	79%	2%	2.1	Stable
	2014	n=536	9%	11%	77%	3%	2.1	Stable
	2015	n=538	13%	7%	77%	3%	2.1	Stable
	2016	n=520	17%	10%	70%	3%	2.1	Stable

Current strength of cannabis

The current strength of cannabis was reported to be 'high/fluctuating' in 2016 (Table 5.7).

There was no change in perceptions of the current strength of cannabis from 2012 to 2016.

Table 5 7: Police detainees' perceptions of current strength of cannabis in the past six months, 2012-2016

Current strength of cannabis (%)	Year	N- Value	High [3]	Medium [2]	Fluctuates [2]	Low [1]	Average Strength score [1=low - 3=high]	Overall current status
Whangarei	2012	n=105	30%	35%	30%	6%	2.2	Medium / high
	2013	n=84	33%	32%	26%	8%	2.3	High / medium
	2014	n=91	29%	38%	14%	19%	2.1	Medium / high
	2015	n=114	36%	33%	16%	15%	2.2	High / medium
	2016	n=88	36%	28%	16%	19%	2.2	High / medium
Auckland Central	2012	n=145	38%	32%	23%	8%	2.3	High / medium
	2013	n=202	37%	28%	25%	10%	2.3	High / medium
	2014	n=202	33%	27%	28%	12%	2.2	High / fluctuates
	2015	n=162	35%	27%	27%	12%	2.2	High / medium
	2016	n=151	37%	30%	23%	9%	2.3	High / medium
Wellington Central	2012	n=70	31%	27%	31%	10%	2.2	High / fluctuates
	2013	n=68	26%	37%	28%	9%	2.2	Medium / fluctuates
	2014	n=63	24%	22%	43%	11%	2.1	Fluctuates / high
	2015	n=74	35%	31%	27%	7%	2.3	High / medium
	2016	n=134	26%	29%	40%	5%	2.2	Fluctuates / medium
Christchurch Central	2012	n=200	38%	27%	27%	9%	2.3	High / medium
	2013	n=215	35%	27%	25%	13%	2.2	High / medium
	2014	n=183	34%	26%	29%	11%	2.2	High / fluctuates
	2015	n=186	39%	23%	27%	10%	2.3	High / fluctuates
	2016	n=149	35%	25%	36%	5%	2.3	Fluctuates / high
All Sites	2012	n=520	36%	30%	27%	8%	2.3	High / medium
	2013	n=569	35%	29%	25%	11%	2.2	High / medium
	2014	n=539	31%	28%	28%	13%	2.2	High / medium
	2015	n=536	37%	27%	25%	11%	2.3	High / medium
	2016	n=522	34%	28%	30%	9%	2.3	High / fluctuates

Change in strength of cannabis

Overall, the strength of cannabis was described as 'stable/fluctuating' in 2016. The strength of cannabis declined in Wellington Central from 2012 to 2016 (down from 2.2 to 2.0, $p=0.0075$). In contrast, the strength of cannabis increased in Christchurch Central (up from 1.9 in 2015 to 2.1 in 2016, $p=0.0254$).

Table 5 8: Police detainees' perceptions of change in strength of cannabis in the past six months, 2012-2016

Change in strength of cannabis (%)	Year	N- Value	Increasing [3]	Stable [2]	Fluctuating [2]	Decreasing [1]	Average change in strength [1=decreasing - 3=increasing]	Overall current status
Whangarei	2012	n=100	12%	54%	21%	13%	2.0	Stable / fluctuating
	2013	n=75	13%	45%	25%	16%	2.0	Stable / fluctuating
	2014	n=86	10%	51%	21%	17%	1.9	Stable / fluctuating
	2015	n=106	20%	48%	12%	20%	2.0	Stable / increasing
	2016	n=87	7%	53%	22%	18%	1.9	Stable / fluctuating
Auckland Central	2012	n=130	18%	45%	19%	18%	2.0	Stable / increasing
	2013	n=185	17%	57%	11%	15%	2.0	Stable / increasing
	2014	n=193	12%	56%	15%	17%	2.0	Stable / decreasing
	2015	n=160	11%	49%	26%	14%	2.0	Stable / fluctuating
	2016	n=143	17%	52%	18%	13%	2.0	Stable / fluctuating
Wellington Central	2012	n=63	25%	41%	27%	6%	2.2	Stable / fluctuating
	2013	n=67	9%	52%	31%	7%	2.0	Stable / fluctuating
	2014	n=62	8%	63%	21%	8%	2.0	Stable / fluctuating
	2015	n=72	8%	61%	24%	7%	2.0	Stable / fluctuating
	2016	n=128	4%	46%	45%	5%	2.0	Stable / fluctuating
Christchurch Central	2012	n=189	15%	38%	39%	8%	2.1	Stable / fluctuating
	2013	n=203	22%	40%	27%	11%	2.1	Stable / fluctuating
	2014	n=178	12%	48%	29%	11%	2.0	Stable / fluctuating
	2015	n=180	8%	44%	34%	14%	1.9	Stable / fluctuating
	2016	n=145	19%	41%	33%	8%	2.1	Stable / fluctuating
All Sites	2012	n=483	17%	43%	28%	12%	2.1	Stable / fluctuating
	2013	n=530	17%	48%	22%	13%	2.0	Stable / fluctuating
	2014	n=519	11%	54%	21%	14%	2.0	Stable / fluctuating
	2015	n=518	12%	49%	25%	14%	2.0	Stable / fluctuating
	2016	n=503	12%	47%	30%	11%	2.0	Stable / fluctuating

Time taken to purchase cannabis

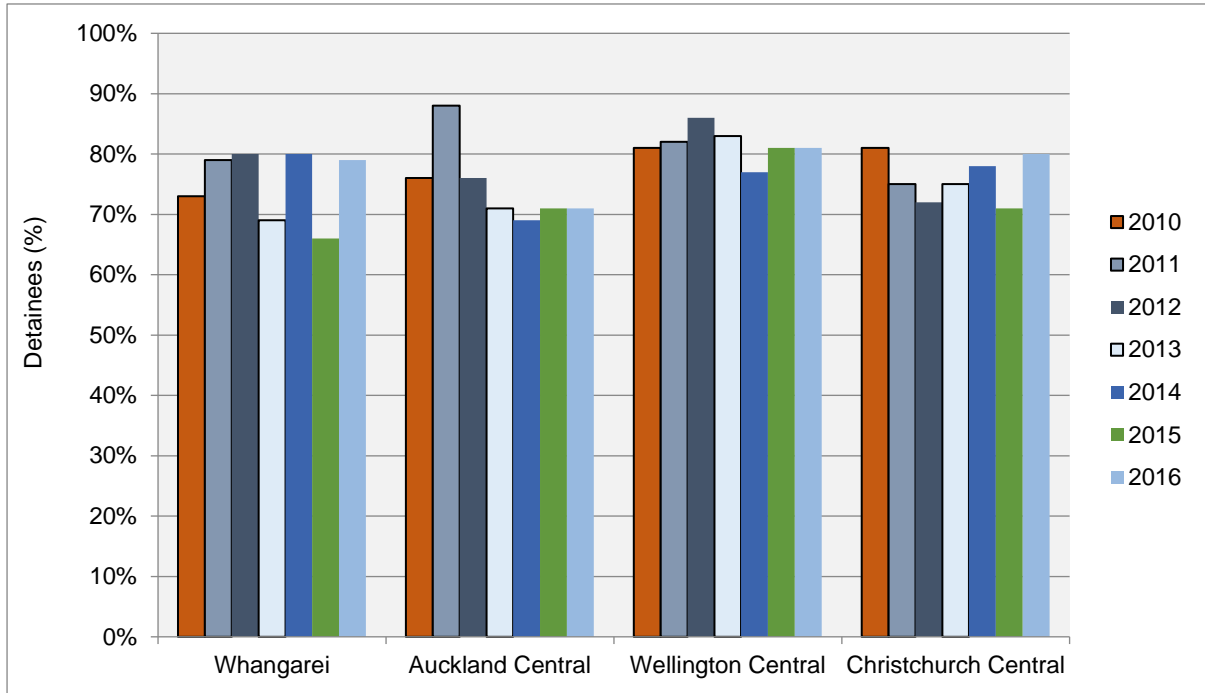
Seventy-seven percent of the detainees who had used cannabis in the past 12 months were able to purchase it in one hour or less in 2016 (Table 5.7). The proportion of detainees in Auckland Central who were able to purchase cannabis in one hour or less declined from 88% in 2011 to 71% in 2016 ($p=0.0019$) (Figure 5.9).

Table 5 9: Time taken by police detainees to purchase cannabis by location, 2010-2016

Time to purchase cannabis (%)	Year	N- Value	Months	Weeks	Days	About 1 day	Hours	1 hour	Less than 20 minutes
Whangarei	2010	n=79	1	3	6	4	13	19	54
	2011	n=124	1	2	2	6	10	25	54
	2012	n=112	1	0	3	9	7	6	63
	2013	n=87	3	3	3	11	9	13	56
	2014	n=96	1	2	3	6	7	16	65
	2015	n=117	0	2	8	9	16	16	50
	2016	n=87	0	1	3	5	11	23	56
Auckland Central	2010	n=152	1	1	7	8	8	20	56
	2011	n=201	0	0	0	3	9	31	57
	2012	n=148	0	1	5	6	12	16	60
	2013	n=200	1	2	4	7	16	21	50
	2014	n=204	1	<1	5	11	14	16	53
	2015	n=169	1	1	2	5	20	27	44
	2016	n=150	1	2	6	9	11	21	50
Wellington Central	2010	n=110	2	0	1	8	8	31	50
	2011	n=117	0	1	3	7	8	25	57
	2012	n=72	0	0	3	1	10	26	60
	2013	n=71	0	1	4	6	6	30	54
	2014	n=64	0	0	2	5	17	23	53
	2015	n=74	0	0	1	7	11	15	66
	2016	n=135	0	0	5	1	13	18	63
Christchurch Central	2010	n=208	0	<1	3	5	11	23	58
	2011	n=146	0	0	4	8	13	27	48
	2012	n=198	1	1	6	8	12	20	52
	2013	n=216	<1	2	4	5	13	27	48
	2014	n=179	0	1	3	4	14	26	52
	2015	n=187	0	1	7	4	17	21	49
	2016	n=150	0	0	3	6	11	29	51

All Sites	2010	n=549	1	1	4	6	10	23	55
	2011	n=591	0	0	2	6	10	27	54
	2012	n=528	<1	1	5	6	11	19	58
	2013	n=578	1	2	4	6	12	24	51
	2014	n=546	<1	1	3	7	13	21	54
	2015	n=547	<1	1	4	6	16	21	51
	2016	n=524	<1	1	5	6	11	23	53

Figure 5 9: Proportion of police detainees who could purchase cannabis in one hour or less, 2010-2016



Driving under the influence of cannabis

Those detainees who had used cannabis in the past year were asked how often they drove under the influence of cannabis. In 2016, 24% of the cannabis using detainees said they did not drive and a further 11% said their driver licence was suspended. Forty-four percent of the detainees who drove and used cannabis had completed at least some of their driving under the influence of cannabis (Table 5 9).

Table 5 10: Mean score of extent to which police detainees who drove and who had used cannabis in the past 12 months had driven under the influence of cannabis by location, 2010 - 2016

Extent drove under the influence of cannabis	Years	N - Value	All [4]	Most [3]	Some [2]	Hardly any [1]	None [0]	Mean score of extent drove under the influence (0=none - 4=all)
Whangarei	2010	n=63	10%	13%	24%	16%	38%	2.4
	2011	n=83	16%	13%	13%	13%	45%	2.4
	2012	n=84	13%	18%	19%	19%	31%	2.6
	2013	n=63	11%	10%	24%	14%	41%	2.3
	2014	n=71	15%	8%	28%	8%	39%	2.5
	2015	n=101	8%	8%	24%	7%	53%	2.1
	2016	n=54	4%	17%	26%	19%	35%	2.4
Auckland Central	2010	n=110	8%	13%	22%	17%	40%	2.3
	2011	n=143	7%	8%	33%	15%	37%	2.3
	2012	n=106	8%	10%	19%	13%	49%	2.2
	2013	n=139	10%	9%	14%	23%	44%	2.2
	2014	n=134	10%	9%	21%	14%	46%	2.2
	2015	n=107	8%	12%	21%	17%	42%	2.3
	2016	n=89	12%	11%	17%	12%	47%	2.3
Wellington Central	2010	n=80	18%	11%	20%	13%	39%	2.6
	2011	n=80	24%	14%	23%	10%	30%	2.9
	2012	n=55	16%	9%	22%	9%	44%	2.5
	2013	n=40	20%	13%	20%	23%	25%	2.8
	2014	n=43	30%	9%	9%	14%	37%	2.8
	2015	n=48	17%	15%	17%	10%	42%	2.5
	2016	n=85	47%	7%	19%	9%	18%	3.6
Christchurch Central	2010	n=125	14%	14%	22%	15%	34%	2.6
	2011	n=96	14%	12%	25%	14%	35%	2.5
	2012	n=145	17%	10%	26%	14%	34%	2.6
	2013	n=145	10%	11%	24%	19%	36%	2.4

	2014	n=134	13%	18%	28%	13%	28%	2.8
	2015	n=128	13%	11%	21%	18%	38%	2.4
	2016	n=114	10%	9%	15%	33%	33%	2.3
All Sites	2010	n=378	12%	13%	22%	15%	38%	2.5
	2011	n=402	14%	10%	26%	13%	37%	2.5
	2012	n=390	13%	11%	22%	13%	40%	2.4
	2013	n=387	12%	10%	20%	20%	38%	2.4
	2014	n=382	16%	12%	22%	13%	37%	2.6
	2015	n=384	11%	11%	21%	14%	43%	2.3
	2016	n=344	16%	10%	18%	20%	35%	2.5

Summary

- The proportion of detainees who had used cannabis in the previous year declined from 76% in 2011 to 68% in 2016
- The proportion of detainees in Christchurch Central who had used cannabis in the past year declined from 81% in 2010 to 66% in 2016
- The proportion of detainees who reported using cannabis in the past month decreased from 64% in 2011 to 56% in 2016
- There was also a decrease in the proportion of Christchurch Central detainees who had used cannabis in the past month from 71% in 2010 to 52% in 2016
- In 2016, 32% of the cannabis using detainees felt they were dependent on cannabis
- In 2016, 16% of the detainees had been using cannabis prior to their arrest
- The current availability of cannabis declined from 2010 to 2016
- The current availability of cannabis declined in Auckland Central from 2010 to 2016
- Cannabis was considered increasingly difficult to obtain from 2010 to 2016
- Cannabis was considered increasingly difficult to obtain in Whangarei, Wellington Central and Christchurch Central from 2010 to 2016
- There was no change in the mean price paid for a 'tinny' of cannabis from 2010 to 2016 (i.e. \$20 in all years)
- The mean price of an ounce of cannabis increased from \$323 in 2014 to \$340 in 2016
- There were increases in the mean price of an ounce of cannabis in Auckland Central (up from \$325 in 2011 to \$349 in 2016) and Christchurch Central (up from \$316 in 2012 to \$343 in 2016)

- In 2016, 44% of the cannabis using detainees who drove had completed at least some of their driving under the influence of cannabis

Chapter 6 – Ecstasy

Introduction

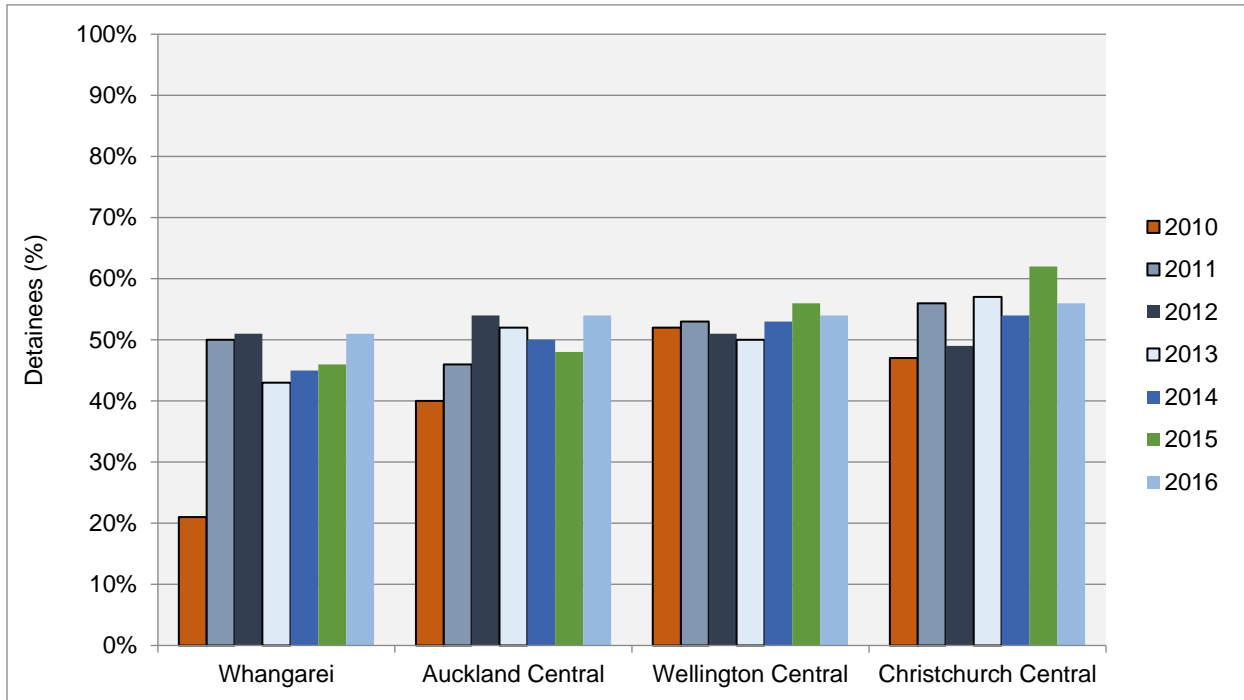
The “ecstasy” market has become increasingly diversified over recent years and according to the UNODC now features three different broad product types: (1) “ecstasy” tablets containing little or no 3,4-methylenedioxymethamphetamine (MDMA); (2) “ecstasy” tablets with an unusually high dose of MDMA; and (3) “ecstasy” sold in powder form containing MDMA of high purity (UNODC, 2016). The “ecstasy” seized in New Zealand reflects these diversified product types (ESR, 2014). Frequent illegal drug users interviewed for the IDMS have reported declining strength and prices for ecstasy over the past five years or so (Wilkins, et al., 2015).

This international picture for MDMA supply is further complicated in the New Zealand domestic context by the rise and fall of local “ecstasy” syndicates selling substitute ecstasy compounds (NDIB, 2013). These local ecstasy syndicates emerged around 2009 and their activity resulted in increased availability of “ecstasy”. A series of successful law enforcement operations against these syndicates in 2011 and 2012 led to a subsequent decline in the availability and use of ecstasy (Wilkins et al., 2012b). The 2015 NZ-ADUM found the proportion of detainees who had used ecstasy in the previous year declined from 28% in 2011 to 19% in 2015. However, there were reports of a recovery in the strength of ecstasy, consistent with reports of high purity MDMA in Europe.

Use of ecstasy

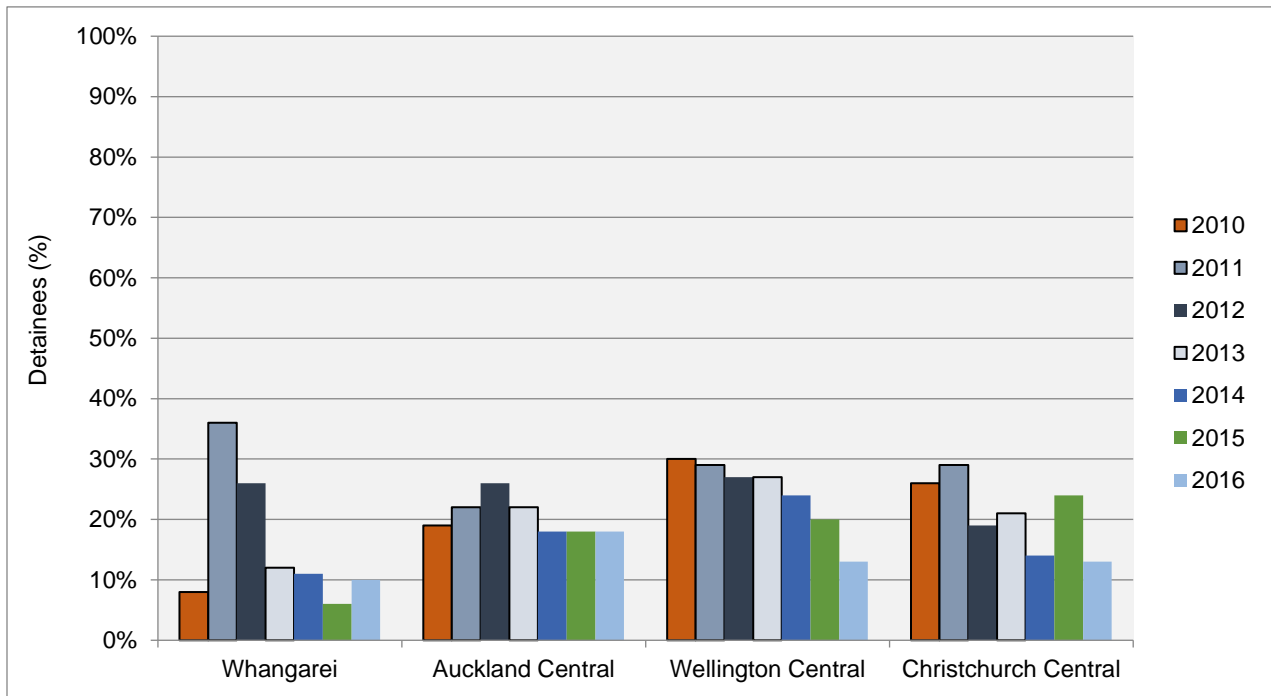
The proportion of detainees who had ever tried ecstasy increased from 42% in 2010 to 54% in 2016 ($p < 0.0001$). The proportion of detainees who had ever tried ecstasy increased in Whangarei (up from 21% in 2010 to 51% in 2016, $p < 0.0001$) and Auckland Central (up from 40% in 2010 to 54% in 2016, $p = 0.0205$) (Figure 6.1).

Figure 6.1: Proportion of police detainees who had ever used ecstasy by location, 2010-2016



The proportion of detainees who had used ecstasy in the previous year decreased from 28% in 2011 to 14% in 2016 ($p < 0.0001$) (Figure 6.2). There were declines in the last year use of ecstasy among detainees in Wellington Central (down from 30% in 2010 to 13% in 2016, $p = 0.0015$), Christchurch Central (down from 29% in 2011 to 13% in 2016, $p = 0.0043$), and Whangarei (down from 36% in 2011 to 10% in 2016, $p < 0.0001$).

Figure 6 2: Proportion of police detainees who had used ecstasy in the past 12 months by location, 2010-2016



The proportion of detainees who had used ecstasy in the previous month decreased from 11% in 2011 to 5% in 2016 ($p=0.0002$) (Figure 6.3).

Figure 6 3: Proportion of police detainees who had used ecstasy in the past month by location, 2010-2016

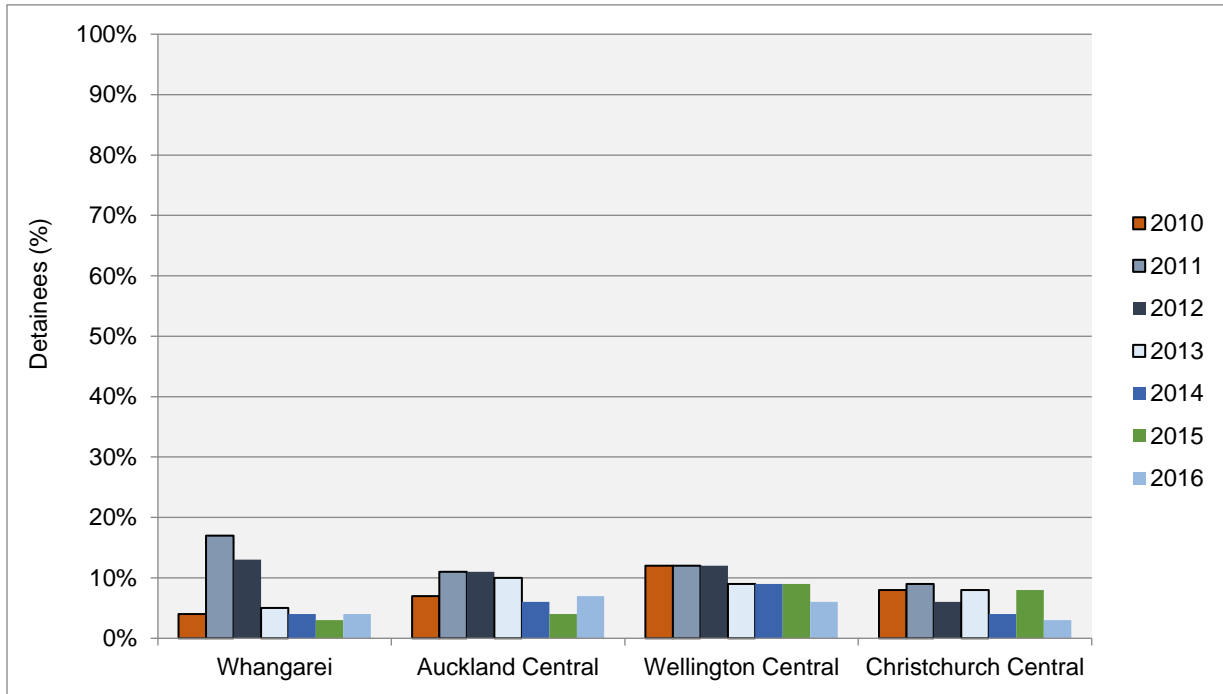


Table 6 1: Police detainees' patterns of ecstasy use by location, 2010-2016

Use of ecstasy	Year	N - value	Ever used (%)	Mean age first used (years)*	Used in past 12 months (%)	Mean number of days used in past 12 months	Felt dependent in past 12 months [%]**	Used in past month [%]	Mean number of days used in past month**
Whangarei	2010	n=115	21%	21	8%	4	9%	4%	2
	2011	n=149	50%	21	36%	12	6%	17%	3
	2012	n=151	51%	21	26%	13	3%	13%	3
	2013	n=152	43%	20	12%	23	0%	5%	4
	2014	n=151	45%	19	11%	27	19%	4%	5
	2015	n=169	46%	19	6%	6	0%	3%	3
	2016	n=131	51%	19	10%	4	0%	4%	2
Auckland Central	2010	n=284	40%	21	19%	18	6%	7%	3
	2011	n=316	46%	20	22%	25	5%	11%	3
	2012	n=247	54%	19	26%	11	5%	11%	2
	2013	n=295	52%	20	22%	19	2%	10%	3
	2014	n=315	52%	19	18%	13	2%	6%	3
	2015	n=267	48%	19	18%	15	7%	4%	3
	2016	n=221	54%	20	18%	13	5%	7%	4
Wellington Central	2010	n=152	52%	21	30%	14	5%	12%	2
	2011	n=171	53%	21	29%	12	6%	12%	3
	2012	n=101	51%	19	27%	25	0%	12%	4
	2013	n=106	50%	19	27%	22	0%	9%	4
	2014	n=95	52%	19	24%	21	5%	9%	2
	2015	n=107	56%	18	20%	16	5%	9%	2
	2016	n=213	54%	18	13%	14	8%	6%	2
Christchurch Central	2010	n=262	47%	20	26%	5	0%	8%	2
	2011	n=191	56%	19	29%	8	2%	9%	2
	2012	n=303	49%	19	19%	8	0%	6%	3
	2013	n=285	57%	19	21%	14	0%	8%	3
	2014	n=273	54%	19	14%	11	0%	7%	1
	2015	n=292	62%	19	24%	14	0%	8%	4
	2016	n=235	56%	19	13%	11	4%	3%	2

All Sites	2010	n=814	42%	21	22%	11	4%	8%	2
	2011	n=827	51%	20	28%	14	4%	12%	3
	2012	n=802	51%	19	24%	13	2%	10%	3
	2013	n=841	52%	20	22%	16	1%	9%	3
	2014	n=835	51%	19	16%	16	4%	5%	2
	2015	n=835	54%	19	19%	14	3%	6%	3
	2016	n=800	54%	19	14%	12	5%	5%	3

* of those who had ever tried

** of those who had used in the past 12 months

*** of those who had used in the past month

Frequency of ecstasy use

The detainees had used ecstasy on a mean of 12 days in the past 12 months in 2016 (median 3, range 1–156 days) (Table 6.1).

Dependency on ecstasy

Only 5% of the ecstasy using detainees said they had felt dependent on ecstasy in 2016 (Table 6.1).

Ecstasy use at the time of arrest

Less than one percent of the detainees had been using ecstasy prior to their arrest, and this had not changed from previous years.

Current availability of ecstasy

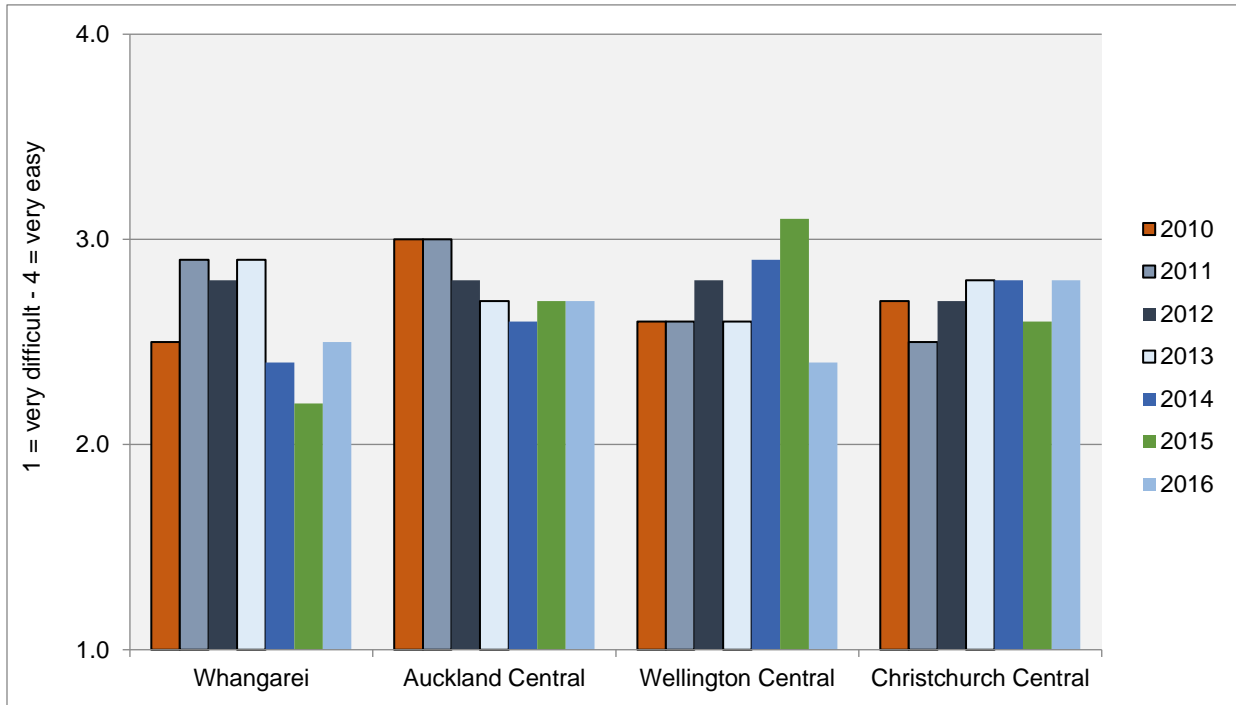
The current availability of ecstasy was reported to be 'easy/difficult' in 2016 (Table 6.2). There was no change in perceptions of the current availability of ecstasy from 2010 to 2016 (Figure 6.4).

Table 6 2: Police detainees' perceptions of the current availability of ecstasy by location, 2010-2016

Current availability of ecstasy	Years	N - Value	Very easy [4]	Easy [3]	Difficult [2]	Very difficult [1]	Average availability score [1=very difficult - 4=very easy]	Overall current status
Whangarei	2010	n=10	20%	40%	10%	30%	2.5	Easy / very difficult
	2011	n=51	24%	45%	25%	6%	2.9	Easy / difficult
	2012	n=34	32%	32%	15%	21%	2.8	Very easy / easy
	2013	n=18	33%	33%	28%	6%	2.9	Very easy / easy
	2014	n=15	13%	40%	20%	27%	2.4	Easy / very difficult
	2015	n=11	9%	27%	36%	27%	2.2	Difficult / easy
	2016	n=13	0%	62%	23%	15%	2.5	Easy / difficult
Auckland Central	2010	n=49	35%	39%	22%	4%	3	Easy / very easy
	2011	n=62	34%	39%	23%	5%	3	Easy / very easy
	2012	n=57	28%	35%	23%	14%	2.8	Easy / very easy
	2013	n=63	25%	35%	24%	16%	2.7	Easy / very easy
	2014	n=49	16%	37%	33%	14%	2.6	Easy / difficult
	2015	n=40	23%	35%	33%	10%	2.7	Easy / difficult
	2016	n=37	24%	38%	27%	11%	2.8	Easy / difficult
Wellington Central	2010	n=39	28%	26%	28%	18%	2.6	Very easy / difficult
	2011	n=45	20%	31%	36%	13%	2.6	Difficult / easy
	2012	n=26	15%	58%	19%	8%	2.8	Easy / difficult
	2013	n=28	21%	29%	39%	11%	2.6	Difficult / easy
	2014	n=21	24%	43%	33%	0%	2.9	Easy / difficult
	2015	n=19	32%	47%	16%	5%	3.1	Easy / very easy
	2016	n=26	15%	23%	50%	12%	2.4	Difficult / easy
Christchurch Central	2010	n=65	22%	34%	35%	9%	2.7	Difficult / easy
	2011	n=51	24%	20%	39%	18%	2.5	Difficult / very easy
	2012	n=47	23%	36%	28%	13%	2.7	Easy / difficult
	2013	n=65	28%	31%	32%	9%	2.8	Difficult / easy
	2014	n=35	31%	34%	20%	14%	2.8	Easy / very easy
	2015	n=66	27%	32%	17%	24%	2.6	Easy / very easy

	2016	n=28	21%	43%	29%	7%	2.8	Easy / difficult
All Sites	2010	n=163	27%	34%	28%	11%	2.8	Easy / difficult
	2011	n=209	26%	33%	31%	11%	2.7	Easy / difficult
	2012	n=164	25%	40%	22%	13%	2.8	Easy / very easy
	2013	n=174	26%	32%	31%	12%	2.7	Easy / difficult
	2014	n=120	23%	38%	28%	12%	2.7	Easy / difficult
	2015	n=136	26%	36%	23%	16%	2.7	Easy / very easy
	2016	n=104	19%	39%	31%	10%	2.7	Easy / difficult

Figure 6 4: Mean score of the current availability of ecstasy by location, 2010-2016



Change in availability of ecstasy

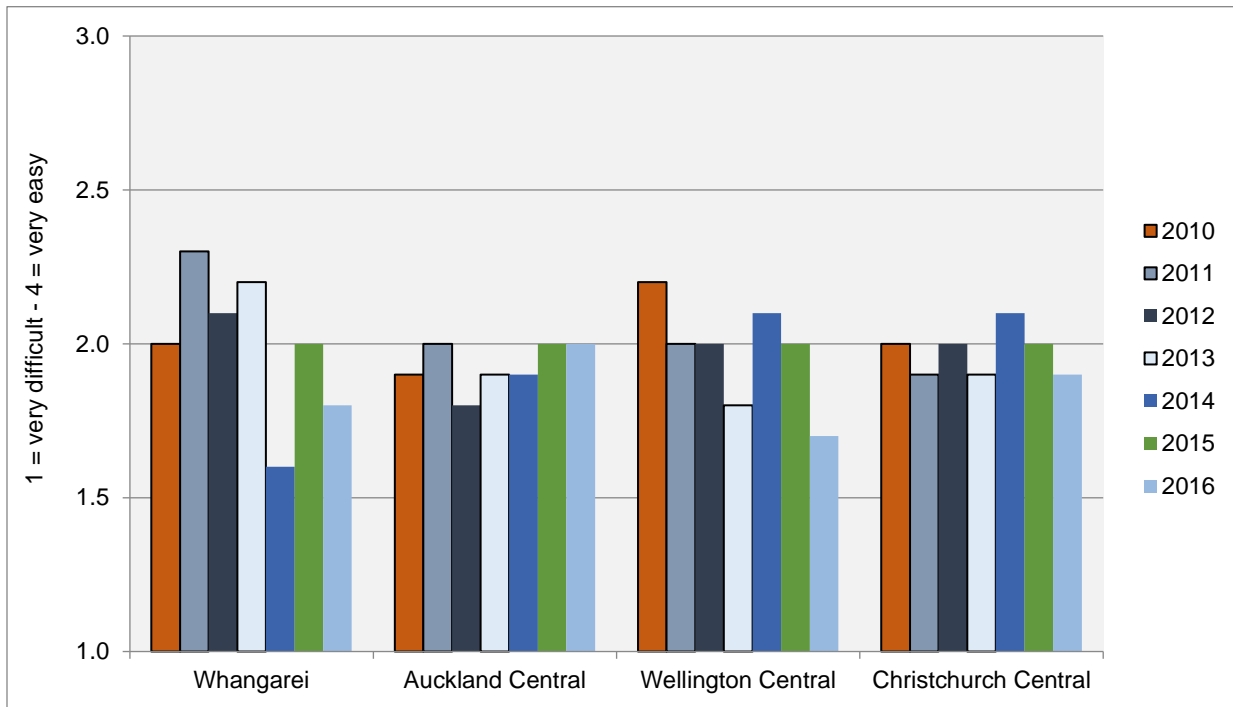
The detainees reported the availability of ecstasy had been ‘stable/more difficult’ in the previous six months in 2016 (Table 6.3). There was no change in the perception of the change in availability of ecstasy from 2010 to 2016 (Figure 6.5).

Table 6 3: Police detainees' perceptions of the change in availability of ecstasy by location, 2010-2016

Change in availability of ecstasy [%]	Years	N - Value	Easier [3]	Stable [2]	Fluctuates [2]	More difficult [1]	Average change in availability score [1=more difficult - 3=easier]	Overall current status
Whangarei	2010	n=12	25%	33%	17%	25%	2.0	Stable / more difficult
	2011	n=51	41%	37%	8%	14%	2.3	Easier / stable
	2012	n=30	23%	50%	10%	17%	2.1	Stable / easier
	2013	n=18	33%	33%	17%	17%	2.2	Easier / stable
	2014	n=13	8%	46%	0%	46%	1.6	Stable / more difficult
	2015	n=9	11%	44%	33%	11%	2.0	Stable / fluctuates
	2016	n=12	0%	67%	17%	17%	1.8	Stable / fluctuates/ more difficult
Auckland Central	2010	n=45	18%	40%	11%	31%	1.9	Stable / more difficult
	2011	n=52	21%	48%	10%	21%	2.0	Stable / easier /more difficult
	2012	n=49	16%	41%	10%	33%	1.8	Stable / more difficult
	2013	n=55	16%	47%	11%	25%	1.9	Stable / more difficult
	2014	n=44	16%	41%	14%	30%	1.9	Stable / more difficult
	2015	n=37	24%	43%	8%	24%	2.0	Easier / more difficult
	2016	n=37	27%	41%	8%	24%	2.0	Stable / easier
Wellington Central	2010	n=31	26%	45%	16%	13%	2.2	Stable / easier
	2011	n=35	20%	57%	9%	14%	2.0	Stable / easier
	2012	n=26	12%	62%	8%	19%	2.0	Stable / more difficult
	2013	n=23	9%	39%	22%	30%	1.8	Stable / more difficult
	2014	n=209	20%	50%	15%	15%	2.0	Stable / easier
	2015	n=17	12%	71%	6%	12%	2.0	Stable
	2016	n=23	0%	57%	17%	26%	1.7	Stable / more difficult
Christchurch Central	2010	n=60	27%	40%	7%	27%	2.0	Stable / more difficult
	2011	n=51	16%	39%	16%	29%	1.9	Stable / more difficult
	2012	n=44	20%	28%	28%	25%	2.0	Stable / fluctuates
	2013	n=61	11%	48%	15%	26%	1.9	Stable / more difficult
	2014	n=34	21%	47%	21%	12%	2.1	Stable / fluctuates

	2015	n=62	19%	37%	19%	24%	2.0	Stable / more difficult
	2016	n=22	18%	32%	18%	32%	1.9	Stable / more difficult
All Sites	2010	n=148	24%	41%	11%	25%	2.0	Stable / more difficult
	2011	n=189	24%	44%	11%	21%	2.0	Stable / easier
	2012	n=149	17%	44%	14%	25%	1.9	Stable / more difficult
	2013	n=157	14%	44%	15%	26%	1.9	Stable / more difficult
	2014	n=111	18%	46%	15%	22%	2.0	Stable / more difficult
	2015	n=125	19%	46%	14%	21%	2.0	Stable / more difficult
	2016	n=94	18%	44%	13%	26%	1.9	Stable / more difficult

Figure 6 5: Mean score for perceptions of the change in the availability of ecstasy by location, 2010-2016



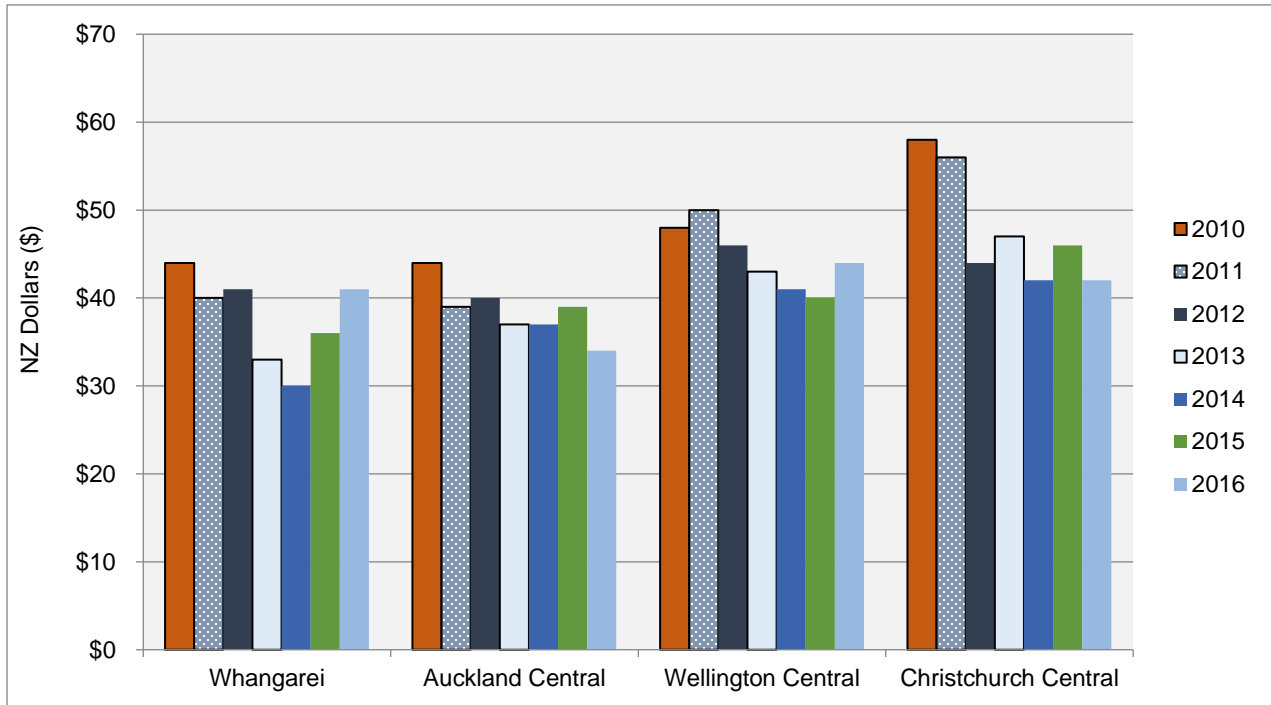
Current price of ecstasy

The price of a pill of ecstasy decreased from \$50 in 2010 to \$38 in 2016 ($p < 0.0001$) (Figure 6.6). The price paid for a pill of ecstasy in Christchurch Central declined from \$58 in 2010 to \$42 in 2016 ($p = 0.0124$).

Table 6 4: Current median (mean) price paid by police detainees for a pill of ecstasy (NZD) by location, 2010-2016

Current price of ecstasy (\$)				
	Number with Knowledge		Median	Mean
Whangarei	2010	n=7	\$50	\$44
	2011	n=50	\$40	\$40
	2012	n=30	\$40	\$41
	2013	n=18	\$30	\$33
	2014	n=11	\$25	\$30
	2015	n=10	\$40	\$36
	2016	n=11	\$40	\$41
Auckland Central	2010	n=43	\$40	\$44
	2011	n=60	\$40	\$39
	2012	n=59	\$40	\$40
	2013	n=58	\$34	\$37
	2014	n=50	\$40	\$37
	2015	n=37	\$35	\$39
	2016	n=36	\$30	\$34
Wellington Central	2010	n=38	\$50	\$48
	2011	n=39	\$50	\$50
	2012	n=23	\$45	\$46
	2013	n=27	\$40	\$43
	2014	n=19	\$40	\$41
	2015	n=18	\$39	\$40
	2016	n=20	\$40	\$44
Christchurch Central	2010	n=65	\$60	\$58
	2011	n=46	\$60	\$56
	2012	n=44	\$40	\$44
	2013	n=61	\$40	\$47
	2014	n=32	\$40	\$42
	2015	n=59	\$40	\$46
	2016	n=21	\$40	\$42
All sites	2010	n=153	\$50	\$50
	2011	n=195	\$40	\$46
	2012	n=156	\$40	\$42
	2013	n=164	\$40	\$41
	2014	n=112	\$40	\$39
	2015	n=124	\$40	\$42
	2016	n=88	\$40	\$38

Figure 6.6: Mean price paid for a pill of ecstasy by location, 2010-2016



Change in the price of ecstasy

The detainees reported the price of ecstasy had been 'stable/fluctuating' over the past six months in 2016 (Table 6.6). There was no change in the detainees' perceptions of the change in the price of ecstasy from 2010 to 2016.

Table 6 5: Police detainees' perceptions of the change in the price of ecstasy in the past six months by location, 2010-2016

Change in price of ecstasy [\$]	Years	N - Value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing [1]	Average change in availability score [1=decreasing - 3=increasing]	Overall current status
Whangarei	2010	n=9	22%	22%	44%	11%	2.1	Stable / fluctuating
	2011	n=46	20%	20%	48%	13%	2.1	Stable / increasing / fluctuating
	2012	n=31	10%	13%	61%	10%	2.0	Stable / fluctuating
	2013	n=18	11%	39%	39%	11%	2.0	Stable/ fluctuating
	2014	n=10	20%	30%	40%	10%	2.1	Stable / fluctuating
	2015	n=9	30%	0%	40%	20%	2.1	Stable / increasing
	2016	n=10	10%	30%	60%	0%	2.1	Stable/ fluctuating
Auckland Central	2010	n=43	14%	14%	47%	26%	1.9	Stable / increasing / fluctuating
	2011	n=54	17%	24%	46%	13%	2.0	Stable / increasing / fluctuating
	2012	n=53	19%	11%	60%	9%	2.1	Stable / increasing
	2013	n=57	9%	12%	61%	18%	1.9	Stable / decreasing
	2014	n=45	7%	29%	53%	11%	2.0	Stable / fluctuating
	2015	n=34	12%	12%	62%	15%	2.0	Stable / decreasing
	2016	n=33	9%	12%	70%	9%	2.0	Stable
Wellington Central	2010	n=32	19%	19%	50%	22%	2.0	Stable / decreasing
	2011	n=35	6%	6%	31%	29%	1.8	Fluctuating / stable
	2012	n=26	19%	19%	42%	12%	2.1	Stable / fluctuating
	2013	n=23	9%	9%	74%	0%	2.1	Stable
	2014	n=17	6%	6%	76%	6%	2.0	Stable
	2015	n=18	17%	33%	50%	0%	2.2	Stable / fluctuating
	2016	n=21	10%	38%	43%	10%	2.0	Stable / fluctuating
Christchurch Central	2010	n=63	14%	22%	44%	19%	2.0	Stable / fluctuating
	2011	n=44	23%	11%	59%	7%	2.2	Stable / increasing
	2012	n=40	13%	33%	33%	23%	1.9	Fluctuating / stable
	2013	n=55	20%	20%	49%	11%	2.1	Stable / fluctuating
	2014	n=35	9%	23%	57%	11%	2.0	Stable / fluctuating
	2015	n=60	10%	20%	55%	15%	2.0	Stable/ fluctuating
	2016	n=21	14%	33%	38%	14%	2.0	Stable/ fluctuating

All Sites	2010	n=147	16%	17%	46%	21%	1.9	Stable / decreasing
	2011	n=179	17%	21%	48%	14%	2.0	Stable / fluctuating
	2012	n=150	16%	21%	50%	13%	2.0	Stable / fluctuating
	2013	n=153	13%	18%	58%	11%	2.0	Stable / fluctuating
	2014	n=107	8%	23%	59%	10%	2.0	Stable / fluctuating
	2015	n=121	13%	19%	55%	12%	2.0	Stable / fluctuating
	2016	n=85	11%	24%	56%	10%	2.0	Stable / fluctuating

Current strength of ecstasy

In 2016, the detainees reported the current strength of ecstasy was 'medium/high' (Table 6.6). Overall, there was no statistically significant change in the current strength of ecstasy from 2012 to 2016. The strength of ecstasy increased in Wellington Central from 2013 to 2016 (up from 1.5 to 2.2, $p=0.0083$).

Table 6 6: Police detainees’ perceptions of the current strength of ecstasy in the past six months by location, 2012-2016

Current strength of ecstasy	Year	N- Value	High [3]	Medium [2]	Fluctuates [2]	Low [1]	Average strength score [1=low - 3=high]	Overall current status
Whangarei	2012	n=28	29%	25%	29%	18%	2.1	High / fluctuates
	2013	n=19	26%	42%	21%	11%	2.2	Medium / high
	2014	n=10	20%	40%	10%	30%	1.9	Medium / low
	2015	n=10	30%	40%	20%	10%	2.2	Medium / high
	2016	n=12	33%	33%	8%	25%	2.1	High / medium
Auckland Central	2012	n=58	28%	24%	21%	28%	2.0	High / low
	2013	n=60	27%	18%	18%	37%	1.9	Low / high
	2014	n=50	22%	22%	22%	34%	1.9	High / medium / fluctuates
	2015	n=37	32%	24%	27%	16%	2.2	High / fluctuates
	2016	n=36	28%	36%	14%	22%	2.1	Medium / high
Wellington Central	2012	n=26	19%	23%	23%	35%	1.8	Low / medium
	2013	n=22	9%	23%	14%	55%	1.5	Low / medium
	2014	n=19	32%	32%	32%	5%	2.3	High / medium / fluctuates
	2015	n=17	29%	24%	41%	6%	2.2	Fluctuates / high
	2016	n=23	39%	26%	17%	17%	2.2	High / medium
Christchurch Central	2012	n=49	35%	24%	18%	22%	2.1	High / medium
	2013	n=66	29%	32%	21%	18%	2.1	Medium / high
	2014	n=35	34%	34%	14%	17%	2.2	High / medium
	2015	n=66	39%	24%	11%	26%	2.1	High / low
	2016	n=26	23%	38%	27%	12%	2.1	Medium /fluctuates
All Sites	2012	n=161	35%	24%	18%	25%	2.0	High / low
	2013	n=167	25%	27%	19%	29%	1.9	Low / medium
	2014	n=114	27%	29%	20%	24%	2.1	Medium / high
	2015	n=130	35%	25%	20%	19%	2.2	High / medium
	2016	n=97	30%	34%	18%	19%	2.1	Medium / high

Change in strength of ecstasy

The detainees described the strength of ecstasy as 'stable/fluctuating' in the previous six months in 2016 (Table 6.7).

Table 6 7: Police detainees' perceptions of change in strength of ecstasy in the past six months by location, 2012-2016

Change in strength of ecstasy [%]	Year	N-Value	Increasing [3]	Stable [2]	Fluctuating [2]	Decreasing [1]	Average change in strength score [1=decreasing - 3=increasing]	Overall current status
Whangarei	2012	n=25	16%	60%	8%	16%	2.0	Stable / decreasing
	2013	n=14	14%	57%	14%	14%	2.0	Stable / decreasing
	2014	n=9	11%	33%	22%	33%	1.8	Stable / decreasing
	2015	n=8	25%	50%	0%	25%	2.0	Stable / increasing /decreasing
	2016	n=8	13%	63%	25%	0%	2.1	Stable / fluctuating
Auckland Central	2012	n=45	11%	22%	29%	38%	1.7	Decreasing / fluctuating
	2013	n=50	14%	34%	18%	34%	1.8	Stable / decreasing
	2014	n=42	17%	43%	21%	19%	2.0	Stable / fluctuating
	2015	n=35	3%	49%	34%	14%	1.9	Stable / fluctuating
	2016	n=29	3%	69%	10%	17%	1.9	Stable / decreasing
Wellington Central	2012	n=21	10%	33%	19%	38%	1.7	Decreasing / stable
	2013	n=18	0%	33%	33%	33%	1.7	Stable / decreasing
	2014	n=14	0%	57%	43%	0%	2.0	Stable / fluctuating
	2015	n=15	7%	20%	53%	20%	1.9	Fluctuating / stable / decreasing
	2016	n=17	6%	35%	41%	18%	1.9	Fluctuating / stable
Christchurch Central	2012	n=40	18%	30%	35%	18%	2.0	Fluctuating / stable
	2013	n=54	6%	52%	26%	17%	1.9	Stable / fluctuating
	2014	n=33	9%	55%	18%	18%	1.9	Stable / decreasing
	2015	n=54	17%	43%	19%	22%	1.9	Stable / decreasing
	2016	n=21	14%	14%	57%	14%	2.0	Fluctuating / stable / increasing / decreasing

All Sites	2012	n=131	14%	34%	25%	27%	1.8	Stable / decreasing
	2013	n=136	9%	43%	23%	25%	1.8	Stable / decreasing
	2014	n=98	11%	48%	23%	17%	1.9	Stable / fluctuating
	2015	n=112	12%	42%	27%	20%	1.9	Stable / fluctuating
	2016	n=75	8%	45%	32%	15%	1.9	Stable / fluctuating

Time taken to purchase ecstasy

Fifty-one percent of the detainees who had used ecstasy in the previous year were able to purchase it in one hour or less in 2016 (Table 6.8).

Table 6 8: Time taken by police detainees to purchase ecstasy by location, 2010-2016

Time to purchase ecstasy (%)	Year	N- Value	Months	Weeks	Days	About 1 day	Hours	1 hour	Less than 20 minutes
Whangarei	2010	n=9	0%	11%	33%	11%	11%	33%	0%
	2011	n=54	0%	2%	19%	11%	20%	20%	28%
	2012	n=33	0%	12%	9%	9%	12%	27%	30%
	2013	n=18	6%	0%	11%	11%	22%	17%	33%
	2014	n=15	7%	7%	20%	0%	20%	13%	33%
	2015	n=11	0%	0%	9%	27%	36%	0%	27%
	2016	n=13	0%	15%	15%	23%	15%	23%	8%
Auckland Central	2010	n=45	2%	0%	11%	16%	22%	20%	29%
	2011	n=61	0%	0%	7%	3%	16%	49%	25%
	2012	n=58	2%	3%	10%	17%	14%	22%	31%
	2013	n=61	3%	3%	5%	23%	21%	21%	23%
	2014	n=54	4%	6%	9%	19%	20%	24%	19%
	2015	n=42	0%	2%	14%	10%	26%	24%	24%
	2016	n=36	3%	11%	8%	3%	14%	28%	33%
Wellington Central	2010	n=37	0%	8%	19%	14%	14%	24%	22%
	2011	n=42	2%	5%	10%	10%	19%	31%	24%
	2012	n=25	0%	0%	8%	12%	32%	24%	24%
	2013	n=27	0%	4%	26%	7%	30%	16%	19%
	2014	n=19	0%	0%	11%	0%	11%	37%	42%
	2015	n=16	0%	6%	0%	6%	25%	31%	31%
	2016	n=24	0%	4%	13%	21%	17%	21%	25%
Christchurch Central	2010	n=66	0%	5%	8%	27%	24%	15%	21%
	2011	n=50	2%	4%	20%	24%	16%	12%	22%
	2012	n=51	2%	8%	7%	12%	18%	22%	18%
	2013	n=69	6%	6%	22%	6%	14%	26%	20%
	2014	n=37	3%	8%	5%	14%	32%	14%	27%
	2015	n=66	0%	6%	14%	8%	30%	21%	21%
	2016	n=28	0%	4%	14%	7%	29%	39%	7%

All Sites	2010	n=157	1%	4%	13%	20%	20%	20%	22%
	2011	n=206	1%	3%	14%	12%	18%	28%	24%
	2012	n=171	1%	5%	13%	14%	18%	23%	26%
	2013	n=181	4%	4%	16%	12%	21%	21%	22%
	2014	n=128	3%	4%	9%	11%	22%	23%	28%
	2015	n=138	0%	5%	11%	9%	28%	23%	24%
	2016	n=104	1%	8%	12%	9%	19%	30%	22%

Driving under the influence of ecstasy

Those detainees who had used ecstasy in the past year were asked how often they drove under the influence of ecstasy. Twenty-three percent of the detainees said they did not drive and a further 12% said their driver licence was suspended. In 2016, 13% of the ecstasy using detainees had completed at least some of their driving under the influence of ecstasy (Table 6.10).

Table 6 9: Extent police detainees who drove and who used ecstasy in the past 12 months had driven under the influence of ecstasy by location, 2010 - 2016

Extent drove under the influence of ecstasy	Years	N-value	All [4]	Most [3]	Some [2]	Hardly any [1]	None [0]	Mean score of extent drove under influence [0=none - 4=all]
Whangarei	2010	n=10	0%	0%	10%	0%	90%	0.2
	2011	n=39	5%	3%	3%	10%	79%	0.4
	2012	n=29	3%	0%	10%	10%	76%	0.4
	2013	n=13	0%	8%	15%	8%	69%	0.6
	2014	n=13	0%	23%	15%	0%	62%	1
	2015	n=10	10%	0%	20%	10%	60%	0.9
	2016	n=6	0%	0%	0%	33%	67%	0.3
Auckland Central	2010	n=36	3%	6%	8%	14%	69%	0.6
	2011	n=47	0%	2%	19%	21%	57%	0.7
	2012	n=47	0%	4%	6%	4%	85%	0.3
	2013	n=46	0%	0%	9%	15%	76%	0.3
	2014	n=39	5%	0%	5%	10%	79%	0.4
	2015	n=25	0%	4%	8%	0%	88%	0.3
	2016	n=21	0%	5%	10%	14%	71%	0.5
Wellington Central	2010	n=28	0%	0%	4%	11%	86%	0.2
	2011	n=31	6%	3%	3%	16%	71%	0.6
	2012	n=19	0%	5%	0%	21%	74%	0.4
	2013	n=20	25%	0%	15%	10%	50%	1.4
	2014	n=18	17%	6%	11%	6%	61%	1.1
	2015	n=13	8%	0%	8%	8%	77%	0.5
	2016	n=18	11%	0%	6%	6%	78%	0.6
Christchurch Central	2010	n=47	0%	0%	2%	6%	91%	0.1
	2011	n=37	3%	3%	16%	11%	68%	0.6
	2012	n=44	0%	2%	11%	7%	80%	0.4
	2013	n=54	2%	4%	6%	22%	67%	0.5
	2014	n=31	3%	6%	6%	16%	68%	0.6
	2015	n=50	6%	2%	4%	14%	74%	0.5
	2016	n=20	5%	0%	5%	20%	70%	0.5

All Sites	2010	n=121	1%	2%	5%	9%	83%	0.3
	2011	n=153	3%	3%	11%	15%	68%	0.6
	2012	n=141	1%	3%	7%	9%	80%	0.4
	2013	n=137	6%	2%	9%	16%	66%	0.7
	2014	n=105	7%	6%	8%	10%	69%	0.7
	2015	n=99	5%	2%	7%	9%	77%	0.5
	2016	n=66	4%	2%	7%	16%	72%	0.5

Summary

- The proportion of detainees who had used ecstasy in the previous year decreased from 28% in 2011 to 14% in 2016
- Use of ecstasy in the previous year declined in Whangarei (down from 36% in 2011 to 10% in 2016) and Christchurch (down from 29% in 2011 to 13% in 2016)
- In 2016, the detainees had used ecstasy on a mean of only 12 days in the previous year
- In 2016, only five percent of the ecstasy using detainees felt they were dependent on the drug, and less than one percent had been using ecstasy prior to their arrest
- The current availability of ecstasy was reported to be 'easy/difficult' in 2016
- The availability of ecstasy was 'stable/more difficult' over the previous six months in 2016
- The mean price of a pill of ecstasy declined from \$50 in 2010 to \$38 in 2016
- The mean price of a pill of ecstasy in Christchurch Central declined from \$58 in 2010 to \$42 in 2016
- The current strength of ecstasy was reported to be "medium/high" in 2016
- Fifty-one percent of detainees who had used ecstasy in the previous year were able to purchase it in one hour or less in 2016
- In 2016, 17% of detainees who drove and used ecstasy had competed some of their driving under the influence of ecstasy

Chapter 7 - Opioids

Introduction

The international supply of heroin to New Zealand was substantially disrupted in the late 1970s (New Zealand Customs Service, 2002; Newbold, 2000). Three domestic sources of opioids emerged over the subsequent decades to largely replace international heroin: (1) 'street morphine' - pharmaceutical morphine illicitly diverted from the medical system; (2) 'homebake heroin/morphine' – morphine made by users from diverted codeine in make-shift 'kitchen' laboratories; and (3) opium extracted on a seasonal basis from locally grown opium poppies (Adamson & Sellman, 1998; New Zealand Customs Service, 2002). While morphine remains the principal opioid used by injecting drug users in New Zealand, there is evidence from the IDMS of growing use of new pharmaceutical opioid products, such as oxycodone (Wilkins, et al., 2015). The IDMS has also found growing gang involvement in the recovering street morphine market in Christchurch (Wilkins, et al., 2015). The police detainees in NZ-ADUM are asked about use of a range of opioids including heroin, morphine, opiates/opioids, smack, skag, junk and misties.

Use of opioids

In 2016, 17% of the police detainees had used an opioid in their lifetimes, 5% had used an opioid in the previous 12 months and 2% had used an opioid in the past 30 days (Table 7 1). There was no statistically significant change in the proportion of detainees who had ever tried opioids from 2010 to 2016. There was also no statistically significant change in the proportion of detainees who had used an opioid in the previous 12 months from 2010 to 2016 (i.e. 8% to 5%) (Figure 7 1).

Figure 7 1: Proportion of police detainees who had used opioids in the past 12 months by location, 2010-2016

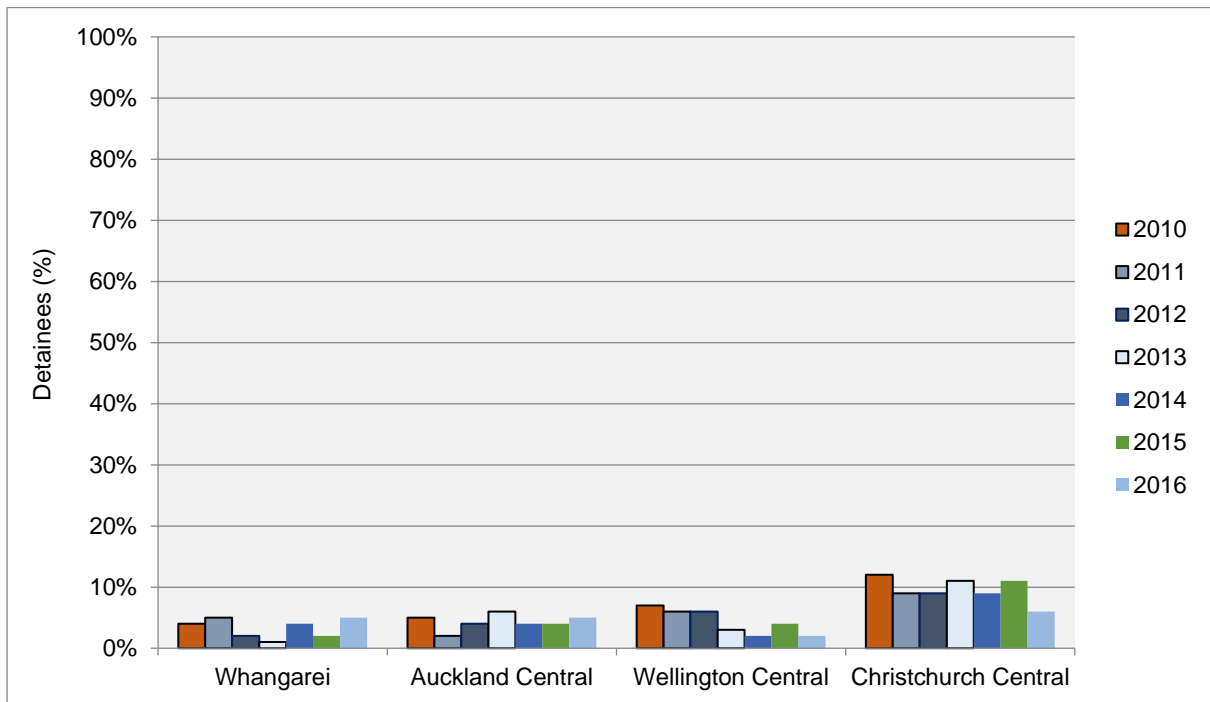


Table 7 1: Police detainees' patterns of opioid use by location, 2010-2016

Use of opioids	Year	N - value	Ever used (%)	Mean age first used (years)*	Used in past 12 months (%)	Mean number of days used in past 12 months **	Injected in past 12 months **	Felt dependent in past 12 months [%]**	Used in past month [%]	Mean number of days used in past month***
Whangarei	2010	n=115	12%	25	4%	29	20%	40%	3%	18
	2011	n=149	12%	21	5%	12	50%	0%	2%	3
	2012	n=151	15%	22	2%	1	33%	0%	1%	0
	2013	n=152	13%	21	1%	4	0%	0%	1%	1
	2014	n=151	15%	22	4%	3	67%	0%	3%	2
	2015	n=169	10%	18	2%	182	33%	67%	1%	30
	2016	n=131	22%	19	5%	48	29%	29%	2%	11
Auckland Central	2010	n=285	15%	21	5%	112	60%	47%	3%	15
	2011	n=316	10%	21	2%	95	57%	43%	2%	11
	2012	n=247	15%	20	4%	45	73%	18%	2%	7
	2013	n=294	16%	20	6%	27	47%	25%	3%	4
	2014	n=314	15%	21	4%	44	30%	8%	3%	5
	2015	n=267	15%	19	4%	56	50%	27%	2%	9
	2016	n=221	16%	21	5%	36	60%	40%	2%	4
Wellington Central	2010	n=152	11%	25	7%	46	56%	25%	5%	6
	2011	n=171	17%	21	6%	123	73%	45%	5%	14
	2012	n=101	12%	20	6%	69	17%	0%	2%	10
	2013	n=106	12%	22	3%	198	50%	25%	3%	17
	2014	n=95	11%	19	2%	21	0%	50%	2%	16
	2015	n=107	12%	18	4%	13	67%	33%	1%	8
	2016	n=213	13%	19	2%	112	75%	75%	<1	30
Christchurch Central	2010	n=262	20%	19	12%	110	53%	43%	6%	19
	2011	n=191	21%	20	9%	122	82%	53%	6%	20
	2012	n=303	23%	20	9%	114	55%	58%	6%	18
	2013	n=284	27%	20	11%	166	53%	53%	8%	17
	2014	n=273	23%	20	9%	123	57%	38%	4%	19
	2015	n=292	27%	20	11%	115	65%	45%	6%	17

	2016	n=235	18%	20	6%	105	69%	47%	4%	10
All Sites	2010	n=814	15%	21	8%	94	53%	41%	4%	15
	2011	n=827	15%	21	6%	104	72%	43%	4%	16
	2012	n=802	17%	20	6%	82	51%	32%	3%	12
	2013	n=839	19%	21	6%	118	48%	40%	4%	13
	2014	n=834	17%	20	5%	83	48%	27%	3%	12
	2015	n=835	18%	20	6%	92	60%	40%	3%	14
	2016	n=800	17%	20	5%	73	60%	44%	2%	9

* of those who had ever tried

** of those who had used in the past 12 months

*** of those who had used in the past month

Frequency of opioid use

The detainees had used opioids on a mean of 73 days in the past 12 months in 2016 (median 7, range 1–365 days). There was no statistically significant change in the number of days opioids were used in the previous 12 months from 2010 to 2016.

Dependency on opioids

Forty-four percent of the detainees who had used an opioid in the previous year reported they felt dependent on them in 2016. There was no statistically significant change in level of dependency on opioids from 2010 to 2016.

Opioid use at the time of arrest

Only 1% of the detainees reported they were using an opioid at the time of their arrest in 2016, and this had not changed from previous years.

Current availability of opioids

The detainees described the current availability of opioids as ‘easy/very easy’ in 2016 (Table 7 2). There was no statistically significant change in the current availability of opioids from 2010 to 2016.

Table 7 2: Police detainees’ perceptions of the current availability of opioids, 2010-2016

Current availability of opioids	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=53	n=41	n=44	n=51	n=42	n=46	n=35
Very easy [4]	32%	30%	18%	33%	20%	36%	32%
Easy [3]	42%	28%	60%	21%	46%	24%	40%
Difficult [2]	17%	35%	12%	28%	18%	23%	23%
Very difficult [1]	9%	8%	11%	18%	16%	17%	5%
Average availability score [1=very difficult - 4=very easy]	3.0	2.8	2.9	2.7	2.7	2.8	3.0
Overall current status	Easy/ very easy	Difficult/ very easy	Easy/ very easy	Very easy/ difficult	Easy/ very easy	Very easy/ easy	Easy/very easy

Change in availability of opioids

The detainees described the availability of opioids as ‘stable/easier’ in 2016 (Table 7 3).

Table 7 3: Police detainees’ perceptions of the change in availability of opioids, 2010-2016

Change in availability of opioids	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=51	n=37	n=36	n=46	n=39	n=40	n=34
Easier [3]	24%	16%	24%	8%	16%	21%	23%
Stable [2]	47%	42%	41%	40%	41%	34%	54%
Fluctuates [2]	10%	14%	21%	12%	12%	18%	9%
More difficult [1]	19%	27%	14%	39%	30%	25%	14%
Average change in availability score [1=more difficult - 3=easier]	2.0	1.9	2.1	1.7	1.9	2.0	2.1
Overall current change	Stable/easier	Stable/more difficult	Stable/easier	Stable/more difficult	Stable/more difficult	Stable/more difficult	Stable/easier

Current price of opioids

Only 22 of the detainees reported the price of opioids in 2016. While this is similar to the number of respondents from previous years, it limits the capacity to detect changes over time. The median price of opioids was reported to be \$1 per milligram or \$100 per 100 milligrams (mean \$0.90 per milligram).

Change in the price of opioids

The detainees reported the price of opioids had been ‘stable/decreasing’ over the previous six months in 2016 (Table 7 4). Overall, there was no statistically significant change in the perceptions of the change in the price of opioids from 2010 to 2016. However, detainees in Christchurch Central reported the price of opioids had been declining from 2013 to 2016 (p=0.0062).

Table 7 4: Police detainees’ perceptions of the change in the price of opioids in the past six months, 2010-2016

Change in price of opioids	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=42	n=36	n=32	n=37	n=28	n=35	n=30
Increasing [1]	12%	17%	22%	28%	13%	16%	7%
Fluctuating [2]	12%	10%	9%	10%	13%	6%	17%
Stable [2]	69%	71%	59%	52%	66%	73%	57%
Decreasing [1]	7%	3%	10%	6%	8%	5%	19%
Average change in price score [1=decreasing - 3=increasing]	2.0	2.1	2.1	2.2	2.0	2.1	1.9
Overall recent change	Stable / fluctuating	Stable	Stable / increasing	Stable / increasing	Stable / fluctuating	Stable	Stable/ decreasing

Current strength of opioids

The opioid using detainees described the current strength of opioids as ‘medium/high’ in 2016 (Table 7 5). There was no statistically significant change in the current strength of opioids from 2012 to 2016.

Table 7 5: Police detainees’ perceptions of the current strength of opioids in the past six months, 2012-2016

Current strength of opioids [%]	All sites				
	2012	2013	2014	2015	2016
	n=39	n=46	n=37	n=39	n=35
High [3]	54%	37%	49%	36%	37%
Medium [2]	26%	44%	30%	51%	51%
Fluctuates [2]	18%	13%	16%	3%	3%
Low [1]	3%	7%	5%	10%	9%
Average strenght score [1=low - 3=high]	2.5	2.3	2.4	2.2	2.3
Overall current status	High/ medium	Medium/ high	High/ medium	Medium/ high	Medium/ high

Change in strength of opioids

The strength of opioids was reported to have been ‘stable’ over the previous six months in 2016 (Table 7 6). Eighty-five percent of the opioid using detainees described purity as ‘stable’ in 2016.

Table 7 6: Police detainees’ perceptions of change in purity of opioids in the past six months in 2016

Change in purity of opioids [%]	All sites				
	2012	2013	2014	2015	2016
	n=31	n=41	n=31	n=37	n=33
Increasing [3]	0%	5%	3%	8%	3%
Stable [2]	90%	80%	77%	78%	85%
Fluctuating [2]	3%	10%	19%	8%	0%
Decreasing [1]	6%	5%	0%	5%	12%
Average change in purity [1=decreasing - 3=increasing]	1.9	2.0	2.0	2.0	1.9
Overall recent change	Stable	Stable	Stable	Stable	Stable

Time taken to purchase opioids

In 2016, 65% of the opioid using detainees reported they could purchase an opioid in one hour or less (Table 7 7). There was no statistically significant change in the proportion of detainees who could purchase an opioid in one hour or less from 2010 to 2016 (i.e. 60% in 2010, 49% in 2011, 53% in 2012, 52% in 2013, 55% in 2014, 50% in 2015 and 65% in 2016).

Table 7 7: Time taken by police detainees to purchase opioids, 2010-2016

Time taken to purchase opioids [%]	All sites						
	2010	2011	2012	2013	2014	2015	2016
	n=53	n=48	n=38	n=47	n=41	n=43	n=37
Months	0%	5%	7%	9%	5%	0%	3%
Weeks	25%	4%	0%	2%	0%	3%	3%
Days	6%	14%	0%	7%	12%	16%	5%
About one day	4%	13%	24%	10%	11%	7%	9%
Hours	28%	16%	16%	19%	17%	24%	14%

1 Hour	25%	17%	21%	20%	31%	19%	22%
Less than 20 minutes	36%	31%	32%	32%	24%	31%	43%

Driving under the influence of opioids

Those detainees who had used opioids in the past year were asked how often they drove under the influence of opioids. In 2016, 30% of the opioid using detainees said they did not drive and a further 14% said their licence was suspended. Thirty-six percent of the detainees who used opioids and drove had completed at least some of their driving under the influence of opioids in 2016 (Table 7 8). There was no statistically significant change in the extent of driving under the influence of opioids from 2010 to 2016.

Table 7 8: Extent to which police detainees who drove and who had used opioids in the past 12 months had driven under the influence of opioids, 2010-2016

Extent drove under the influence of opioids	All sites						
	2010	2011	2012	2013	2014	2015	2016
	n=35	n=26	n=27	n=36	n=27	n=24	n=20
All [4]	14%	17%	15%	8%	8%	12%	21%
Most [3]	6%	22%	6%	14%	3%	0%	0%
Some [2]	20%	10%	6%	12%	4%	11%	15%
Hardly any [1]	12%	5%	18%	16%	11%	15%	17%
None [0]	48%	44%	55%	50%	74%	62%	47%
Mean score of extent drove under influence [0=none - 4=all]	1.3	1.6	1.1	1.1	0.6	0.8	1.3

Summary

- Seventeen percent of the detainees in 2016 had tried an opioid in their lifetimes, and this had not changed from previous years
- There was also no change in the proportion of detainees who had used an opioid in the previous year from 2010 to 2016 (i.e. 8% to 5%)
- The opioid using detainees had used opioids on a mean of 73 days in the previous 12 months in 2016, and this had not changed from previous years
- Forty-four percent of the opioid using detainees felt they were dependent on opioids in 2016, and this had not changed from previous years
- Only 1% of the detainees had been using opioids at the time of their arrest in 2016
- In 2016, the detainees described the current availability of opioids as 'easy/very easy'
- There was no change in the current availability of opioids from 2010 to 2016
- In 2016, the median price of 100 milligrams of opioids was reported to be \$100
- The price of opioids was reported to be 'stable' in 2016
- The current purity of opioids was reported to be 'medium/high' in 2016
- In 2016, 85% of the opioid using detainees described the purity of opioids as 'stable'
- In 2016, 36% of the detainees who used opioids and drove had completed at least some of their driving under the influence of opioids

Chapter 8 – Cocaine

Introduction

Cocaine use has historically been very low in New Zealand (Field & Casswell, 1999; Wilkins & Sweetsur, 2008). There are a number of possible reasons for this, including cocaine's high price, the short duration of its action (i.e. around 20 minutes), the high availability of domestically made methamphetamine, and tight border controls (New Zealand Customs Service, 2002). International experience suggests that cocaine and methamphetamine are close substitutes for one another, and consequently one tends to dominate at the expense of the other in a given geographical area (Weisheit & White, 2009).

New South Wales has a larger cocaine market and New Zealand and other Pacific countries have been used as transit points for the smuggling of cocaine into Australia (NDIB, 2012). The concern is that this established international supply route to Australia could facilitate the development of a larger cocaine market in New Zealand (NDIB, 2012). The proportion of detainees who had tried cocaine at some point in their lives has been steadily increasing in recent years, but current use has remained persistently low. A possible explanation for this is the reported experience with cocaine may have occurred overseas in Australia, the United States or Europe where cocaine is much more readily available.

Use of cocaine

The proportion of detainees who had ever used cocaine increased from 17% in 2010 to 26% in 2016 ($p < 0.0001$). Lifetime use of cocaine increased in Whangarei (up from 10% in 2010 to 29% in 2016, $p = 0.0048$), and Auckland Central (up from 18% in 2011 to 30% in 2016, $p = 0.0340$) (Figure. 8.1).

Figure 8.1: Proportion of police detainees who had ever used cocaine by location, 2010-2016

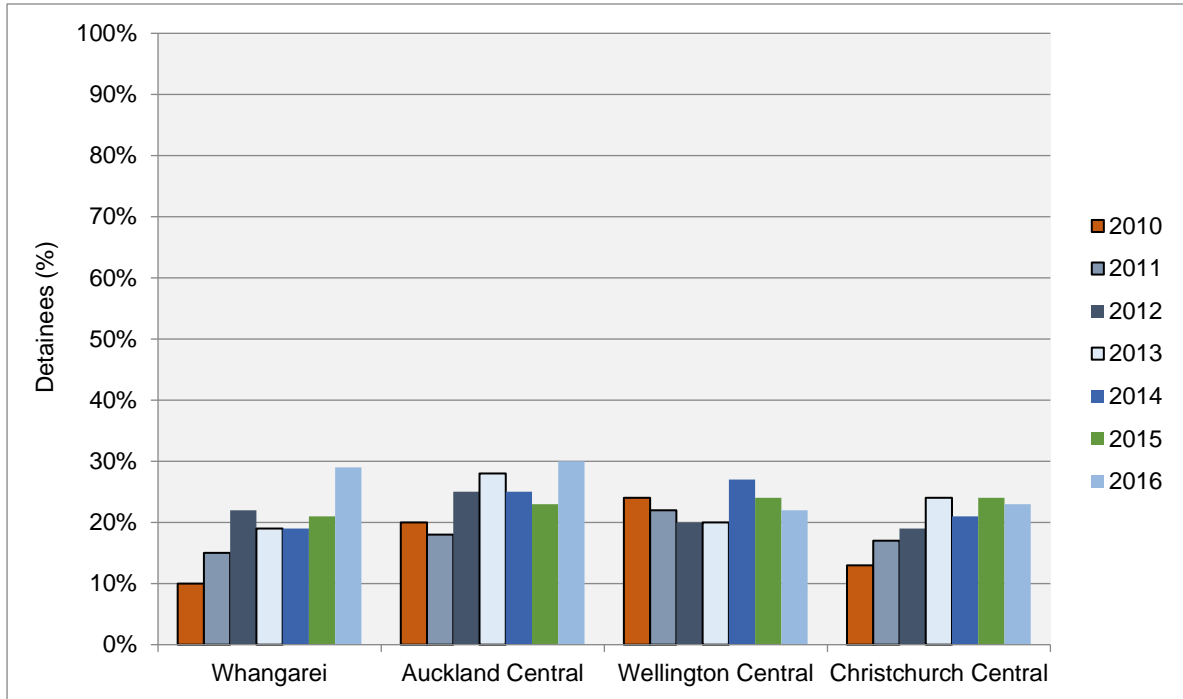


Table 8 1: Police detainees' patterns of cocaine use by location, 2010-2016

Use of cocaine	Year	N - value	Ever used (%)	Mean age first used (years)*	Used in past 12 months (%)	Mean number of days used in past 12 months **
Whangarei	2010	n=115	10%	23	0%	-
	2011	n=149	15%	17	4%	93
	2012	n=151	22%	20	5%	7
	2013	n=152	19%	19	1%	3
	2014	n=151	19%	20	3%	10
	2015	n=168	21%	20	2%	47
	2016	n=131	29%	20	4%	30
Auckland Central	2010	n=285	20%	21	5%	2
	2011	n=316	18%	20	4%	24
	2012	n=246	25%	19	6%	13
	2013	n=292	28%	21	6%	4
	2014	n=315	25%	20	6%	11
	2015	n=265	23%	20	6%	15
	2016	n=221	30%	20	8%	4
Wellington Central	2010	n=152	24%	22	7%	10
	2011	n=171	22%	20	5%	23
	2012	n=100	20%	19	6%	15
	2013	n=103	20%	20	8%	5
	2014	n=95	27%	21	9%	5
	2015	n=107	24%	20	9%	4
	2016	n=213	22%	19	3%	29
Christchurch Central	2010	n=262	13%	22	3%	3
	2011	n=191	17%	20	3%	1
	2012	n=302	19%	21	3%	37
	2013	n=287	24%	21	4%	2
	2014	n=273	21%	21	5%	28
	2015	n=291	24%	21	4%	3

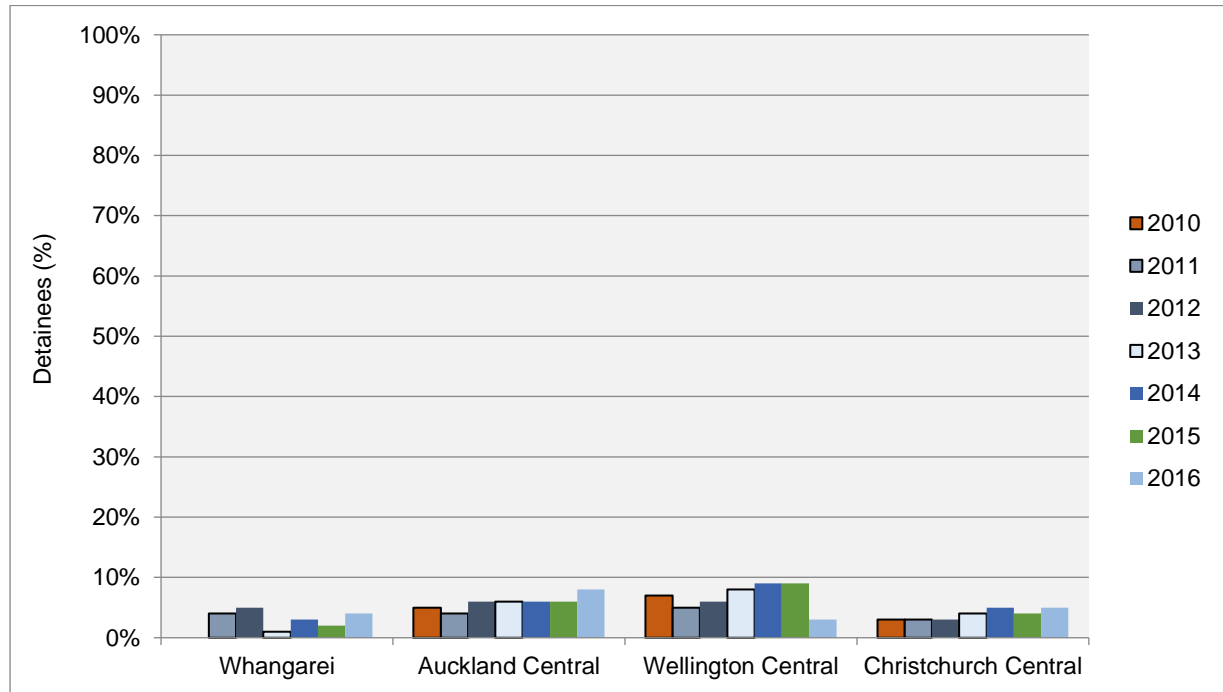
	2016	n=235	23%	19	5%	2
All Sites	2010	n=814	17%	22	4%	5
	2011	n=827	18%	20	4%	29
	2012	n=799	22%	20	5%	17
	2013	n=839	24%	21	5%	4
	2014	n=835	23%	20	6%	15
	2015	n=831	24%	20	5%	10
	2016	n=800	26%	20	6%	9

* of those who had ever tried

** of those who had used in the past 12 months

Six percent of detainees had used cocaine in the previous 12 months in 2016 and this had not changed from previous years (Figure 8 2).

Figure 8 2: Proportion of police detainees who had used cocaine in the past 12 months by location, 2010-2016



Frequency of cocaine use

The detainees who had used cocaine in the previous year had used it on a mean of only 9 days in the past 12 months in 2016 (median 2, 1-180 days). There was no statistically significant change in the frequency of cocaine use from 2010 to 2016.

Current availability of cocaine

Thirty-five percent of the detainees described the current availability of cocaine as ‘difficult’ and a further 35% as ‘very difficult’ in 2016 (Table 8 2). There was no statistically significant change in the current availability of cocaine from 2010 to 2016.

Table 8 2: Police detainees’ perceptions of the current availability of cocaine, 2010-2016

Current availability of cocaine	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=30	n=31	n=31	n=36	n=42	n=22	n=42
Very easy [4]	7%	16%	14%	10%	17%	15%	19%
Easy [3]	13%	13%	28%	16%	21%	20%	10%
Difficult [2]	47%	37%	25%	28%	23%	43%	35%
Very difficult [1]	33%	33%	33%	46%	39%	23%	35%
Availability mean score [1=very difficult - 4=very easy]	1.9	2.1	2.2	1.9	2.2	2.3	2.1
Overall current status	Difficult / very difficult	Difficult / very difficult	Very difficult / easy	Very difficult / difficult	Very difficult / difficult	Difficult / very difficult	Difficult / very difficult

Change in availability of cocaine

The detainees reported the availability of cocaine had been ‘more difficult/stable’ over the previous six months in 2016 (Table 8 3). Thirty-seven percent said availability had been ‘more difficult’ in the previous six months. There was no statistically significant change in this assessment of the availability of cocaine from 2010 to 2016.

Table 8 3: Police detainees’ perceptions of the current availability of cocaine, 2010-2016

Change in availability of cocaine	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=29	n=26	n=27	n=31	n=34	n=36	n=35
Easier [3]	17%	16%	14%	8%	7%	17%	27%
Stable [2]	31%	39%	41%	51%	54%	49%	26%
Fluctuates [2]	14%	7%	15%	3%	13%	11%	10%
More difficult [1]	38%	39%	31%	38%	26%	22%	37%
Availability mean score [1=more difficult - 3=easier]	1.8	1.8	1.8	1.7	1.8	2.0	1.9
Overall current status	More difficult / stable	Stable / more difficult	Stable / more difficult	Stable / more difficult	Stable / more difficult	Stable / more difficult	More difficult / easier

Current price of cocaine

Only 25 of the detainees were able to provide a price for cocaine in 2016. They reported paying a median price of \$280 for a gram of cocaine (mean \$306).

Change in the price of cocaine

The detainees reported the price of cocaine had been ‘stable/fluctuating’ over the previous six months in 2016 (Table 8 4).

Table 8 4: Police detainees’ perceptions of the change in the price of cocaine in the past six months, 2010-2016

Change in price of cocaine	All Sites						
	2010	2011	2012	2013	2014	2015	2016
	n=20	n=18	n=18	n=22	n=28	n=24	n=22
Increasing [3]	15%	10%	30%	21%	13%	18%	18%
Fluctuating [2]	0%	16%	10%	12%	32%	34%	25%
Stable [2]	75%	74%	51%	59%	52%	44%	51%
Decreasing [1]	10%	0%	8%	8%	3%	4%	5%
Mean change in price [1=decreasing - 3=increasing]	2.1	2.1	2.2	2.1	2.1	2.1	2.1
Overall change in price	Stable	Stable	Stable / increasing	Stable / increasing	Stable / fluctuating	Stable / fluctuating	Stable / fluctuating

Current purity of cocaine

Thirty-five percent of the detainees described the current purity of cocaine as 'high' and 29% said it was 'low' in 2016 (Table 8 5).

Table 8 5: Police detainees' perceptions of current purity of cocaine in the past six months, 2012-2016

Current purity of cocaine [%]	All sites				
	2012	2013	2014	2015	2016
	n=27	n=31	n=34	n=34	n=34
High [3]	26%	42%	38%	44%	35%
Medium [2]	37%	13%	26%	29%	15%
Fluctuates [2]	7%	19%	15%	12%	21%
Low [1]	30%	26%	21%	15%	29%
Average purity score [1=low - 3=high]	2.0	2.1	2.2	2.3	2.1
Overall current status	Medium / low	High / low	High / medium	High / medium	High / low

Change in purity of cocaine

The detainees largely described the strength of cocaine as 'stable/fluctuating' over the past six months in 2016 (Table 8 6).

Table 8 6: Police detainees' perceptions of change in purity of cocaine in the past six months, 2012-2016

Change in purity of cocaine [%]	All sites				
	2012	2013	2014	2015	2016
	n=20	n=23	n=28	n=26	N=22
Increasing [3]	10%	4%	14%	8%	18%
Stable [2]	40%	52%	50%	50%	36%
Fluctuating [2]	10%	22%	29%	27%	23%
Decreasing [1]	40%	22%	7%	15%	23%
Average change in purity [1=decreasing - 3=increasing]	1.7	1.8	2.1	1.9	2.0
Overall recent change	Stable / decreasing	Stable / decreasing	Stable / fluctuating	Stable / fluctuating	Stable/ fluctuating/ decreasing

Summary

- The proportion of detainees who had tried cocaine in their lifetimes increased from 17% in 2010 to 26% in 2016
- There was an increase in the proportion of detainees who had ever tried cocaine in Auckland Central (up from 18% in 2011 to 30% in 2016) and Whangarei (up from 10% in 2010 to 30% in 2016)
- There was no change in the last year use of cocaine from 2010 to 2016 (5% to 6%)
- The detainees had used cocaine on a mean of only 9 days in the previous 12 months in 2016
- Seventy percent of detainees described the current availability of cocaine as either 'difficult' or 'very difficult' in 2016
- In 2016, the median price of a gram of cocaine was reported to be \$280 (mean \$306)
- The detainees described the price of cocaine as 'stable/fluctuating' over the past six months in 2016
- Thirty-five percent of the detainees described the current purity of cocaine as 'high' and 29% said it was 'low' in 2016

Chapter 9 - New Drugs

Introduction

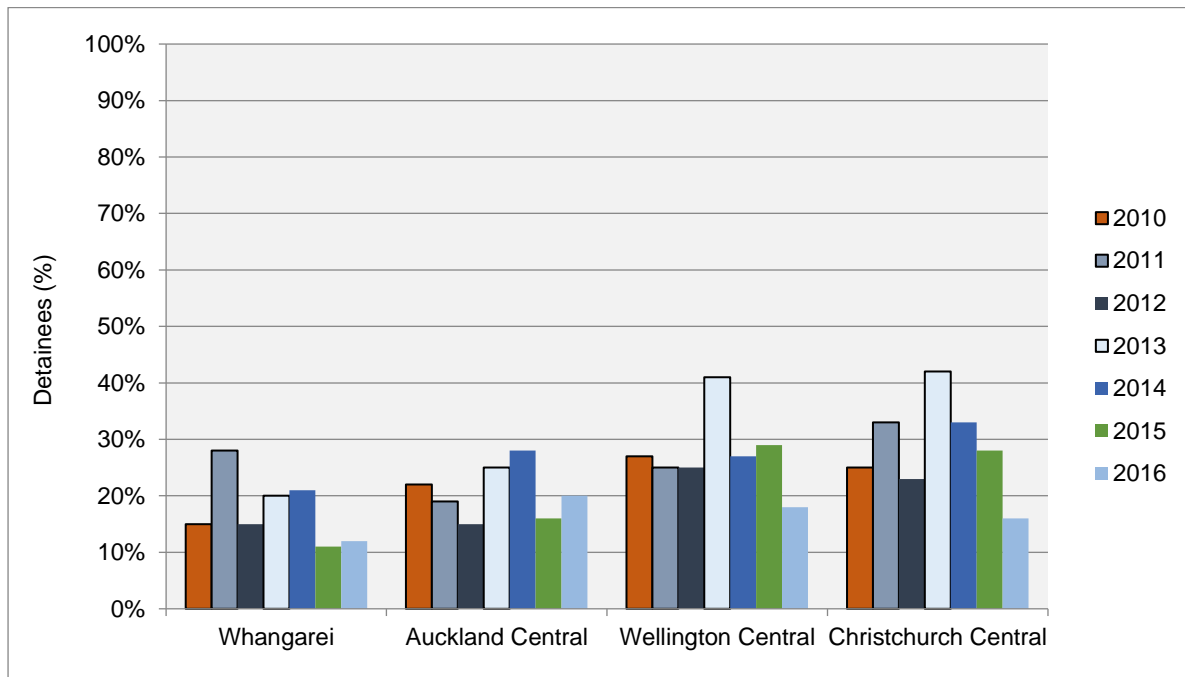
A range of new psychoactive substances (NPS) have emerged around the world over the past five years or so, including synthetic cannabinoids (e.g. JWH-018), piperazines (e.g. benzylpiperazine), cathinones (e.g. mephedrone, methylone), tryptamines (e.g. DMT), phenethylamines (e.g. 2C-B, 2C-I) and plant extracts such as salvia divinorum (Griffiths et al., 2013; UNODC, 2013). The number of NPS compounds reported worldwide increased from 166 in 2009 to 541 in 2014 (UNODC, 2015). NPS are often sold as 'legal highs' as they are generally not controlled under international drug control treaties, although they are increasingly controlled under domestic laws, and also as generic illegal street drugs such as 'ecstasy' or 'LSD'.

New Zealand has been at the forefront of the NPS phenomena over the past decade with an established legal BZP 'party pill' market during the mid-2000s, followed more recently by a market for a range of synthetic cannabinoid products (Wilkins et al., 2013). The enactment of the *Psychoactive Substances Act* (PSA) in July 2013 established a regulated legal market for a number of licensed NPS products, the majority of which were synthetic cannabinoids (Wilkins, 2014b, 2014d). The interim PSA regime was brought to an abrupt end in May 2014 following reports of adverse health effects from products and social disruption around retail outlets (Wilkins, 2014c; Wilkins et al., 2016b).

Drug types used for the first time in 2016

In 2016, 17% of the detainees had tried a drug for the first time in the previous 12 months. The proportion of detainees who had tried a drug for the first time decreased from 32% in 2013 to 17% in 2016 ($p < 0.0001$). The proportion of detainees who had tried a drug for the first time declined in Whangarei (down from 28% in 2011 to 12% in 2016, $p = 0.0141$), Wellington Central (down from 41% in 2013 to 18% in 2016, $p < 0.0001$) and Christchurch Central (down from 42% in 2013 to 16% in 2016, $p < 0.0001$) (Figure 9 1).

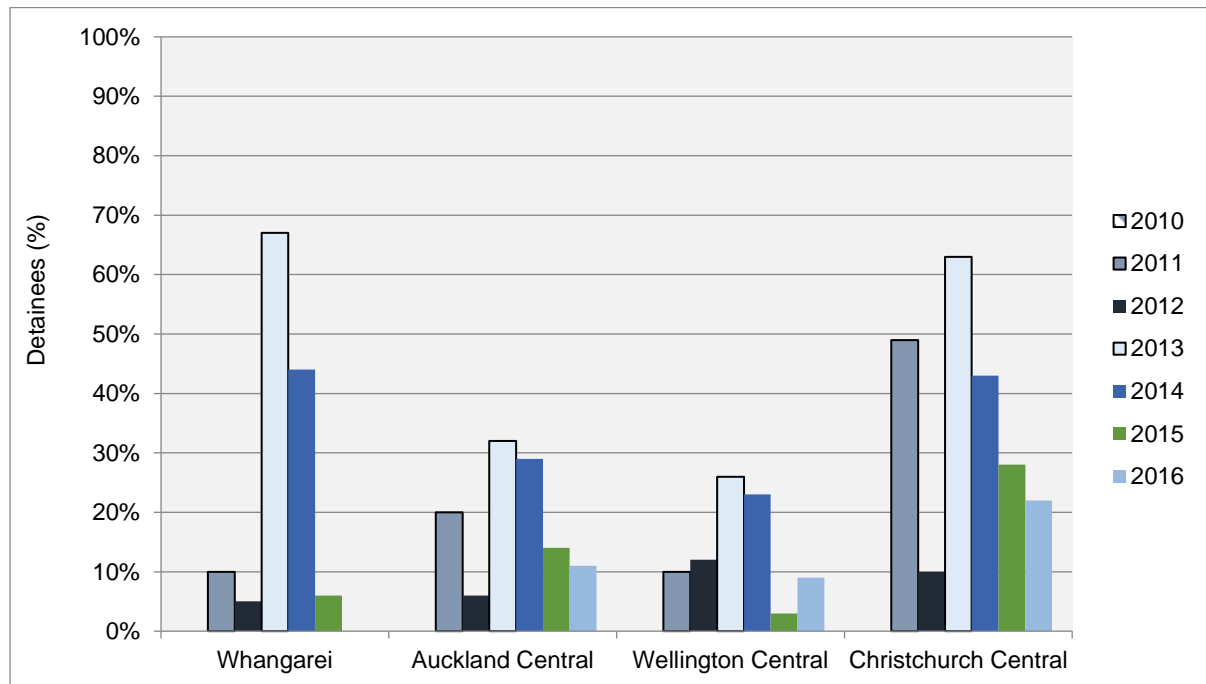
Figure 9 1: Proportion of police detainees who had tried a drug for the first time in the past 12 months by location, 2010-2016



The drug types which the detainees had most commonly used for the first time in 2016 were methamphetamine (19%), 'ecstasy' (14%), synthetic cannabinoids (13%), GHB (13%), cocaine (9%), LSD (8%), 'magic mushrooms' (psilocybin) (8%) and 'Ritalin' (methylphenidate) (5%), ketamine (3%), street BZP (3%), MDPV (3%) and other pharmaceuticals (3%).

The proportion of detainees who had used synthetic cannabinoids for the first time declined from 46% in 2013 to 13% in 2016 ($p < 0.0001$). Similar declines in the first-time use of synthetic cannabinoids were found in all of the four sites from 2013 to 2016 (Figure 9 2).

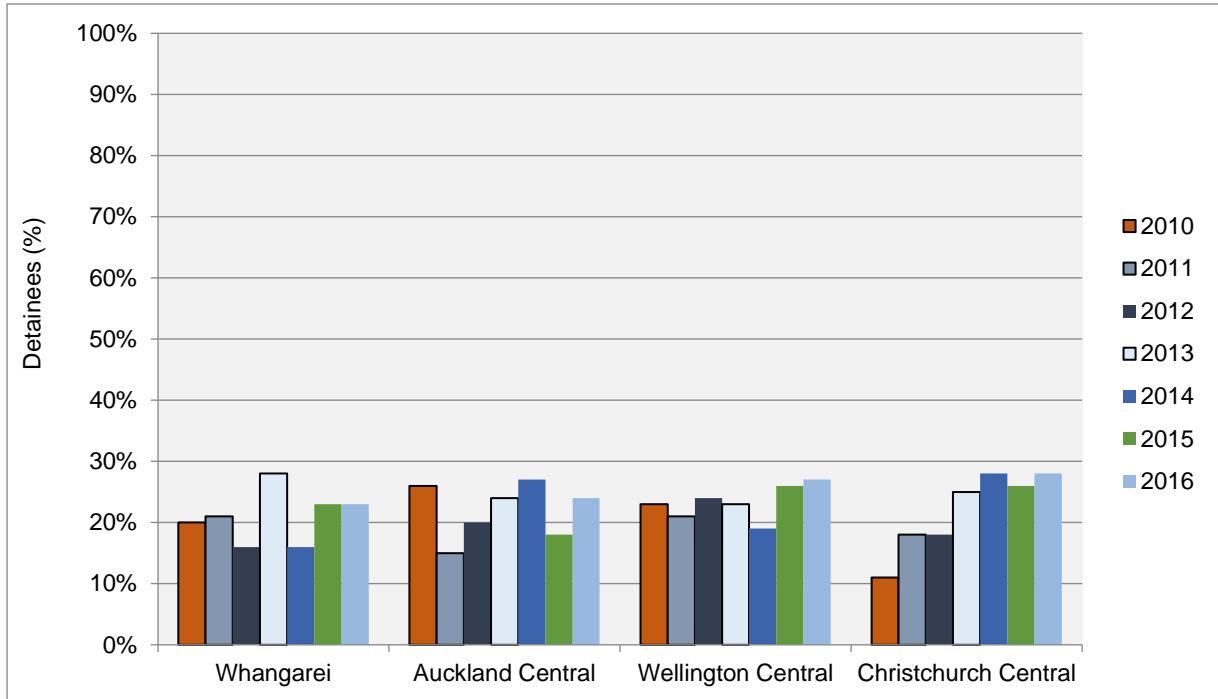
Figure 9 2: Proportion of police detainees who had tried synthetic cannabinoids for the first time in the past 12 months by location (of those who had tried a drug for the first time), 2010-2016



New drugs noticed

The detainees were asked whether they had heard of any 'new drugs' being used in 2016. The proportion of detainees who had heard of a new drug(s) being used increased from 18% in 2011 to 26% in 2016 ($p=0.0032$). The proportion of detainees in Christchurch Central who had heard of a new drug being used increased from 11% in 2010 to 28% in 2016 ($p=0.0002$) (Figure 9 3).

Figure 9 3: Proportion of police detainees who had heard of a new drug being used by location, 2010-2016



The 'new' drug types which the detainees had most commonly heard of being used in 2016 were GBH (18%), 'ecstasy' (11%), PCP (11%), methamphetamine (6%), other pharmaceuticals (5%), LSD (4%), cocaine (4%) and solvents (4%).

Summary

- The proportion of detainees who had tried a drug for the first time declined from 32% in 2013 to 17% in 2016
- There was decline in the proportion of detainees using a drug for the first time in Whangarei (down from 28% in 2011 to 12% in 2016), Wellington Central (down from 41% in 2013 to 18% in 2016) and Christchurch Central (down from 42% in 2013 to 16% in 2016)
- The drug types which the detainees had most commonly used for the first time in 2016 were methamphetamine (19%), ecstasy (14%), synthetic cannabis (13%), GHB (13%) and cocaine (9%)
- The proportion of detainees who had tried synthetic cannabinoids for the first time declined from 46% in 2013 to 13% in 2016
- Declines in the first time use of synthetic cannabinoids were found in all sites from 2013 to 2016
- The proportion of detainees who noticed a new drug being used increased from 18% in 2011 to 26% in 2016
- The proportion of detainees from Christchurch Central who noticed a new drug being used increased from 11% in 2010 to 28% in 2016
- The 'new' drug types which the detainees had most commonly heard of being used in 2016 were GBH (18%), ecstasy (11%), PCP (11%), methamphetamine (6%) and other pharmaceuticals (5%)

Chapter 10 – Urine test results for drug use

Introduction

The ADUM study includes the capacity to verify detainees' self-reported information on recent drug use with urine testing for the presence of drug use. Past comparisons have shown a fairly high level of truthfulness among the interviewed detainees, although as might be expected this varies according to the drug type in question and related legal penalties and social stigma.

The validity of the comparison between a positive urine test and self-reported data is also affected by the capacity of the biological test to detect different drug types, and the ability of users to correctly recall and identify the drug types they have used. Some drug types, such as cannabis, can stay in a user's system for many weeks, while others, such as methamphetamine, may only be detectable up to a few days after use. A drug user may honestly believe they have consumed MDMA, but may have actually been sold a tablet containing a range of other substitute compounds. Many synthetic cannabinoids are currently not detectable by routine drug testing, and legal high users have indicated they choose to use these products specifically to avoid a positive drug test (Beck et al., 2013; Perrone et al., 2013).

The ESR routine drug testing completed for NZ-ADUM is able to detect (natural) cannabis, methamphetamine, amphetamine, cocaine, morphine, methadone, codeine and BZP. A total of 202 detainees provided urine samples for testing as part of the 2016 NZ-ADUM study. These samples were collected from the four sites in the same distribution as previous years to facilitate consistent year-to-year comparisons.

Urine test results for cannabis use

In 2016, 56% of the detainees who provided a urine sample tested positive for cannabis use. There was no statistically significant change in the proportion of detainees testing positive for cannabis in 2016 compared to previous years (Table 10 1).

Urine test results for methamphetamine use

The proportion of detainees testing positive for methamphetamine increased from 6% in 2011 to 19% in 2016 ($p=0.0049$), and from 5% in 2014 to 19% in 2016 ($p=0.0012$) (Figure 10 1)

Figure 10 1: Proportion of detainees who tested positive for methamphetamine at the time of interview by location (of the 198 detainees tested), 2010-2016

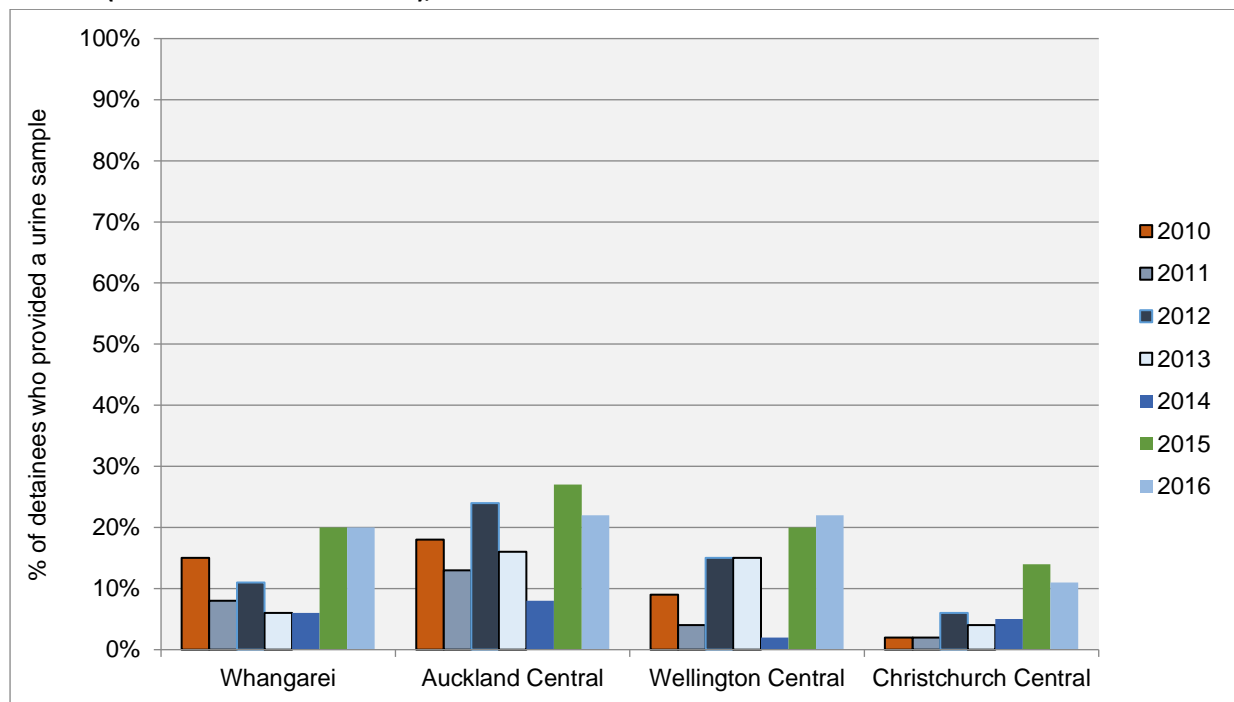


Table 10 1: Proportion of police detainees who tested positive for drug use at the time of interview (of the 202 detainees tested), 2010-2016

Positive urine test for drug use [% detainees]	Year	N - Value	Cannabis	Amphetamine	Methamphetamine	Benzodiazepines	Codeine	Morphine	Methadone	Benzyloperazine
Whangarei	2010	n=20	70%	10%	15%	0%	0%	0%	0%	0%
	2011	n=25	64%	8%	8%	0%	8%	8%	0%	0%
	2012	n=37	70%	11%	11%	3%	5%	3%	0%	0%
	2013	n=31	48%	6%	6%	0%	3%	0%	0%	0%
	2014	n=31	77%	6%	6%	3%	0%	0%	-	0%
	2015	n=61	62%	16%	20%	2%	2%	3%	-	-
	2016	n=20	75%	15%	20%	0%	0%	0%	-	-
Auckland Central	2010	n=72	64%	13%	18%	1%	4%	3%	0%	0%
	2011	n=71	39%	13%	13%	1%	1%	3%	3%	3%
	2012	n=66	65%	26%	24%	3%	2%	0%	0%	0%
	2013	n=68	40%	18%	16%	4%	0%	1%	0%	0%
	2014	n=77	61%	13%	8%	3%	1%	1%	0%	0%
	2015	n=41	56%	27%	27%	2%	2%	5%	0%	0%
	2016	n=46	52%	15%	22%	2%	0%	0%	0%	0%
Wellington Central	2010	n=53	60%	8%	9%	0%	0%	6%	0%	0%
	2011	n=54	52%	4%	4%	2%	2%	2%	0%	0%
	2012	n=27	81%	15%	15%	0%	0%	0%	0%	0%
	2013	n=53	58%	15%	15%	0%	0%	0%	0%	0%
	2014	n=44	57%	9%	2%	2%	0%	0%	-	-
	2015	n=40	60%	18%	20%	5%	3%	3%	3%	-
	2016	n=91	54%	23%	22%	1%	0%	2%	1%	-

Christchurch Central	2010	n=56	70%	2%	2%	5%	0%	4%	2%	2%
	2011	n=50	64%	2%	2%	8%	4%	10%	2%	4%
	2012	n=78	63%	8%	6%	3%	3%	1%	4%	0%
	2013	n=57	49%	4%	4%	2%	4%	4%	0%	0%
	2014	n=44	57%	2%	5%	2%	5%	5%	0%	0%
	2015	n=56	41%	14%	14%	4%	0%	2%	0%	0%
	2016	n=45	58%	9%	11%	0%	0%	2%	0%	2%
All Sites	2010	n=201	65%	8%	11%	2%	1%	3%	2%	1%
	2011	n=200	53%	6%	7%	3%	3%	6%	1%	2%
	2012	n=208	68%	16%	15%	2%	2%	1%	2%	0%
	2013	n=209	50%	12%	12%	2%	1%	1%	0%	0%
	2014	n=196	61%	8%	5%	3%	1%	1%	0%	0%
	2015	n=198	55%	19%	20%	3%	2%	3%	1%	0%
	2016	n=202	56%	16%	19%	1%	0%	1%	<1%	1%

Corroboration of self-reported drug use with urinalysis

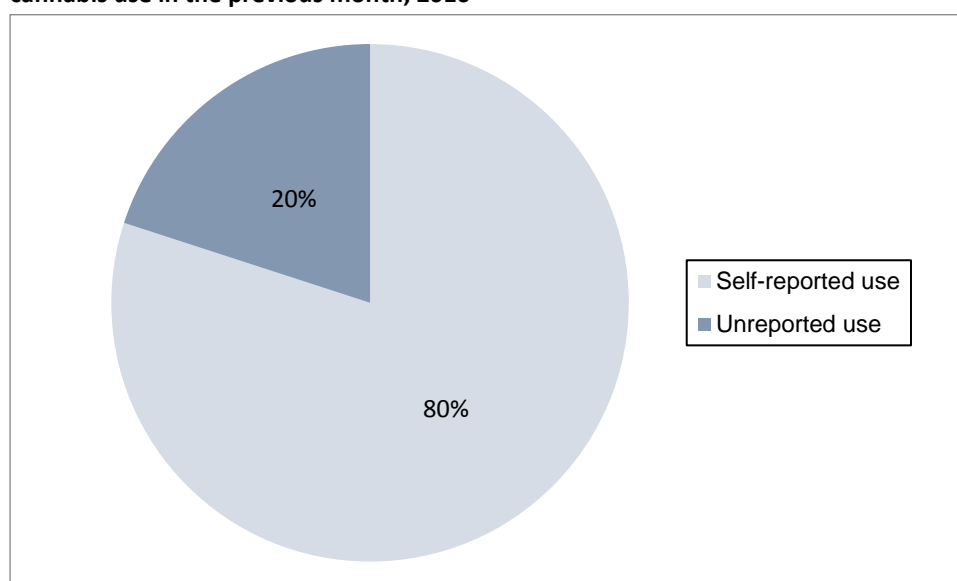
Cannabis use

Table 10 2 compares the police detainees' urine test results for the presence of cannabis with their self-reporting of cannabis use in the past month. In 2016, 80% of those detainees who tested positive for cannabis had also self-reported using cannabis in the past month (Figure 10 2). Interestingly, 26% of the detainees who did not test positive for cannabis had self-reported use in the previous month. This likely represents some limitations with the accuracy of the urine testing in some instances.

Table 10 2: Comparison of test results for the presence of cannabis use with self-reported cannabis use in the past month, 2010-2016

Tested positive for self-reported cannabis use in the past month [%]														
Tested positive for cannabis use [%]	2010		2011		2012		2013		2014		2015		2016	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
No	89%	11%	71%	29%	75%	25%	68%	32%	78%	22%	71%	29%	74%	26%
Yes	6%	94%	11%	89%	16%	84%	21%	79%	16%	84%	15%	85%	20%	80%

Figure 10 2: Proportion of police detainees who tested positive for cannabis use and who also self-reported cannabis use in the previous month, 2016



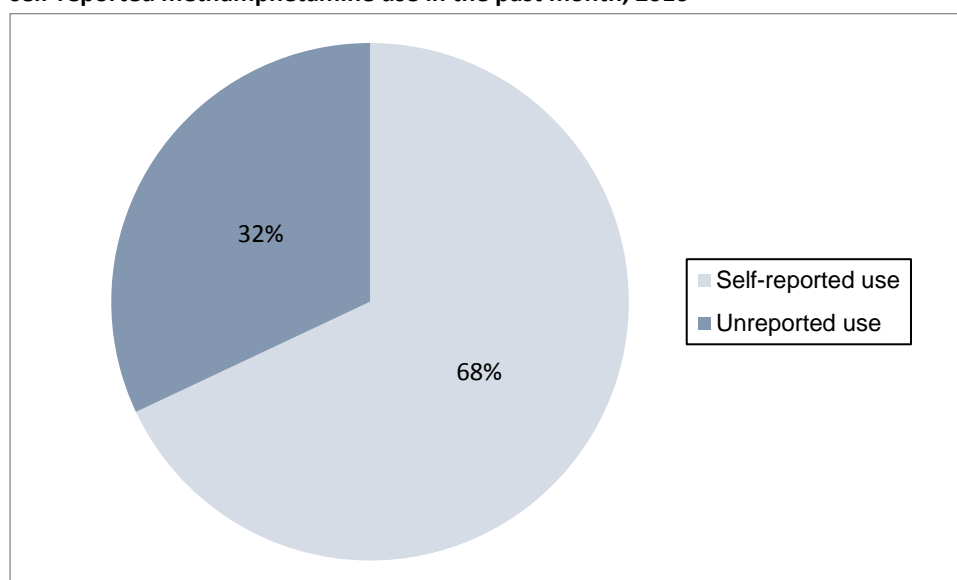
Methamphetamine use

Table 10 3 compares the police detainees' urine test results for the presence of methamphetamine with levels of self-reported methamphetamine use in the previous month. In 2016, 68% percent of those detainees who tested positive for methamphetamine had also self-reported using methamphetamine in the previous month (Figure 10 3). Eleven percent of the detainees who did not test positive for methamphetamine self-reported use in the past month in 2016.

Table 10 3: Comparison of test results for the presence of methamphetamine use with self-reported methamphetamine use in the past month, 2010-2016

Self-reported methamphetamine use in the past month [%]														
Tested positive for methamphetamine use [%]	2010		2011		2012		2013		2014		2015		2016	
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
No	89 %	11 %	89 %	11 %	89 %	11 %	87 %	13 %	82 %	18 %	91 %	9%	89 %	11 %
Yes	18 %	82 %	42 %	58 %	24 %	76 %	19 %	81 %	26 %	74 %	18 %	82 %	32 %	68 %

Figure 10 3: Proportion of police detainees who tested positive for methamphetamine use and who also self-reported methamphetamine use in the past month, 2016



Opioid use

The self-reported opioid category includes the self-reporting of morphine and methadone use in the previous 30 days. Only five of the detainees provided a urine sample which tested positive for the presence of opioids in 2016. Of these, only two had also self-reported use. The low numbers mean the percentage comparison should be treated with caution.

Summary

- In 2016, 56% of the police detainees tested positive for cannabis use
- The proportion of detainees testing positive for methamphetamine increased from 6% in 2011 to 19% in 2016
- In 2016, 80% of the detainees who tested positive for cannabis use had also self-reported use in the previous month
- In 2016, 68% of the detainees who tested positive for methamphetamine had also self-reported use of methamphetamine in the past month

Chapter 11 – Alcohol and other drug harm

Introduction

Alcohol and other drug use is associated with a range of health and social problems, including anti-social behaviour, crime, substance dependency, overdose, chronic illness, mental illness, relationship breakdown, suicide, violence, sexual abuse, physical injury, impaired educational achievement, unemployment, dangerous driving and workplace accidents (Babor, et al., 2010a; Babor et al., 2010b). Police detainees have much higher levels of alcohol and other drug use than the wider population and consequently experience higher levels of substance-related harm. This includes problems which are directly borne by the detainee themselves, including overdose, addiction and psychosis, and social harms borne by their family, friends, neighbours and work colleagues, such as parental neglect, family violence, sexual abuse, poverty, dangerous driving and unsafe workplace practices.

In the 2015 NZ-ADUM 85% of police detainees reported experiencing at least one problem from their alcohol and other drug use in the previous year. Thirty-one percent had ‘damaged someone’s property’, 29% had ‘physically hurt someone’, 26% had ‘stolen someone’s property’, 17% had ‘physically hurt themselves’, 12% had ‘lost their job’, 11% had ‘had a car crash’ and 7% had ‘overdosed’ as a result of their substance use during the previous 12 months.

Extent of alcohol and other drug use

In 2016, 98% of the detainees had used alcohol, tobacco, legal highs or other drugs in the previous 12 months. Eighty-seven percent had drunk alcohol, 85% had smoked tobacco, 68% had used cannabis, 38% had used methamphetamine, 20% had smoked synthetic cannabinoids, 18% had used hallucinogens and 14% had used ecstasy in the previous year. Seventy-six percent of the detainees had used an illegal drug in the previous 12 months in 2016. There was no change in the proportion of detainees who had used an illegal drug over the previous five years (i.e. 75%=2010, 79%=2011, 77%=2012, 76%=2013, 75%=2014, 76%=2015, 76%=2016).

Extent of problems due to alcohol and other drug use

Those detainees who had drunk alcohol or used other drugs in the past 12 months were asked if they had experienced any of a list of 34 substance-related problems in the previous year. In 2016, 84% of detainees had experienced at least one problem related to their substance use in 2016. There was no change in the proportion of detainees who reported at least one harm due to their substance use from 2010 to 2016 (87%=2010, 87%=2011, 86%=2012, 88%=2013, 88%=2014, 85%=2015, 84%= 2016).

General problems due to alcohol and other drug use

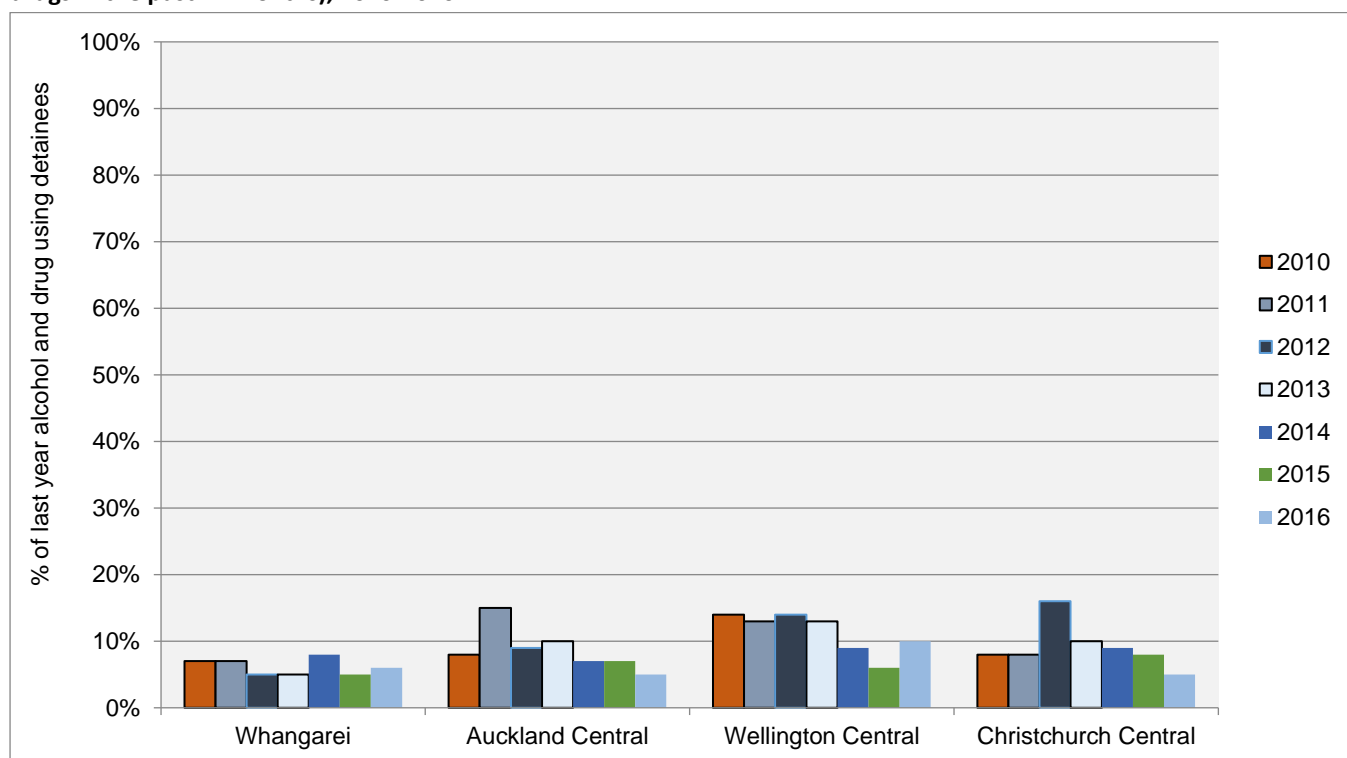
Forty-nine percent of the alcohol and other drug using detainees reported they 'couldn't remember what happened the night before' due to their substance use in 2016 (Table 11 1). Twenty-one percent had 'stole someone's property' and 20% had 'physically hurt themselves' as a result of their substance use. There was a statistically significant decline in the proportion of substance using detainees who 'could not remember what happened the night before' (down from 57% in 2010 to 49% in 2016, $p=0.0266$), had 'damaged someone else's property' (down from 43% in 2010 to 29% in 2016, $p<0.0001$), had 'stolen someones property' (down from 30% in 2010 to 21% in 2016, $p=0.0016$), and had 'physically hurt themselves' (down from 29% in 2010 to 20% in 2016, $p=0.0008$).

Table 11 1: Proportion of alcohol and other drug using police detainees who experienced problems due to their substance use in the previous 12 months by location, 2010-2016

Harm (%)	All sites						
	2010	2011	2012	2013	2014	2015	2016
	(n=789)	(n=803)	(n=772)	(n=799)	(n=812)	(n=799)	(n=785)
Couldn't remember what happened the night before	57	60	58	48	53	49	49
Upset a family relationship	50	50	50	50	55	49	50
Got into debt/owing money	33	36	27	31	34	32	30
Damaged someone's property	43	44	39	40	43	31	29
Had reduced work/ study performance	39	39	35	40	40	31	33
Stole someone's property	30	32	31	30	32	26	21
Physically hurt yourself	29	31	32	28	31	17	20
Sacked/ lose business/ quit study course	13	13	12	14	15	12	13
Overdosed on drugs	9	11	12	10	8	7	6

The proportion of substance using detainees who had 'overdosed' on a drug declined from 11% in 2011 to 6% in 2016 ($p=0.0075$) (Figure 11 1). The proportion of detainees who reported overdosing on a substance in Auckland Central declined from 15% in 2011 to 5% in 2016 ($p=0.0126$), and in Christchurch Central from 16% in 2012 to 5% in 2016 ($p=0.0025$).

Figure 11 1: Proportion of police detainees who ‘overdosed’ on drugs (of those who used alcohol and other drugs in the past 12 months), 2010-2016



Aggression due to alcohol and other drug use

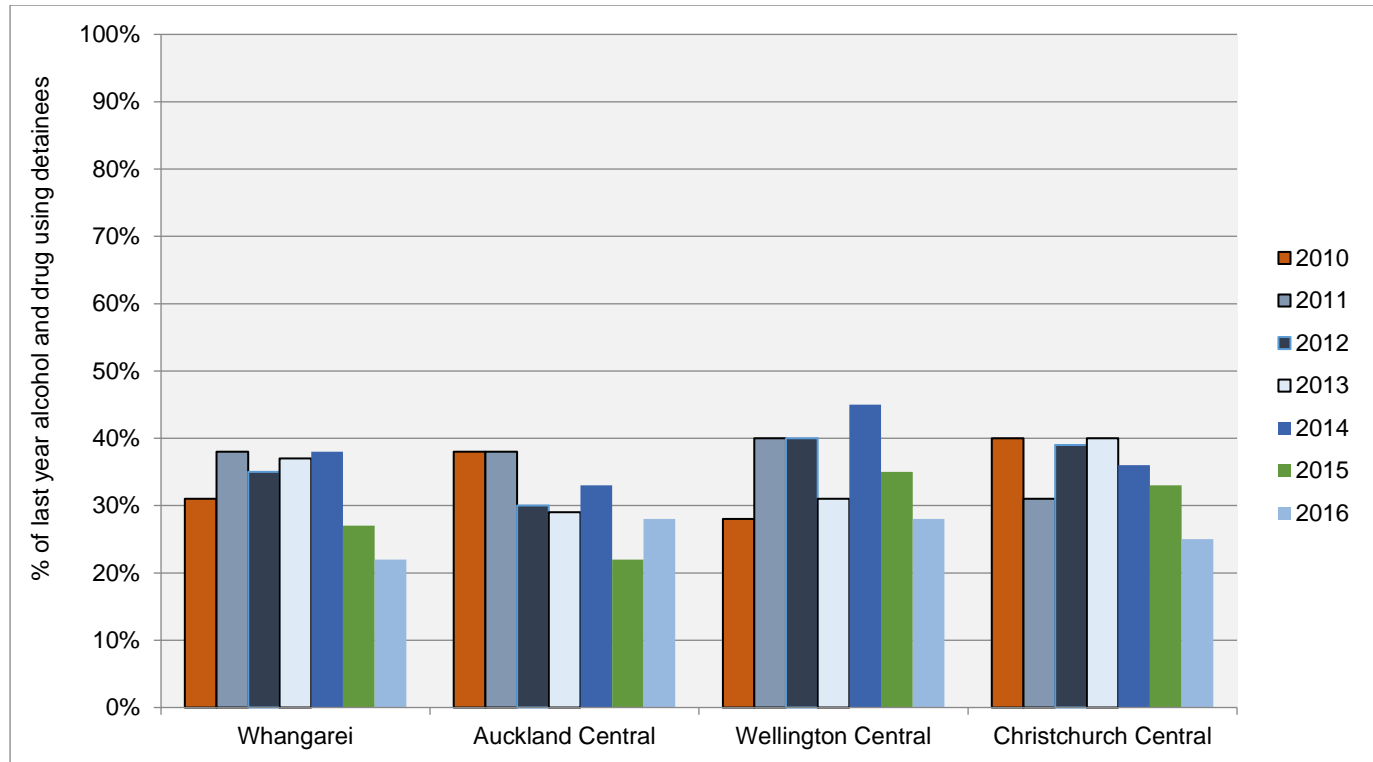
In 2016, 39% of the substance using detainees had ‘physically or verbally threatened someone’ and 26% had ‘physically hurt someone’ due to their alcohol and other drug use during the previous 12 months (Table 11 2).

Table 11 2: Proportion of alcohol and other drug using detainees who reported aggression due to their substance use in the past 12 months, 2010-2016

Harm (%)	All sites						
	2010	2011	2012	2013	2014	2015	2016
	(n=785)	(n=801)	(n=766)	(n=800)	(n= 811)	(n=798)	(n=785)
Physically or verbally threatened someone	50	50	50	50	51	41	39
Physically hurt someone	36	36	36	34	37	29	26
Were physically assaulted	34	35	36	32	33	27	27

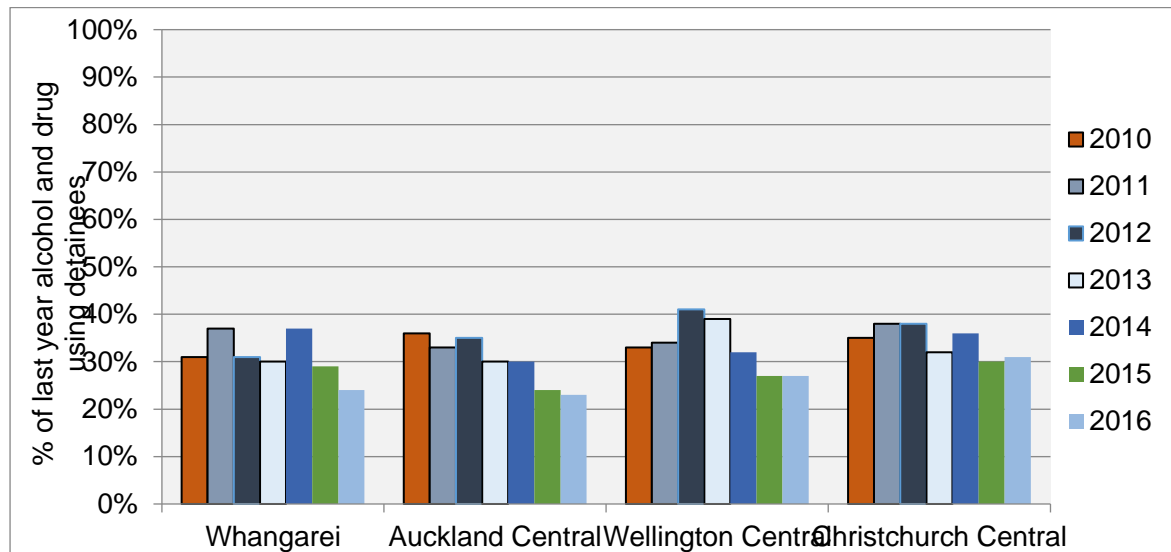
The proportion of detainees who reported ‘physically hurting someone’ declined from 36% in 2010 to 26% in 2016 ($p=0.0012$). The proportion of Christchurch Central detainees who had physically hurt someone declined from 40% in 2010 to 25% in 2016 ($p=0.0081$) (Figure 11 2).

Figure 11 2: Proportion of police detainees who ‘physically hurt someone’ as a result of their alcohol and other drug use by location (of those who had used a substance in the past 12 months), 2010-2016



The proportion of detainees who were physically assaulted due to alcohol and other drug use declined from 34% in 2010 to 27% in 2016 ($p=0.0169$). The proportion of Auckland Central detainees who were physically assaulted declined from 36% in 2010 to 23% in 2016 ($p=0.0407$) (Figure 11 3).

Figure 11 3: Proportion of police detainees who were ‘physically assaulted’ as a result of their alcohol and drug use by location (of those who had used a substance in the past 12 months), 2010-2016

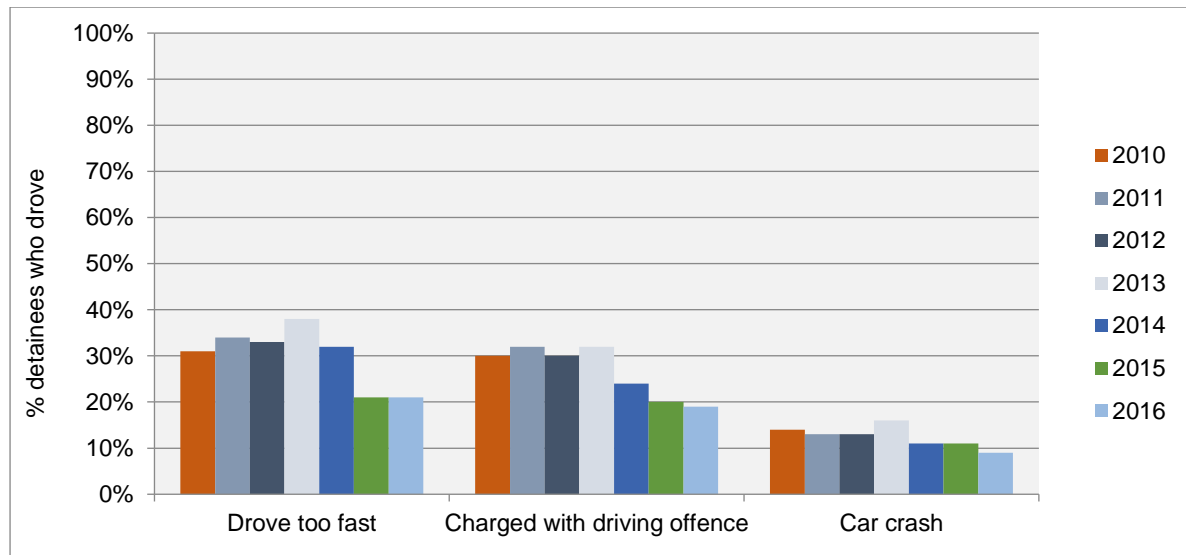


Similarly, the proportion of detainees who had ‘physically or verbally threatened someone’ due to their alcohol and other drug use declined from 50% in 2010 to 39% in 2016 ($p=0.0006$). The proportion of detainees who had ‘physically or verbally threatened someone’ declined in Whangarei (down from 56% in 2011 to 31% in 2016, $p=0.0010$) and Christchurch Central (down from 57% in 2010 to 39% in 2016, $p=0.0008$).

Driving incidents due to alcohol and other drug use

In 2016, 21% of the substance using detainees who drove reported driving ‘too fast’ due to their alcohol and other drug use use. Nineteen percent had been charged with a ‘driving offence’, 17% had ‘lost concentration while driving’, and 16% reported ‘driving through a stop sign/red light’ due to their alcohol and other drug use. There was a decline in the proportion of detainees who ‘drove too fast’ due to substance use (down from 31% in 2010 to 21% in 2016, $p=0.0011$), had been ‘charged with driving offence’ (down from 30% in 2010 to 19% in 2016, $p<0.0001$), and had a ‘car crash’ (down from 16% in 2013 to 9% in 2016, $p=0.0117$) (Figure 11 4).

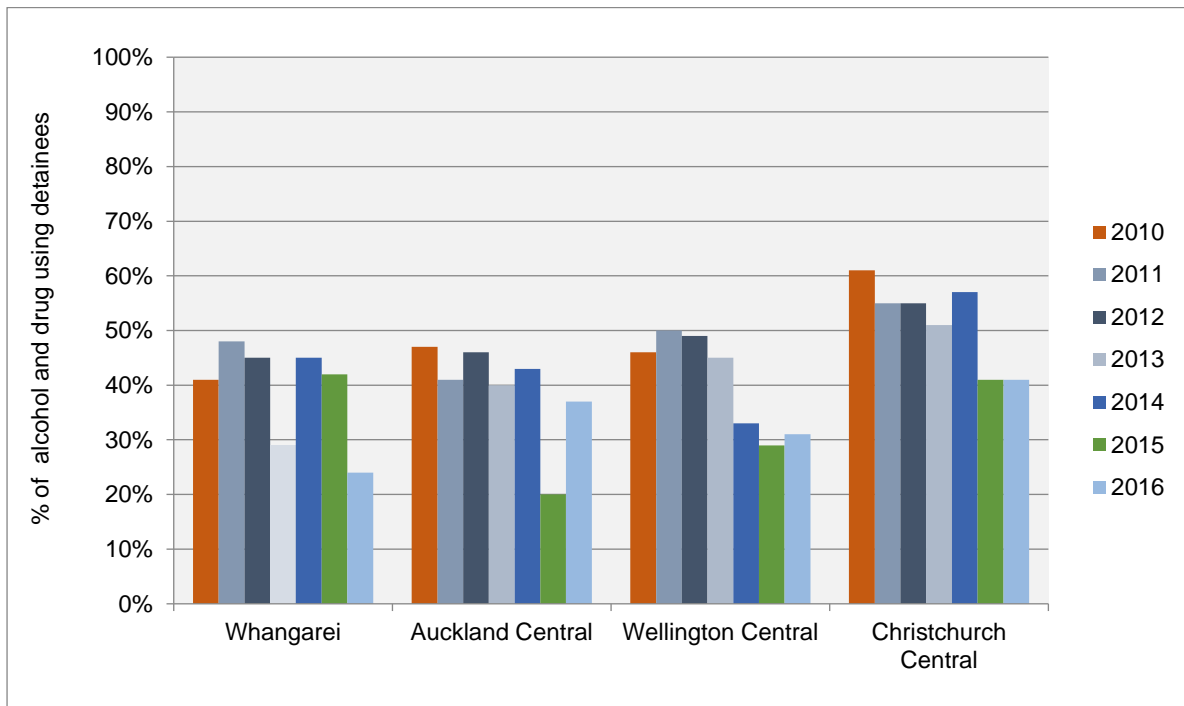
Figure 11 4: Proportion of police detainees who ‘drove too fast’, were ‘charged with a driving offence’ and had a ‘car crash’ as a result of their alcohol and other drug use (of those who had used a substance in the past 12 months and drove), 2010-2016



Sexual harm incidents due to alcohol and other drug use

In 2016, 35% of the detainees had ‘unprotected sex’ due to their alcohol and other drug use. The proportion of detainees who had ‘unprotected sex’ due to their substance use declined from 51% in 2010 to 35% in 2016 ($p < 0.0001$). The proportion of detainees who had ‘unprotected sex’ due to substance use declined in Whangarei (down from 48% in 2011 to 24% in 2016, $p = 0.0015$), Wellington Central (down from 50% in 2011 to 31% in 2016, $p = 0.0048$) and Christchurch Central (down from 61% in 2010 to 41% in 2016, $p < 0.0001$). However, the proportion of detainees who had ‘unprotected sex’ due to their substance use increased in Auckland Central from 20% in 2015 to 37% in 2016 ($p = 0.0013$) (Figure 11 5).

Figure 11 5: Proportion of police detainees who had ‘unprotected sex’ as a result of their alcohol and other drug use by location (of those who had used a substance in the past 12 months), 2010-2016



Main drug types attributed to alcohol and other drug-related problems in the previous 12 months

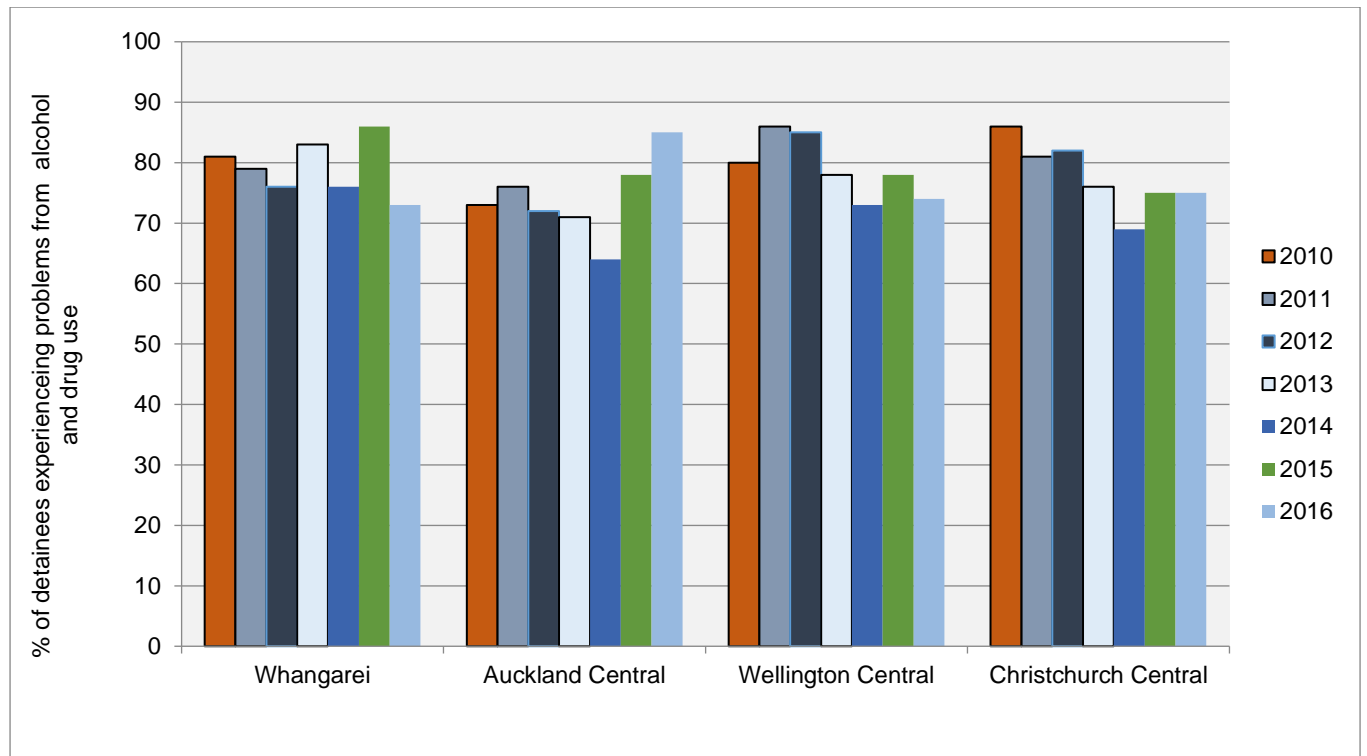
Those detainees who had experienced problems related to their alcohol and drug use in the previous year were asked about the drug type(s) to which they mainly attributed these problems. Detainees could nominate more than one substance type. In 2016, detainees named three drug types as largely responsible for their substance use related problems: alcohol (78%), methamphetamine (33%), and cannabis (32%) (Table 11 3). Nine percent of the detainees considered synthetic cannabinoids to be responsible for their substance use problems (up from only <1% in 2012). In Christchurch Central, 18% of the detainees named synthetic cannabinoids as the substance responsible for their drug-related harm

Table 11 3: Drug type(s) which the police detainees nominated as responsible for their substance related problems in the past 12 months by location, 2010-2016

Harm (%)	All sites						
	2010	2011	2012	2013	2014	2015	2016
	(n=705)	(n=696)	(n=700)	(n=698)	(n=703)	(n=685)	(n=650)
Alcohol	80	80	79	76	69	78	78
Methamphetamine	14	17	14	18	20	31	33
Cannabis	33	32	28	25	23	34	32
Synthetic cannabinoids	-	<1	<1	8	14	11	9
Tobacco	6	6	4	2	5	3	4
Ecstasy	3	3	3	1	1	4	2
Benzodiazepines	2	1	2	<1	<1	1	2
Morphine	2	1	1	1	1	2	1
Magic mushrooms	2	1	1	<1	<1	1	1
Heroin	1	1	<1	<1	<1	1	1
Ritalin (methylphenidate)	1	<1	1	<1	<1	1	1
LSD	3	1	1	2	<1	2	<1
Can't specify	2	<1	<1	<1	<1	<1	<1
Amyl nitrate	<1	0	<1	<1	<1	<1	<1
Cocaine	<1	<1	<1	<1	<1	1	<1
GHB	<1	0	<1	<1	<1	<1	<1
Methadone	1	1	1	1	0	<1	<1
Crystal methamphetamine	1	1	<1	1	<1	0	<1

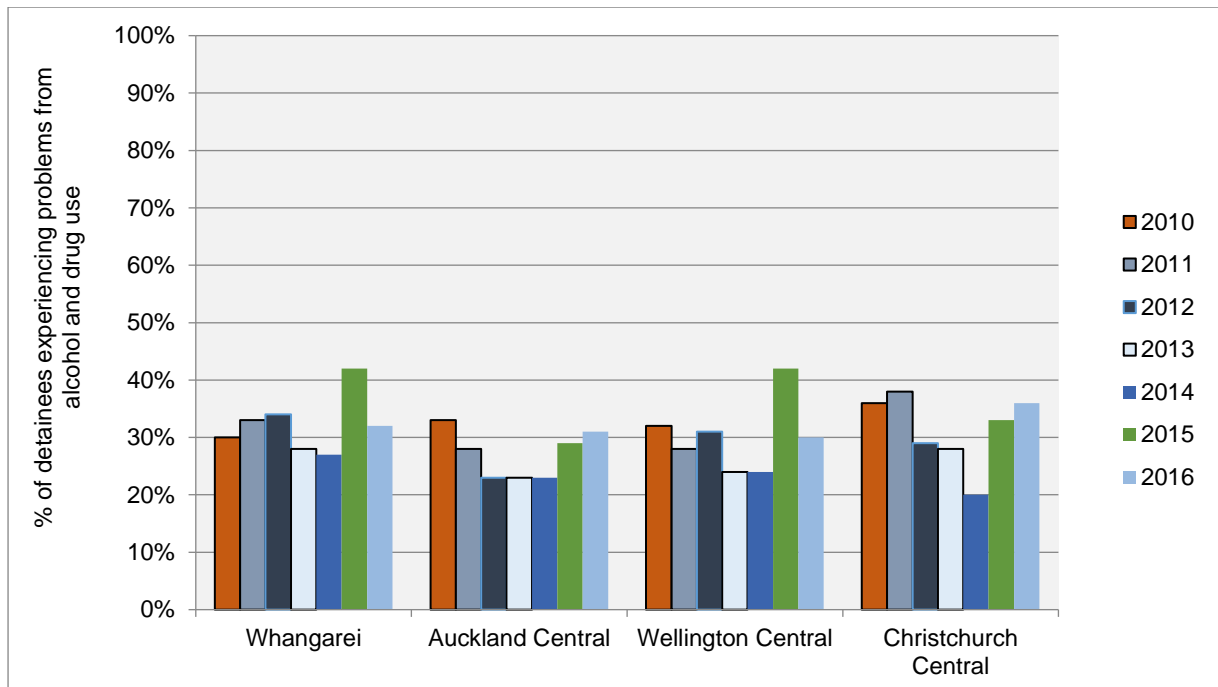
The proportion of detainees who attributed their substance use problems to alcohol increased from 69% in 2014 to 78% in 2016 ($p=0.0051$). The proportion of Auckland Central detainees who attributed their substance-related problems to alcohol increased from 64% in 2014 to 85% in 2016 ($p<0.0001$) (Figure 11 6). Conversely, the proportion of Christchurch Central detainees who attributed their problems to alcohol declined from 86% in 2010 to 75% in 2016 ($p=0.0431$).

Figure 11 6: Proportion of police detainees who attributed their substance use related problems to alcohol by location (of those detainees who had experienced an alcohol and other drug problem in the past 12 months), 2010-2016



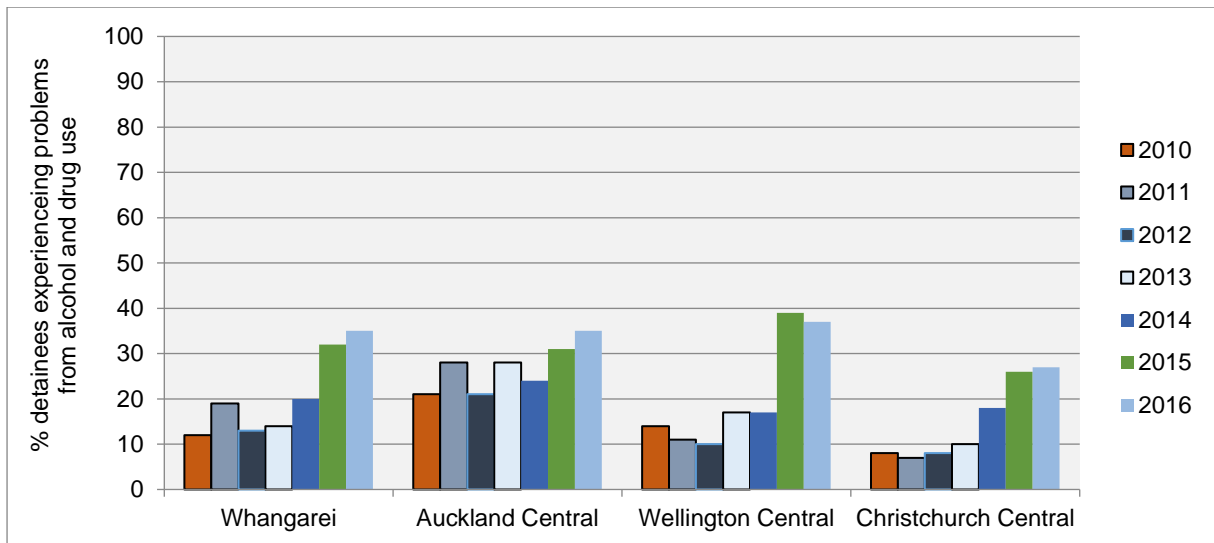
The proportion of detainees who attributed their substance use related problems to cannabis increased from 23% in 2014 to 32% in 2016 ($p=0.0018$). The proportion of Christchurch Central detainees who attributed their substance use related problems to cannabis increased from 20% in 2014 to 36% in 2016 ($p=0.0063$) (Figure 11 7).

Figure 11 7: Proportion of police detainees who attributed their substance use related problems to cannabis by location (of those detainees who had experienced an alcohol and other drug problem in the past 12 months), 2010-2016



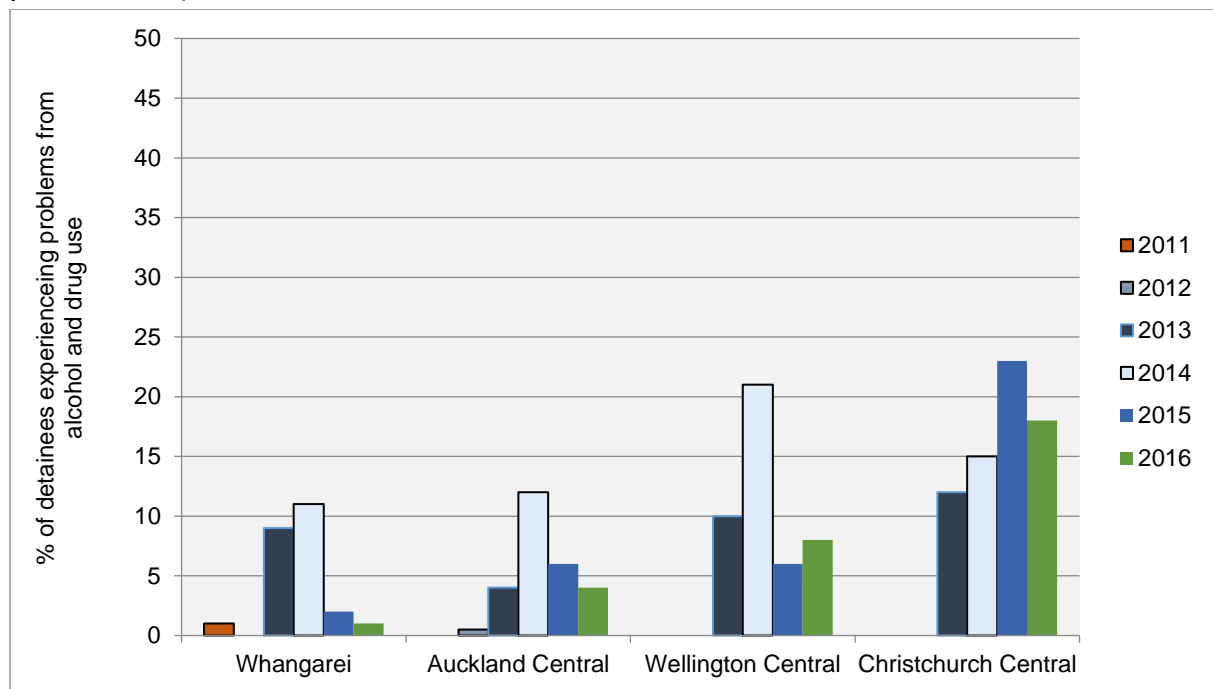
The proportion of detainees who attributed their substance use problems to methamphetamine increased from 14% in 2010 to 33% in 2016 ($p < 0.0001$). The proportion of detainees who attributed their substance use problems to methamphetamine increased in Whangarei (from 12% in 2010 to 35% in 2016, $p = 0.0033$), Auckland Central (up from 21% in 2010 to 35% in 2016, $p = 0.0173$), Wellington Central (up from 14% in 2010 to 37% in 2016, $p = 0.0003$) and Christchurch Central (up from 8% in 2010 to 27% in 2016, $p < 0.0001$) (Figure 11 8).

Figure 11 8: Proportion of police detainees who attributed their substance use related problems to methamphetamine by location (of those detainees who had experienced an alcohol and other drug problem in the past 12 months), 2010-2016



The proportion of detainees who attributed their substance use related problems to synthetic cannabinoids declined from 14% in 2014 to 9% in 2016 ($p=0.0208$). The proportion of detainees from Wellington Central who attributed their substance use problems to synthetic cannabinoids declined from 21% in 2014 to 8% in 2016 ($p=0.0223$) (Figure 11 9).

Figure 11 9: Proportion of police detainees who attributed their substance use related problems to synthetic cannabinoids by location (of those detainees who had experienced an alcohol and other drug problem in the past 12 months), 2010-2016



Alcohol and Driving

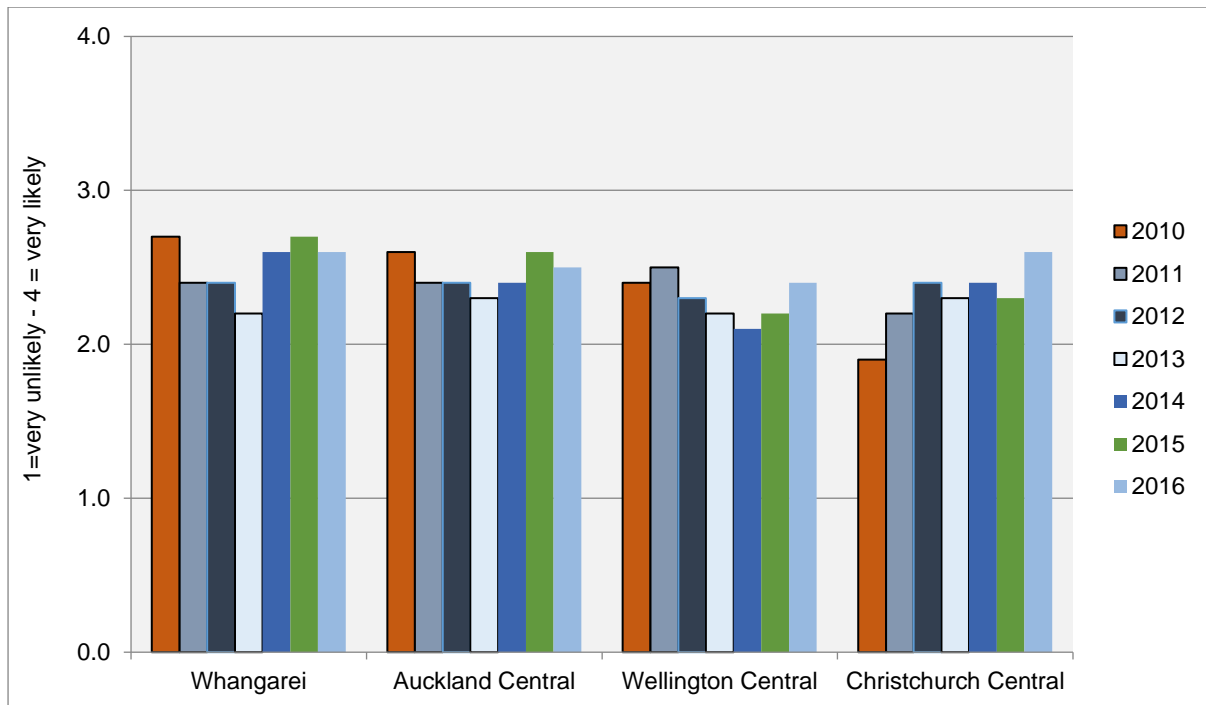
The detainees who had used alcohol and other drugs in the previous 12 months were asked how likely they thought it was that they would be stopped if they drove under the influence of alcohol. In 2016, 22% said they did not drive and a further 8% had had their licence suspended. Twenty-five percent of the detainees who had driven in 2016 thought it was 'very unlikely' they would be stopped by the police while driving under the influence of alcohol (Table 11 4). The detainees were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2016 (up from 2.3 to 2.5, $p=0.0036$). Detainees from Christchurch Central were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2016 (up from 1.9 to 2.6, $p<0.0001$)(Figure 11 10).

Table 11 4: Police detainees’ perceptions of the likelihood of being stopped by police whilst driving under the influence of alcohol by location (of those detainees who had used alcohol and other drugs in the past year and who drove), 2010-2016

Likelihood of being stopped by police while under influence of alcohol	Year	N-value	Very likely [4]	Likely [3]	Unlikely [2]	Very unlikely [1]	Mean score of likelihood of being stopped (1=Very unlikely – Very likely [4])
Whangarei	2010	n=29	28%	28%	31%	14%	2.7
	2011	n=97	23%	26%	15%	36%	2.4
	2012	n=110	26%	25%	18%	31%	2.5
	2013	n=107	21%	20%	22%	37%	2.2
	2014	n=96	31%	22%	20%	27%	2.6
	2015	n=139	34%	26%	12%	28%	2.7
	2016	n=71	37%	23%	4%	37%	2.6
Auckland Central	2010	n=153	22%	33%	25%	20%	2.6
	2011	n=194	18%	30%	30%	22%	2.4
	2012	n=138	28%	20%	20%	32%	2.4
	2013	n=194	23%	22%	22%	24%	2.3
	2014	n=166	24%	21%	27%	28%	2.4
	2015	n=167	26%	34%	17%	22%	2.6
	2016	n=136	21%	26%	33%	20%	2.5
Wellington Central	2010	n=110	25%	22%	22%	32%	2.4
	2011	n=94	23%	29%	22%	26%	2.5
	2012	n=69	17%	25%	25%	33%	2.3
	2013	n=54	17%	20%	28%	35%	2.2
	2014	n=63	17%	17%	27%	38%	2.1

	2015	n=83	14%	27%	27%	33%	2.2
	2016	n=140	25%	21%	23%	31%	2.4
Christchurch Central	2010	n=226	16%	16%	15%	54%	1.9
	2011	n=128	20%	18%	24%	38%	2.2
	2012	n=211	27%	20%	20%	33%	2.4
	2013	n=167	21%	23%	18%	38%	2.3
	2014	n=184	24%	29%	14%	33%	2.4
	2015	n=195	22%	22%	16%	39%	2.3
	2016	n=179	26%	32%	21%	22%	2.6

Figure 11 10: Mean score of likelihood of being stopped while driving under the influence of alcohol by location (of those detainees who had used alcohol and other drugs in the past year and who drove), 2010-2016



Drugs and Driving

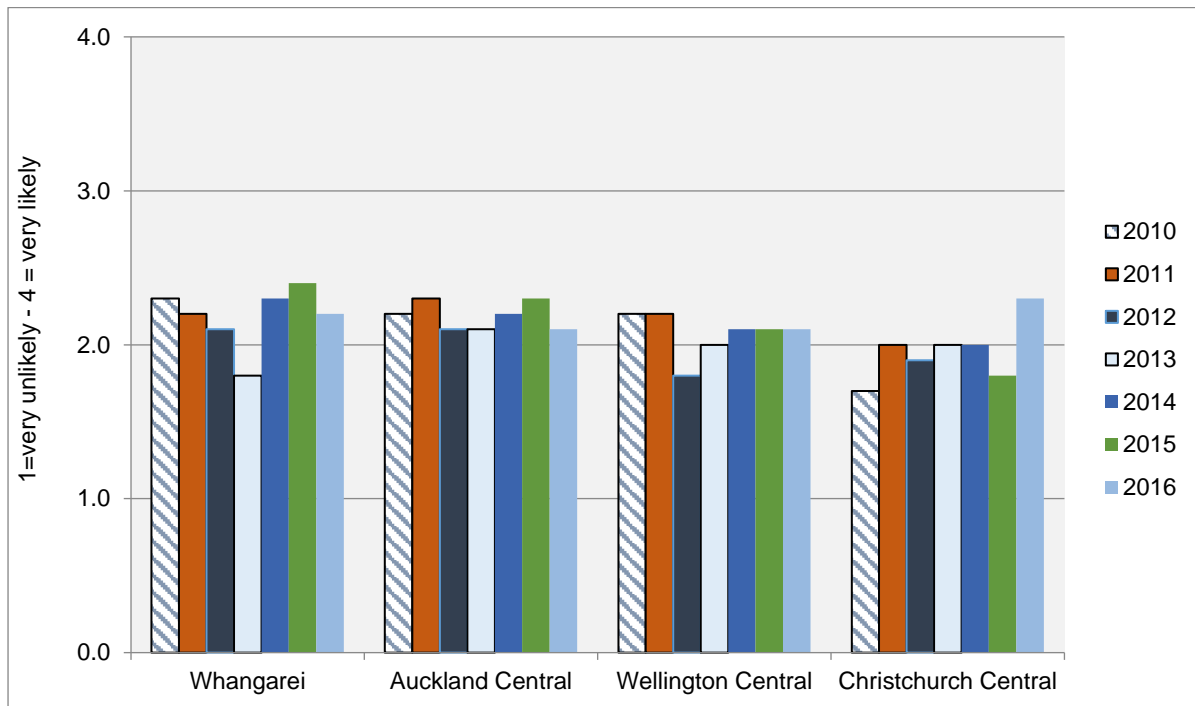
The detainees were also asked how likely they thought it was that they would be stopped if they drove under the influence of drugs ‘other than alcohol’ (e.g. cannabis, methamphetamine, ecstasy or heroin). In 2016, thirty-one percent of the detainees who drove thought it was ‘very unlikely’ they would be stopped by the police while driving under the influence of drugs; a further 30% said they were ‘unlikely’ to be stopped (Table 11 5). The detainees were more likely to believe they would be stopped while driving under the influence of drugs from 2013 to 2016 (up from 2.0 to 2.2, $p=0.0382$). Christchurch detainees were more likely to believe they would be stopped by police while driving under the influence of drugs from 2010 to 2016 (up from 1.7 to 2.3, $p<0.0001$) (Figure 11 11).

Table 11 5: Police detainees’ perceived likelihood of being stopped by the police whilst driving under the influence of drugs other than alcohol by location (of those detainees who had used alcohol and drugs in the past year and who drove), 2010-2016

Likelihood of being stopped by police while under influence of drugs	Year	N-value	Very likely [4]	Likely [3]	Unlikely [2]	Very unlikely [1]	Mean score of likelihood of being stopped (1=Very unlikely – Very likely [4])
Whangarei	2010	n=29	14%	24%	45%	17%	2.3
	2011	n=93	18%	25%	18%	39%	2.2
	2012	n=110	14%	20%	30%	36%	2.1
	2013	n=109	9%	17%	20%	53%	1.8
	2014	n=95	22%	17%	26%	35%	2.3
	2015	n=137	20%	25%	27%	28%	2.4
	2016	n=68	16%	25%	21%	38%	2.2
Auckland Central	2010	n=144	15%	24%	28%	33%	2.2
	2011	n=176	13%	30%	31%	27%	2.3
	2012	n=131	16%	16%	30%	38%	2.1
	2013	n=192	13%	22%	30%	35%	2.1
	2014	n=162	14%	21%	33%	31%	2.2
	2015	n=165	15%	27%	33%	25%	2.3
	2016	n=129	12%	22%	36%	30%	2.1
Wellington Central	2010	n=106	20%	19%	26%	35%	2.2
	2011	n=92	16%	22%	27%	35%	2.2
	2012	n=66	5%	23%	26%	47%	1.8
	2013	n=53	15%	17%	23%	45%	2.0
	2014	n=63	13%	19%	32%	37%	2.1

	2015	n=83	8%	27%	28%	37%	2.1
	2016	n=142	15%	19%	23%	42%	2.1
Christchurch Central	2010	n=219	9%	16%	17%	58%	1.7
	2011	n=132	11%	23%	23%	42%	2.0
	2012	n=202	11%	16%	28%	45%	1.9
	2013	n=165	16%	16%	18%	49%	2.0
	2014	n=179	12%	22%	21%	44%	2.0
	2015	n=190	10%	14%	24%	52%	1.8
	2016	n=171	12%	32%	32%	25%	2.3

Figure 11 11: Mean score of likelihood of being stopped while under the influence of drugs (other than alcohol) by location (of those detainees who had used alcohol and other drugs in the past year and who drove), 2010-2016



Summary

- In 2016, 76% of the detainees had used an illegal drug in the previous 12 months, and this had not changed over the previous six years
- In 2016, 84% of the substance using detainees had experienced at least one problem from their alcohol and other drug use in the previous 12 months
- There was a decline in the proportion of substance using detainees who reported ‘damaging someone else’s property’ (down from 43% in 2010 to 29% in 2016) and ‘stealing someones property’ (down from 30% in 2010 to 21% in 2016) due to alcohol and other drug use
- There was also a decline in the proportion of detainees who reported ‘physically hurting someone’ (down from 36% in 2010 to 26% in 2016) and who were physically assaulted (down from 34% in 2010 to 27% in 2016) due to alcohol and other drug use
- The proportion of substance using detainees who had ‘overdosed’ on a drug declined from 11% in 2011 to 6% in 2016

- There was a steady decline in the proportion of detainees who 'drove too fast' (down from 31% in 2010 to 21% in 2016), had been 'charged with driving offence' (down from 30% in 2010 to 19% in 2016), and had a 'car crash' (down from 16% in 2013 to 9% in 2016) due to alcohol and other drug use
- The detainees named three drug types as mainly responsible for their substance use problems in 2016: alcohol (78%), methamphetamine (33%) and cannabis (32%)
- Nine percent of detainees attributed their substance use problems to synthetic cannabinoids (including 18% of the detainees in Christchurch Central).
- The proportion of detainees who attributed their substance use related problems to alcohol increased from 69% in 2014 to 78% in 2016
- The proportion of detainees who attributed their substance use related problems to methamphetamine increased from 14% in 2010 to 33% in 2016
- Increases in the proportion of detainees who attributed their substance use problems to methamphetamine were found in Whangarei (from 12% in 2010 to 35% in 2016), Auckland Central (up from 21% in 2010 to 35% in 2016), Wellington Central (up from 14% in 2010 to 37% in 2016) and Christchurch Central (up from 8% in 2010 to 27% in 2016)
- The proportion of detainees who attributed their substance use related problems to cannabis increased from 23% in 2014 to 32% in 2016
- The proportion of detainees who attributed their substance use problems to synthetic cannabinoids decreased from 14% in 2014 to 9% in 2016
- The proportion of detainees in Wellington Central who attributed their substance use problems to synthetic cannabinoids declined from 21% in 2014 to 8% in 2016
- In 2016, 25% of the detainees who drove thought it was 'very unlikely' they would be stopped by the police while driving under the influence of alcohol
- The detainees were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2016
- Detainees from Christchurch Central were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2016

- In 2016, 31% of the detainees who drove thought it was 'very unlikely' and a further 30% 'unlikely' they would be stopped by the police while driving under the influence of drugs other than alcohol
- The detainees were more likely to believe they would be stopped while driving under the influence of drugs from 2013 to 2016
- Christchurch Central detainees were more likely to believe they would be stopped by police while driving under the influence of drugs from 2010 to 2016

Chapter 12 – Synthetic cannabinoids

Introduction

Synthetic cannabinoids include a wide range of compounds and products that mimic the effects of natural cannabis, although often with greater affinity to brain receptors (Aung et al., 2000; Castaneto et al., 2014; Hermanns-Clausen et al., 2013; Uchiyama et al., 2011). Studies of synthetic cannabinoid use have reported a range of adverse effects including tachycardia, vomiting, agitation, drowsiness, psychosis, hallucinations, anxiety, headache, seizures and suicidal ideation (Castaneto, et al., 2014; Every-Palmer, 2010, 2011; Glue et al., 2013; Harris & Brown, 2013; Schep et al., 2011; Spaderna et al., 2013; Wilkins, et al., 2016b; Winstock & Barratt, 2013). Acute synthetic cannabinoid intoxication has resulted in emergency department admissions (Castaneto, et al., 2014)(Castaneto et al., 2014, Winstock and Barratt, 2013b) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013) (Castaneto, et al., 2014; Winstock & Barratt, 2013), and some cases of dependence on synthetic cannabinoids have also been reported after chronic use (Castaneto, et al., 2014; Nacca et al., 2013; Vandrey et al., 2012; Zimmermann et al., 2009).

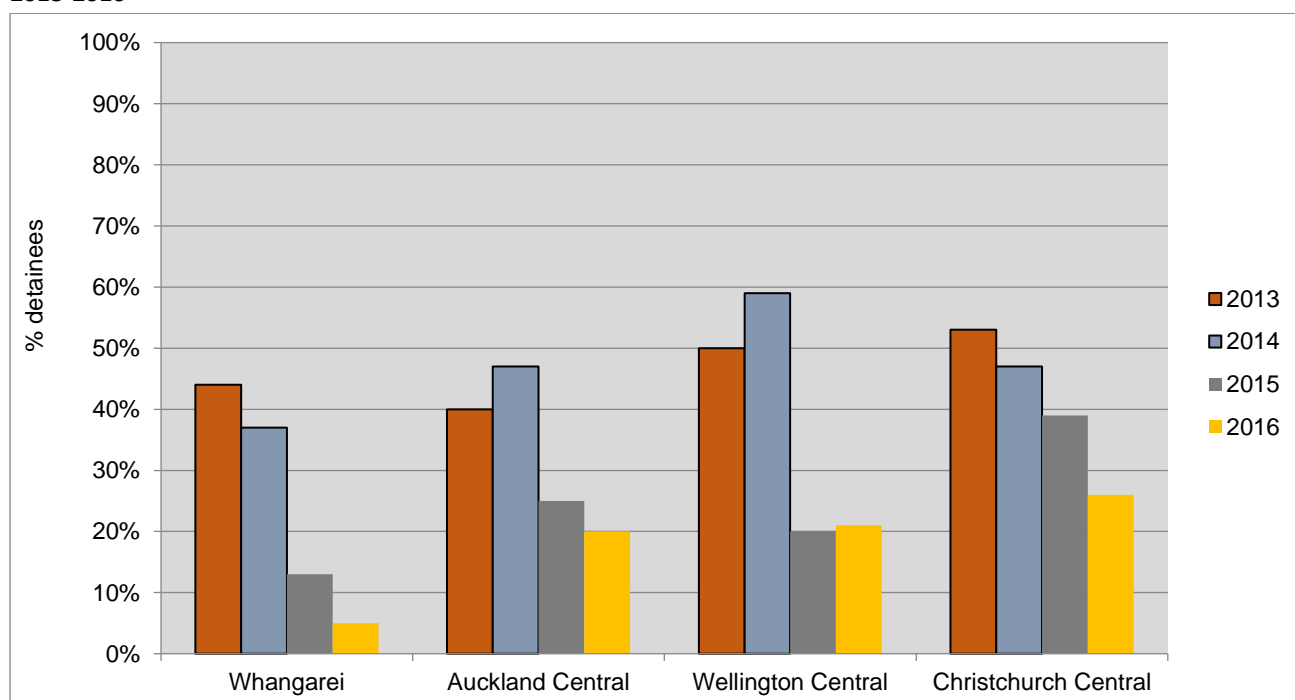
Synthetic cannabinoid products first emerged in New Zealand around 2009 and dozens of products were introduced over subsequent years and sold from local convenience stores (Wilkins, et al., 2013). They were able to be legally sold as the active compounds were not specifically prohibited by the *Misuse of Drugs Act 1975*. The passage of the *Psychoactive Substances Act (PSA)* in July 2013 allowed a number of synthetic cannabinoid products to be licensed and legally sold from licensed retail outlets subject to new retail restrictions (e.g. R18, no sales from convenience stores) (Wilkins, 2014a, 2014b). The interim PSA regime was brought to an abrupt end in May 2014 (Wilkins, 2014c), effectively making all products with psychoactive effects illegal (Rychert & Wilkins, 2015).

The 2014 NZ-ADUM only partially captured the impact of the 2014 PSA bans as the bans had only just been imposed when interviewing was being conducted, and some formerly legal stocks were still likely to be available via the black market. The 2015 NZ-ADUM results provided a clearer picture of the impact of the bans and found declining use, availability and related harm (Wilkins, et al., 2016a). However, the use and availability of synthetic cannabinoids was noticeably higher in Christchurch Central than the other locations, suggesting a more entrenched market.

Use of synthetic cannabinoids

The proportion of detainees who had used synthetic cannabinoids in the previous 12 months declined from 47% in 2013 to 20% in 2016 ($p < 0.0001$). There was a decline in the proportion of detainees who had used synthetic cannabinoids in the previous year in Whangarei (down from 44% in 2014 to 5% in 2016, $p < 0.0001$), Auckland Central (down from 40% in 2013 to 20% in 2016, $p < 0.0001$), Wellington Central (down from 50% in 2014 to 21% in 2016, $p < 0.0001$) and Christchurch Central (down from 53% in 2013 to 26% in 2016, $p < 0.0001$) (Figure 12 1). In 2016, detainees in Whangarei were less likely to have used synthetic cannabinoids in the previous 12 months than those in Auckland Central (5% vs. 20%, $p = 0.0005$), Wellington Central (5% vs. 21%, $p = 0.0010$) and Whangarei (5% vs. 26%, $p < 0.0001$).

Figure 12 1: Proportion of police detainees who had used synthetic cannabinoids in the past 12 months by location, 2013-2016



Similarly, the proportion of detainees who had used synthetic cannabinoids in the past month declined from 29% in 2013 to 10% in 2016 ($p < 0.0001$) (Figure 12.3). The proportion of detainees who had used synthetic cannabinoids in the past month declined in Auckland Central (down from 26% in 2013 to 11% in 2016, $p = 0.0002$), Wellington Central (down from 36% in 2013 to 8% in 2016, $p < 0.0001$) and Christchurch Central (down from 32% in 2013 to 17% in 2016, $p = 0.0005$). The detainees in Whangarei reported no use of synthetic cannabinoids in the past month in 2016.

Table 12.1: Police detainees' patterns of synthetic cannabinoid use by location, 2013-2016

Use of synthetic cannabinoids	Year	N - value	Ever used (%)	Used in past 12 months (%)	Mean number of days used in past 12 months**	Felt dependent in the past 12 months (%)**	Used in past month (%)	Mean number of days used in past month***
Whangarei	2013	n=149	52%	44%	54	10%	24%	10
	2014	n=151	57%	37%	86	25%	19%	12
	2015	n=169	57%	13%	56	9%	5%	14
	2016	n=131	51%	5%	6	0%	0%	-
Auckland Central	2013	n=287	48%	40%	60	12%	26%	10
	2014	n=315	64%	47%	87	28%	22%	14
	2015	n=267	50%	25%	44	17%	10%	10
	2016	n=221	57%	20%	52	14%	11%	8
Wellington Central	2013	n=106	54%	50%	74	16%	36%	11
	2014	n=95	73%	59%	109	29%	32%	15
	2015	n=107	68%	20%	40	20%	4%	10
	2016	n=213	63%	21%	71	23%	8%	12
Christchurch Central	2013	n=280	62%	53%	74	24%	32%	12
	2014	n=273	59%	47%	140	36%	28%	14
	2015	n=292	67%	39%	124	37%	22%	17
	2016	n=235	68%	26%	157	47%	17%	19
All sites	2013	n=822	54%	47%	67	17%	29%	11
	2014	n=834	62%	47%	110	30%	24%	14
	2015	n=835	60%	27%	82	26%	12%	14
	2016	n=800	61%	20%	97	29%	10%	14

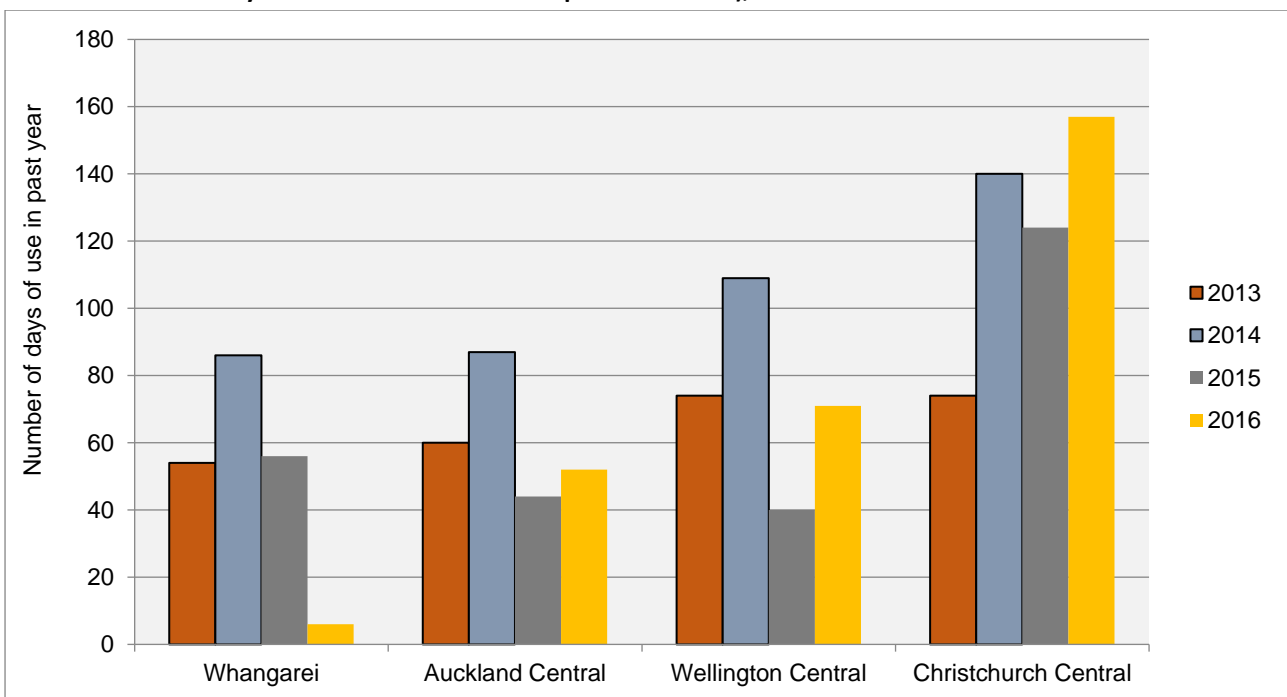
** of those who had used in the past 12 months

*** of those who had used in the past month

Frequency of synthetic cannabinoids use

The detainees who had used synthetic cannabinoids in the previous 12 months used them on a mean of 97 days in 2016 (median 10, 1-365 days). There was no statistically significant change in the number of days the detainees has used synthetic cannabinoids in the past year from 2013 to 2016. In 2016, the detainees in Christchurch Central had used synthetic cannabinoids on a higher mean number of days than those in Auckland Central (157 days vs. 52 days, $p=0.0053$), Whangarei (157 days vs. 6 days, $p=0.0053$) and Wellington Central (157 days vs. 71 days, $p=0.0012$) (Figure 12 2).

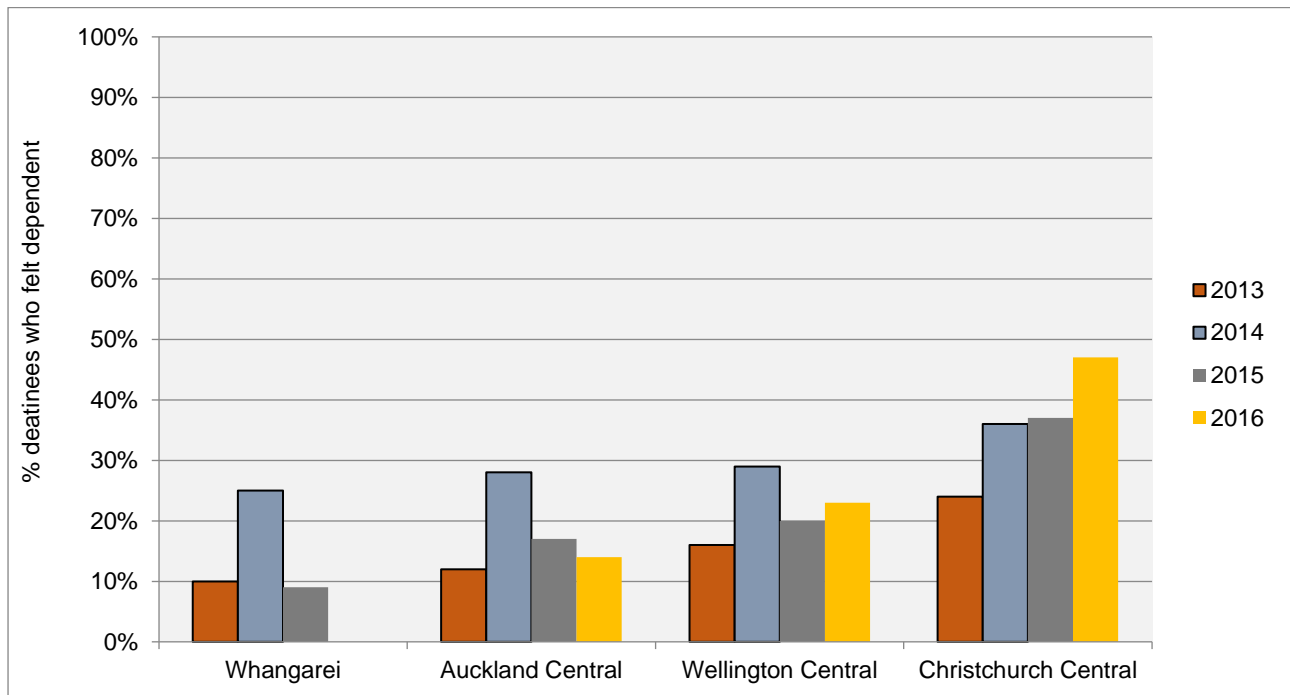
Figure 12 2: Mean number of days police detainees used synthetic cannabinoids in the past 12 months by location (of those who had used synthetic cannabinoids in the past 12 months), 2010- 2016



Dependency on synthetic cannabinoids

Those detainees who had used synthetic cannabinoids in the past year were asked if they felt dependent on them. The proportion of detainees who felt dependent on synthetic cannabinoids increased from 17% in 2013 to 29% in 2016 ($p=0.0097$). The proportion of Christchurch Central detainees who felt dependent on synthetic cannabinoids increased from 24% in 2013 to 47% in 2016 ($p=0.0098$) (Figure 12 3).

Figure 12 3: Proportion of police detainees who felt dependent on synthetic cannabinoids in the past year by location (of those who had used synthetic cannabinoids in the past 12 months), 2013-2016



Synthetic cannabinoid use at the time of arrest

The proportion of detainees who had been using synthetic cannabinoids prior to their arrest declined from 7% in 2013 to 3% in 2016 ($p=0.0004$). The proportion of Wellington Central detainees who had been using synthetic cannabinoids prior to their arrest declined from 9% in 2013 to 2% in 2016 ($p=0.0179$).

Table 12 2: Synthetic cannabinoid use by police detainees at time of arrest by location, 2013-2016

Use of synthetic cannabinoids	Year	n-value	Using when arrested (%)
Whangarei	2013	n=153	5%
	2014	n=151	1%
	2015	n=169	1%
	2016	n=131	0%
Auckland Central	2013	n=300	6%
	2014	n=315	6%
	2015	n=267	4%
	2016	n=221	3%
Wellington Central	2013	n=106	9%
	2014	n=95	12%
	2015	n=107	0%
	2016	n=2013	2%
Christchurch Central	2013	n=289	8%
	2014	n=273	9%
	2015	n=292	8%
	2016	n=235	4%
All Sites	2013	n=848	7%
	2014	n=834	7%
	2015	n=835	4%
	2016	n=800	3%

Current availability of synthetic cannabinoids

In 2016, 62% of the detainees described the current availability of synthetic cannabinoids as ‘very easy’ and a further 25% described it as ‘easy’ (Table 12 6). Overall, there was no statistically significant change in the current availability of synthetic cannabinoids in 2016 compared to previous years. The current availability of synthetic cannabinoids declined in Whangarei from 2013 to 2016 (down from 3.4 to 2.2, $p=0.0400$) (Figure 12 3). Conversely, the current availability of synthetic cannabinoids increased in Wellington Central from 2015 to 2016 (up from 2.8 to 3.4, $p=0.0431$). In 2016, the current availability of synthetic cannabinoids was considered to be higher in Christchurch Central than Whangarei (3.7 vs. 2.2, $p<0.0001$) and Auckland Central (3.7 vs. 3.3, $p=0.0474$).

Figure 12 4: Current availability of synthetic cannabinoids by location, 2013-2016

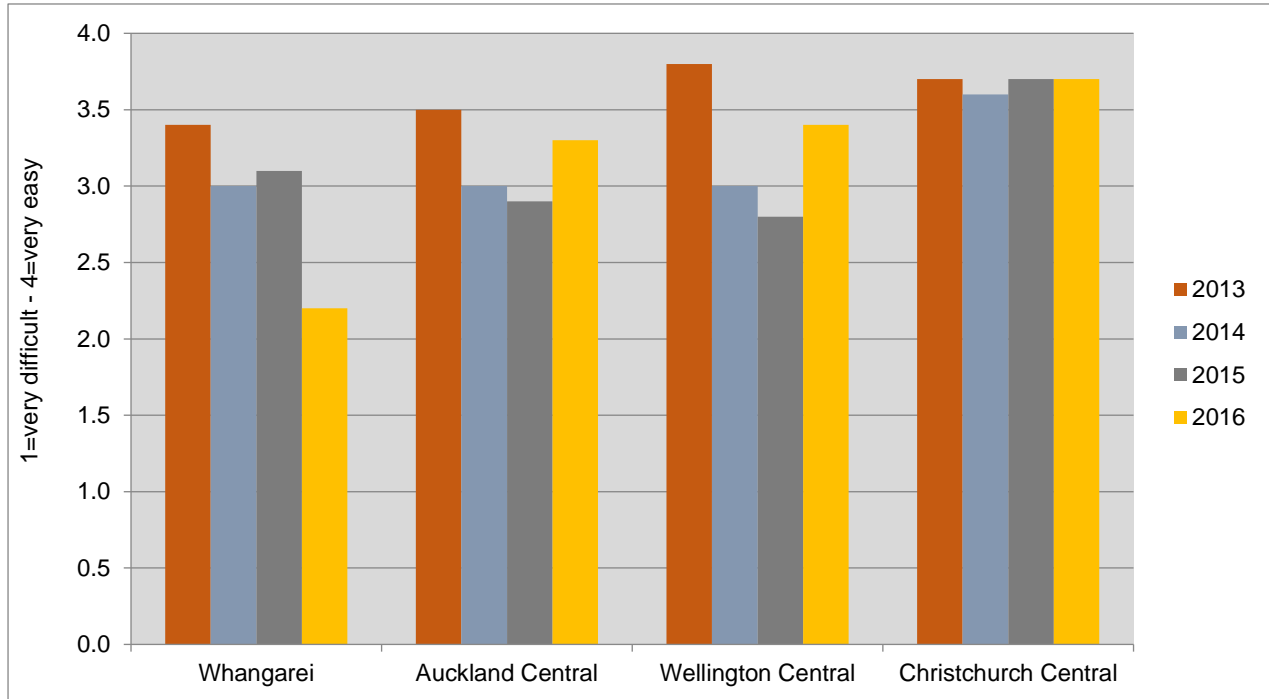


Table 12 3: Police detainees’ perceptions of the current availability of synthetic cannabinoids by location, 2013-2016

Current availability of synthetic cannabinoids (%)	Year	N-value	Very easy [4]	Easy [3]	Difficult [2]	Very difficult [1]	Average availability score (1=very difficult – 4=very easy)	Overall current status
Whangarei	2013	n=57	61%	25%	5%	9%	3.4	Very easy / easy
	2014	n=45	44%	31%	7%	18%	3.0	Very easy / easy
	2015	n=18	61%	6%	11%	22%	3.1	Very easy / very difficult
	2016	n=6	17%	17%	33%	33%	2.2	Very difficult/ difficult
Auckland Central	2013	n=117	65%	21%	10%	4%	3.5	Very easy / easy
	2014	n=129	50%	21%	9%	20%	3.0	Very easy / easy
	2015	n=59	37%	29%	17%	17%	2.9	Very easy / easy
	2016	n=40	48%	35%	15%	3%	3.3	Very easy / easy
Wellington Central	2013	n=53	85%	13%	0%	2%	3.8	Very easy
	2014	n=48	50%	21%	13%	17%	3.0	Very easy / easy
	2015	n=20	25%	35%	35%	5%	2.8	Easy / difficult
	2016	n=44	61%	27%	5%	7%	3.4	Very easy / easy
Christchurch Central	2013	n=151	78%	13%	5%	3%	3.7	Very easy
	2014	n=123	76%	15%	2%	7%	3.6	Very easy
	2015	n=107	80%	11%	5%	4%	3.7	Very easy
	2016	n=59	78%	17%	2%	3%	3.7	Very easy
All Sites	2013	n=378	72%	17%	6%	4%	3.6	Very easy
	2014	n=345	58%	20%	7%	15%	3.2	Very easy / easy
	2015	n=204	61%	18%	12%	9%	3.3	Very easy / easy
	2016	n=149	62%	25%	7%	5%	3.4	Very easy / easy

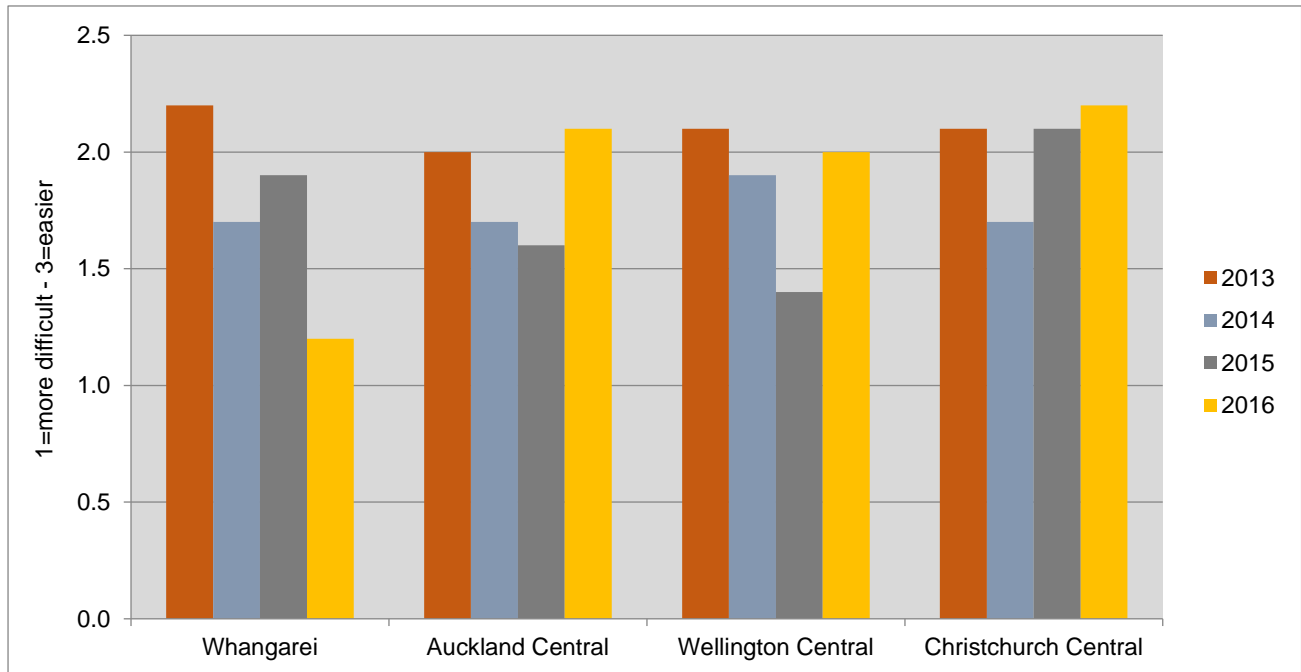
Change in availability of synthetic cannabinoids

In 2016, 42% of the detainees described the availability of synthetic cannabinoids as 'stable' and 31% as 'easier' compared to six months ago (Table 12.4). The reported availability of synthetic cannabis increased from 2015 to 2016 (up from 1.8 to 2.1, $p=0.0033$). The availability of synthetic cannabinoids declined in Whangarei from 2013 to 2016 (down from 2.2 to 1.2, $p=0.0307$) (Figure 12.4). Conversely, the availability of synthetic cannabinoids increased in Auckland Central (up from 1.6 in 2015 to 2.1 in 2016, $p=0.0003$), Wellington Central (up from 1.4 in 2015 to 2.0 in 2016, $p=0.0021$) and Christchurch Central (up from 1.7 in 2014 to 2.2 in 2016, $p<0.0001$). In 2016, the availability of synthetic cannabinoids was more likely to be considered to be increasing in Christchurch Central than Whangarei (2.2 vs. 1.2, $p=0.0101$).

Table 12 4: Police detainees’ perceptions of the change in availability of synthetic cannabinoids by location, 2016

Change in availability of synthetic cannabinoids (%)	Year	N-value	Easier [3]	Stable [2]	Fluctuates [2]	More difficult [1]	Average change in availability score (1=more difficult – 3=easier)	Overall recent change
Whangarei	2013	n=56	38%	36%	5%	21%	2.2	Easier / stable
	2014	n=45	13%	31%	11%	44%	1.7	More difficult / stable
	2015	n=21	29%	24%	5%	43%	1.9	More difficult / easier
	2016	n=56	0%	20%	0%	80%	1.2	More difficult
Auckland Central	2013	n=112	17%	58%	8%	17%	2.0	Stable / easier
	2014	n=129	20%	24%	7%	49%	1.7	More difficult / stable
	2015	n=58	12%	21%	12%	55%	1.6	More difficult / stable
	2016	n=36	36%	36%	6%	22%	2.1	Easier / stable
Wellington Central	2013	n=47	21%	70%	2%	6%	2.1	Stable
	2014	n=47	32%	21%	2%	45%	1.9	More difficult / easier
	2015	n=17	0%	29%	6%	65%	1.4	More difficult / stable
	2016	n=39	13%	67%	10%	10%	2.0	Stable / easier
Christchurch Central	2013	n=146	26%	51%	6%	16%	2.1	Stable / easier
	2014	n=120	18%	27%	2%	53%	1.7	More difficult / Stable
	2015	n=107	34%	43%	4%	20%	2.1	Stable / easier
	2016	n=57	42%	32%	5%	21%	2.2	Easier / stable
All Sites	2013	n=361	24%	53%	6%	16%	2.1	Stable / easier
	2014	n=341	20%	26%	5%	49%	1.7	More difficult / stable
	2015	n=203	24%	34%	6%	36%	1.8	More difficult / stable
	2016	n=137	31%	42%	7%	20%	2.1	Stable / easier

Figure 12 5: Change in availability of synthetic cannabinoids by location, 2013-2016



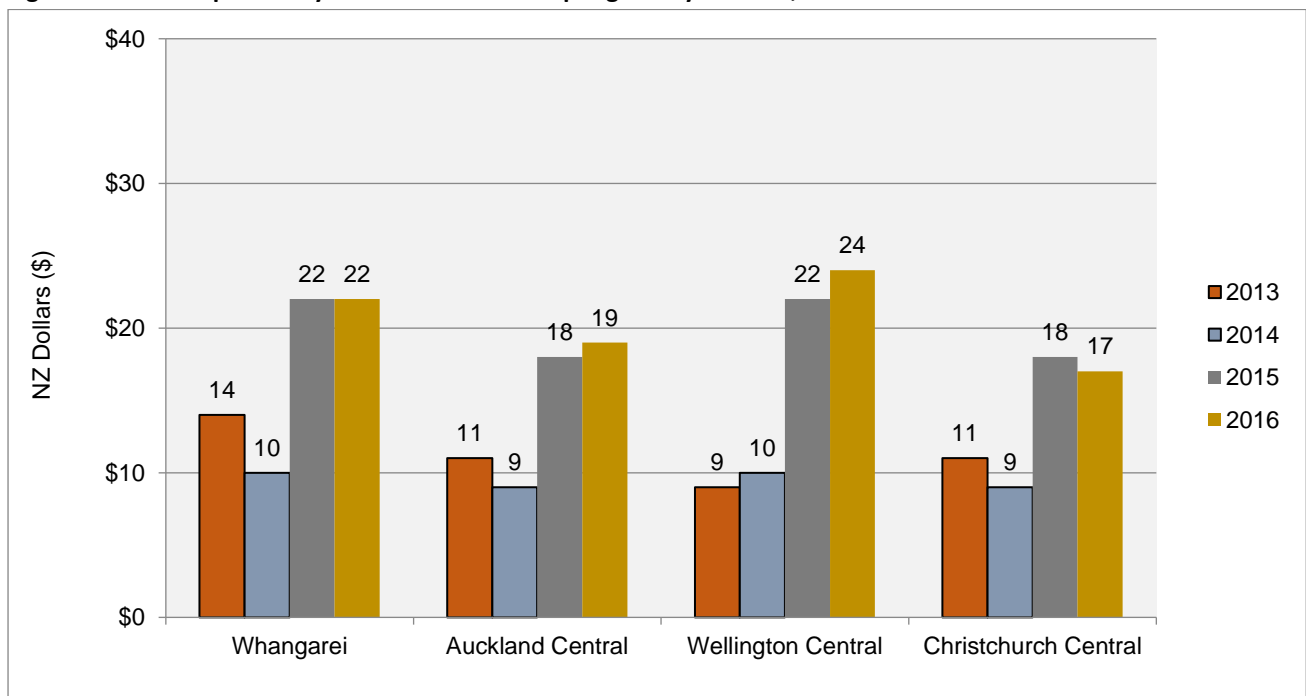
Price

The price of a gram of synthetic cannabinoids increased from \$11 in 2013 to \$19 in 2016 ($p < 0.0001$). The gram price of synthetic cannabinoids increased in Whangarei (up from \$10 in 2014 to \$22 in 2016, $p = 0.0034$), Auckland Central (\$11 in 2013 to \$19 in 2016, $p < 0.0001$), Wellington Central (\$9 in 2013 to \$24 in 2016, $p < 0.0001$) and Christchurch Central (\$11 in 2013 to \$17 in 2016, $p < 0.0001$) (Figure 12 5).

Table 12 5: Current price of synthetic cannabinoids by location , 2016

Current price of synthetic cannabinoid (\$)	Year	N-value	Price (\$/gram)
Whangarei	2013	n=52	\$14
	2014	n=37	\$10
	2015	n=14	\$22
	2016	n=52	\$22
Auckland Central	2013	n=110	\$11
	2014	n=104	\$9
	2015	n=47	\$18
	2016	n=37	\$19
Wellington Central	2013	n=46	\$9
	2014	n=44	\$10
	2015	n=13	\$22
	2016	n=39	\$24
Christchurch Central	2013	n=131	\$11
	2014	n=108	\$9
	2015	n=96	\$18
	2016	n=45	\$17
All Sites	2013	n=339	\$11
	2014	n=293	\$9
	2015	n=170	\$18
	2016	n=126	\$19

Figure 12 6: Mean price of synthetic cannabinoids per gram by location, 2013-2016



Change in the price of synthetic cannabinoids

In 2016, 60% of the detainees reported the price of synthetic cannabinoids had been 'stable' and 24% said the price had been 'increasing' in the previous six months. The price of synthetic cannabinoids was reported to be increasing from 2013 to 2016 (up from 1.9 to 2.2, $p < 0.0001$). The price of synthetic cannabinoids was reported to be increasing in Central Christchurch from 2013 to 2016 (up from 1.9 to 2.3, $p < 0.0001$) (Figure 12 6).

Figure 12 7: Mean score of the change in the price of synthetic cannabinoids by location, 2013-2016

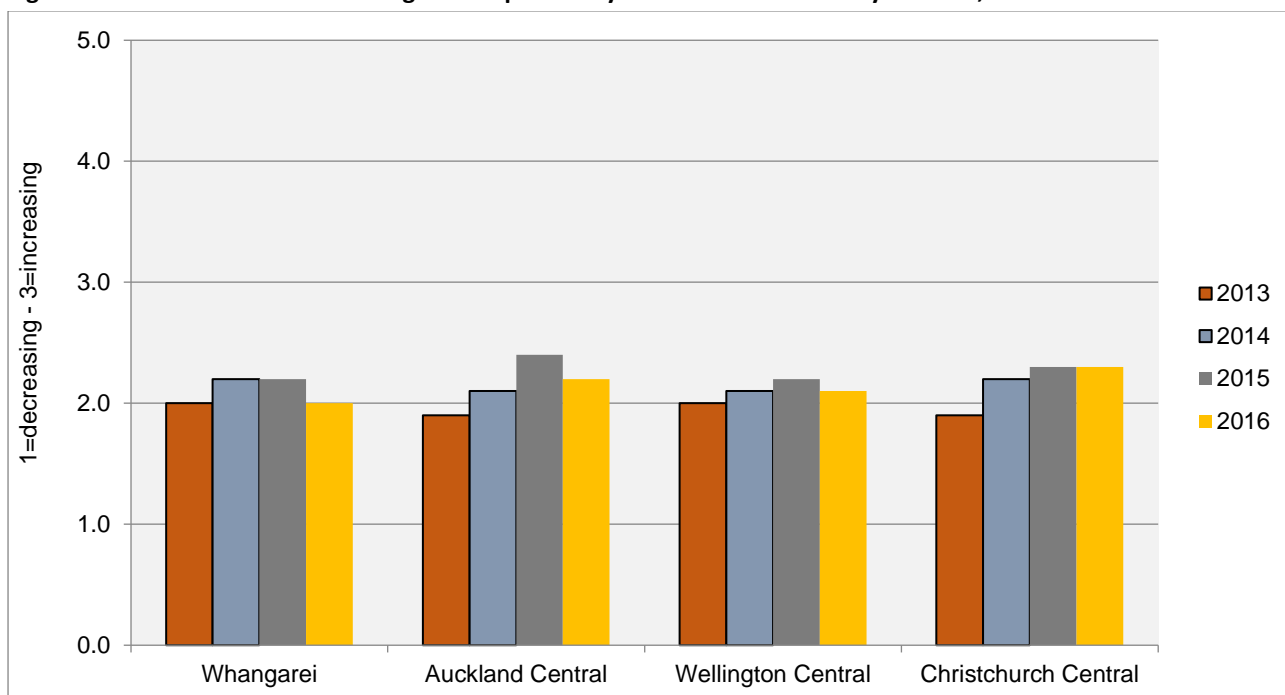


Table 12 6: Police detainees’ perceptions of the change in the price of synthetic cannabinoids in the past six months by location, 2016

Change in price of synthetic cannabinoids (%)	Year	N-value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing [1]	Average change in availability score (1=decreasing – 3=increasing)	Overall recent change
Whangarei	2013	n=46	4%	2%	85%	9%	2.0	Stable
	2014	n=37	46%	14%	16%	24%	2.2	Increasing / decreasing
	2015	n=14	43%	0%	36%	21%	2.2	increasing / stable
	2016	n=4	25%	25%	25%	25%	2.0	n/a
Auckland Central	2013	n=99	8%	8%	70%	14%	1.9	Stable
	2014	n=99	29%	11%	41%	18%	2.1	Stable / increasing
	2015	n=50	48%	6%	34%	12%	2.4	increasing / stable
	2016	n=34	29%	9%	56%	6%	2.2	Stable / increasing
Wellington Central	2013	n=44	5%	2%	84%	9%	2.0	Stable
	2014	n=40	30%	5%	43%	23%	2.1	Stable / increasing
	2015	n=15	33%	13%	40%	13%	2.2	Stable / increasing
	2016	n=38	16%	18%	61%	5%	2.1	Stable / fluctuating
Christchurch Central	2013	n=130	6%	2%	72%	20%	1.9	Stable
	2014	n=102	30%	17%	41%	12%	2.2	Stable / increasing
	2015	n=91	30%	9%	58%	3%	2.3	Stable / increasing
	2016	n=55	27%	7%	64%	2%	2.3	Stable / increasing
All Sites	2013	n=319	6%	4%	75%	15%	1.9	Stable
	2014	n=278	32%	13%	38%	17%	2.1	Stable / increasing
	2015	n=170	36%	8%	48%	8%	2.3	Stable / increasing
	2016	n=131	24%	11%	60%	5%	2.2	Stable / increasing

Current strength of synthetic cannabinoids

In 2016, 56% of the detainees described the current strength of synthetic cannabinoids as ‘high’ and 19% said it was ‘medium’ (Table 12 6).

There was no statistically significant change in the strength of synthetic cannabinoids from 2013 to 2016.

Table 12 7: Police detainees’ perceptions of current strength of synthetic cannabinoids in the past six months, 2013-2016

Current strength of synthetic cannabinoids (%)	Year	N-value	High [3]	Medium [2]	Fluctuates [2]	Low [1]	Average strength score (1=low – 3=high)	Overall current status
Whangarei	2013	n=55	65%	16%	5%	13%	2.5	High / medium
	2014	n=43	72%	7%	2%	19%	2.5	High
	2015	n=20	60%	10%	0%	30%	2.3	High / low
	2016	n=4	50%	25%	0%	25%	2.3	High / medium / low
Auckland Central	2013	n=118	47%	22%	7%	24%	2.2	High / low
	2014	n=129	61%	13%	10%	16%	2.5	High / low
	2015	n=60	55%	17%	12%	17%	2.4	High / medium
	2016	n=43	53%	21%	12%	14%	2.4	High / medium
Wellington Central	2013	n=51	51%	29%	10%	10%	2.4	High / medium
	2014	n=45	47%	31%	16%	7%	2.4	High / medium
	2015	n=14	50%	14%	14%	21%	2.3	High / low
	2016	n=42	74%	17%	5%	5%	2.7	High
Christchurch Central	2013	n=149	68%	13%	3%	15%	2.5	High / low
	2014	n=121	70%	7%	7%	16%	2.5	High
	2015	n=106	55%	14%	17%	14%	2.4	High / fluctuates
	2016	n=57	46%	19%	25%	11%	2.4	High / fluctuates
All Sites	2013	n=373	59%	19%	6%	17%	2.4	High / medium
	2014	n=338	62%	12%	9%	15%	2.5	High / low
	2015	n=200	55%	15%	14%	17%	2.4	High / low
	2016	n=146	56%	19%	14%	10%	2.4	High / medium

Change in strength of synthetic cannabinoids

Thirty-six percent of the detainees reported the strength of synthetic cannabinoids had been 'increasing' and 27% said it had been 'stable' in the past six months in 2016. Overall, there was no statistically significant change in perceptions of the change in the strength of synthetic cannabinoids from 2013 to 2016. The strength of synthetic cannabinoids increased in Wellington Central from 2015 to 2016 (up from 1.8 to 2.4, $p=0.0234$).

Table 12 8: Police detainees’ perceptions of change in strength of synthetic cannabinoids in the past six months, 2016

Change in strength of synthetic cannabinoids (%)	Year	N-value	Increasing [3]	Stable [2]	Fluctuating [2]	Decreasing [1]	Average change in strength (1=decreasing – 3=increasing)	Overall recent change
Whangarei	2013	n=42	14%	71%	5%	10%	2.0	Stable
	2014	n=30	23%	47%	7%	23%	2.0	Stable / increasing
	2015	n=14	29%	50%	0%	21%	2.1	Stable / increasing
	2016	n=4	75%	0%	0%	25%	2.5	Stable
Auckland Central	2013	n=93	13%	69%	5%	13%	2.0	Stable / increasing
	2014	n=104	22%	47%	11%	20%	2.0	Stable / increasing
	2015	n=53	17%	49%	15%	19%	2.0	Stable / decreasing
	2016	n=35	43%	29%	11%	17%	2.3	increasing / stable
Wellington Central	2013	n=41	27%	46%	22%	5%	2.2	Stable / increasing
	2014	n=35	26%	46%	9%	20%	2.1	Stable / increasing
	2015	n=10	10%	60%	0%	30%	1.8	Stable / decreasing
	2016	n=34	44%	38%	15%	3%	2.4	increasing / stable
Christchurch Central	2013	n=136	18%	60%	13%	9%	2.1	Stable / increasing
	2014	n=103	23%	40%	24%	13%	2.1	Stable / fluctuating
	2015	n=94	21%	32%	27%	20%	2.0	Stable / fluctuating
	2016	n=54	24%	20%	24%	31%	1.9	decreasing / increasing / fluctuating
All Sites	2013	n=312	17%	62%	11%	10%	2.1	Stable / increasing
	2014	n=272	23%	44%	15%	18%	2.1	Stable / increasing
	2015	n=171	20%	40%	19%	20%	2.0	Stable / increasing
	2016	n=127	36%	27%	17%	20%	2.1	increasing / stable

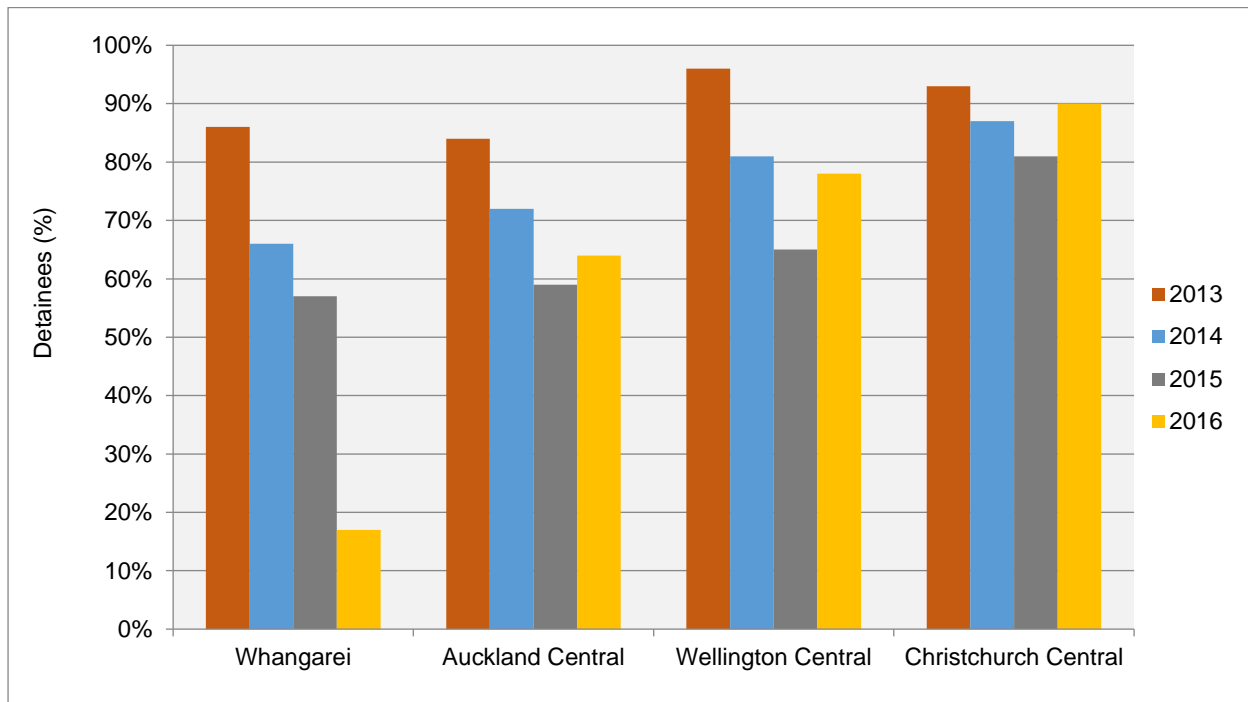
Time taken to purchase synthetic cannabinoids

In 2016, 77% of the detainees who had used synthetic cannabinoids in the previous year were able to purchase them in one hour or less (Table 12 8). The proportion of detainees who could purchase synthetic cannabinoids in one hour or less declined from 88% in 2013 to 77% in 2016 ($p=0.0028$) (Figure 12 4). In 2016, detainees in Christchurch Central were more likely to be able to purchase synthetic cannabinoids in one hour or less than those in Auckland Central (90% vs. 64%, $p=0.0153$) and Whangarei (90% vs. 17%, $p=0.0057$).

Table 12 9: Time taken by police detainees to purchase synthetic cannabinoids by location, 2016

Time to purchase synthetic cannabinoids (%)	Year	N-value	Months	Weeks	Days	About one day	Hours	1 Hour	less than 20 minutes
Whangarei	2013	n=53	6%	2%	2%	8%	8%	23%	53%
	2014	n=44	9%	2%	7%	5%	11%	9%	57%
	2015	n=21	10%	5%	10%	5%	14%	14%	43%
	2016	n=6	0%	17%	33%	17%	17%	17%	0%
Auckland Central	2013	n=117	1%	1%	2%	3%	9%	10%	74%
	2014	n=125	2%	2%	5%	9%	10%	17%	55%
	2015	n=59	0%	8%	8%	12%	12%	15%	44%
	2016	n=39	0%	0%	5%	3%	28%	23%	41%
Wellington Central	2013	n=48	2%	0%	0%	2%	0%	13%	83%
	2014	n=46	2%	2%	9%	2%	4%	11%	70%
	2015	n=17	0%	0%	6%	0%	29%	18%	47%
	2016	n=41	0%	0%	5%	7%	10%	20%	59%
Christchurch Central	2013	n=148	3%	1%	1%	1%	1%	8%	85%
	2014	n=115	3%	2%	0%	2%	7%	11%	76%
	2015	n=106	3%	1%	1%	2%	12%	22%	59%
	2016	n=59	0%	0%	0%	3%	7%	24%	66%
All Sites	2013	n=366	2%	1%	1%	3%	4%	11%	77%
	2014	n=330	3%	2%	4%	5%	8%	13%	65%
	2015	n=203	2%	3%	4%	5%	14%	19%	52%
	2016	n=145	0%	1%	4%	5%	14%	22%	54%

Figure 12 8: Proportion of police detainees who could purchase synthetic cannabinoids in one hour or less by location, 2013-2016



Summary

- The proportion of detainees who had used synthetic cannabinoids in the previous 12 months declined from 47% in 2013 to 20% in 2016
- There was a decline the proportion of detainees who had used synthetic cannabinoids in the previous year in Whangarei (down from 44% in 2014 to 5% in 2016), Auckland Central (down from 40% in 2013 to 20% in 2016), Wellington Central (down from 50% in 2014 to 21% in 2016) and Christchurch Central (down from 53% in 2013 to 26% in 2016)
- In 2016, the detainees who had used synthetic cannabinoids had used them on an average of 82 days in the past year
- The proportion of detainees who had used synthetic cannabinoids in the past year and felt dependent on them increased from 17% in 2013 to 29% in 2016
- The proportion of Christchurch Central detainees who felt dependent on synthetic cannabinoids increased from 24% in 2013 to 47% in 2016

- The proportion of detainees who had been using synthetic cannabinoids prior to arrest declined from 7% in 2013 to 3% in 2016
- The availability of synthetic cannabinoids was reported to be declining in Whangarei from 2013 to 2016
- Conversely, the availability of synthetic cannabis increased in Auckland Central, Wellington Central and Christchurch Central
- The price of a gram of synthetic cannabinoid increased from \$11 in 2013 to \$19 in 2016
- The gram price of synthetic cannabinoids increased in Whangarei (up from \$10 in 2014 to \$22 in 2016), Auckland Central (\$11 in 2013 to \$19 in 2016), Wellington Central (\$9 in 2013 to \$24 in 2016) and Christchurch Central (\$11 in 2013 to \$17 in 2016)
- In 2016, 56% of the detainees described the current strength of synthetic cannabinoids as 'high'

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