New Zealand Arrestee Drug Use Monitoring

(NZ-ADUM)

2010-2015 Report

Chris Wilkins
Jitesh Prasad
Karl Parker
Marta Rychert
Helen Moewaka Barnes

SHORE & Whariki Research Centre
College of Health,
Massey University
P O Box 6137, Wellesley St
Auckland, New Zealand

May 2016

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

Acknowledgements

The New Zealand Drug Use Monitoring (NZ-ADUM) research study is funded by the New Zealand Police and is conducted by SHORE & Whariki Research Centre, College of Health at Massey University, Auckland. We would like to thank police staff at Whangarei, Auckland Central, Wellington Central and Christchurch Central police watch houses for their assistance and cooperation with this research. We would also like to thank all the interviewers who worked with us on NZ-ADUM and all the police detainees who agreed to be interviewed for the study.

Table of Contents

List of Figures

List of Tables

Executive Summary

The aim of the New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study is to track trends in alcohol and other drug use among police detainees in New Zealand, and to document the harms and problems associated with this substance use. NZ-ADUM monitors key indicators of illegal drug markets, including 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 detainees and the barriers they experience in accessing these services. The 2015 NZ-ADUM interviewed 835 detainees at four central city police watch houses (i.e. Whangarei, Auckland Central, Wellington Central and Christchurch Central) from March to August 2015. This report presents the findings from the 2015 NZ-ADUM and compares them with the previous five years of the study.

The high risk of drug use and drug related harm among police detainees

In 2015, 76% of the police detainees had used an illegal drug in the previous year; most commonly cannabis (69%), methamphetamine (36%), synthetic cannabinoids (27%), hallucinogens (21%) and ecstasy (19%). The detainees had, on average, consumed 17 alcoholic drinks before their arrest. Eighty-five percent of the detainees experienced at least one problem from their substance use. 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 alcohol and other drug use. The detainees named four substances as mainly responsible for these problems: alcohol (78%), cannabis (34%), methamphetamine (31%) and synthetic cannabinoids (11%).

A surge in methamphetamine use

The proportion of detainees who had used methamphetamine in the previous year increased from 28% in 2012 to 36% in 2015. The proportion of methamphetamine users who felt

dependent on methamphetamine increased from 22% in 2011 to 34% in 2015. The mean price of a gram of methamphetamine decreased from $788 in 2014 to $669 in 2015. The proportion of detainees who attributed their substance use problems to methamphetamine increased in Whangarei (from 13% in 2012 to 32% in 2015), Wellington Central (up from 10% in 2012 to 39% in 2015) and Christchurch Central (up from 8% in 2012 to 26% in 2015). These findings are consistent with the record seizures of methamphetamine made by New Zealand Police and the New Zealand Customs Service over the past two years (NDIB, 2016). Record seizures of methamphetamine have also been made at the Australia border in recent years (ACC, 2015), and there have been growing seizures of methamphetamine in Europe (EMCDDA, 2016). The United Nations Office of Drug Control (UNODC) has noted that global production of methamphetamine has increased substantially in recent years and trafficking is increasingly globally interconnected (UNODC, 2015).

The steady growth in the methamphetamine market in Christchurch

Important differences in methamphetamine trends were found between the NZ-ADUM locations. The proportion of detainees in Christchurch Central who used methamphetamine in the past year has increased steadily from 20% in 2012 to 33% in 2015. The mean number of days the detainees had used methamphetamine in Christchurch increased from 58 days in 2012 to 94 days in 2015. There are a number of possible explanations for rising methamphetamine use in Christchurch including the influx of construction workers to Christchurch for the city rebuild, growing methamphetamine supply by gangs, and post-earthquake stress. New Zealand Police have reported that local Christchurch gangs have recently been absorbed into larger national gangs with a greater focus on methamphetamine supply (NDIB, 2015).

A spike in methamphetamine use in Wellington

There was a sharp rise in methamphetamine use in Wellington in 2015. The proportion of detainees in Wellington Central who had used methamphetamine in the past year increased from 28% in 2014 to 43% in 2015.

Methamphetamine use largely stable in Auckland

In contrast to the other three study locations, methamphetamine use and availability remained largely stable in Auckland. The proportion of detainees from Auckland Central who had used methamphetamine in the previous 12 months did not significantly change from 38% in 2011 to 35% in 2015. The proportion of Auckland Central methamphetamine users who could purchase methamphetamine in one hour or less also remained largely the same, from 67% in 2012 to 63% in 2015. These findings are important to note as Auckland has traditionally been the largest methamphetamine market in New Zealand.

A surprising reduction in alcohol consumption

The mean number of days on which the police 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 was particularly strong in Auckland Central where the availability of alcohol was lower in 2015 than the previous five years. The reduction in drinking among the detainees may reflect a number of policy and enforcement initiatives including the greater use of Pre-Charge Warnings for minor alcohol offences and the impact of new government restrictions on alcohol premise opening hours.

A steady decline in cannabis use and availability

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. The reduction in cannabis use and availability was strongest in Christchurch and Auckland. For example, the proportion of detainees in Christchurch Central who had used cannabis in the past year declined from 79% in 2011 to 66% in 2015. The proportion of Auckland Central cannabis users who were able to purchase cannabis in one hour or less decreased from 88% in 2011 to 71% in 2015. One

possible explanation for the decline in the use and availability of cannabis is the greater availability of synthetic cannabinoids which are often marketed as 'legal' alternatives to cannabis and are not detectable in standard drug testing assays. Consistent with this explanation, there is some evidence of a rebound in cannabis use following the ban of all synthetic cannabinoids in 2014. For example, the proportion of detainees in Whangarei who had used cannabis in the previous month increased from 45% in 2013 to 63% in 2015. Another possible explanation is the increasing effectiveness of the cannabis crop eradication operations. New Zealand Police have indicated there is a greater focus on organized criminal groups involved in cannabis cultivation as part of these operations and this may have negatively impacted cannabis supply.

A sharp decline in synthetic cannabinoid use and availability following bans

All synthetic cannabinoid products were effectively banned in May 2014 when all interim psychoactive product licenses granted under the *Psychoactive Substances Act 2013* (PSA) were withdrawn. The proportion of detainees who had used synthetic cannabinoids in the previous 12 months subsequently declined from 47% in 2014 to 27% in 2015. The proportion of users who could purchase synthetic cannabinoids in one hour or less declined from 88% in 2013 to 71% in 2015. The price of a gram of synthetic cannabinoids increased from $9 in 2014 to $18 in 2015. The proportion of detainees who attributed their substance use problems to synthetic cannabinoids declined in Whangarei (down from 11% in 2014 to 2% in 2015), Wellington Central (down from 21% in 2014 to 6% in 2015) and Auckland Central (down from 12% in 2014 to 6% in 2015).

The synthetic cannabinoid ban was less effective in Christchurch

In 2015, detainees in Christchurch Central were more likely to have used synthetic cannabinoids in the previous year than those in Auckland Central (39% vs. 25%), Wellington Central (39% vs. 20%) and Whangarei (39% vs. 13%). Christchurch Central detainees had also used synthetic cannabinoids on a higher mean number of days in the past year than those in Auckland Central (124 days vs. 44 days) and Whangarei (124 days vs. 56 days). Christchurch Central synthetic cannabinoid users were more likely to feel dependent on synthetic cannabinoids than those in

Auckland Central (37% vs. 17%). The availability of synthetic cannabinoids was higher in Christchurch Central than in Auckland Central, Wellington Central and Whangarei. The proportion of Christchurch Central detainees who attributed their substance using problems to synthetic cannabinoids increased from 12% in 2013 to 23% in 2015.

An overall decline in ecstasy use

The proportion of detainees who had used ecstasy in the previous year continued on a downward path from 28% in 2011 to 19% in 2015. The proportion of Whangarei detainees who had used ecstasy in the previous year declined from 36% in 2011 to 6% in 2015. This reduction in ecstasy use may reflect the impact of enforcement operations against domestic New Zealand ecstasy syndicates in 2011/12, and the previous global shortage of MDMA. However, there were reports of a recovery in the strength of ecstasy and these are consistent with international reports of the return of high purity MDMA.

A rise in ecstasy use in Christchurch

In contrast to the overall picture of declining ecstasy use, the proportion of Christchurch Central detainees who used ecstasy in the past year increased from 14% in 2014 to 24% in 2015. The number of days detainees in Christchurch Central had used ecstasy in the previous year increased from 5 days in 2010 to 14 days in 2015. Again, this increase in Christchurch may reflect the influx of construction workers for the city rebuild, some of whom will be from countries where ecstasy is more widely available.

Cocaine remains a niche drug

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. This may reflect the fact that experience of cocaine is largely limited to use outside of New Zealand, for example during overseas holidays and work. The current availability of cocaine in 2015 was reported to

be ‘difficult/very difficult’, and availability was considered to have been ‘stable/more difficult’ over the previous six months.

A largely stable opioid picture

The use of opioids by the police detainees did not change in 2015, and the availability, price and strength of opioids were also largely stable. As in previous years, the use of opioids was higher in Christchurch Central than the other three study sites, but opioid use in Christchurch has not changed over recent years. Opioids were rarely being used at the time of arrest, but 40% of opioid users reported they felt dependent on them.

Help-seeking and barriers to accessing help

In 2015, 37% of the police detainees felt they needed at least some help to reduce their alcohol and drug use, and 19% felt they needed ‘a lot’ of help to reduce their substance use. Twenty-nine percent of the detainees reported that they had wanted help to reduce their alcohol and drug use, but did not receive it. The barriers to obtaining help most commonly mentioned were ‘didn’t know where to go’ (36%),‘social pressure to keep on using’ (25%), ‘fear of what might happen once made contact with the service’ (24%), ‘no transport to get there’ (20%) and ‘fear of losing friends’ (17%).

Chapter 1 - Methodology

Introduction

The New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study monitors levels of alcohol and other drug use, and related harms and problems, among police detainees in Whangarei, Auckland, Wellington and Christchurch central city police stations (see Wilkins et al., 2010b). NZ-ADUM tracks key drugs of concern, including methamphetamine, opioids, cannabis and ecstasy, as well as emerging new drug types, such synthetic cannabinoids. NZ-ADUM monitors key drug market indicators, such as availability and price, and documents demand for drug treatment services and the barriers experienced accessing these services. This report presents the findings from the 2015 NZ-ADUM survey and compares them with the findings from the previous five years of the study.

Intended use

NZ-ADUM is intended to inform understanding of the level of alcohol and drug use among police detainees and the types of harms and problems experienced from this substance use. It also provides a picture of changes in key drug markets and the level of demand for alcohol and drug treatment among detainees. NZ-ADUM findings can be used to inform and evaluate policy responses to alcohol and drug use among the detainee population.

Background

NZ-ADUM[1] 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

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

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 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. 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 or safe 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 2015 NZ-ADUM study was completed from March to August 2015. A total of 835 interviews were conducted and 198 urine samples collected. The interviewers were present at morning and evening shifts on every day of the week for the whole six 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 and 2015. 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, 2010-2015

Day (%)	Whangarei						Auckland Central						Wellington Central						Christchurch Central						All sites					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
	(n=114)	(n=150)	(n=151)	(n=153)	(n=150)	(n=167)	(n=282)	(n=316)	(n=247)	(n=304)	(n=315)	(n=266)	(n=151)	(n=171)	(n=101)	(n=98)	(n=95)	(n=107)	(n=262)	(n=191)	(n=301	(n=288)	(n=272)	(n=291)	(n=809)	(n=828)	(n=800)	(n=848)	(n=832)	(n=831)
Sun	7	25	19	22	23	20	23	31	26	25	27	21	23	22	21	19	22	22	20	20	18	17	18	21	20	26	21	21	23	21
Mon	25	13	14	12	15	8	9	9	15	13	12	15	15	11	14	9	15	17	15	13	13	12	14	17	14	11	14	12	13	15
Tues	7	7	13	11	13	13	8	10	9	12	13	13	13	8	11	10	15	7	14	17	14	11	7	9	11	11	12	11	11	11
Wed	24	15	11	13	8	10	13	10	12	11	12	14	12	12	10	7	12	18	11	16	14	16	23	13	14	13	12	13	15	13
Thurs	16	13	19	13	21	17	14	12	16	14	8	13	12	16	14	18	11	16	9	14	13	17	14	14	12	13	15	15	13	15
Fri	12	12	14	17	15	17	17	13	9	13	16	15	13	15	16	19	16	14	16	10	14	14	13	15	15	13	13	15	15	15
Sat	9	14	11	13	5	16	16	16	13	11	13	9	13	15	15	16	10	7	15	10	16	13	11	11	14	14	14	13	10	11

Analysis

The 2011, 2012, 2013, 2014 and 2015 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 2015 wave with the previous four annual waves, and between the four locational sites of the study for 2015. When a statistically significant difference was found over the six years (i.e. 2010-2015), 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. We report *all* the tests which were statistically significant (i.e. there is no selective reporting of particular measures or years of comparison). 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

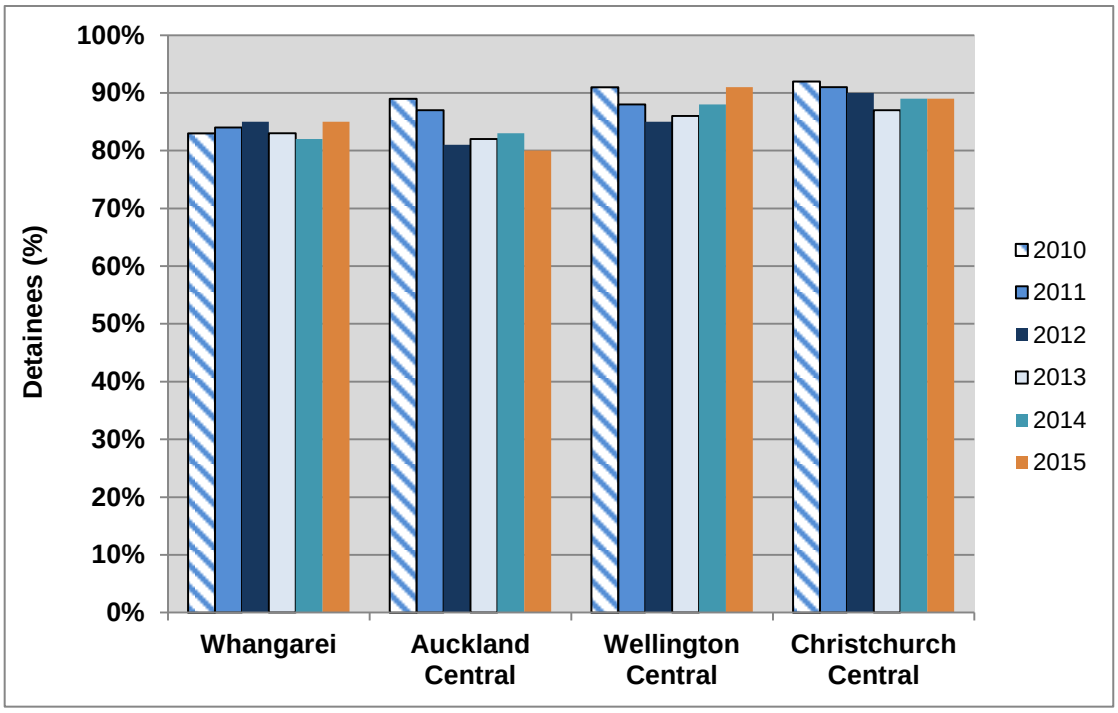
Introduction

Police detainees are an 'at risk' population who are associated with a range of social and health problems in addition to criminal offending. Detainee populations around the world tend to be disproportionately male, young, poorly educated, unemployed, have poor mental health, and belong to disadvantaged ethnic minorities (see Boreham, et al., 2007; Gaffney, et al., 2010; Office of National Drug Control Policy, 2009). For example, in the 2014 NZ-ADUM sample, 86% of the detainees were male, 52% were unemployed or on a sickness benefit, 44% had not completed the compulsory years of high school education, 36% had suffered from a mental illness, 43% were Maori and 13% were Pacific peoples (Wilkins et al., 2012a). Seventy-seven percent of the detainees interviewed in 2014 had previously been convicted of a criminal offence, and 43% had previously been imprisoned (Wilkins, et al., 2012a). This chapter presents the demographic characteristics of the detainees interviewed for the 2015 NZ-ADUM and examines the extent to which these characteristics have changed over the past six years.

Gender

Eighty-six percent of the detainees interviewed in 2015 were male. There was no statistically significant change in the proportion of detainees who were male in 2015 compared to previous years (Figure 2.1).

Figure 2 1: Proportion of the police detainees who were male by location, 2010-2015



Age

The mean age of the detainees was 28 years in 2015 (median 24 years, range 13-65 years) (Table 2.1). There was no statistically significant change in the mean age of the detainee sample from 2010 to 2015.

Table 2 1: Mean age of the police detainees by location, 2010-2015

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

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 classified the detainees by their primary ethnicity. In 2015, 42% of the detainees identified their primary ethnicity as Maori, 40% were European, 13% were Pacific Islanders and 2% were Asian (Table 2.2). There was no statistically significant change in the proportion of detainees who were Maori in 2015 compared to previous years.

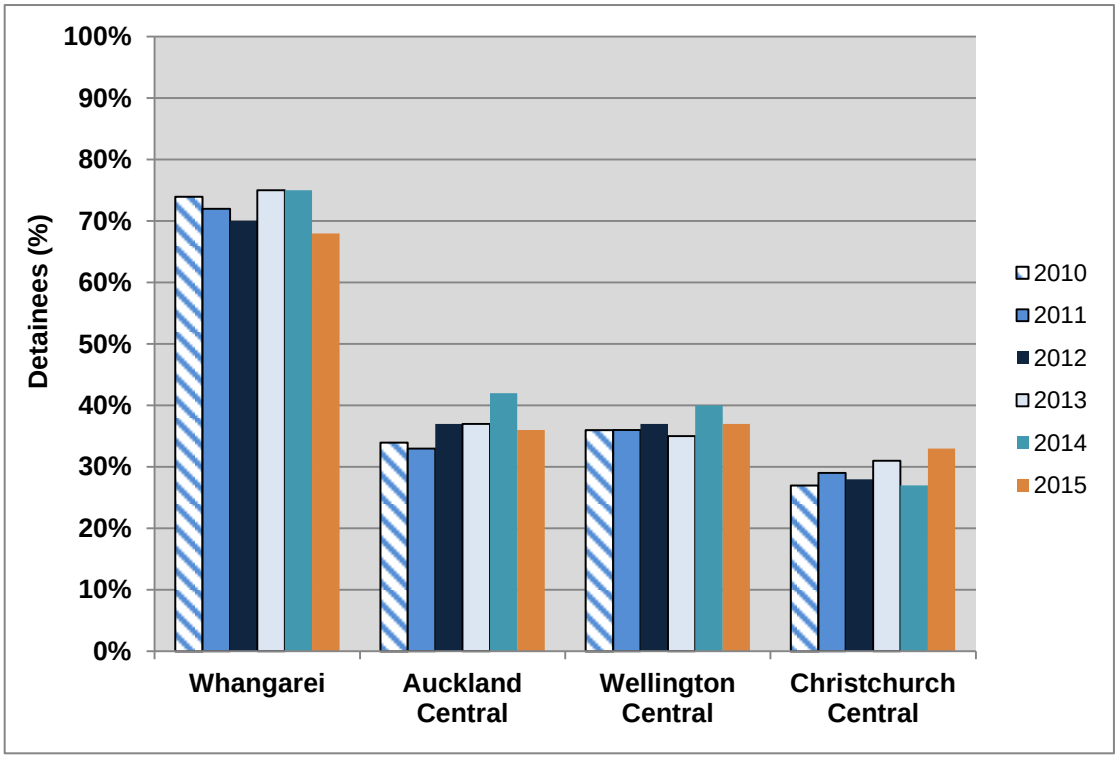
Table 2 2: Primary ethnicity of the police detainees by location, 2010-2015

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
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
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
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

Sites	Year	N-value	European	Maori	Pacific	Asian	Other
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

In 2015, a higher proportion of detainees in Whangarei were Maori compared to Auckland Central (68% vs. 36%, p<0.0001), Wellington Central (68% vs. 37%, p<0.0001) and Christchurch Central (68% vs. 33%, p<0.0001) (Figure 2.2).

Figure 2 2: Proportion of the police detainees who were Maori by location, 2010-2015



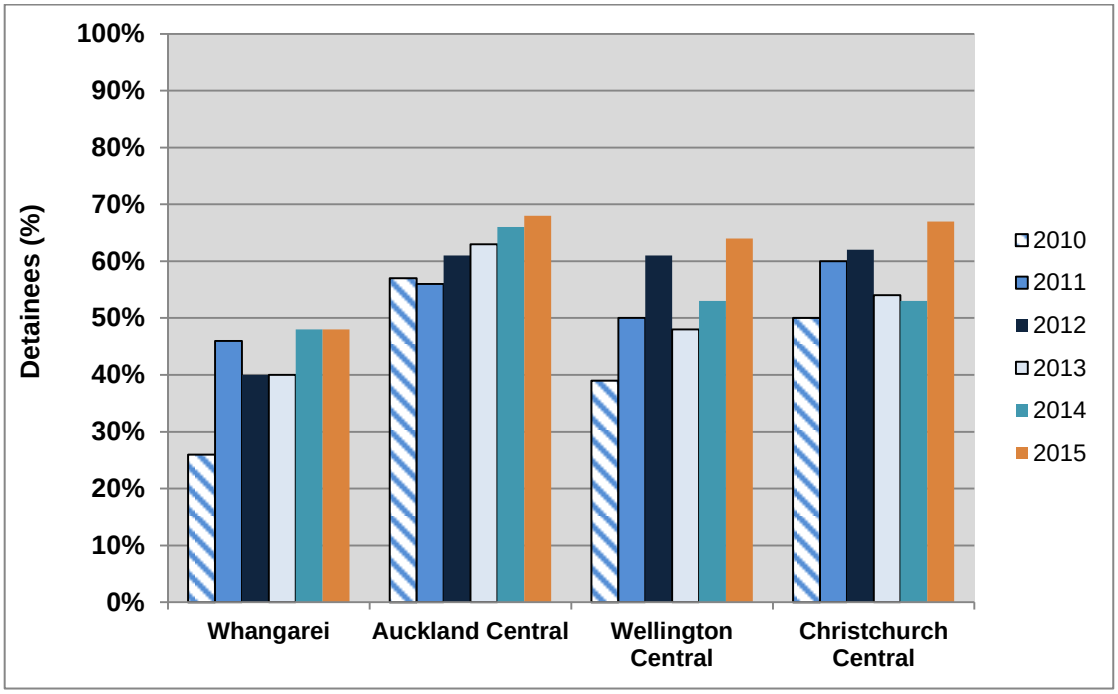
Iwi affiliation

The detainees who identified as Maori were asked if they knew their iwi affiliation. In 2015, 88% of the detainees who identified their primary ethnicity as Maori knew their iwi.

Education

Overall, the proportion of the detainees who had completed the compulsory years of high school education increased from 47% in 2010 to 64% in 2015 (p<0.0001). In 2015, Whangarei detainees were less likely to have completed the compulsory years of high school than detainees in Auckland Central (48% vs. 68%, p=0.0002), Wellington (48% vs 64%, p=0.4820) and Christchurch Central (48% vs. 67%, p=0.0003) (Figure 2.3).

Figure 2 3: Proportion of police detainees who completed the compulsory years of high school education by location, 2010-2015



Employment status

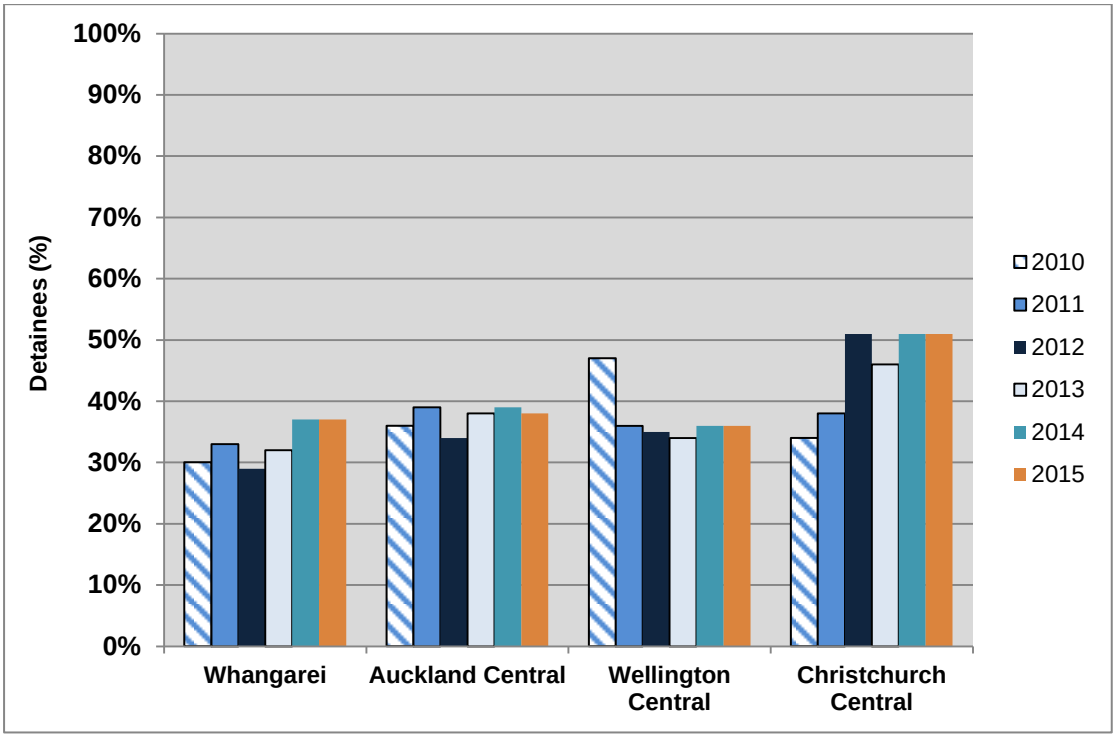
In 2015, 51% of the detainees were unemployed or on a sickness benefit, 42% were employed (12% part-time and 30% full-time), and 7% were students (Table 2.3).

Table 2 3: Employment status (%) of police detainees by location 2010-2015

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
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
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
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
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

The proportion of detainees from Christchurch Central who were employed increased from 34% in 2010 to 51% in 2015 ($p<0.0001$). In 2015, detainees from Christchurch Central were more likely to be employed than those in the other three sites ($p<0.0001$) (Figure 2.4).

Figure 2 4: Proportion of the police detainees who were employed by location, 2010-2015



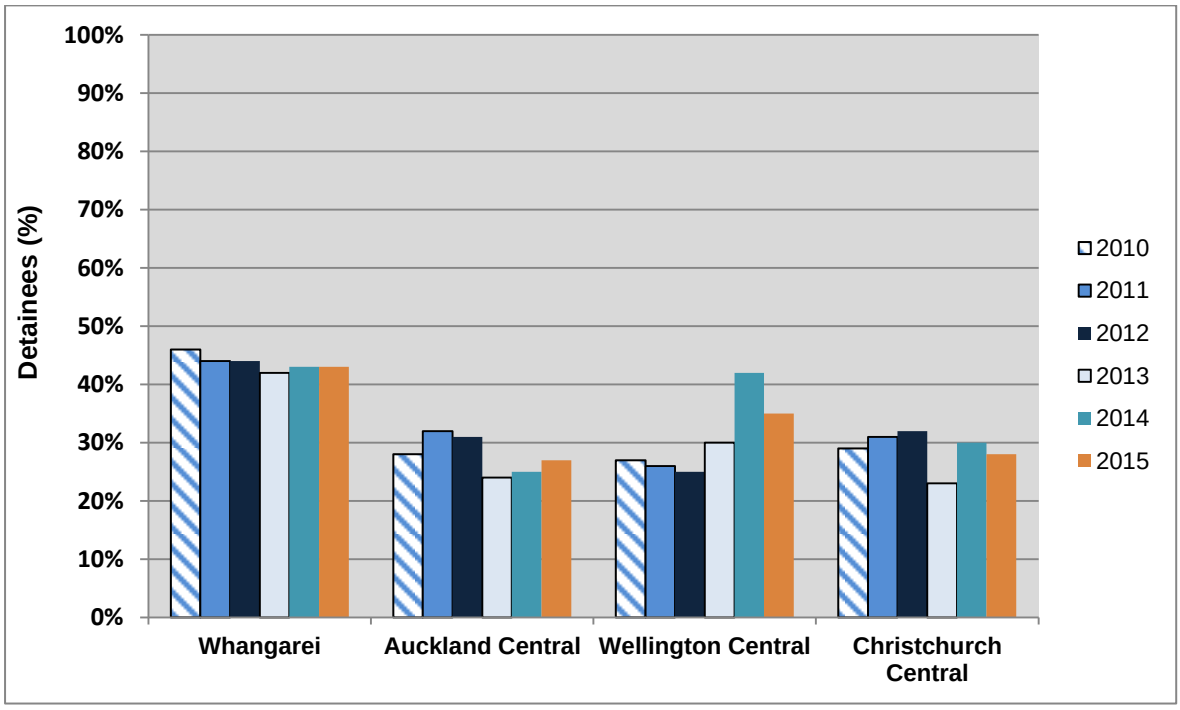
Marital status

Sixty-one percent of the detainees were single, 28% were living in a de facto relationship and 5% were married in 2015. There was no change in the marital status of the detainees from 2010 to 2015 (p=0.2436). In 2015, Whangarei detainees were less likely to be single than those in Auckland Central (46% vs. 65%, p=0.0011), and Christchurch Central (46% vs. 68%, p<0.0001). The detainees in Wellington Central were less likely to be single than those in Christchurch Central (53% vs. 68%, p=0.0328).

Number of dependent children

Thirty–one percent of the detainees had dependent children in 2015. There was no change in the proportion of detainees who had dependent children from 2010 to 2015 (p=0.3005). In 2015, the detainees in Whangarei were more likely to have dependent children than those in Auckland Central (43% vs. 27%, p=0.0033), and Christchurch Central (43% vs. 28%, p=0.0094) (Figure 2.5).

Figure 2 5: Proportion of the police detainees with dependent children by location, 2010-2015



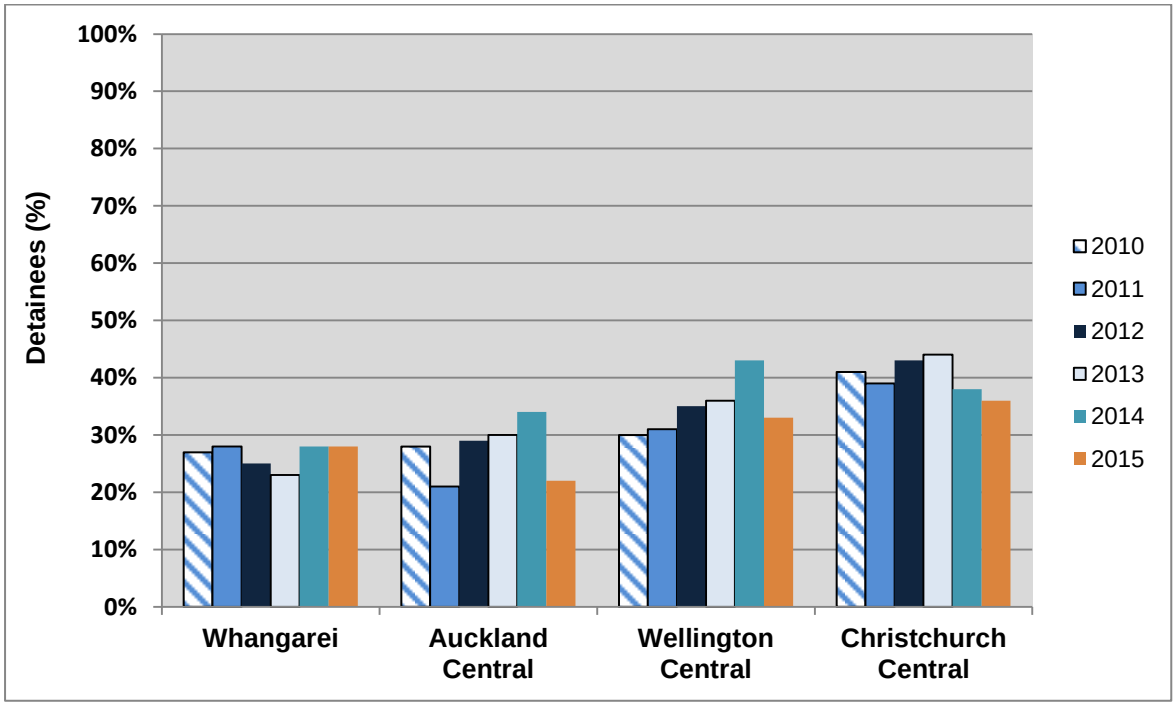
Accommodation

In 2015, 40% of the detainees were living in a house or apartment either owned or rented and 48% in someone else's house or apartment in the previous 30 days. Five percent of the detainees had no fixed address.

Mental illness

Twenty-nine percent of the detainees in 2015 reported having had a mental illness at some stage in their lives. Detainees in Christchurch Central were more likely to have suffered mental illness than detainees Auckland Central (36% vs. 22%, p=0.0007) (Figure 2.6).

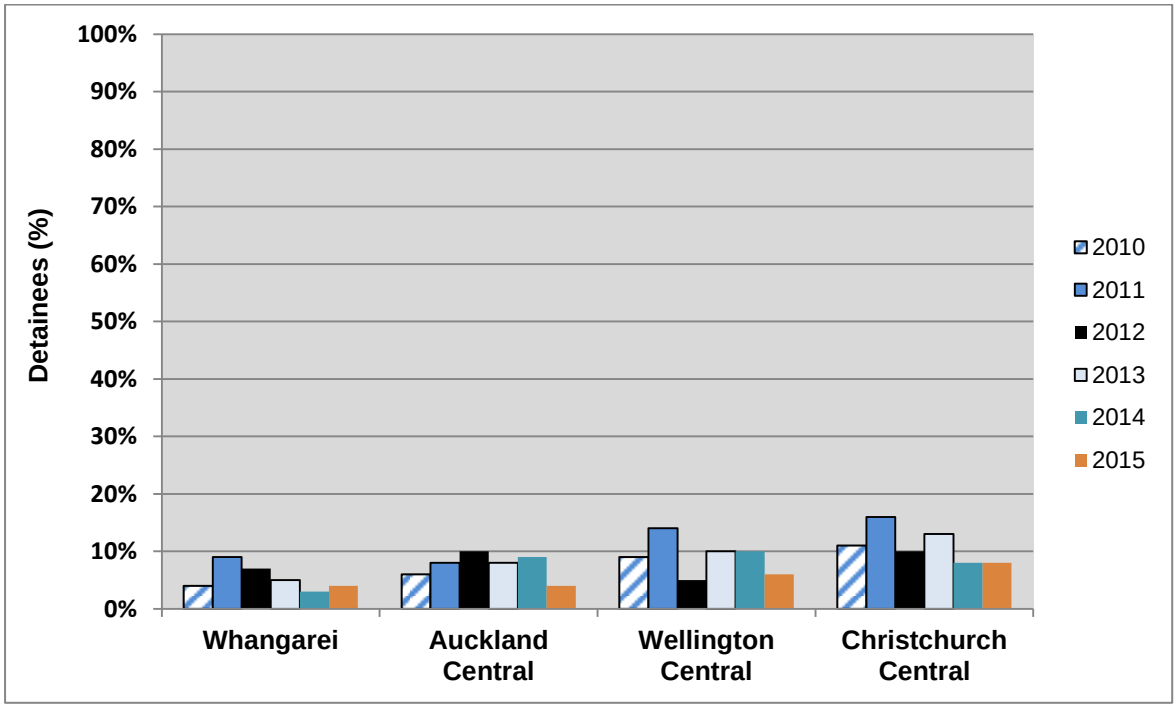
Figure 2 6: Proportion of the police detainees who had ever suffered from a mental illness by location, 2010-2015



Psychiatric inpatient

Six percent 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 in 2015. There was a decline in the proportion of detainees who had ever been in a psychiatric ward or hospital from 12% in 2011 to 6% in 2015 (p=0.0004) (Figure 2.7).

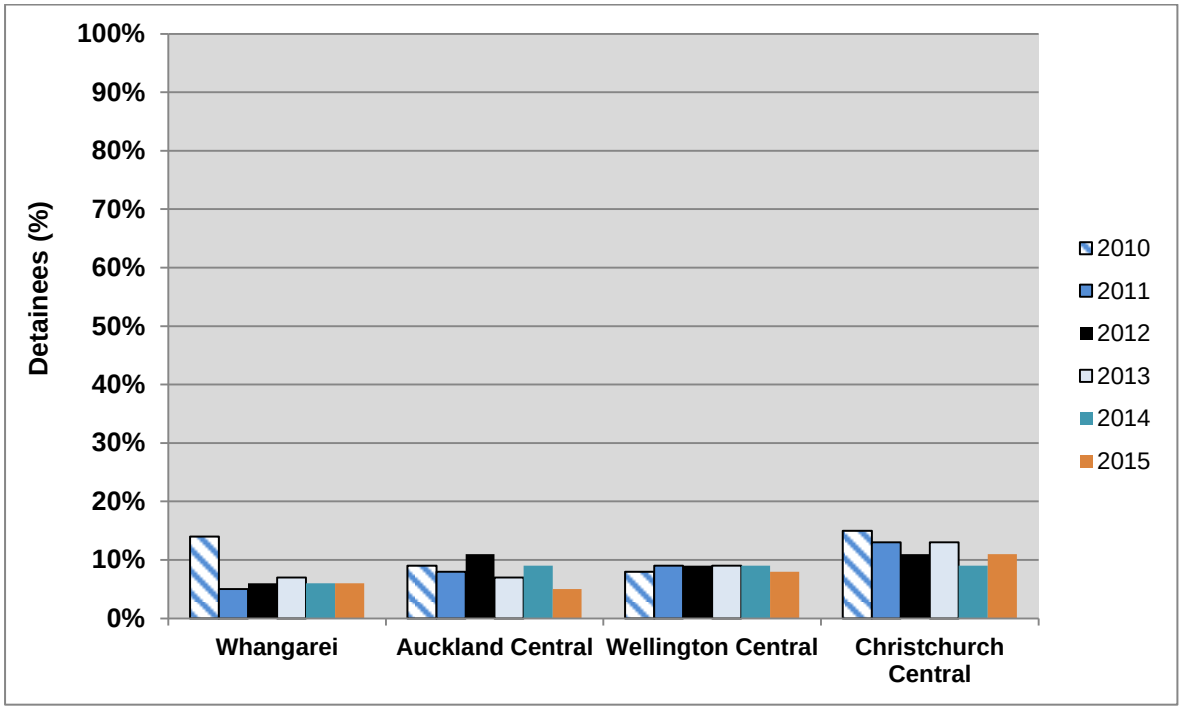
Figure 2 7: Proportion of police detainees who had ever been a patient in a psychiatric ward or hospital for an overnight stay or longer by location, 2010-2015



Current treatment or medication for mental illness

Eight percent of the detainees were currently receiving treatment or medication for a mental illness at the time of their arrest in 2015. There was no statistically significant change in the proportion of detainees who were receiving treatment or medication for a mental illness from 2010 to 2015. The proportion of detainees in Whangarei who were currently receiving treatment or medication for a mental illness declined from 14% in 2010 to 6% in 2015, and this decrease was close to being statistically significant (p=0.0702) (Figure 2.8).

Figure 2 8: Proportion of police detainees currently receiving treatment or medication for a mental illness by location, 2010-2015



Summary

- Eighty-six percent of the detainee sample was male in 2015
- The detainees were a mean age of 28 years old in 2015
- Forty-two percent of the detainees were Maori, 40% were European, 13% were Pacific and 2% were Asian in 2015
- A higher proportion of detainees in the Whangarei site were Maori compared to those in the other three sites
- The proportion of the detainees who had completed the compulsory years of high school education increased from 47% in 2010 to 64% in 2015
- Fifty-one percent of the detainees were unemployed or on a sickness benefit, 42% were employed and 7% were students in 2015
- The proportion of detainees in Christchurch Central who were employed increased from 34% in 2010 to 51% in 2015

- In 2015, detainees in Christchurch Central were more likely to be employed than those in the other three sites

- Thirty–one percent of the detainees had dependent children in 2015

- In 2015, detainees in Whangarei were more likely to have dependent children than those in Auckland Central and Christchurch Central

- Twenty-nine percent of the police detainees had suffered from a mental illness in their lifetimes in 2015

- In 2015, detainees in Christchurch Central were more likely to have suffered from a mental illness than detainees in Auckland Central

- Eight percent of the detainees were currently receiving treatment or medication for a mental illness in 2015

Chapter 3 – Alcohol

Introduction

Alcohol consumption contributes to a range of offending including public nuisance, disorderly behaviour, physical assault, sexual assault, family violence and dangerous driving (Babor et al., 2010; 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., 2010).

The 2014 NZ-ADUM found a surprising decline in heavier drinking among police detainees, following a number of years of increasing alcohol consumption (Wilkins et al., 2015a). The mean number of alcoholic drinks the detainees consumed on a typical day of use had previously been increasing since 2010, but then declined from 18 in 2013 to 16 drinks in 2014 (Wilkins, et al., 2015a). The proportion of detainees drinking prior to their arrest fell from 41% in 2013 to 30% in 2014 (Wilkins, et al., 2015a). The decline in heavier drinking among detainees may reflect a range of policy and enforcement strategies including the greater use of Pre-Charge Warnings (PCW) for minor alcohol offences and the changes made to alcohol premise opening hours in late 2013 (as part of the *Sale and Supply of Alcohol Act 2012*).

Use of alcohol

In 2015, 86% of the police detainees had consumed alcohol in the previous year and 72% had drunk alcohol in the past month (Table 3.1). Overall, the proportion of detainees who drank alcohol in the previous year declined from 91% in 2013 to 86% in 2015 (p=0.0180) (Figure 3.2). The proportion of detainees from Christchurch Central who had drunk alcohol in the past year declined from 95% in 2010 to 87% in 2015 (p=0.0383). The detainees had first tried alcohol at a mean age of 13 years, and this had not changed from previous years

Figure 3 1: Mean age at which police detainees first tried alcohol by location, 2010-2015

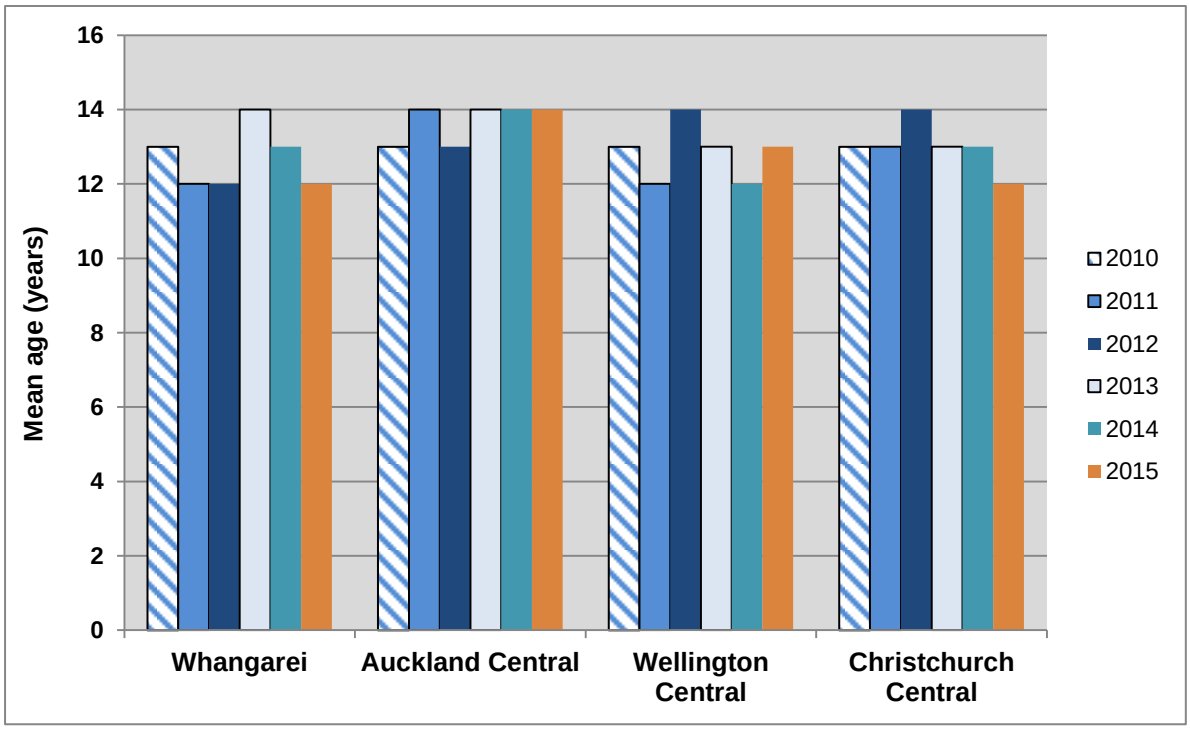


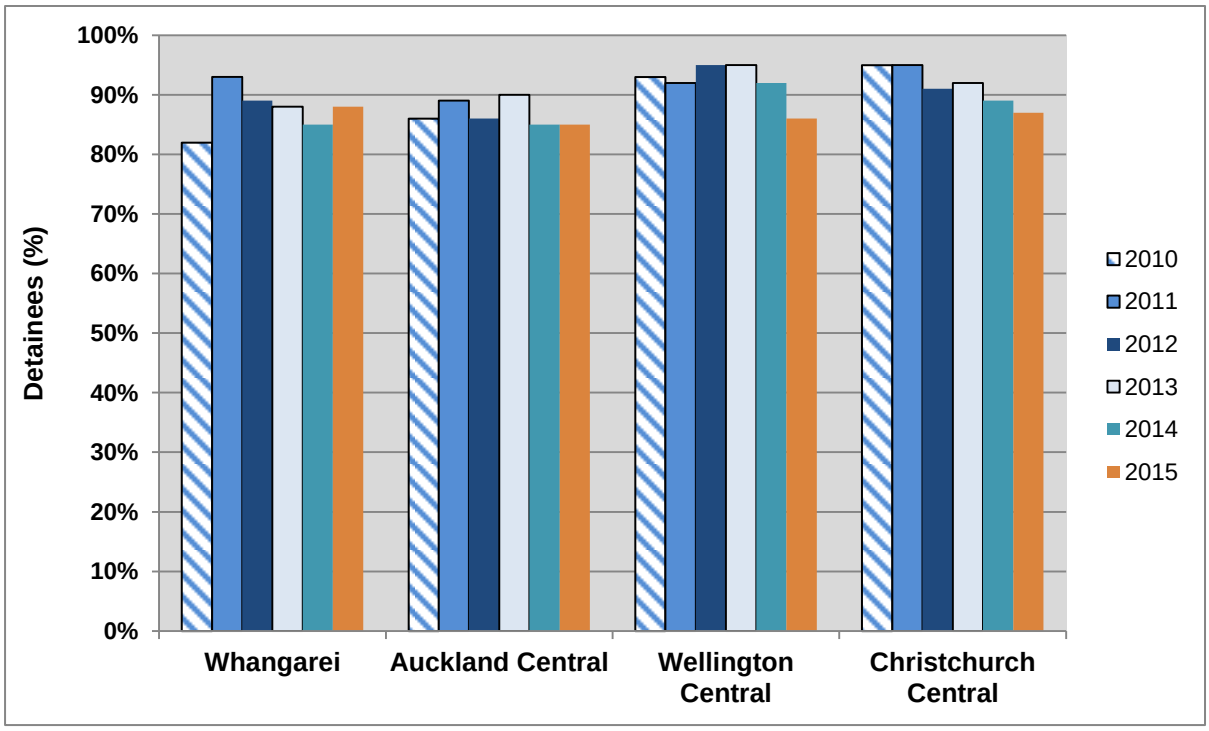
Table 3 1: Police detainees' patterns of alcohol use by location, 2010-2015

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	19	19%	83%	8	7	11
	2012	n=151	100%	13	89%	70	18	22%	77%	6	6	7
	2013	n=153	99%	14	88%	84	20	26%	75%	9	8	11
	2014	n=151	98%	13	85%	86	19	19%	70%	8	7	9
	2015	n=169	99%	12	88%	71	14	13%	74%	6	5	5
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	18	21%	80%	8	7	10
	2013	n=299	98%	14	90%	101	18	26%	78%	10	8	11
	2014	n=315	98%	14	85%	95	18	24%	74%	9	8	8
	2015	n=267	99%	14	85%	75	15	19%	70%	8	7	9
Wellington Central	2010	n=152	99%	13	93%	100	13	26%	84%	8	8	2
	2011	n=171	99%	12	92%	111	17	24%	81%	10	9	9
	2012	n=101	100%	14	95%	100	18	23%	87%	8	8	7
	2013	n=106	100%	13	95%	98	16	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

Christchurch Central	2010	n=262	100%	13	95%	109	12	21%	86%	9	9	7
	2011	n=191	100%	13	95%	107	15	21%	85%	10	9	12
	2012	n=303	99%	14	91%	100	16	25%	84%	9	8	11
	2013	n=289	99%	13	92%	109	19	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
All Sites	2010	n=814	98%	13	90%	108	12	23%	80%	9	8	7
	2011	n=827	99%	13	92%	105	15	23%	81%	9	9	9
	2012	n=802	99%	13	90%	93	17	23%	82%	8	7	9
	2013	n=850	99%	13	91%	101	18	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

* of those who drank alcohol in the past 12 months ** of those who drank alcohol in the past month

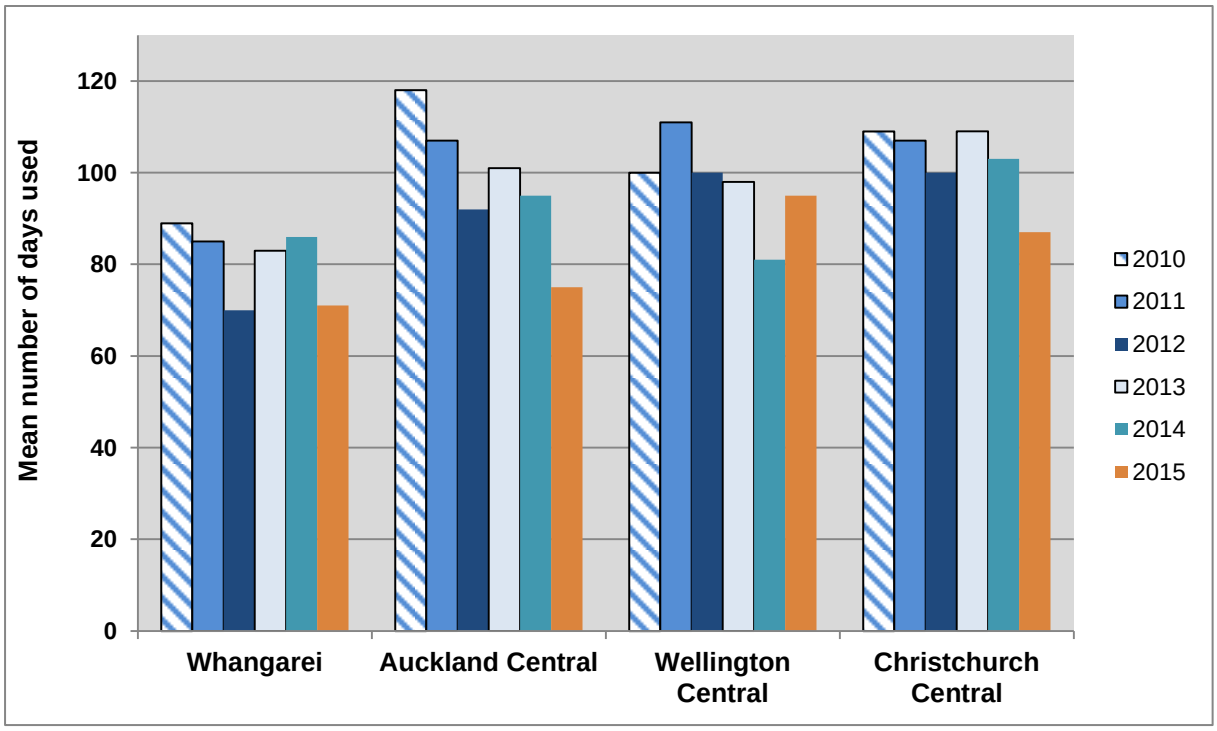
Figure 3 2: Proportion of police detainees who used alcohol in the past 12 months by location, 2010-2015



Frequency of alcohol use

The detainees drank alcohol on a mean of 82 days in the previous 12 months in 2015 (median 52, range 1-365 days). The mean number of days on which the detainees had drunk alcohol in the previous year declined from 108 days in 2010 to 82 days in 2015 ($p<0.0001$), and from 101 days in 2013 to 82 days in 2015 ($p=0.0070$). The number of days the detainees in Auckland Central had drunk alcohol in the previous year declined from 118 days in 2010 to 75 days in 2015 ($p<0.0001$) (Figure 3.3).

Figure 3 3: Mean number of days alcohol consumed in the previous 12 months by location, 2010-2015

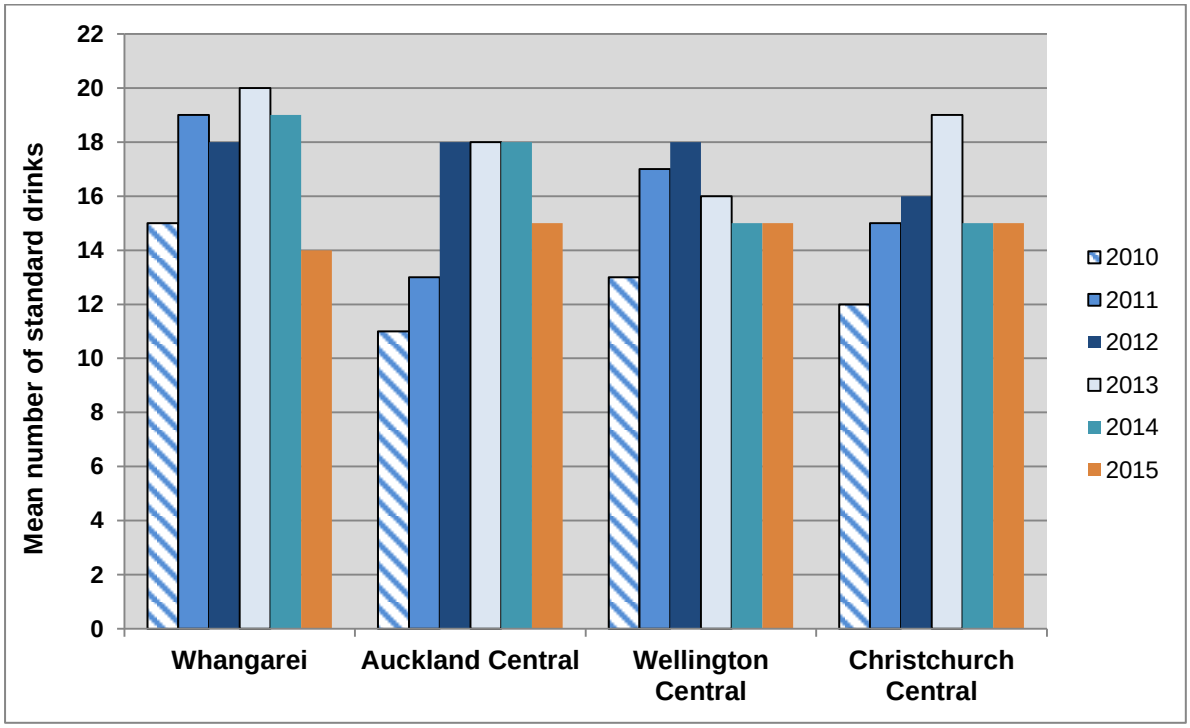


The detainees had consumed alcohol on an average of eight days in the previous month in 2015. The mean number of days of alcohol consumption in the past month decreased from 9.5 days in 2013 to 8.0 days in 2015 (p=0.0321).

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 alcoholic drinkers (range 0.5–94.7 standard drinks). The mean number of alcoholic drinks consumed on a typical day of use decreased from 18 in 2013 to 15 in 2015 (p=0.0003). The number of drinks consumed by Whangarei detainees decreased from 20 in 2013 to 14 in 2015 (p=0.0010) (Figure 3.4). Similarly, the number of drinks consumed by Christchurch Central detainees decreased from 19 in 2013 to 15 in 2015 (p=0.0088).

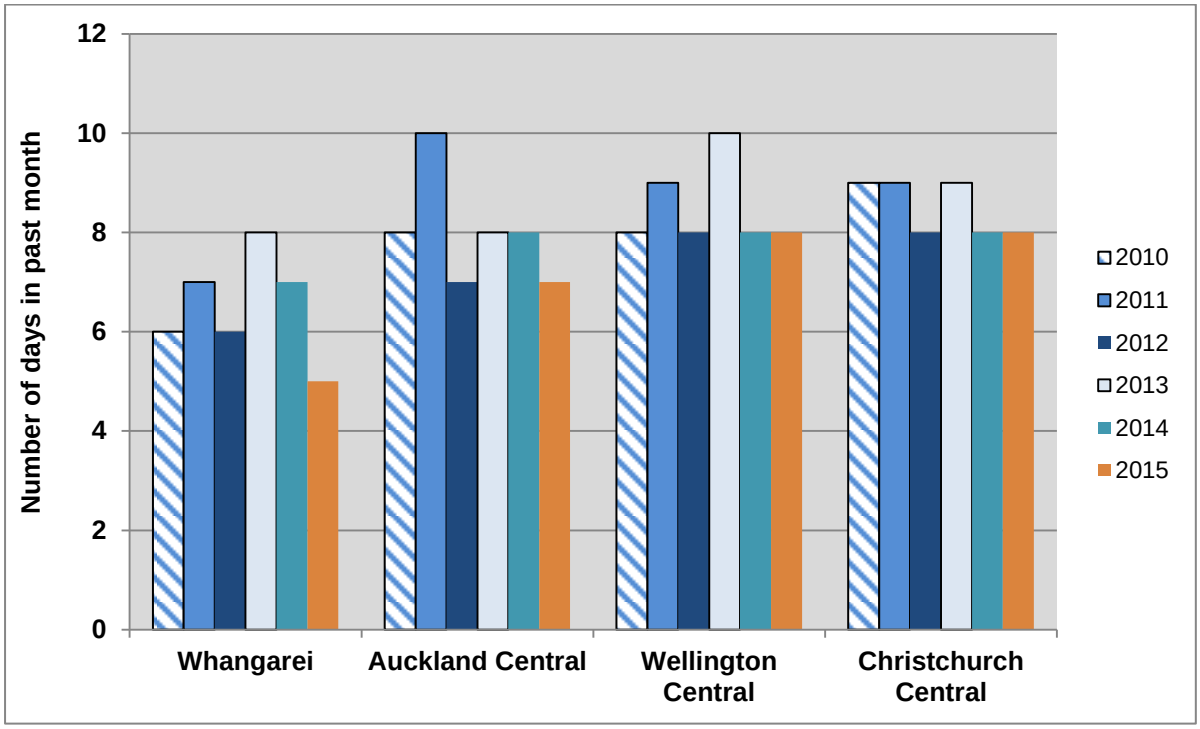
Figure 3 4: Mean number of standard alcohol drinks consumed by police detainees on a typical day by location (of those who had drunk alcohol in the previous 12 months), 2010-2015



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 on a single occasion in the past month declined from 88% in 2011 to 72% in 2015 ($p<0.0001$). There were also declines in the proportion of male detainees who drank five or more drinks in a single occasion in the past month in Whangarei (down from 91% in 2012 to 68% in 2015, $p=0.0013$), Auckland Central (down from 90% in 2011 to 72% in 2015, $p<0.0001$) and Christchurch Central (down from 87% in 2012 to 72% in 2015, $p=0.0008$).

The number of days the male detainees had drunk five or more standard drinks on a single occasion in the past month declined from 8.9 days in 2011 to 7.3 days in 2015 ($p=0.0031$). The number of days the male detainees from Auckland Central had drunk five or more standard drinks on a single occasion in the past month declined from 9.7 days in 2011 to 7.0 days in 2015 ($p=0.0360$) (Figure 3.5).

Figure 3 5: 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), 2010-2015



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 2015 (p=0.0024).

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 2015 (p<0.0001) (Table 3.2). Levels of drinking prior to arrest declined in Whangarei (down from 53% in 2012 to 30% in 2015, p<0.0001) and Auckland Central (down from 43% in 2013 to 26% in 2015, p=0.0024) (Figure 3.6). Similar declines in drinking prior to arrest were found in the other two sites but these were not quite statistically significant.

Figure 3 6: Proportion of police detainees who had been drinking alcohol prior to their arrest by location, 2010-2015

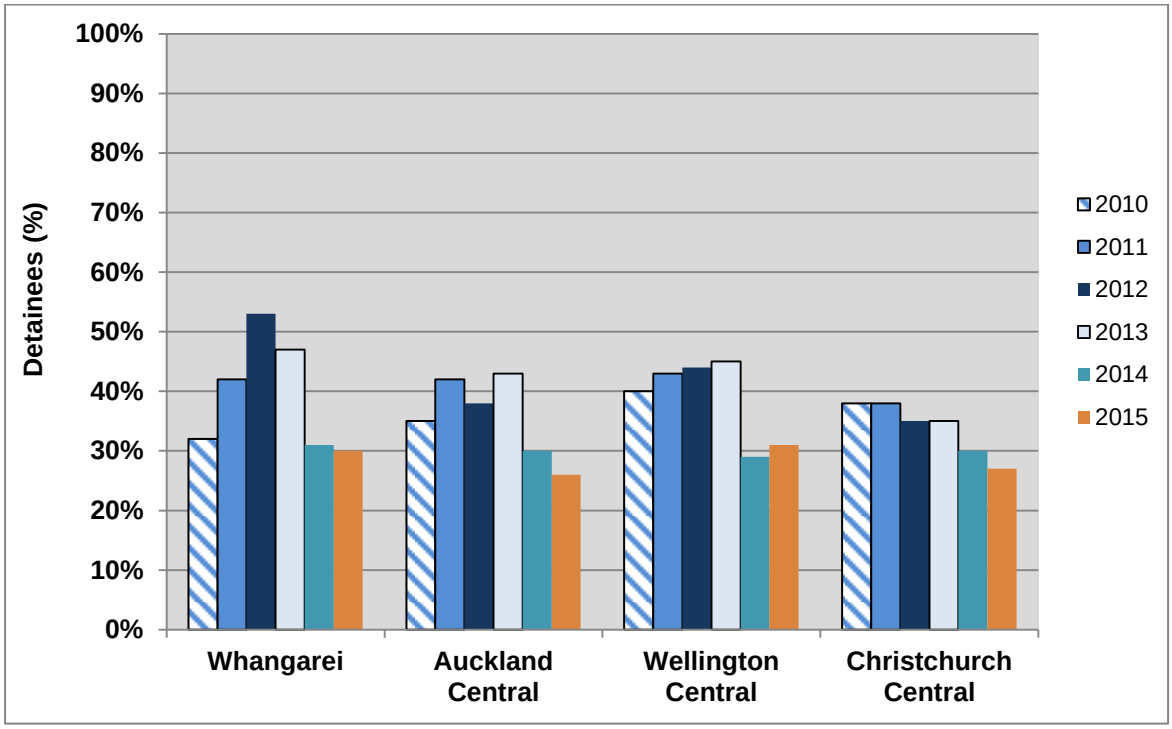


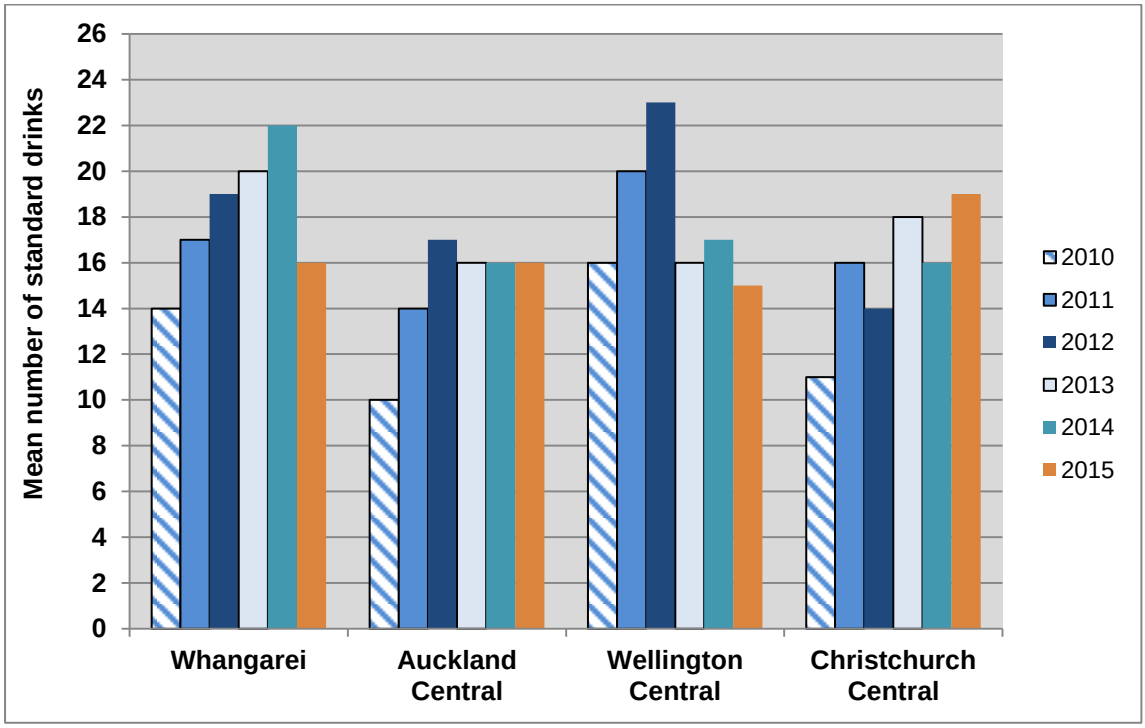
Table 3 2: Proportion of police detainees who had been drinking alcohol prior to their arrest by location, 2010-2015

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
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
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
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
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

* of those who had been drinking alcohol when arrested

The detainees consumed a mean of 17 drinks before their arrest in 2015 and this did not change from previous years.

Figure 3 7: Mean number of standard alcoholic drinks consumed at the time of arrest by location, 2010-2015



Current availability of alcohol

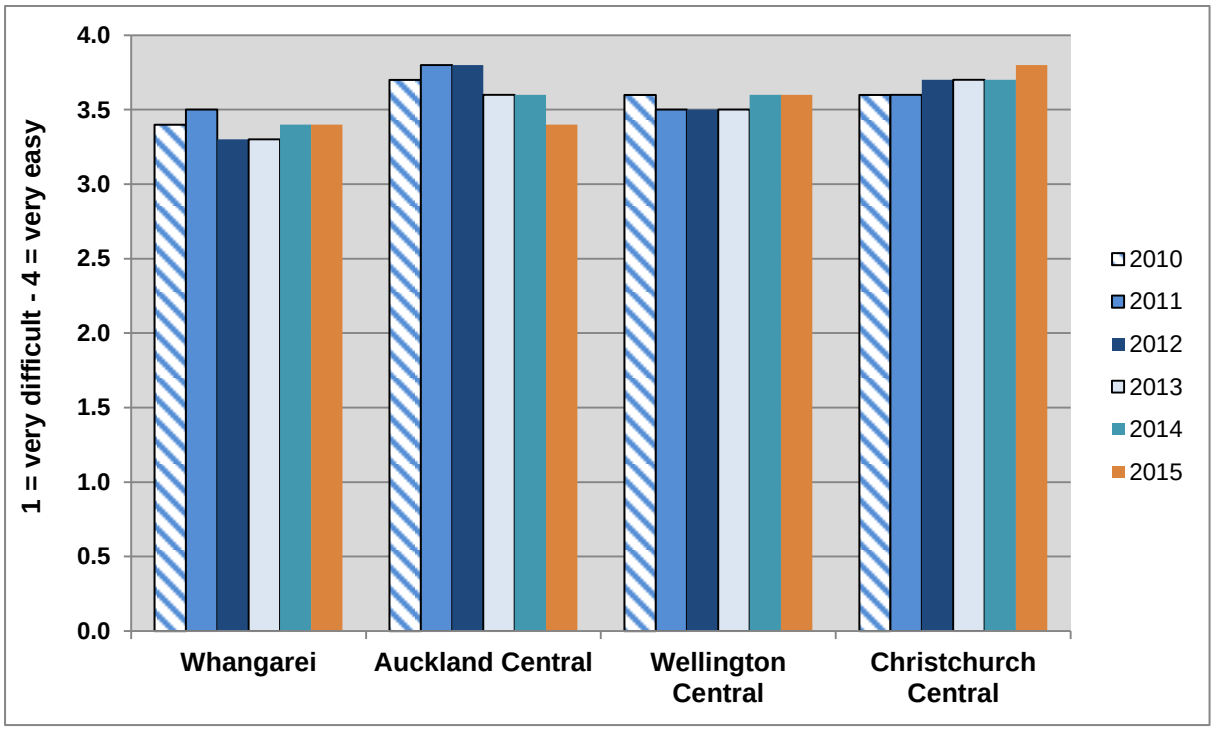
The detainees reported the current availability of alcohol was 'very easy/easy' in 2015 (Table 3.3). The current availability of alcohol in Auckland Central was lower in 2015 than in all the previous five years ($p<0.0001$) (Figure 3.8). The availability of alcohol was reported to be easier in Christchurch Central compared to Whangarei (3.8 vs 3.4, $p<0.001$) and in Christchurch Central compared to Auckland Central (3.8 vs 3.4, $p<0.0001$).

Table 3 3: Police detainees' perceptions of the current availability of alcohol by location, 2010-2015

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
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
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
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

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

Figure 3 8: Current availability of alcohol by location, 2010-2015



Change in availability of alcohol

The detainees reported the availability of alcohol had been 'stable' over the past six months in 2015 (Table 3.4). There had previously been reported declines in alcohol availability from 2012 to 2014 (p=0.0409), including in Auckland Central from 2011 to 2014 (p=0.0469).

Table 3 4: Change in the availability of alcohol by location, 2010-2015

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
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
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
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

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

Change in the price of alcohol

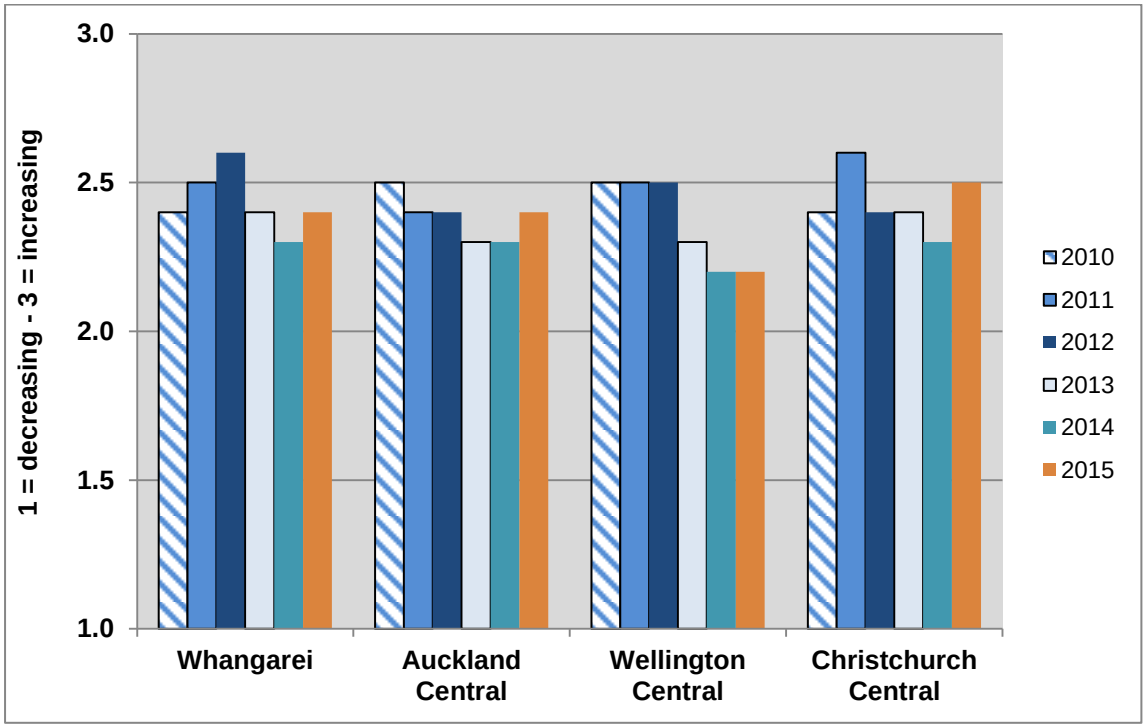
The detainees reported the price of alcohol had been 'increasing/stable over the previous six months in 2015 (Table 3.5). A lower proportion of detainees reported the price of alcohol had been 'increasing' from 2011 to 2015 (down from 53% to 42%, p=0.0186). A lower proportion of detainees said the price of alcohol was 'increasing' in Whangarei (down from 56% in 2012 to 43% in 2015, p=0.0085) and Central Wellington (down 51% in 2012 to 19% in 2015, p=0.0179). The detainees in Christchurch Central reported the price of alcohol to be slightly increasing from 2014 to 2015 (up from 2.3 to 2.5, p=0.0328).

Table 3 5: Police detainees' perceptions of the change in the price of alcohol in the past six months by location, 2010-2015

Change in price of alcohol	Year	N - value	Increasing [3]	Fluctuating [2]	Stable [2]	Decreasing [1]	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
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
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
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

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

Figure 3 9: Police detainees' perceptions of the change in the price of alcohol in the past six months by location, 2010-2015



Time taken to purchase alcohol

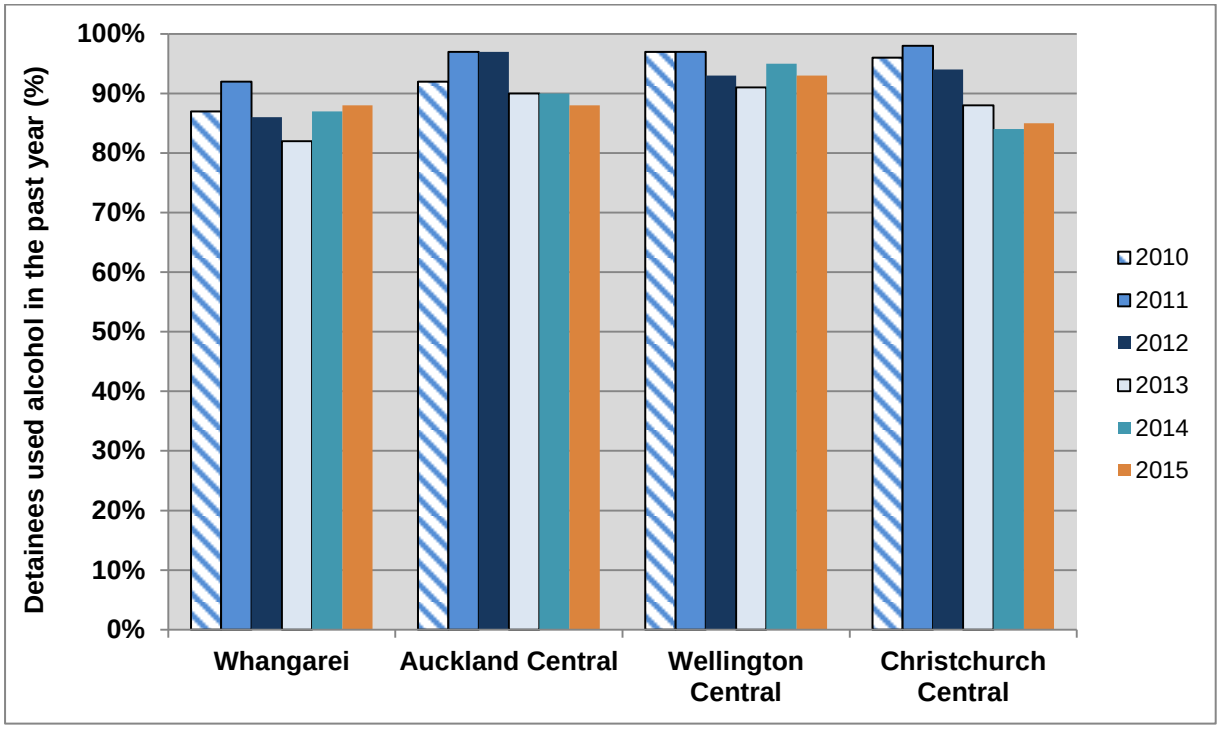
Eighty-eight percent of the detainees could purchase alcohol in one hour or less in 2015. Seventy-eight percent could purchase it in less than 20 minutes. The proportion of detainees who could purchase alcohol in one hour or less declined from 94% in 2012 to 88% in 2015 (p=0.0033) (Table 3.6). Lower proportions of detainees could purchase alcohol in one hour or less in Auckland Central (down from 97% in 2012 to 87% in 2015, p=0.0088) and Christchurch Central (down from 93% in 2012 to 85% in 2015, p=0.0176) (Figure 3.10).

Table 3 6: Time taken by police detainees to purchase alcohol by location, 2010-2015

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%
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%
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%
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%

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%

Figure 3 10: Proportion of the police detainees who could purchase alcohol in one hour or less by location, 2010-2015



Effect of alcohol on the likelihood of becoming angry

Those detainees who reported drinking alcohol in the past 12 months were asked what effect drinking alcohol had on their likelihood of becoming angry. Thirty-one percent of the alcohol using detainees said using alcohol was 'more likely' or 'much more likely' to make them become angry in 2015 (Table 3.7).

Table 3 7: Effect of alcohol on police detainees' likelihood of becoming angry, 2010-2015

Effect of alcohol of likelihood of becoming angry	All Sites					
	2010	2011	2012	2013	2014	2015
	n=720	n=741	n=707	n=762	n=713	n=712
Much more likely [5]	11%	8%	9%	11%	11%	9%
More Likely [4]	26%	27%	28%	22%	21%	22%
No effect [3]	32%	41%	41%	40%	38%	45%
Less likely [2]	23%	19%	17%	21%	19%	19%
Much less likely [1]	8%	5%	6%	6%	11%	5%
Mean impact on likelihood to become angry [1=much less - 5=much more]	3.1	3.1	3.2	3.1	3.0	3.1

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 9% said their driver license was suspended in 2015. Seventeen percent of the detainees who drove and drank alcohol had completed at least some of their driving under the influence of alcohol in 2015 (Table 3.8).

Table 3 8: Extent police detainees who drove and who had used alcohol in the past 12 months had driven under the influence of alcohol by location, 2010-2015

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%
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%
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%
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%

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%

Summary

- The proportion of detainees who had drunk alcohol in the previous year declined slightly from 91% in 2013 to 86% in 2015
- 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 number of days the detainees in Auckland Central had drunk alcohol in the previous year declined from 118 days in 2010 to 75 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 number of drinks consumed by Whangarei detainees on a typical occasion decreased from 20 in 2013 to 14 in 2015
- Similarly, the number of drinks consumed by Christchurch Central detainees on a typical occasion decreased from 19 in 2013 to 15 in 2015
- 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 7.3 days in 2015
- The number of days the male detainees from Auckland Central had drunk five or more standard drinks in the past month also declined from 9.7 days in 2011 to 7.0 days in 2015
- The proportion of detainees who felt they were dependent on alcohol declined from 26% in 2013 to 17% in 2015
- The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2015
- Levels of drinking prior to arrest declined in Whangarei (down from 53% in 2012 to 30% in 2015) and Auckland Central (down from 43% in 2013 to 26% in 2015)
- The current availability of alcohol in Auckland Central was lower in 2015 than in all of the previous five years
- The proportion of detainees who could purchase alcohol in one hour or less declined slightly from 94% in 2012 to 88% in 2015

- Lower proportions of detainees could purchase alcohol in one hour or less in Auckland Central (down from 97% in 2012 to 87% in 2015) and Christchurch Central (down from 93% in 2012 to 85% in 2015)

- Thirty-one percent of the alcohol using detainees said drinking alcohol was 'more likely' or 'much more likely' to make them become angry in 2015

- Seventeen percent of the detainees who drank alcohol and drove had completed at least some of their driving under the influence of alcohol in 2015

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, and peaked at the population level in the mid-2000s, before declining over subsequent years (Wilkins et al., 2002a; Wilkins & Sweetsur, 2008b). 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). However, high levels of methamphetamine use have persisted among specific 'at risk' populations, such as police detainees (Wilkins, et al., 2012a; Wilkins et al., 2011b). For example, the 2014 NZ-ADUM found 30% of police detainees had used methamphetamine in the previous 12 months (Wilkins, et al., 2015a).

The 2014 NZ-ADUM and 2014 IDMS both found increasing use and supply of methamphetamine in Christchurch. The proportion of police detainees in Christchurch Central who had used methamphetamine in the previous month increased from 10% in 2012 to 18% in 2014 (Wilkins, et al., 2015a). The proportion of Christchurch Central detainees who reported methamphetamine was 'easier' to obtain increased from 6% in 2011 to 43% in 2014 (Wilkins, et al., 2015a). The 2014 IDMS found a dramatic recovery in methamphetamine availability from 2012 to 2013 (Wilkins et al., 2015b). The proportion of frequent drug users in Christchurch who

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

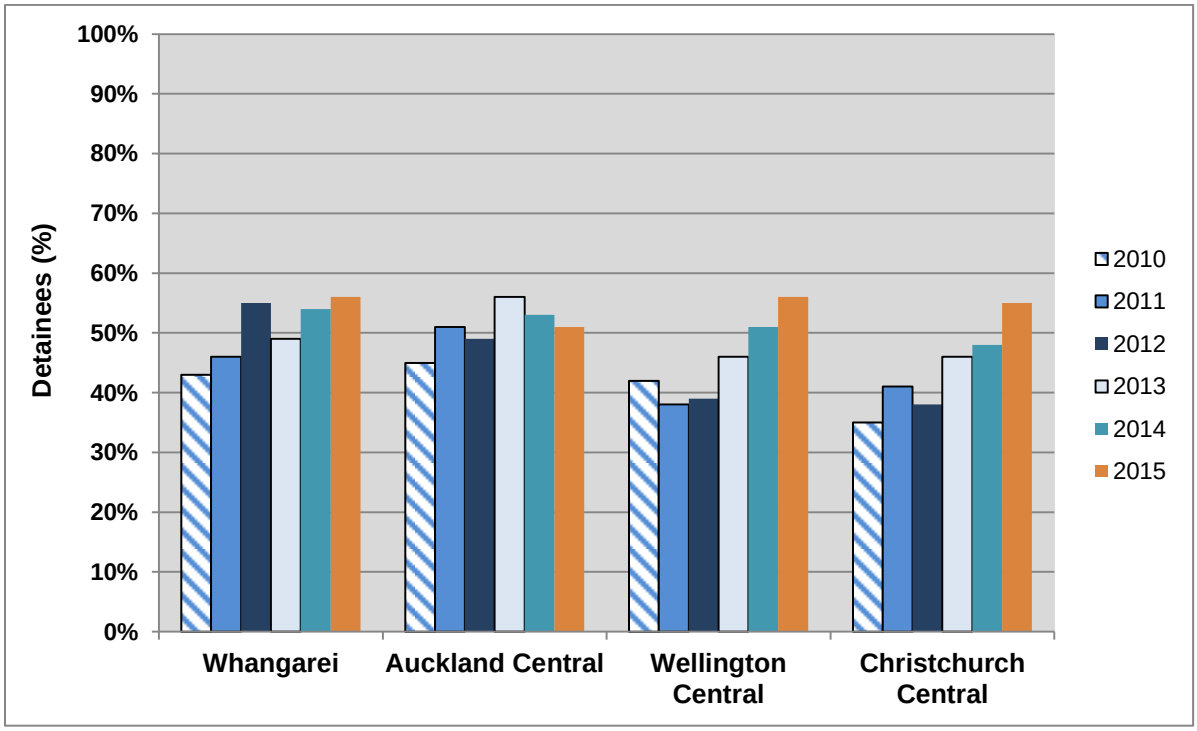
could purchase methamphetamine in one hour or less increased from 56% in 2012 to 85% in 2014 (Wilkins, et al., 2015b).

The surge in methamphetamine use in Christchurch may be being driven by the large influx of construction workers to Christchurch for the rebuild of the city following the earthquakes in 2011. New Zealand Police have noted a reorganization of the gang scene in Christchurch which is facilitating greater methamphetamine supply to the city (NDIB, 2014). Record seizures of crystal methamphetamine have been made in Australia in recent years, and there is evidence of increasing use of this form of methamphetamine in Australia (ACC, 2015). There is also evidence of an expanding global market for methamphetamine and increased interconnectedness in trafficking between global regions, for example methamphetamine seizures made in South-East Asia have been found to have been manufactured in Africa and the Americas (UNODC, 2015).

Patterns of methamphetamine use

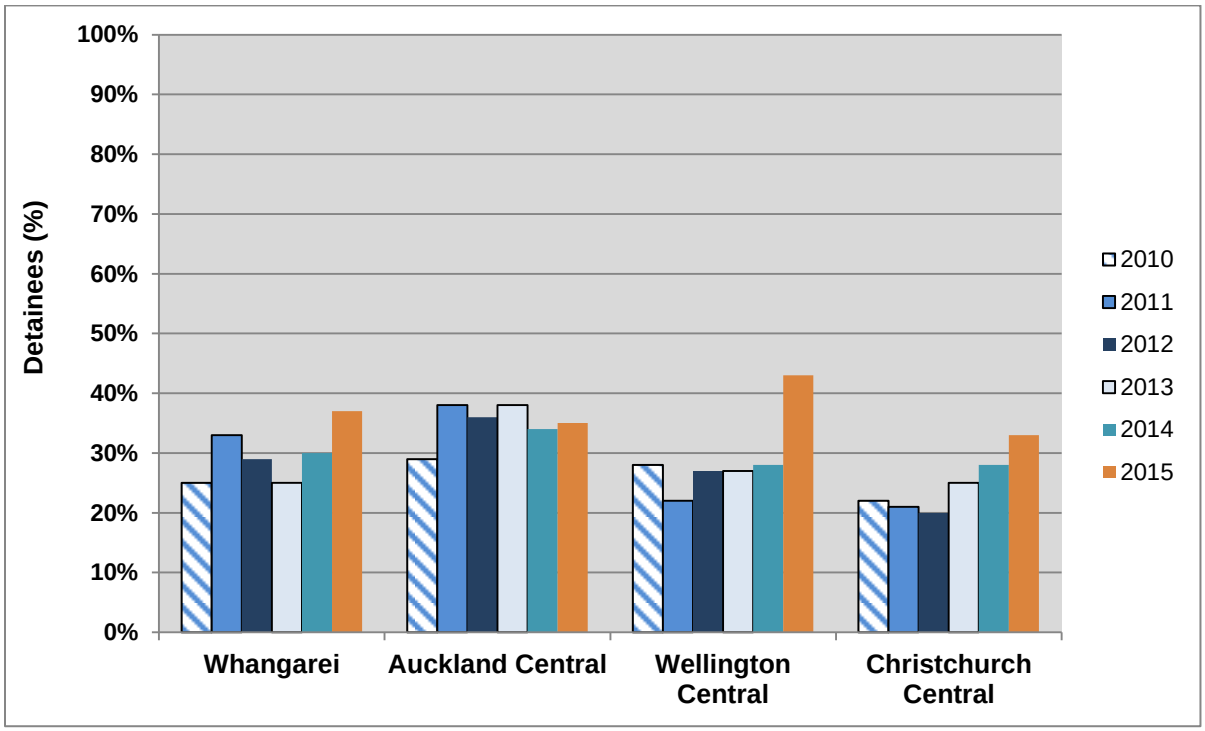
Fifty-four percent of the police detainees had tried methamphetamine in their lifetimes, 36% had used it in the previous year and 24% had used it in the past month in 2015 (Table 4.1). The proportion of detainees who reported ever having used methamphetamine increased from 41% in 2010 to 54% in 2015 ($p<0.0001$), and from 44% in 2012 to 54% in 2015 ($p=0.0011$). There was a rise in the lifetime use of methamphetamine in Wellington Central, up from 38% in 2011 to 56% in 2015 ($p=0.0390$) (Figure 4.1).

Figure 4 1: Proportion of police detainees who had ever used methamphetamine by location, 2010-2015



The proportion of detainees who had used methamphetamine in the previous year increased from 26% in 2010 to 36% in 2015 (p=0.0003), and from 28% in 2012 to 36% in 2015 (p=0.0047). The proportion of detainees in Christchurch Central who reported using methamphetamine in the past year increased from 20% in 2012 to 33% in 2015 (p=0.0036). Similarly, the detainees in Wellington Central also reported an increase in the use of methamphetamine in the previous year (up from 22% in 2011 to 43% in 2015, p=0.0028).

Figure 4 2: Proportion of police detainees who used methamphetamine in the past 12 months by location, 2010-2015



The proportion of detainees who had used methamphetamine in the previous month increased from 14% in 2010 to 24% in 2015 ($p<0.0001$), and from 16% in 2012 to 24% in 2015 ($p=0.0024$) (Figure 4.3). The proportion of Christchurch Central detainees who had used methamphetamine in the previous month increased from 10% in 2010 to 21% in 2015 ($p=0.0093$), and from 10% in 2011 to 21% in 2015 ($p=0.0305$). A higher proportion of detainees in Wellington Central also reported using methamphetamine in the previous month (up from 11% in 2011 to 29% in 2015, $p=0.0025$).

Figure 4 3: Proportion of police detainees who used methamphetamine in the past month by location, 2010-2015

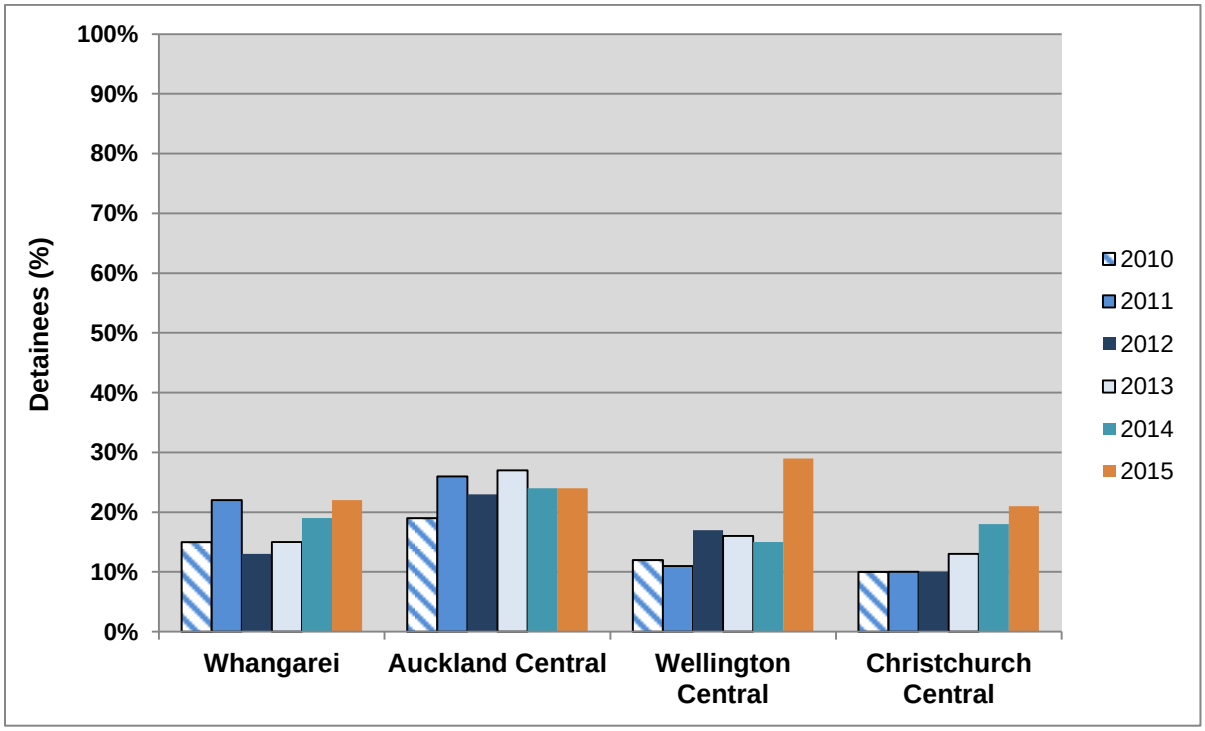


Table 4 1: Police detainees' patterns of methamphetamine use by location, 2010-2015

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
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
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
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%	13

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

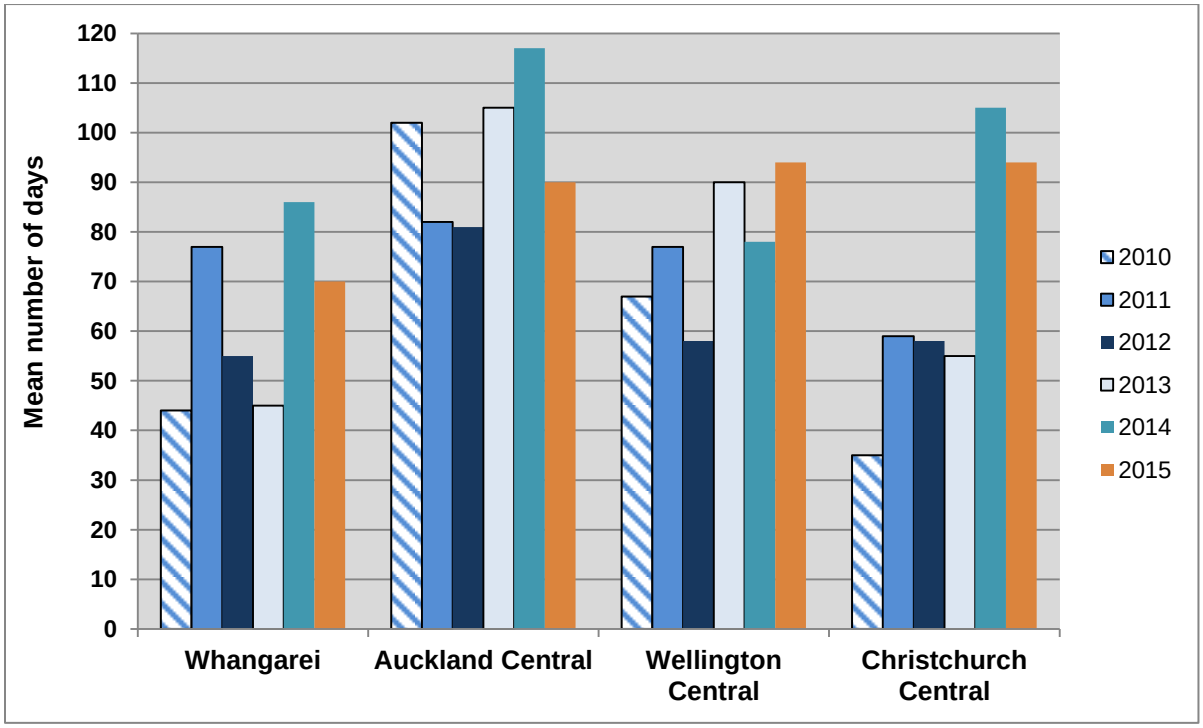
* of those who had ever tried
** of those who had used in the past 12 months
*** of those who had used in the past month

Seventeen percent of the detainees who had used methamphetamine in the past 12 months in 2015 had injected it.

Frequency of methamphetamine use

The detainees had used methamphetamine on a mean of 89 days in the previous 12 months in 2015 (median 26 days, range of 1-365 days). The mean number of days the detainees had used methamphetamine increased from 68 days in 2010 to 89 days in 2015 ($p<0.0001$). The mean number of days the detainees had used methamphetamine in Christchurch Central increased from 35 days in 2010 to 94 days in 2015 ($p<0.0001$), and from 58 days in 2012 to 94 days in 2015 ($p=0.0414$) (Figure 4.4).

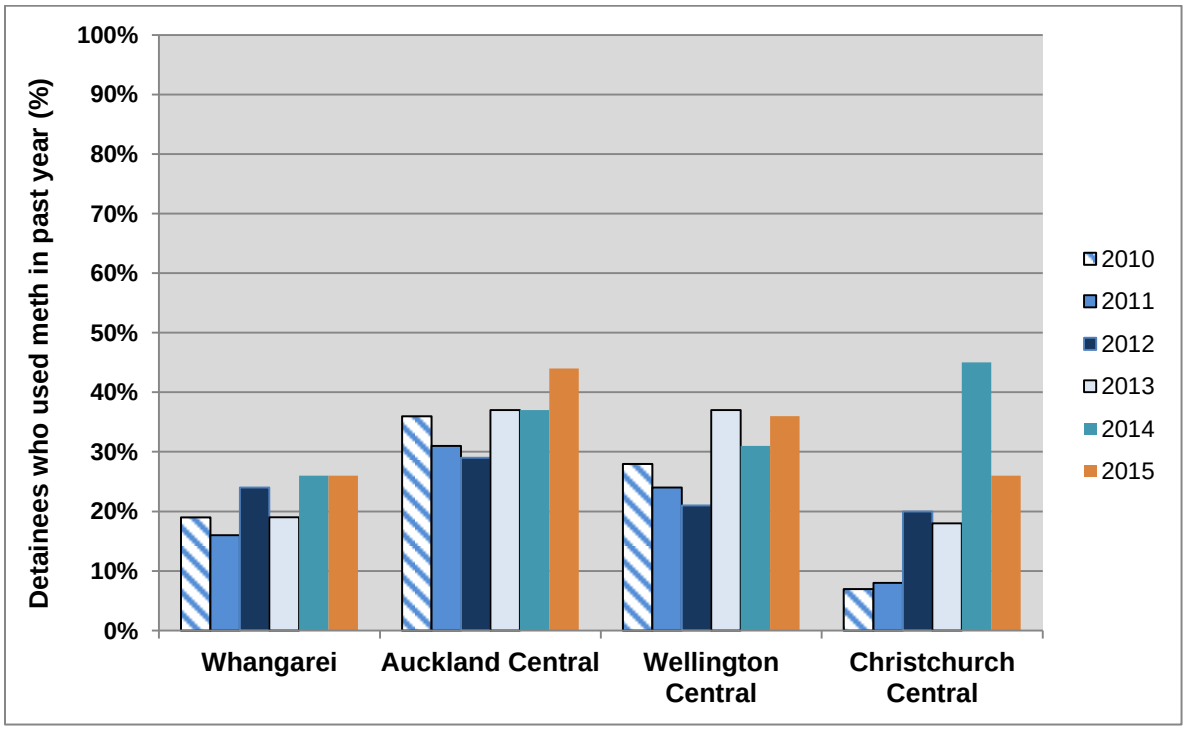
Figure 4 4: Mean number of days police detainees used methamphetamine in the past 12 months by location, 2010- 2015



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. Thirty-four percent of the methamphetamine using detainees felt they were dependent on methamphetamine during this time. The proportion of detainees who felt dependent on methamphetamine increased from 22% in 2011 to 34% in 2015 (p=0.0277). The proportion of Christchurch detainees who felt dependent on methamphetamine increased from 7% in 2010 to 26% in 2015, and this was close to being statistically significant (p=0.0743) (Figure 4.5). The level of dependency on methamphetamine in Christchurch had previously increased from 18% in 2013 to 45% in 2014 (p=0.0098).

Figure 4 5: Proportion of police detainees who felt they were dependent on methamphetamine in the past 12 months by location (of those who had used methamphetamine in the past 12 months), 2010-2015



Methamphetamine use at the time of arrest

Eight percent of the detainees (of the entire sample) reported they were using methamphetamine prior to being arrested in 2015 (Table 4.2). The proportion of detainees using methamphetamine at the time of their arrest increased from 3% in 2010 to 8% in 2015, and this increase was close to being statistically significant (p=0.0720) (Figure 4.6).

Figure 4 6: Proportion of police detainees who were using methamphetamine prior to their arrest by location, 2010-2015

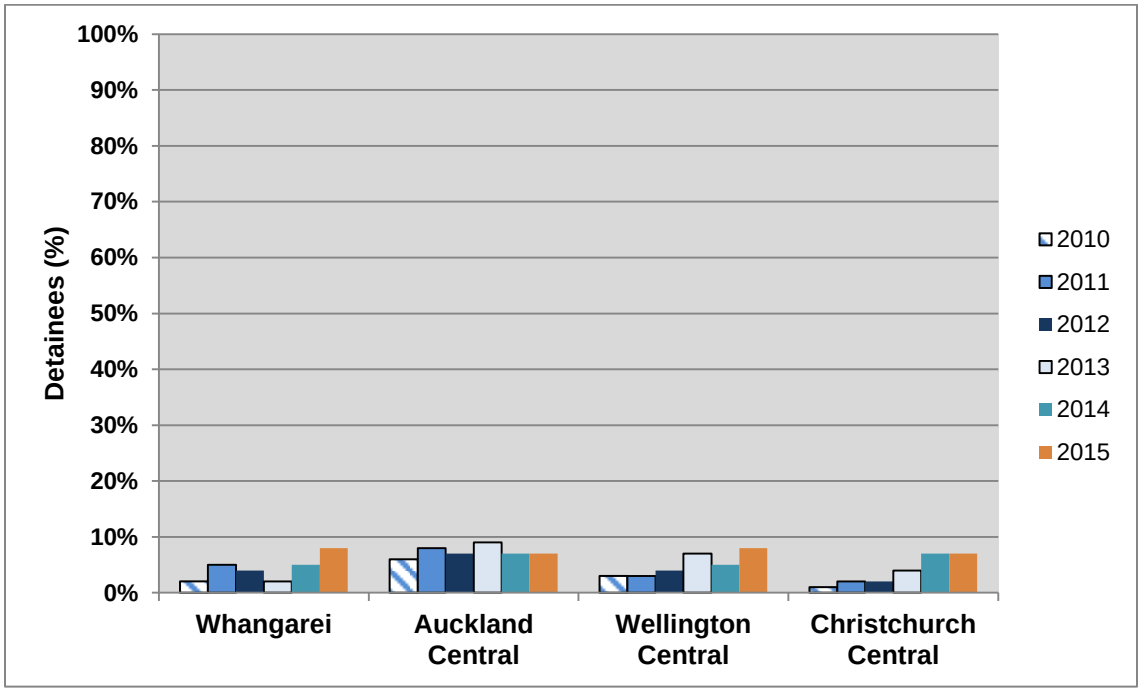


Table 4 2: Methamphetamine use by police detainees at time of arrest by location, 2010-2015

	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%
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%
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%
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%
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%

Current availability of methamphetamine

The detainees reported the current availability of methamphetamine to be 'very easy/easy' in 2015 (Table 4.3). There was no statistically significant change in the current availability of methamphetamine from 2010 to 2015. The current availability of methamphetamine increased in Christchurch Central from 2.8 in 2011 to 3.3 in 2015, and this was close to being statistically significant (p=0.0958) (Figure 4.7).

Figure 4 7: Mean score of current availability of methamphetamine by location, 2010-2015

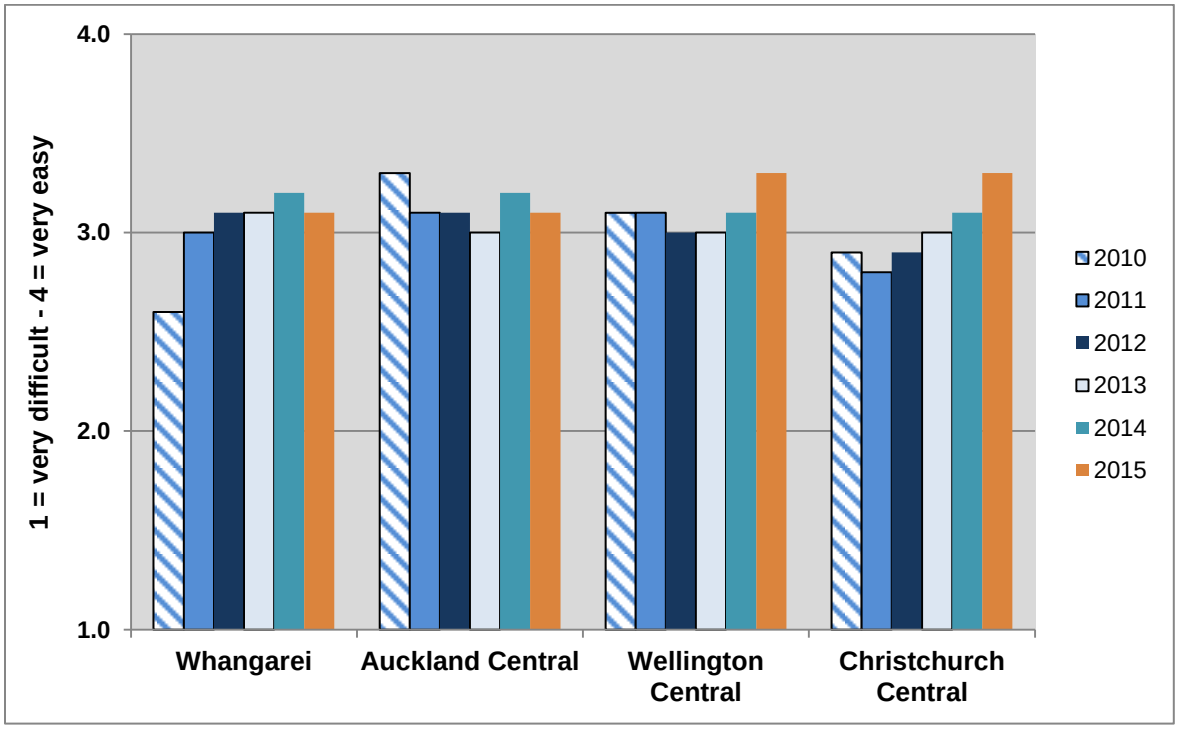


Table 4 3: Police detainees' perceptions of the current availability of methamphetamine by location, 2010-2015

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
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
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
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

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

Change in availability of methamphetamine

In 2015, 43% of the detainees reported the availability of methamphetamine had been 'stable', 38% said it had become 'easier' and 10% said it had become 'more difficult' (Table 4.4). The overall availability of methamphetamine increased from 2013 to 2015 (up from 2.1 to 2.3, p=0.0036). The availability of methamphetamine increased in Christchurch Central from 2011 to 2015 (up from 1.7 to 2.4, p<0.0001) (Figure 4.8).

Figure 4 8: Mean score of change in the availability of methamphetamine by location, 2010-2015

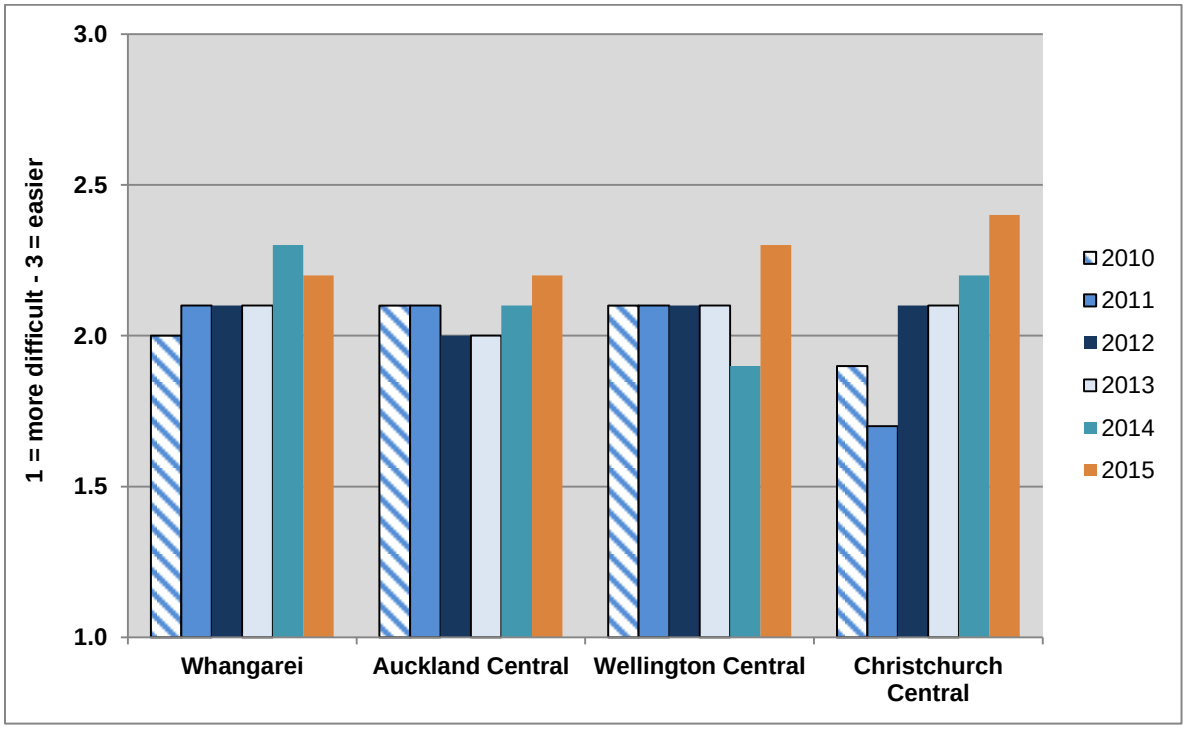


Table 4 4: Police detainees' perceptions of the change in availability of methamphetamine by location, 2010-2015

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
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
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
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

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

Current price of methamphetamine

The detainees reported the median price of a 'point' (0.1 grams) of methamphetamine was $100 (mean $110) (Table 4.5). There was no statistically significant change in the overall mean price of a 'point' of methamphetamine from 2010 to 2015 (p=0.1873). The mean price of a 'point' of methamphetamine in Whangarei declined from $118 in 2012 to $100 in 2015 (p=0.0194) (Figure 4.9). In 2015, the mean price paid for a 'point' of methamphetamine was higher in Christchurch Central than in Auckland Central ($126 vs. $103, p=0.0209), and Whangarei ($126 vs. $100, p=0.0910).

Figure 4 9: Mean price paid for a point (0.1 grams) of methamphetamine by location, 2010-2015

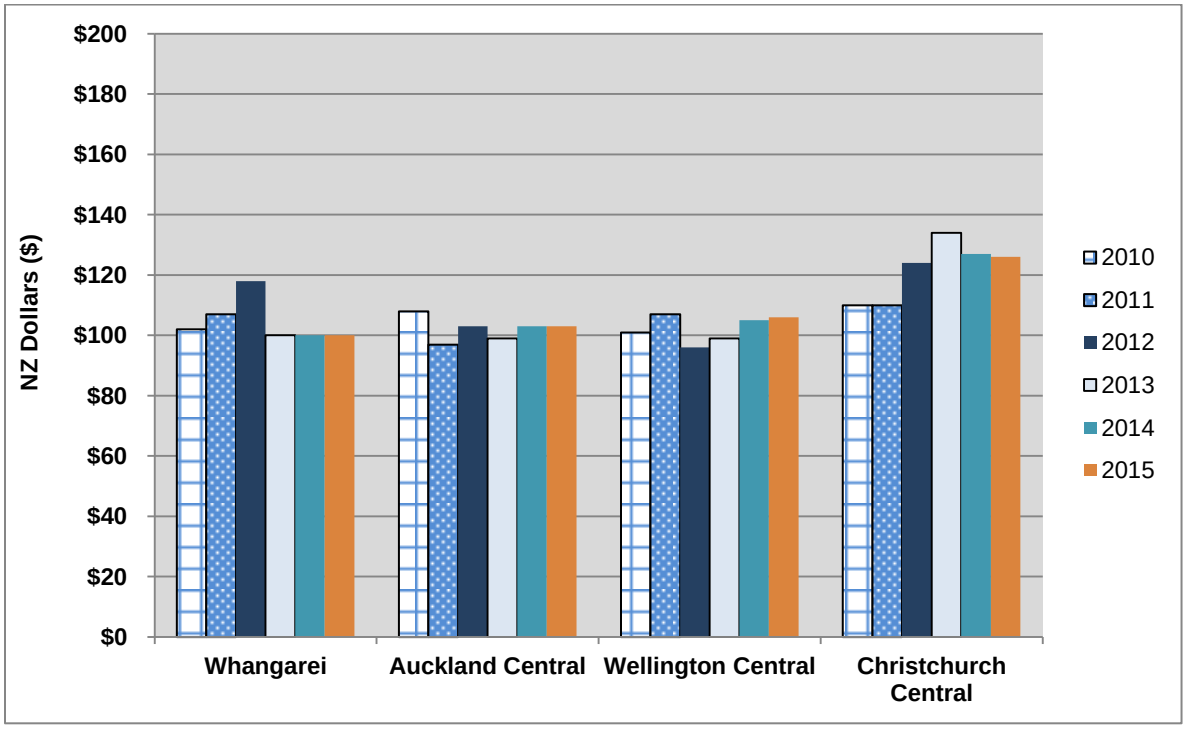
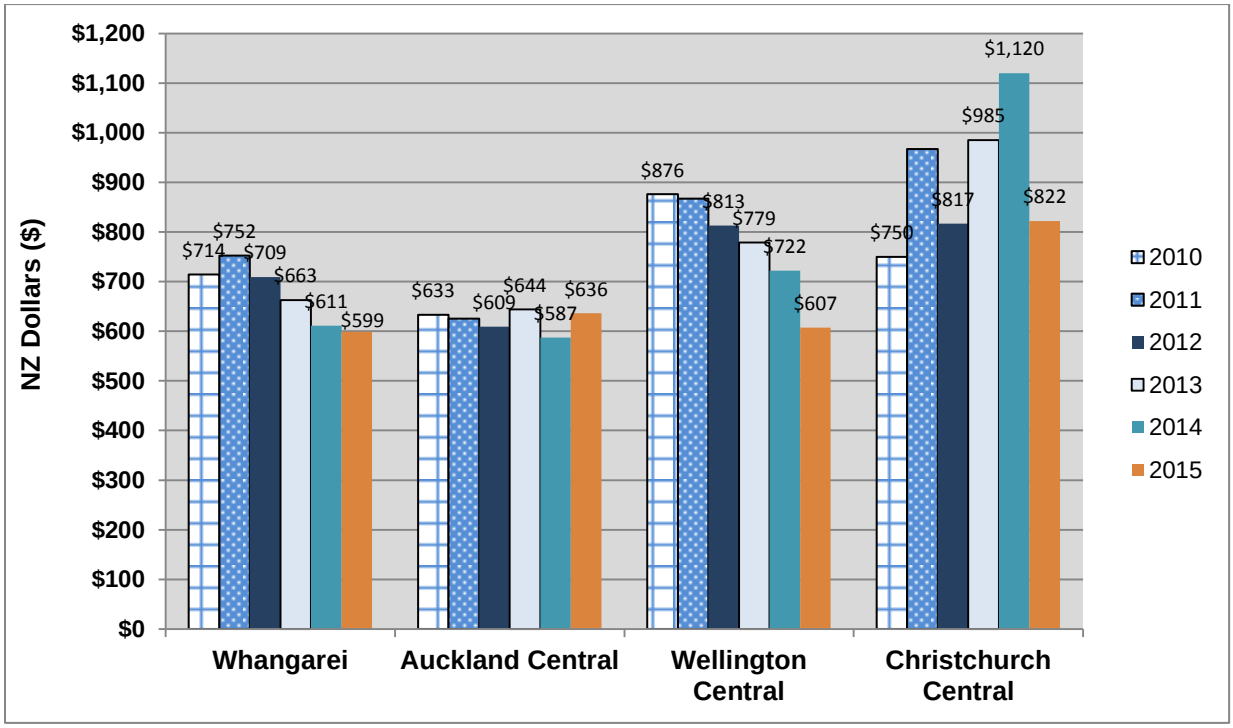


Table 4 5: Current median (mean) price paid by police detainees for a 'point' and gram of methamphetamine (NZD) by location, 2010-2015

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=53	$100	$100	2015	n=44	$600	$599
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=82	$100	$103	2015	n=65	$600	$636
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=35	$100	$106	2015	n=36	$650	$607
Christchurch Central	2010	n=47	$100	$110	2010	n=12	$900	$750
	2011	n=20	$100	$110	2011	n=15	$1,000	$967
	2012	n=41	$120	$124	2012	n=18	$900	$817
	2013	n=58	$150	$134	2013	n=48	$1,000	$985
	2014	n=68	$138	$127	2014	n=55	$1,000	$1,120
	2015	n=75	$125	$126	2015	n=55	$850	$822
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=245	$100	$110	2015	n=200	$600	$669

The median price of a gram of methamphetamine was $600 in 2015 (mean $669). The mean price of a gram of methamphetamine decreased from $788 in 2014 to $669 in 2015 (p=0.0290). The gram price decreased in Wellington from $876 in 2010 to $607 in 2015 (p<0.0001) and from $779 in 2013 to $607 in 2015 (p=0.0488), although only a fairly modest number of Wellington City detainees provided price data (i.e. 2010=18, 2011=16, 2012=6, 2013=13, 2014=18, 2015=36) (Table 4.5). The price of a gram of methamphetamine in Christchurch Central also decreased from $1,120 in 2014 to $822 in 2015, and this was very close to being statistically significant (p=0.0501). The mean price of a gram of methamphetamine in 2015 was higher in Christchurch Central than in Auckland Central ($822 vs. $636, p=0.0014), Wellington Central ($822 vs. $607, p=0.0059) and Whangarei ($822 vs. $599, p=0.0125).

Figure 4 10: Mean price paid for a gram of methamphetamine by location, 2010-2015



Change in the price of methamphetamine

Fifty-seven percent of the detainees said the price of methamphetamine had been 'stable', 20% said it had been 'fluctuating', and 9% said it had been 'increasing' over the previous six months in 2015 (Table 4.6). The detainees were more likely to describe the price of methamphetamine as declining from 2013 to 2015 (down from 2.1 to 1.9, p=0.0321) (Figure 4.11). The detainees in Christchurch reported a decline in the price of methamphetamine (down from 2.2 in 2013 to 2.0 in 2015, p=0.0359).

Figure 4 11: Mean score of the change in the price of methamphetamine by location, 2010-2015

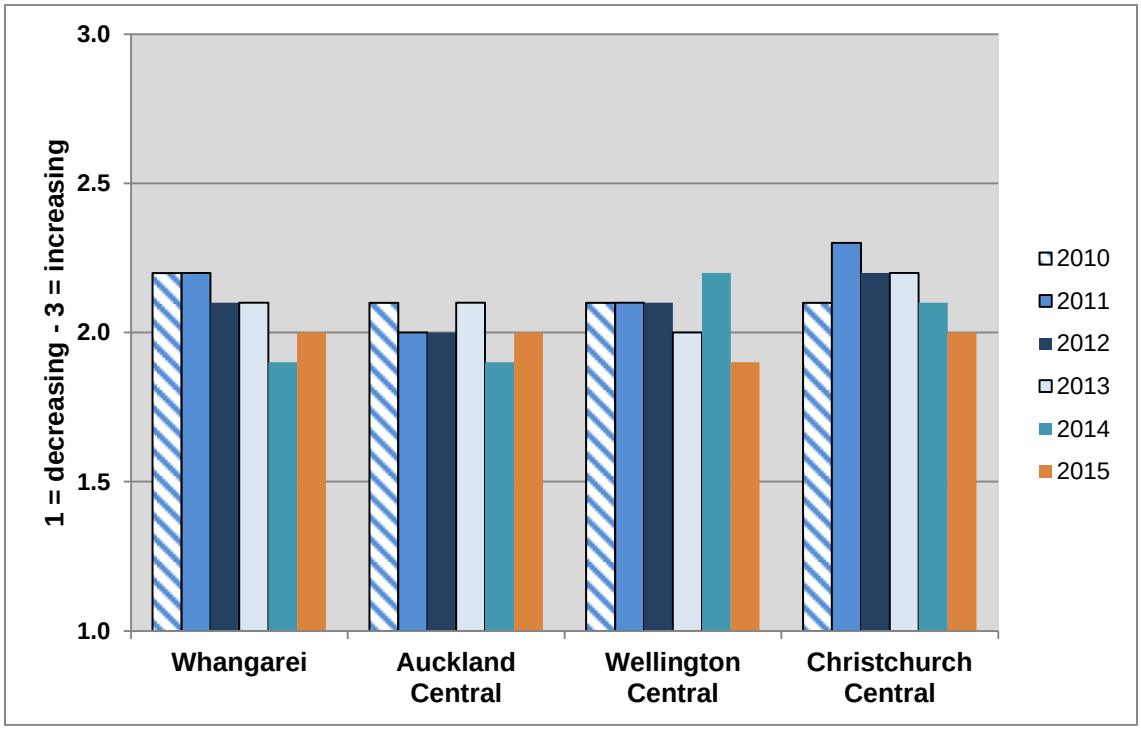


Table 4 6: Police detainees' perceptions of the change in the price of methamphetamine in the past six months by location, 2010-2015

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
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
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
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

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

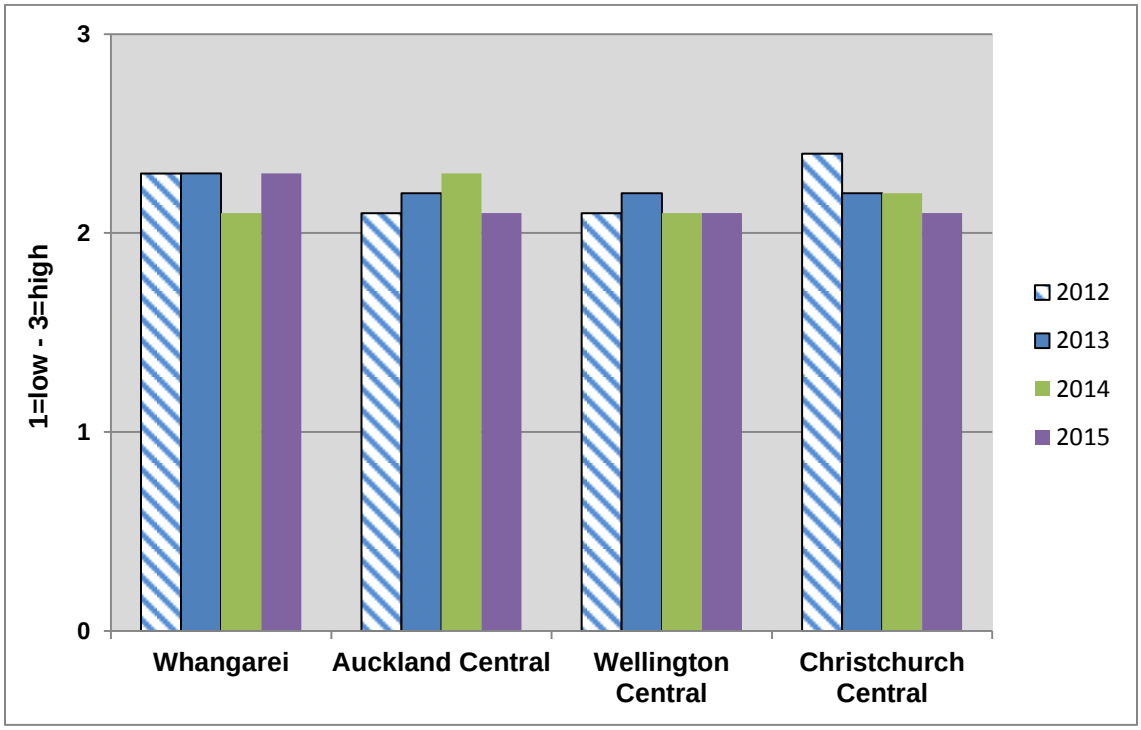
Current strength of methamphetamine

Questions concerning the strength of methamphetamine were included for the first time in the 2012 NZ-ADUM. In 2015, 34% of the detainees described the current strength of methamphetamine as 'high', 23% said it was 'medium' and 25% said it 'fluctuates'. The overall current strength of methamphetamine was reported to be 'high/fluctuating' (Table 4.7).

Table 4 7; Police detainees' perceptions of current strength of methamphetamine in 2012-2015

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
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
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
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
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

Figure 4 12: Mean score of the current strength of methamphetamine by location, 2012-2015



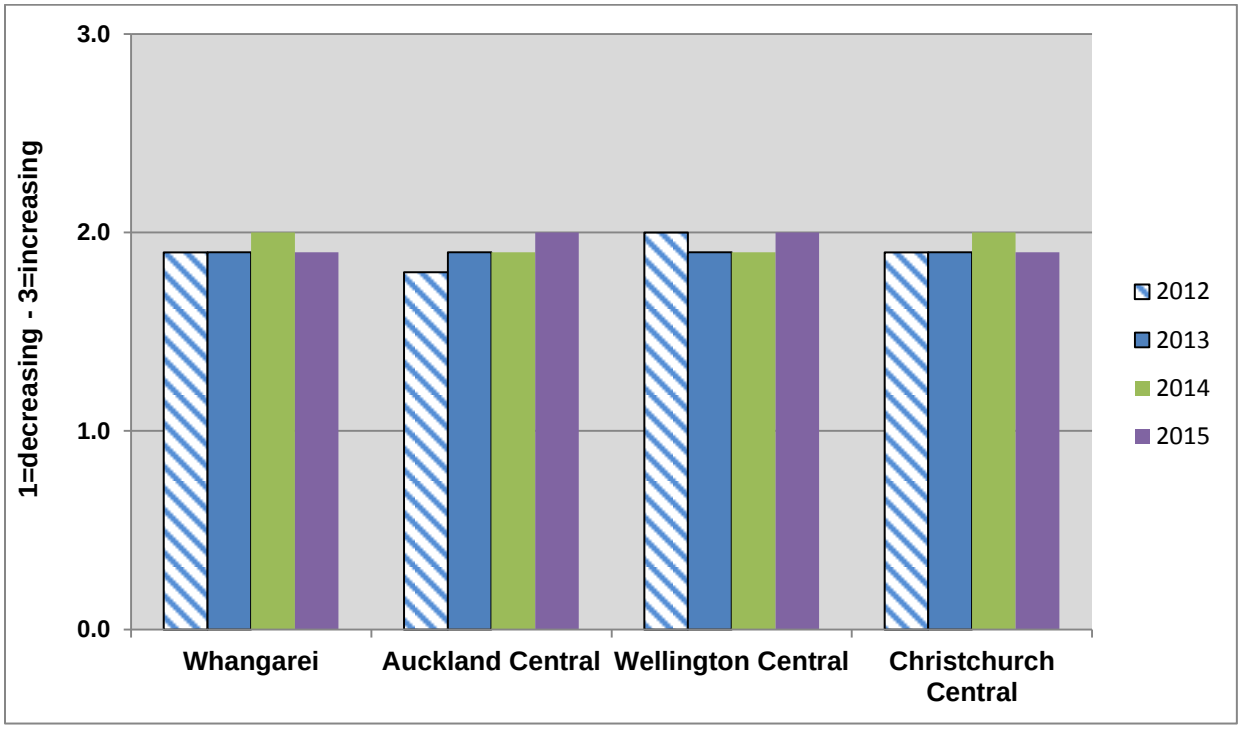
Change in strength of methamphetamine

In 2015, 39% of the detainees reported the strength of methamphetamine had been 'stable', 25% said it had been 'fluctuating' and 21% said it had been 'declining' during the previous six months (Table 4.8). There was no statistically significant change in the detainees' perceptions of the change in the strength of methamphetamine from 2012 to 2015 (p=0.4348). There were also no differences in the detainees' perceptions of change in strength of methamphetamine between the study sites.

Table 4 8: Police detainees' perceptions of change in strength of methamphetamine in the past six months in 2012-2015

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
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
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
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
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

Figure 4 13: Change in strength of methamphetamine by location, 2012-2015



Time taken to purchase methamphetamine

Seventy percent of the detainees who used methamphetamine in the previous 12 months were able to purchase it in one hour or less in 2015 (Table 4.9). The proportion of detainees who could purchase methamphetamine in one hour or less increased from 57% in 2010 to 70% in 2015 (i.e. 57% in 2010, 60% in 2011, 61% in 2012, 65% in 2013, 66% 2014 and 70% in 2015), and this was close to being statistically significant (p=0.0831). The proportion of detainees in Christchurch Central who could purchase methamphetamine in one hour or less increased from 31% in 2011 to 76% in 2015 (p=0.0002). The proportion of detainees in Wellington Central who could purchase methamphetamine in one hour or less also increased from 50% in 2010 to 83% in 2015 (p=0.0428) (Figure 4.14).

Figure 4 14: Proportion of police detainees who could purchase methamphetamine in one hour or less by location, 2010-2015

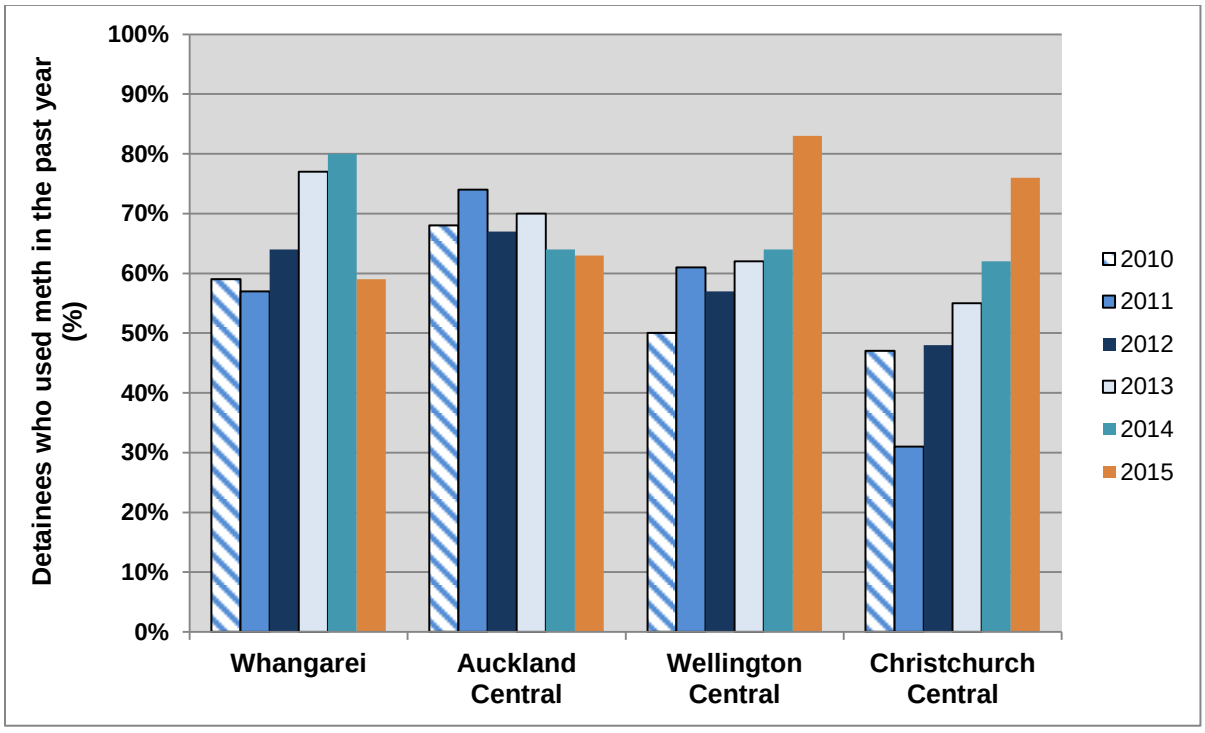


Table 4 9: Time taken by police detainees to purchase methamphetamine by location, 2010-2015

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
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
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
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

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

Effect of methamphetamine on the likelihood of becoming angry

Those detainees who reported using methamphetamine in the previous 12 months were asked what effect using methamphetamine had on the likelihood of them becoming angry. In 2015, 35% of the methamphetamine using detainees said using methamphetamine was 'more likely' or 'much more likely' to make them become angry (Table 4.10).

Table 4 10: Effect of methamphetamine on police detainees' likelihood of becoming angry, 2010-2015

Effect of meth-amphetamine on likelihood of becoming angry	All sites					
	2010 (n=201)	2011 (n=232)	2012 (n=201)	2013 (n=238)	2014 (n=251)	2015 (n=295)
Much more likely [5]	13%	11%	9%	16%	16%	12%
More likely [4]	19%	24%	25%	15%	19%	23%
No effect [3]	44%	45%	43%	44%	41%	43%
Less likely [2]	15%	14%	14%	17%	15%	14%
Much less [1]	8%	5%	9%	8%	9%	8%
Mean impact on likelihood to become angry (1=much less - 5=much more)	3.1	3.2	3.1	3.2	3.1	3.2

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 2015, 24% of the methamphetamine using detainees said they did not drive and a further 8% said their driver licence was suspended. Forty-eight percent of the detainees who used methamphetamine and drove had completed at least some of their driving under the influence of methamphetamine (Table 4.11). There was an increase in the level of driving under the influence of methamphetamine among the detainees from 2010 to 2015 (up from 1.3 to 1.5) but this increase was not statistically significant (p=0.0970). The proportion of detainees who drove under the influence of methamphetamine increased in Christchurch Central from 0.9 in 2010 to 1.8 in 2015 (p=0.0064).

Table 4 11: 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, 2010-2015

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
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
Wellington Central	2010	n=29	28%	10%	14%	10%	38%	1.8
	2011	n=23	43%	9%	4%	17%	26%	1.3
	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
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

All Sites	2010	n=139	12%	12%	18%	14%	44%	1.3
	2011	n=151	14%	9%	23%	16%	38%	1.5
	2012	n=157	10%	10%	25%	10%	45%	1.3
	2013	n=173	12%	12%	17%	14%	44%	1.3
	2014	n=180	20%	11%	22%	14%	33%	1.7
	2015	n=200	13%	14%	21%	15%	37%	1.5

Summary

- The proportion of detainees who had used methamphetamine in the previous year increased from 28% in 2012 to 36% in 2015
- The proportion of detainees in Christchurch Central who reported using methamphetamine in the past year increased from 20% in 2012 to 33% in 2015
- The detainees in Wellington Central also reported an increase in the use of methamphetamine in the previous year from 22% in 2011 to 43% in 2015
- Similar increases in methamphetamine use in the previous month were found in Christchurch Central and Wellington Central
- Seventeen percent of the detainees who had used methamphetamine in the past year had injected it in 2015
- The mean number of days the detainees had used methamphetamine increased from 68 days in 2010 to 89 days in 2015
- The mean number of days the detainees had used methamphetamine in Christchurch Central increased from 58 days in 2012 to 94 days in 2015
- The proportion of detainees who felt dependent on methamphetamine increased from 22% in 2011 to 34% in 2015
- The proportion of Christchurch detainees who felt dependent on methamphetamine increased from 8% in 2011 to 26% in 2015
- The proportion of detainees using methamphetamine prior to their arrest increased from 3% in 2010 to 8% in 2015
- The availability of methamphetamine increased in Christchurch Central from 2011 to 2015
- The median price reported for methamphetamine was $100 per 'point' and $600 per gram in 2015
- The mean price of a 'point' of methamphetamine in Whangarei declined from $118 in 2012 to $100 in 2015
- In 2015, the mean price paid for a 'point' of methamphetamine was higher in Christchurch Central than Auckland Central and Whangarei
- Overall, the mean price of a gram of methamphetamine decreased from $778 in 2011 to $669 in 2015

- The price of a gram of methamphetamine in Christchurch Central decreased from $1,120 in 2014 to $822 in 2015
- The gram price decreased in Wellington from $779 in 2013 to $607 in 2015
- In 2015, the mean price of a gram of methamphetamine was higher in Christchurch Central than in Auckland Central, Wellington Central and Whangarei
- The current strength of methamphetamine was reported to be 'high/fluctuating' in 2015
- The proportion of detainees in Christchurch Central who could purchase methamphetamine in one hour or less increased from 31% in 2011 to 76% in 2015
- The proportion of detainees in Wellington Central who could purchase methamphetamine in one hour or less also increased from 50% in 2010 to 83% in 2015
- The proportion of detainees who drove under the influence of methamphetamine increased in Christchurch Central from 2010 to 2015

Chapter 5 - Cannabis

Introduction

Cannabis has been the most widely used illegal drug in in many other countries around the world, including New Zealand, for many decades (Wilkins et al., 2002b). New Zealand has been self-sufficient in the supply of 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% of adolescent users and one third of daily users (Hall et al., 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 (Hall, et al., 2016). 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 (Hall, et al., 2016).

The 2014 NZ-ADUM found a surprising decline in cannabis use and availability compared to previous years. The use of cannabis by detainees in the past year declined from 76% in 2011 to 68% in 2014. The mean number of days the detainees had used cannabis in the past year declined from 187 in 2010 to 173 in 2014. The proportion of detainees in Auckland Central who described the current availability of cannabis as ‘very easy’ declined from 58% in 2012 to 41% in 2014. The 2014 IDMS also reported a decline in the current availability of cannabis from 2013 to 2014, with a particularly marked decline in Christchurch. The frequent drug users interviewed for the IDMS also reported modest declines in cannabis use.

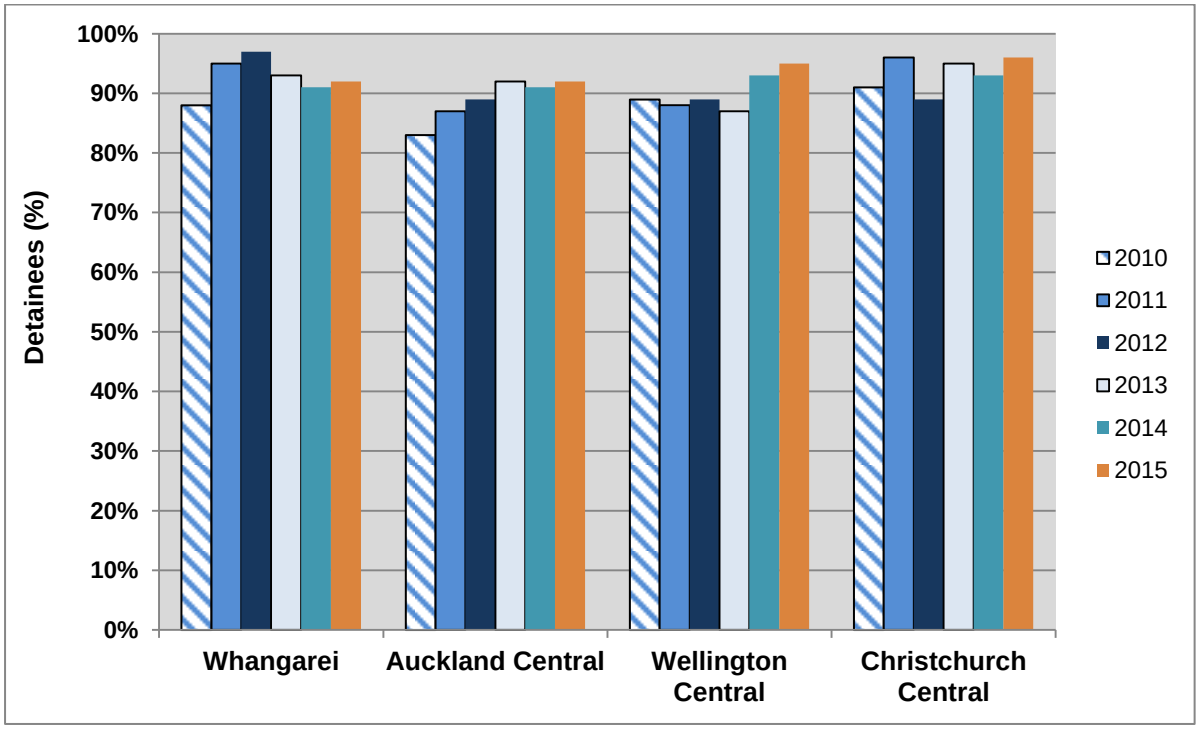
A possible explanation for this decline in cannabis use and availability is the emergence of synthetic cannabinoid products which are often marketed as ‘legal’ and ‘safer’ alternatives to cannabis. This explanation is supported by evidence of some recovery in the frequency of

cannabis use following the banning of all synthetic cannabinoid products in May 2014 (up from 158 days in 2013 to 173 days in 2014).

Use of cannabis

Ninety-four percent of the police detainees had tried cannabis in their lifetimes, 69% had used cannabis in the past 12 months, and 56% had used it in the past month in 2015 (Table 5.1). The proportion of detainees who had tried cannabis in their lifetimes increased from 87% in 2010 to 93% in 2015 (p=0.0003). There was an increase in the proportion of detainees who had ever tried cannabis in Auckland Central (up from 83% in 2010 to 92% in 2015, p=0.0040) and Christchurch Central (up from 91% in 2010 to 96% in 2015, p=0.0293) (Figure 5.1).

Figure 5 1: Proportion of police detainees who have ever used cannabis by location, 2010-2015



The detainees had first tried cannabis at a mean age of 14 years in 2015 (Figure 5.2).

Figure 5 2: Mean age at which cannabis was first used by location, 2010-2015

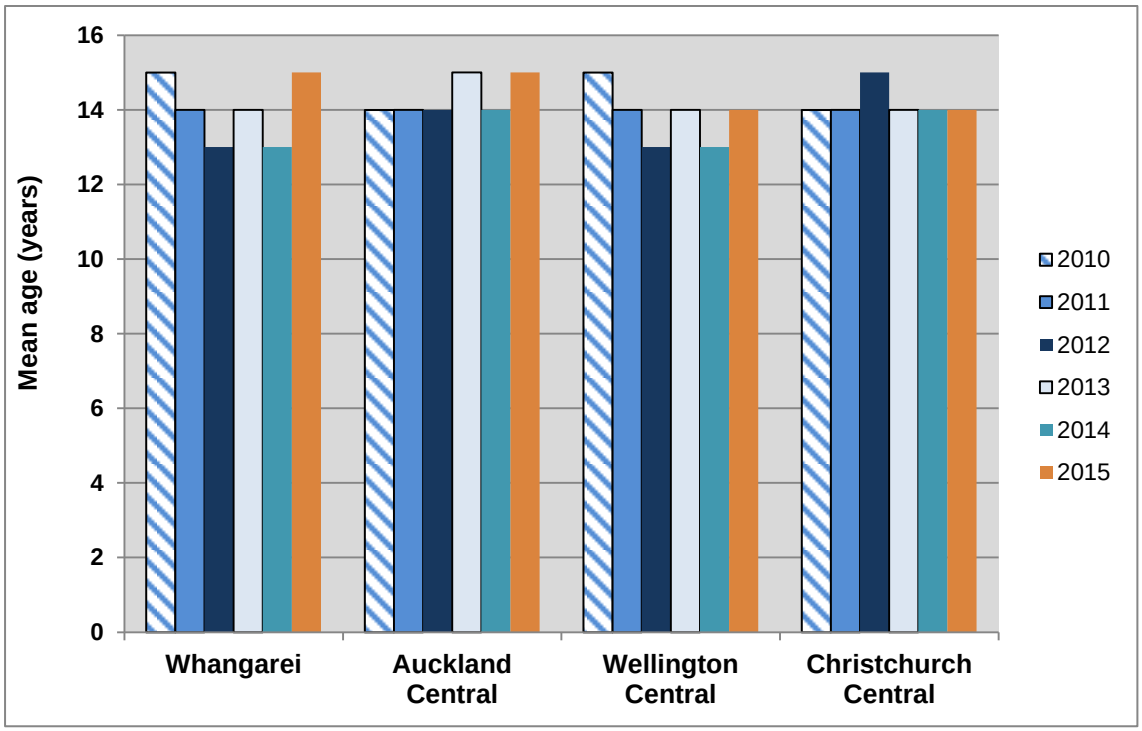


Table 5 1: Police detainees' patterns of cannabis use by location, 2010-2015

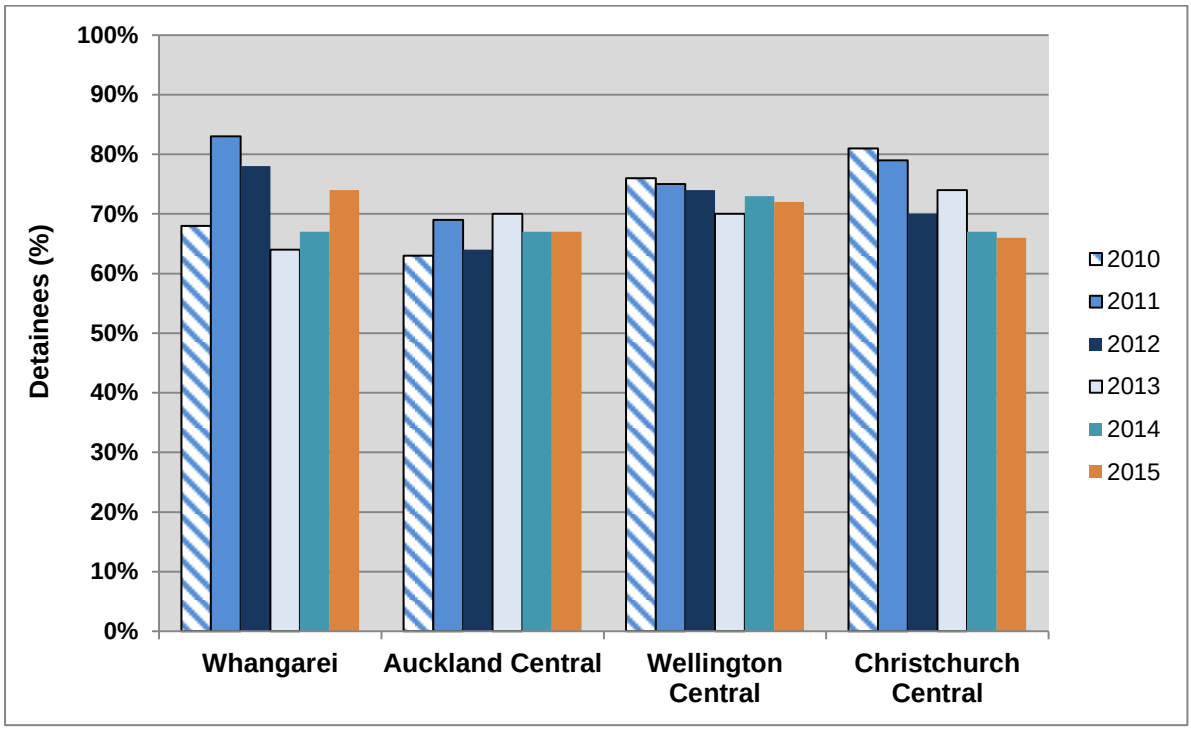
Use of cannabis (%)	Year	N-Value	Ever used [%}	Mean age 1st used (years)*	Used in past 12 months [%]	Mean number of days used in past 12 months**	Felt dependent in the past 12 months** [%]	Used in past month	Mean number of days used in past month*** [%]
Whangarei	2010	n=115	88%	15	68%	160	30%	58%	16
	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
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
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
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

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

* 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

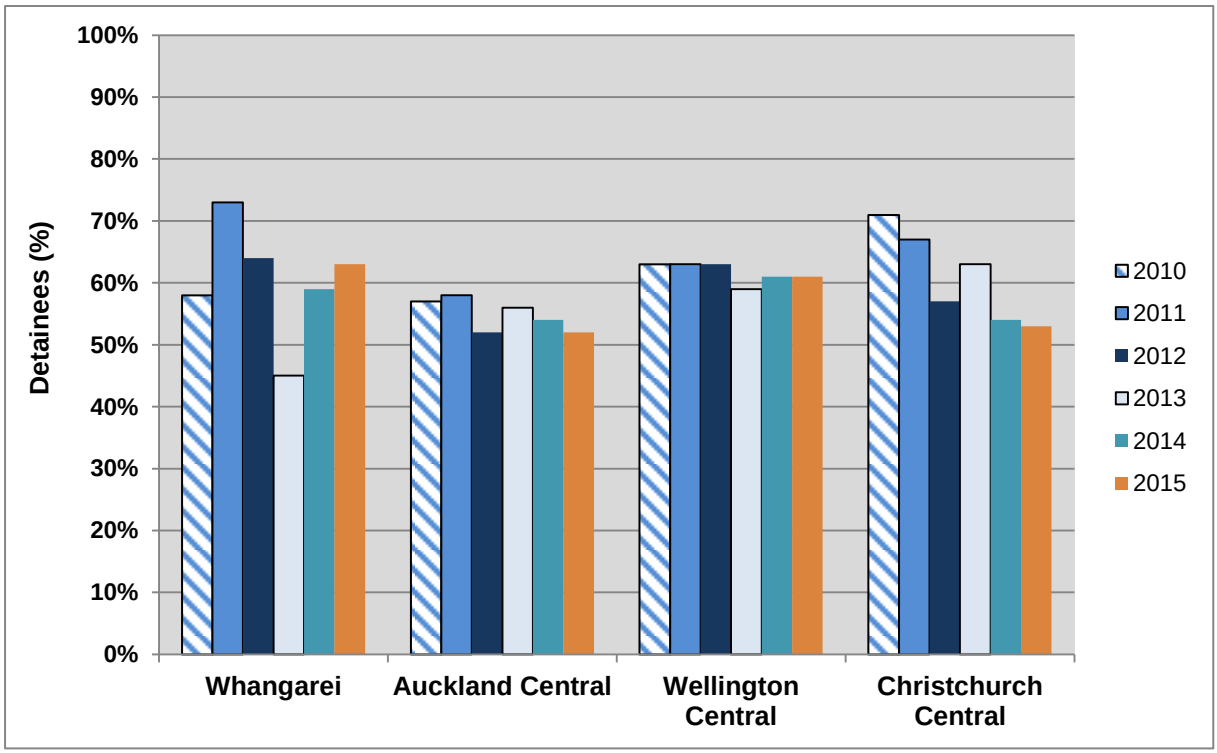
The proportion of detainees who had used cannabis in the previous 12 months declined from 76% in 2011 to 69% in 2015 (p=0.0219). The proportion of Christchurch Central detainees who had used cannabis in the previous year declined from 79% in 2011 to 66% in 2015 (p=0.0230) (Figure 5.3).

Figure 5 3: Proportion of police detainees who had used cannabis in the past 12 months by location, 2010-2015



The proportion of detainees who reported using cannabis in the past month decreased from 64% in 2011 to 56% in 2015 (p=0.0066). There was a decrease in the proportion of detainees in Christchurch Central who had used cannabis in the previous month from 67% in 2011 to 53% in 2015 (p=0.0373). Conversely, the proportion of detainees in Whangarei who had used cannabis in the previous month increased from 45% in 2013 to 63% in 2015 (p=0.0227) (Figure 5.4).

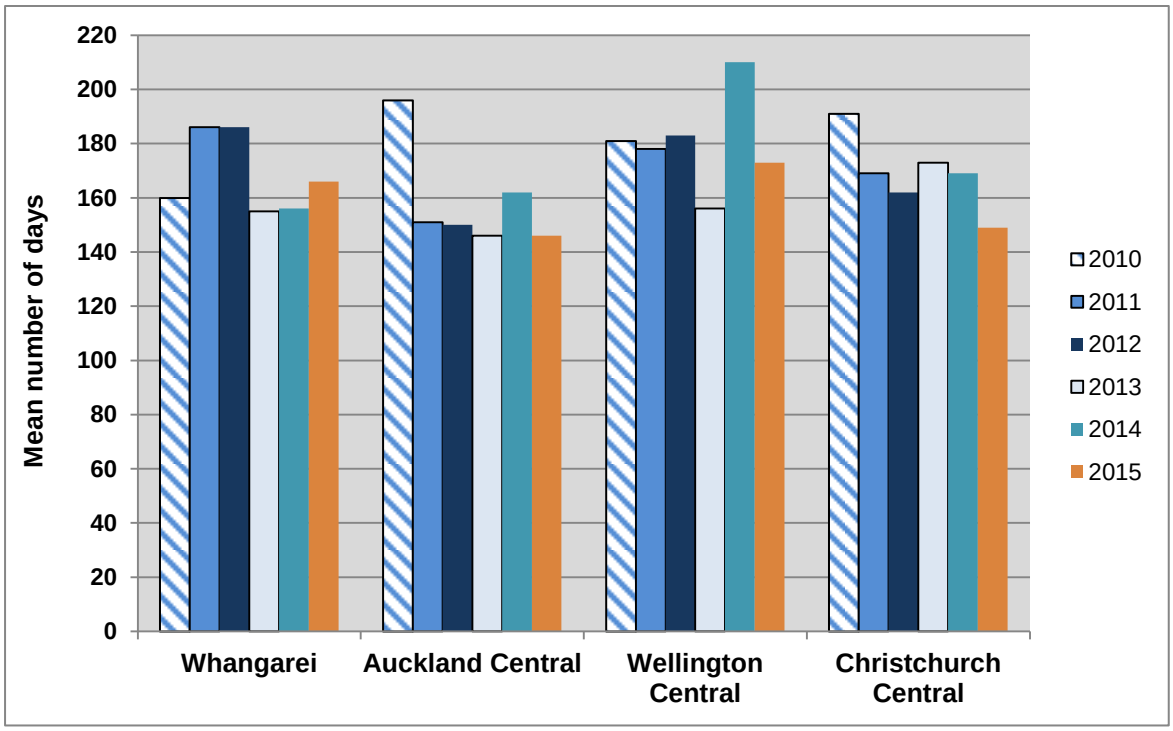
Figure 5 4: Proportion of police detainees who used cannabis in the past 30 days by location, 2010-2015



Frequency of cannabis use

The detainees had used cannabis on a mean of 155 days in the past 12 months in 2015 (median 100, 1-365 days). The mean number of days the detainees had used cannabis in the previous year declined from 187 days in 2010 to 155 days in 2015 (p=0.0052). Auckland Central detainees had used cannabis on fewer days from 2010 to 2015 (down from 196 days to 146 days, p=0.0192) (Figure 5.5).

Figure 5 5: Mean number days of cannabis use in the past 12 months by location, 2010-2015

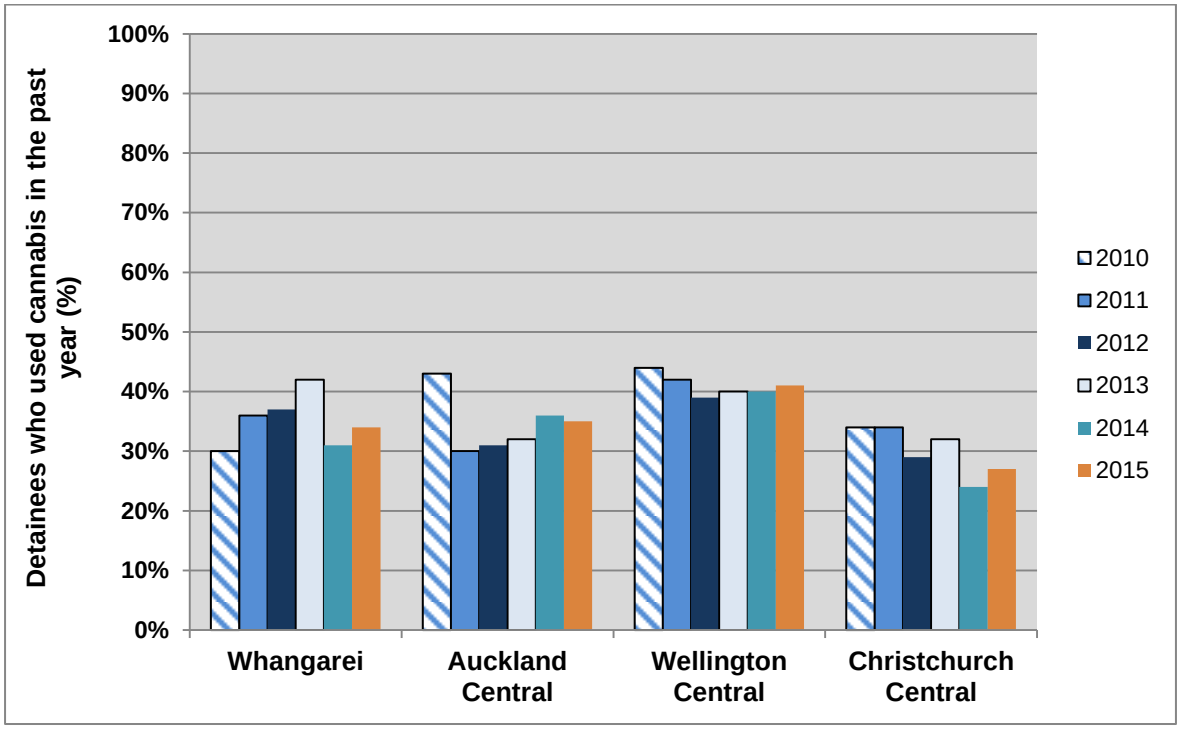


There was also a decrease in the mean number of days the detainees had used cannabis in the previous month, down from 18 days in 2010 to 15 days in 2015 (p=0.0532). The number of days of cannabis use in the past month had declined in Whangarei from 20 days in 2012 to 15 days in 2015 (p=0.0418).

Dependency on cannabis

Thirty-four percent of the detainees who had used cannabis in the previous year felt they were dependent on the drug in 2015, and there was no statistically significant change in dependency from previous years (Figure 5.6).

Figure 5 6: Proportion of police detainees who felt dependent on cannabis in the past year by location (of those who had used cannabis in the past 12 months), 2010-2015



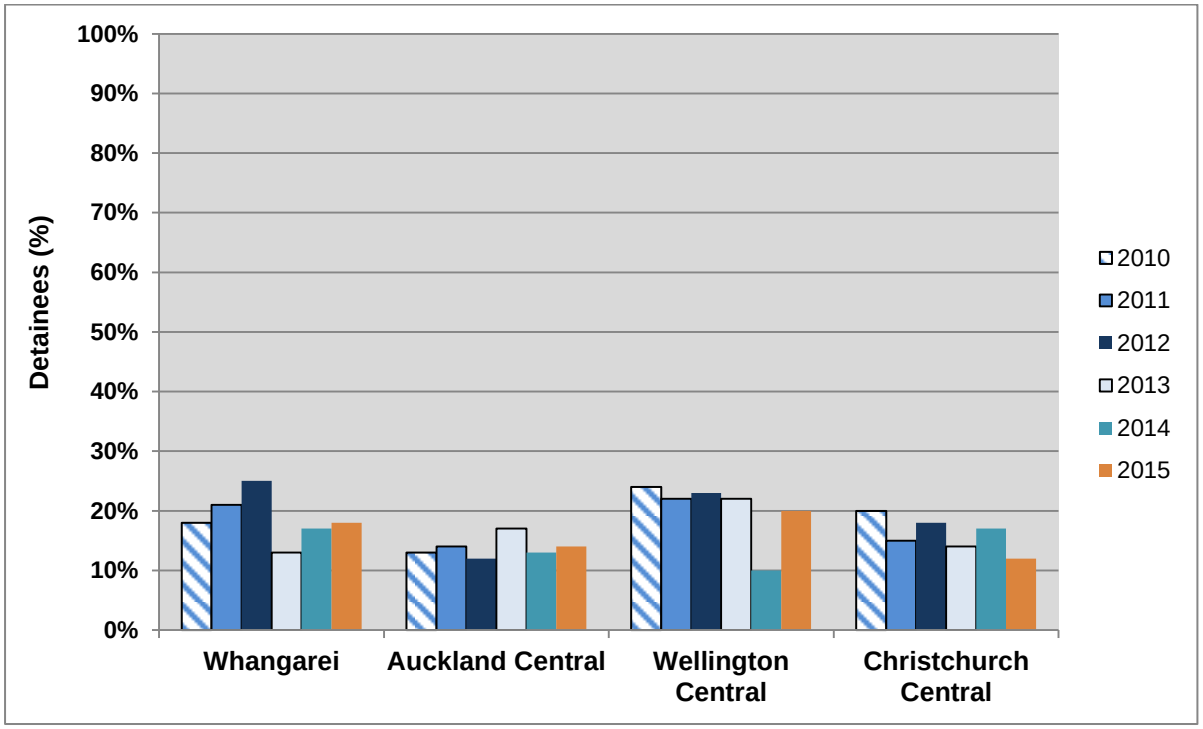
Cannabis use at the time of arrest

Fifteen percent of the detainees reported using cannabis prior to their arrest in 2015 (Table 5.2). There was no statistically significant change in the incidence of cannabis use at the time of arrest from 2010 to 2015 (p=0.2739) (Figure 5.7).

Table 5 2: Cannabis use by police detainees at time of arrest by location, 2010-2015

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%
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%
Welllington 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%
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%
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%

Figure 5 7: Proportion of police detainees who were using cannabis prior to being arrested by location, 2010-2015



Current availability of cannabis

The current availability of cannabis was described as 'very easy/easy' in 2015. The current availability of cannabis declined from 2013 to 2015 (down from 3.2 to 3.0, p=0.0135). The current availability of cannabis declined in Auckland Central (down from 3.4 in 2012 to 2.8 in 2015, p<0.0001) and Christchurch Central (down from 3.4 in 2010 to 3.0 in 2015, p=0.0004) (Figure 5.8). In 2015, the current availability of cannabis was lower in Auckland Central than in Wellington Central (2.8 vs. 3.2, p=0.0110) and Whangarei (2.8 vs. 3.2, p=0.0073).

Figure 5 8: Current availability of cannabis by location, 2010-2015

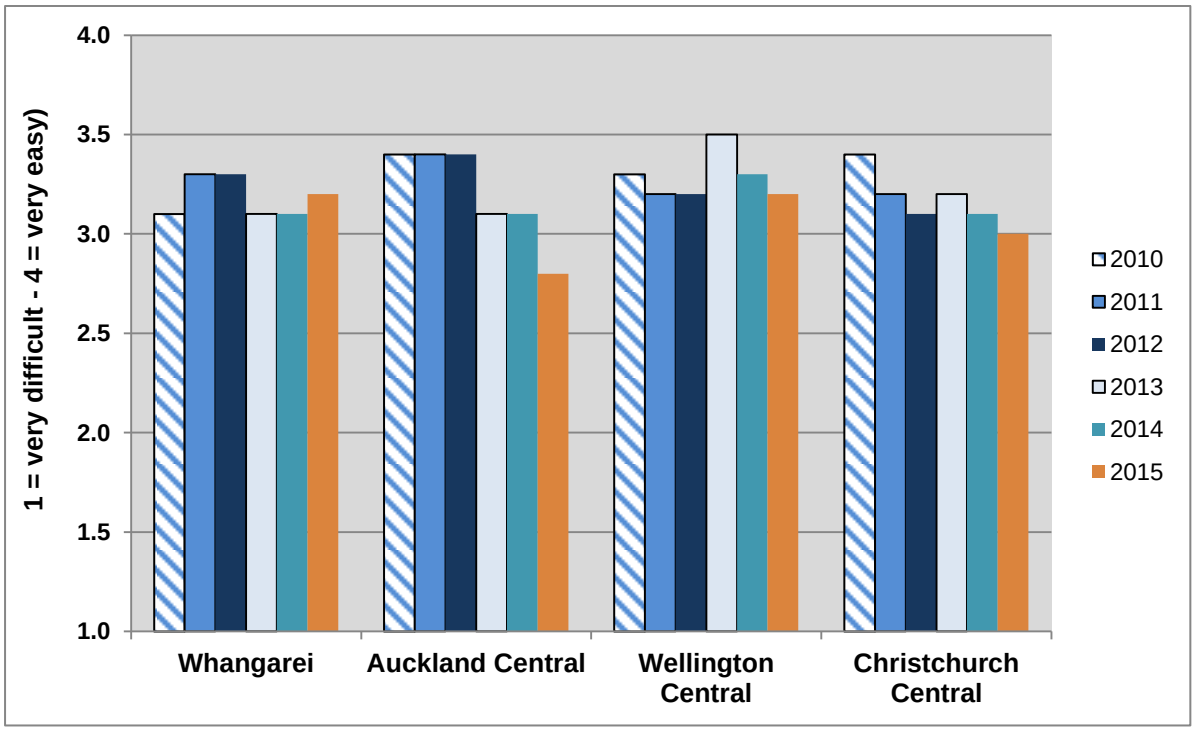


Table 5 3: Police detainees' perceptions of the current availability of cannabis by location, 2010-2015

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
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
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
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

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

Change in availability of cannabis

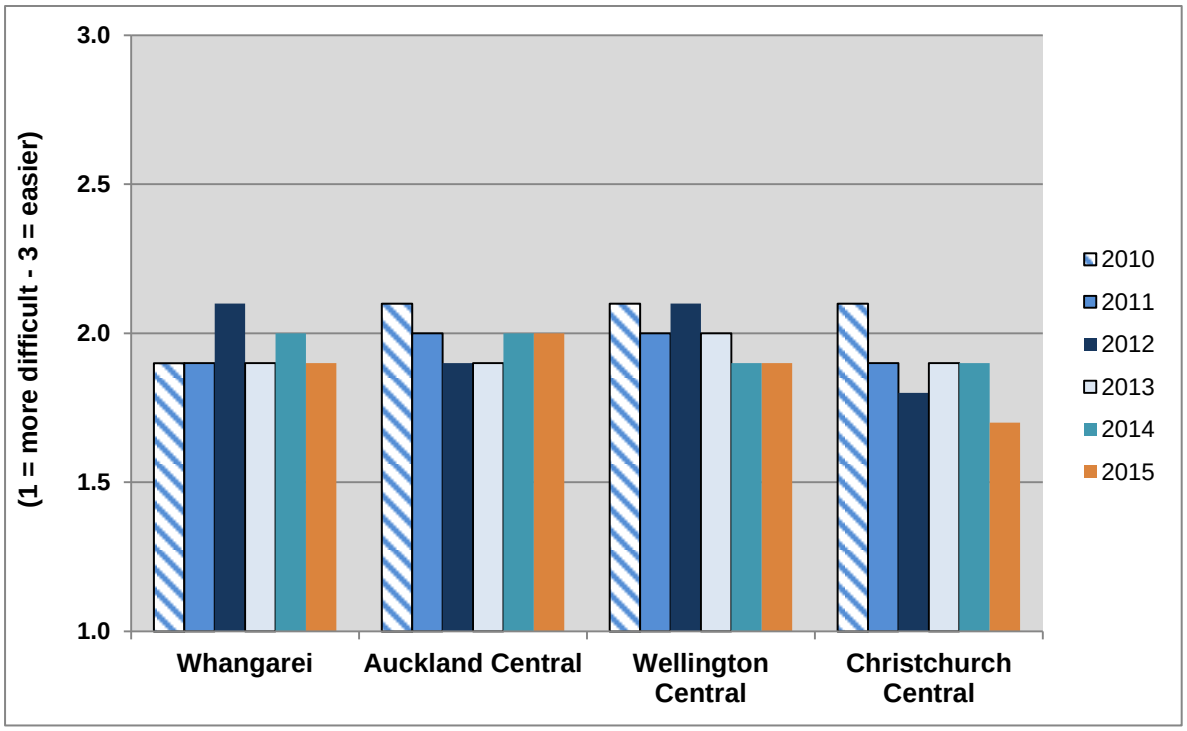
The detainees reported the availability of cannabis had been 'stable/more difficult' over the previous six months in 2015 (Table 5.4). Twenty-seven percent said the availability of cannabis had been 'more difficult' in the previous six months. Overall, cannabis was considered to have been more difficult to obtain from 2010 to 2015 (down from 2.1 to 1.9, $p<0.0001$). The availability of cannabis had declined in Christchurch Central from 2010 to 2015 (2.1 to 1.7, $p<0.0001$) (Figure 5.9). The availability of cannabis had also declined in Auckland Central (down from 2.1 in 2010 to 2.0 in 2015), but the decrease was not statistically significant ($p=0.1099$). Similarly, the availability of cannabis had declined in Wellington Central (down from 2.1 in 2010 to 1.9 in 2015), but again the decrease was not statistically significant ($p=0.0955$).

Table 5 4: Police detainees' perceptions of the change in availability of cannabis by location, 2010 – 2015

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
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
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
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

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

Figure 5 9: Change in the availability of cannabis by location, 2010-2015



Current price of cannabis

The detainees reported paying a median price of $20 for a 'tinny' of cannabis, $350 for an ounce of cannabis and $3,500 for a pound of cannabis in 2015 (Table 5.5). There was no change in the mean price paid for a 'tinny' of cannabis from 2010 to 2015 ($20 in all years) and between the sites in 2015 ($20 in the sites).

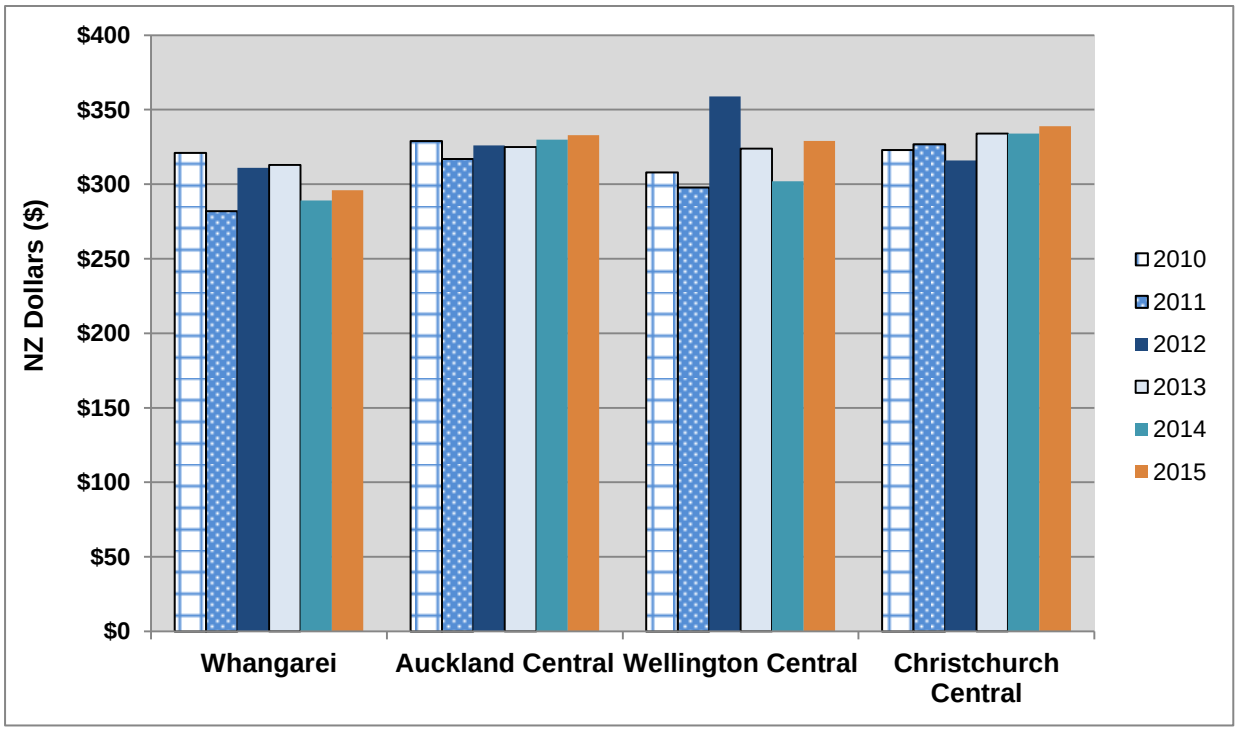
The mean price for an 'ounce' of cannabis increased in Christchurch Central from $316 in 2012 to $339 in 2015 (p=0.0003) (Figure 5.10). In 2015, the mean price for an ounce of cannabis was lower in in Whangarei than in Christchurch Central ($296 vs. $339, p<0.0001), Wellington Central ($296 vs. $329, p=0.0033) and Auckland Central ($296 vs. $333, p<0.0001).

Table 5 5: Current median (mean) price paid by police detainees for cannabis (NZD) by location, 2010-2015

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
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
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
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

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

Figure 5 10: Mean price of an ounce of cannabis by location, 2010-2015



Change in the price of cannabis

The detainees reported the price of cannabis had been 'stable' over the previous six months in 2015 (Table 5.6). Seventy-seven percent described the price as 'stable'. There was no change in perceptions of the change in the price of cannabis from 2010 to 2015 (i.e. 2.1 in all six years).

Table 5 6: Police detainees' perceptions of the change in the price of cannabis in the past six months by location, 2010-2015

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
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
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
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

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

Current strength of cannabis

The current strength of cannabis was reported to be 'high/medium' in 2015 (Table 5.7). There was no statistically significant difference in perceptions of the current strength of cannabis from 2012 to 2015.

Table 5 7: Police detainees' perceptions of current strength of cannabis in the past six months, 2012-2015

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
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
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
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
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

Change in strength of cannabis

The detainees were asked if the strength of cannabis had changed in the previous six months (Table 5.8). They strength of cannabis declined slightly from 2010 to 2015 (down from 2.1 to 2.0, p=0.0427). The strength of cannabis declined in Christchurch Central from 2013 to 2015 (down from 2.1 in 2013 to 1.9 in 2015, p=0.0115).

Table 5 8: Police detainees' perceptions of change in strength of cannabis in the past six months, 2012-2015

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
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
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
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
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

Time taken to purchase cannabis

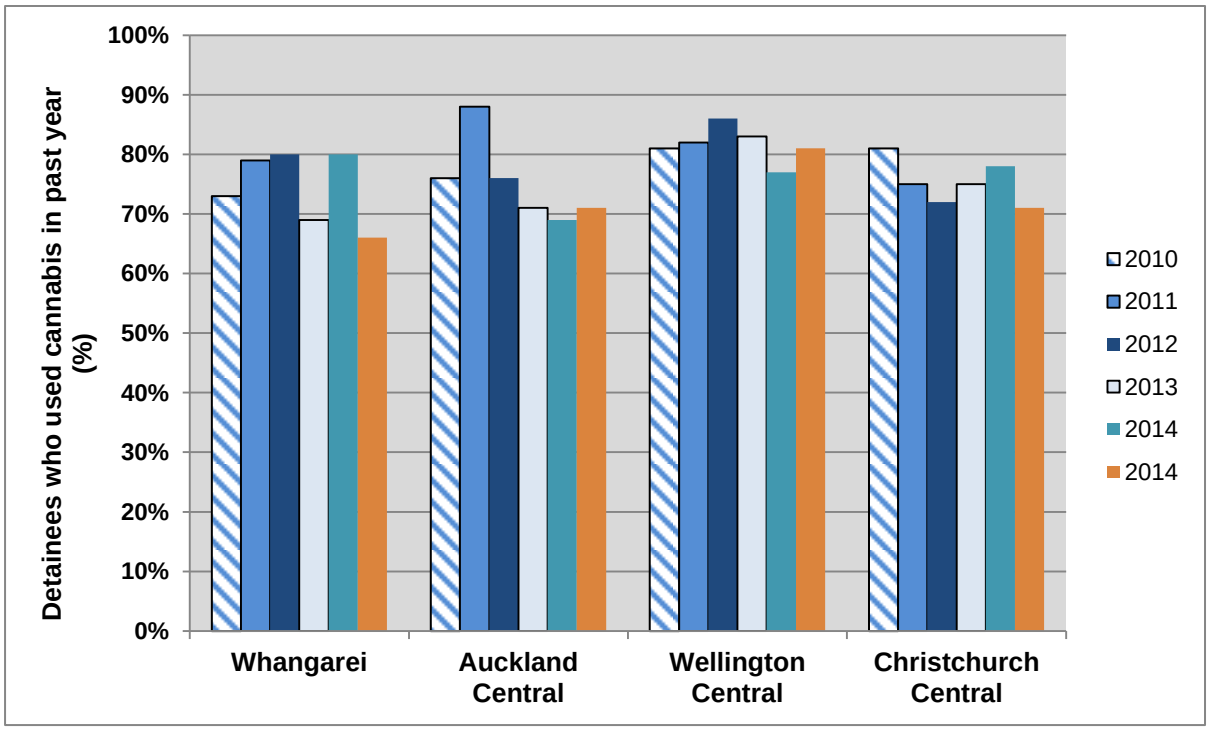
Seventy-two percent of the detainees who had used cannabis in the past 12 months were able to purchase it in one hour or less in 2015 (Table 5.7). Fifty-one percent could purchase it in 20 minutes or less. Overall, the proportion of the detainees who were able to purchase cannabis in one hour or less decreased from 81% in 2011 to 72% in 2015 (p=0.0006). A lower proportion of detainees in Auckland Central were able to purchase cannabis in one hour or less from 2011 to 2015 (down from 88% to 71%, p=0.0006) (Figure 5.11).

Table 5 9: Time taken by police detainees to purchase cannabis by location, 2010-2015

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
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
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
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

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

Figure 5 11: Proportion of police detainees who could purchase cannabis in one hour or less, 2010-2015



Effect of cannabis on the likelihood of becoming angry

Those detainees who reported using cannabis in the past 12 months were asked what effect using cannabis had on their likelihood of becoming angry. In 2015, 39% of the detainees said that using cannabis was 'much less likely' to make them become angry, and a further 31% said it was 'less likely' to make them become angry (Table 5.8).

Table 5 10: Effect of cannabis on police detainees' likelihood of becoming angry, 2010-2015

Effect of cannabis on likelihood of becoming angry	All Sites					
	2010	2011	2012	2013	2014	2015
	n=575	n=613	n=544	n=584	n=562	n=570
Much more likely [5]	1%	1%	1%	1%	<1%	1%
More Likely [4]	2%	2%	1%	2%	2%	2%
No effect [3]	29%	33%	30%	23%	25%	28%
Less likely [2]	27%	31%	36%	34%	29%	31%
Much less likely [1]	41%	33%	32%	41%	44%	39%
Mean impact on likelihood to become angry [1=much less - 5=much more]	1.9	2.1	2.0	1.9	1.9	2.0

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 2015, 24% of the cannabis using detainees said they did not drive and a further 9% said their driver license was suspended. Forty-three 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). There was no change from 2010 to 2015 in the level of driving under the influence of cannabis by the detainees.

Table 5 11: 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 - 2015

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
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
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
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

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

Summary

- The proportion of detainees who had ever tried cannabis increased slightly from 87% in 2010 to 94% in 2015
- The proportion of detainees who had used cannabis in the previous year declined from 76% in 2011 to 69% in 2015
- The proportion of detainees in Christchurch Central who had used cannabis in the past year declined 79% in 2011 66% in 2015
- The proportion of detainees who reported using cannabis in the past month decreased from 64% in 2011 to 56% in 2015
- The proportion of detainees in Christchurch Central who had used cannabis in the past month decreased from 67% in 2011 to 53% in 2015
- The mean number of days the detainees had used cannabis in the previous year declined from 187 in 2010 to 155 in 2015
- The number of days the Auckland Central detainees had used cannabis in the past year declined from 196 in 2010 to 146 in 2015
- The number of days the detainees had used cannabis in the previous month also declined from 18 days in 2010 to 15 days in 2015
- Thirty-four percent of the cannabis using detainees felt they were dependent on cannabis in 2015
- Fifteen percent of the detainees had been using cannabis prior to their arrest in 2015
- The current availability of cannabis was described as 'very easy/easy' in 2015
- The current availability of cannabis declined in Auckland Central and Christchurch Central in 2015 compared to recent years
- Cannabis was considered increasingly difficult to obtain from 2010 to 2015

- Christchurch Central detainees reported cannabis had become ‘more difficult’ to obtain from 2010 to 2015

- The median price for cannabis was $20 for a ‘tinny’, $350 for an ounce and $3,500 for a pound in 2015

- There was no change in the mean price paid for a ‘tinny’ of cannabis from 2010 to 2015 (i.e. $20 in all years)

- The mean price of an ounce of cannabis in Christchurch Central increased from $316 in 2012 to $339 in 2015

- The current strength of cannabis was reported to be ‘high/medium’ in 2015

- The proportion of detainees who were able to purchase cannabis in one hour or less decreased from 81% in 2011 to 72% in 2015

- The proportion of detainees in Auckland Central who were able to purchase cannabis in one hour or less decreased from 88% in 2011 to 71% in 2015

- In 2015, 43% of the cannabis using detainees who drove had completed at least some of their driving under the influence of cannabis

Chapter 6 – Ecstasy

Introduction

It is increasingly understood that that 'ecstasy' is an umbrella term which can refer to a range of drug types including MDMA (3,4-methylenedioxymethamphetamine), mixtures of MDMA and other illegal drugs and/or new psychoactive substances (NPS), and tablets which do not contain any MDMA but rather NPS which mimic its effects (UNODC, 2014). It is believed that this diversifying of 'ecstasy' ingredients from the traditional MDMA came about because of greater controls imposed over key ecstasy precursors by a number of Asian governments during the mid-2000s. The NPS compounds used as MDMA substitutes were much easier to source than MDMA and this led to large scale domestic manufacture of ecstasy in New Zealand from around 2009 onwards. Reflecting these global and domestic supply changes, frequent drug users interviewed for the IDMS have reported declining strength and prices for ecstasy over the past five years.

More recently, there have been reports of a returning MDMA supply in Europe, and this may lead to resurgence in use (EMCDDA, 2016; EMCDDA & Europol, 2016; UNODC, 2012, 2013). Increasing levels of MDMA in ecstasy are thought to be behind the recovery in preference for ecstasy in Australia (Sindicich & Burns, 2012). This picture of improving global MDMA supply has been complicated in the New Zealand context by a series of successful law enforcement operations against local ecstasy syndicates in late 2011 and 2012 (NDIB, 2013). These operations appear to have been responsible for a decline in availability and rise in the price of 'ecstasy' in Auckland and other cities (Wilkins et al., 2012b).

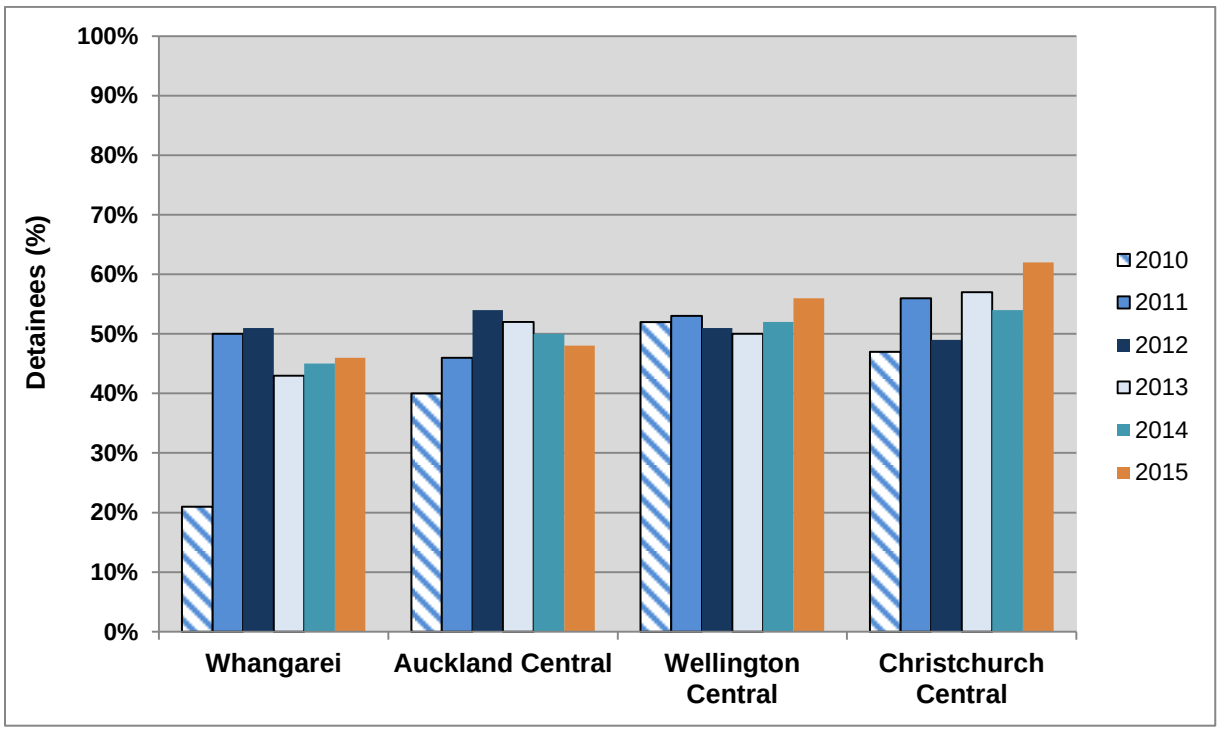
The 2014 NZ-ADUM found the proportion of detainees who had used ecstasy in the previous year declined from 24% in 2012 to 16% in 2014. The availability of ecstasy declined in Whangarei and Central Auckland. The price of a tablet of ecstasy also declined steadily from $50 in 2010 to $39 in 2014. The 2014 IDMS found a sharp increase in the use, availability and strength of ecstasy in Christchurch. The proportion of frequent drug users from Christchurch

who reported ecstasy was 'very easy' to obtain increased from 9% in 2013 to 25% in 2014, and the proportion who had purchased ecstasy weekly or more often increased from 2% in 2013 to 30% in 2014. Similarly to the explanation for the rise in methamphetamine use in Christchurch, this surge in supply of ecstasy may be driven by the influx of construction workers to Christchurch.

Use of ecstasy

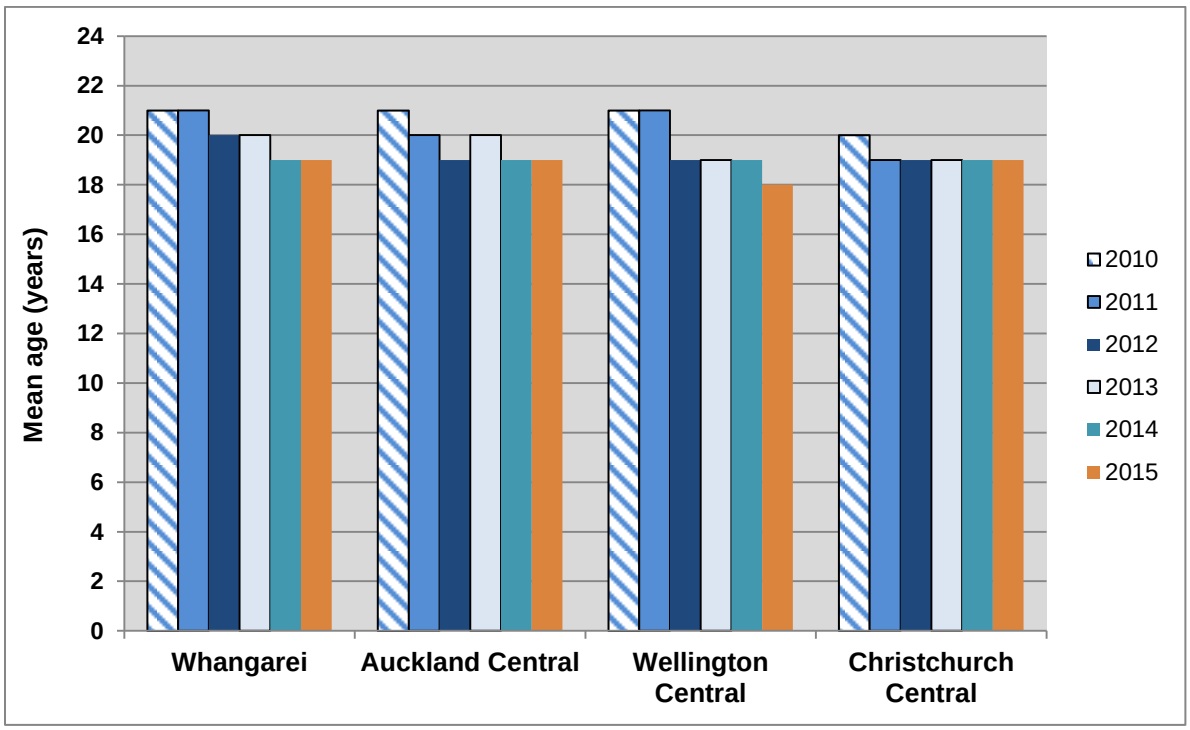
In 2015, 54% of the police detainees had tried ecstasy in their lifetimes, 19% had used it in the past 12 months and 6% had used it in the past month (Table 6.1). The proportion of detainees who had ever tried ecstasy increased from 42% in 2010 to 54% in 2015 ($p<0.0001$). The proportion of detainees from Whangarei who had tried ecstasy increased from 21% in 2010 to 46% in 2015 ($p=0.0005$) (Figure 6.1). The proportion of detainees from Christchurch Central who had tried ecstasy increased from 47% in 2010 to 62% in 2015 ($p=0.0029$). In 2015, Christchurch Central detainees were more likely to have tried ecstasy in their lifetimes than Auckland Central detainees (62% vs. 48%, $p=0.0054$) and Whangarei detainees (62% vs. 46%, $p=0.0044$).

Figure 6 1: Proportion of police detainees who had ever used ecstasy by location, 2010-2015



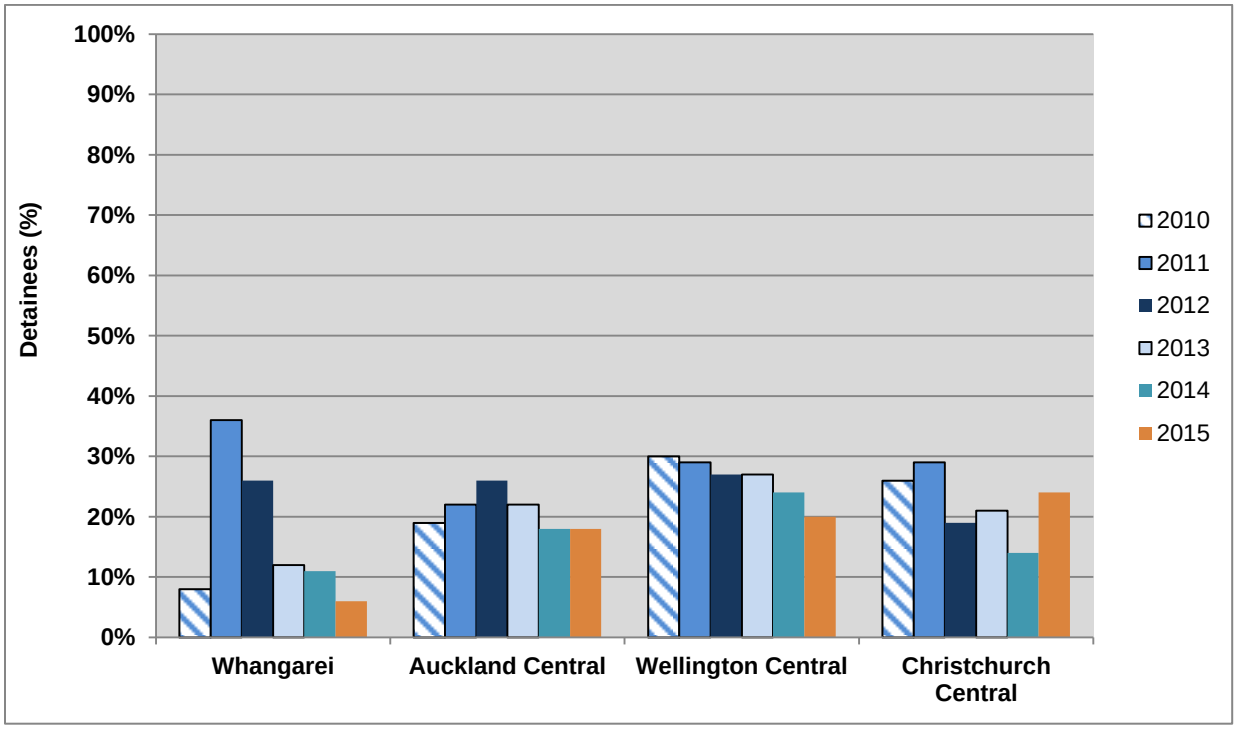
The detainees had used ecstasy for the first time at a mean age of 19 years in 2015. The mean age at which the detainees had first used ecstasy declined from 21 years in 2010 to 19 years in 2015 ($p<0.0001$). The mean age at which detainees had first tried ecstasy declined in Wellington Central (from 21 years in 2010 to 18 years in 2015, $p=0.0033$) and in Auckland Central (from 21 years in 2010 to 19 years in 2015, $p=0.0178$) (Figure 6.2).

Figure 6 2: Mean age at which detainees had first tried ecstasy by location, 2010-2015



The proportion of detainees who had used ecstasy in the previous year decreased from 28% in 2011 to 19% in 2015 (p=0.0003) (Figure 6.3). The proportion of Whangarei detainees who had used ecstasy in the previous year declined from 36% in 2011 to 6% in 2015 (p<0.0001). Conversely, the proportion of Christchurch Central detainees who had used ecstasy in the previous year increased from 14% in 2014 to 24% in 2015 (p=0.0169). In 2015, Whangarei detainees were less likely to report ecstasy use in the previous year than those in Auckland (6% vs. 18%, p=0.0035), Wellington Central (6% vs. 20%, p=0.0038) and Christchurch Central (6% vs. 24%, p<0.0001).

Figure 6 3: Proportion of police detainees who had used ecstasy in the past 12 months by location, 2010-2015



The proportion of detainees who had used ecstasy in the previous month decreased from 11% in 2011 to 6% in 2015 (p=0.0033). The proportion of detainees who had used ecstasy in the previous month in Auckland Central decreased from 11% in 2011 to 4% in 2015; this decrease was close to being statistically significant (p=0.0602) (Figure 6.4).

Figure 6 4: Proportion of police detainees who had used ecstasy in the past month by location, 2010-2015

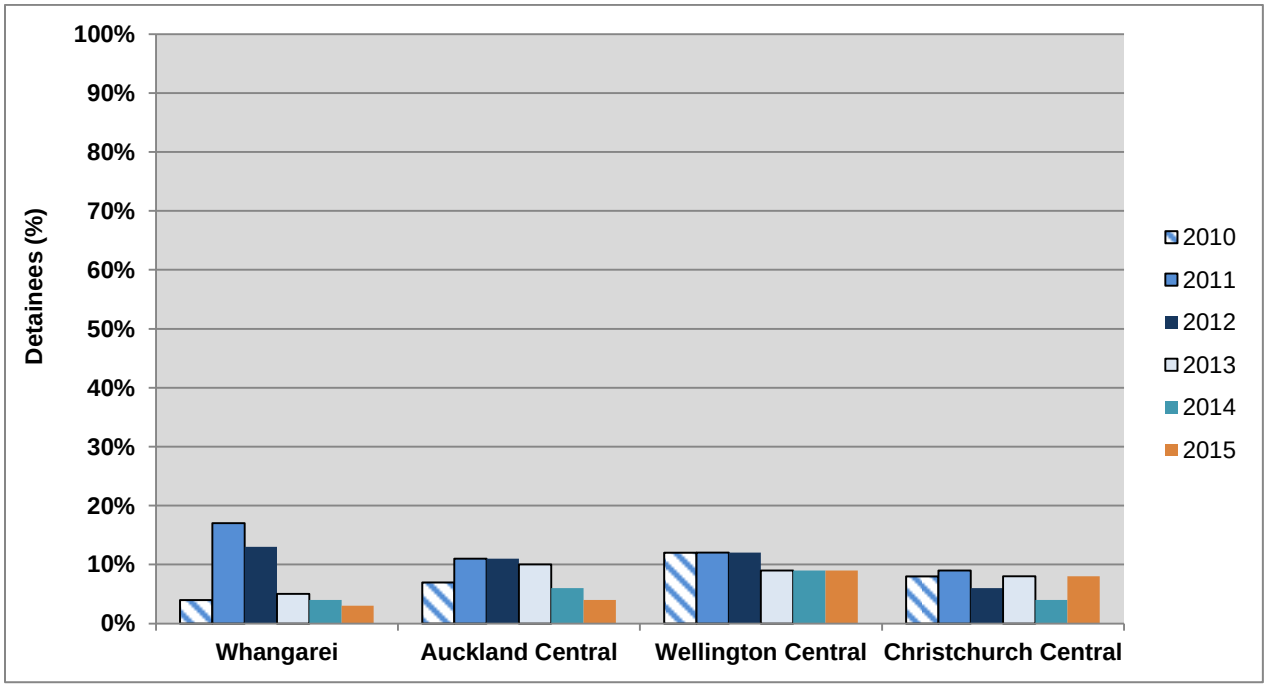


Table 6 1: Police detainees' patterns of ecstasy use by location, 2010-2015

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
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
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
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

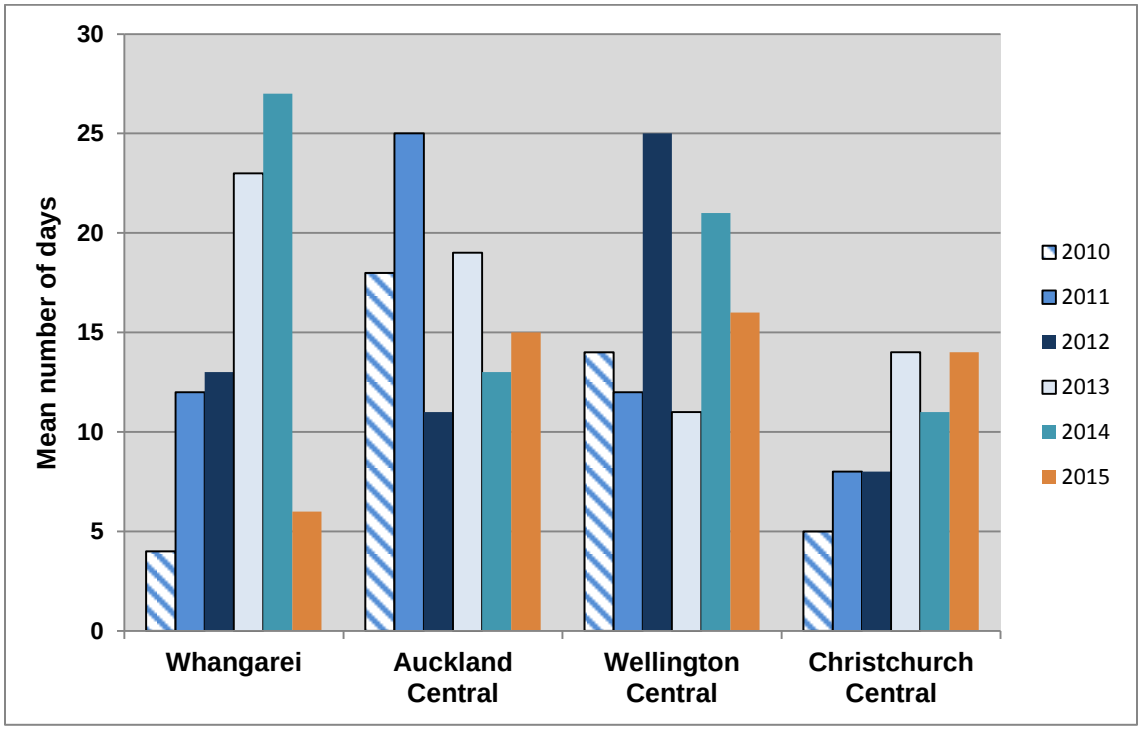
All Sites	2010	n=814	42%	21	22%	11	4%	8%	2
	2011	n=827	51%	20	28%	14	4%	12%	3
	2012	n=802	51%	19	24%	13	2%	10%	3
	2013	n=841	52%	20	22%	16	1%	9%	3
	2014	n=835	51%	19	16%	16	4%	5%	2
	2015	n=835	54%	19	19%	14	3%	6%	3

* 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 14 days in the past 12 months in 2015 (median 2, range 1–365 days). The number of days the detainees had used ecstasy in the past year increased from 11 days in 2010 to 14 days in 2015 (p=0.0021). The number of days detainees in Christchurch Central had used ecstasy increased from 5 days in 2010 to 14 days in 2015 (p=0.0091) (Figure 6.5).

Figure 6 5: Mean number of days police detainees had used ecstasy in the past year by location, 2010-2015



Dependency on ecstasy

The detainees who had used ecstasy in the past 12 months were asked if they had felt dependent on ecstasy during this time. Only 3% of the ecstasy using detainees said they had felt dependent on ecstasy in 2015.

Ecstasy use at the time of arrest

Only one percent of the detainees had been using ecstasy prior to their arrest in 2015, and this had not changed from previous years.

Current availability of ecstasy

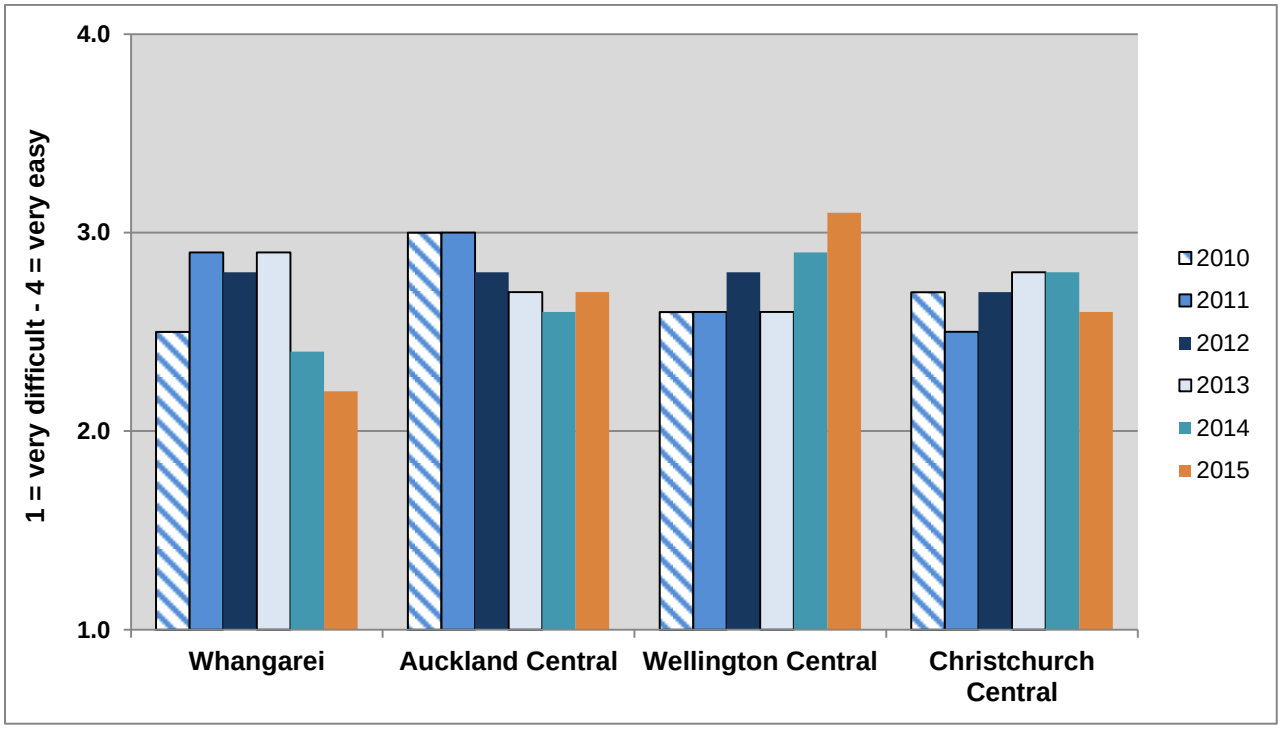
The detainees reported the current availability of ecstasy to be 'easy/very easy' in 2015. Thirty-six percent of the detainees considered the current availability of ecstasy to be 'easy', 26% said it was 'very easy' and 23% said it was 'difficult' (Table 6.2). There was no change in perceptions of the current availability of ecstasy from 2010 to 2015 (p=0.9903).

Table 6 2: Police detainees' perceptions of the current availability of ecstasy by location, 2010-2015

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
Auckland Central	2010	n=49	35%	39%	22%	4%	3.0	Easy / very easy
	2011	n=62	34%	39%	23%	5%	3.0	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
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
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

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

Figure 6 6: Mean score of the current availability of ecstasy by location, 2010-2015



Change in availability of ecstasy

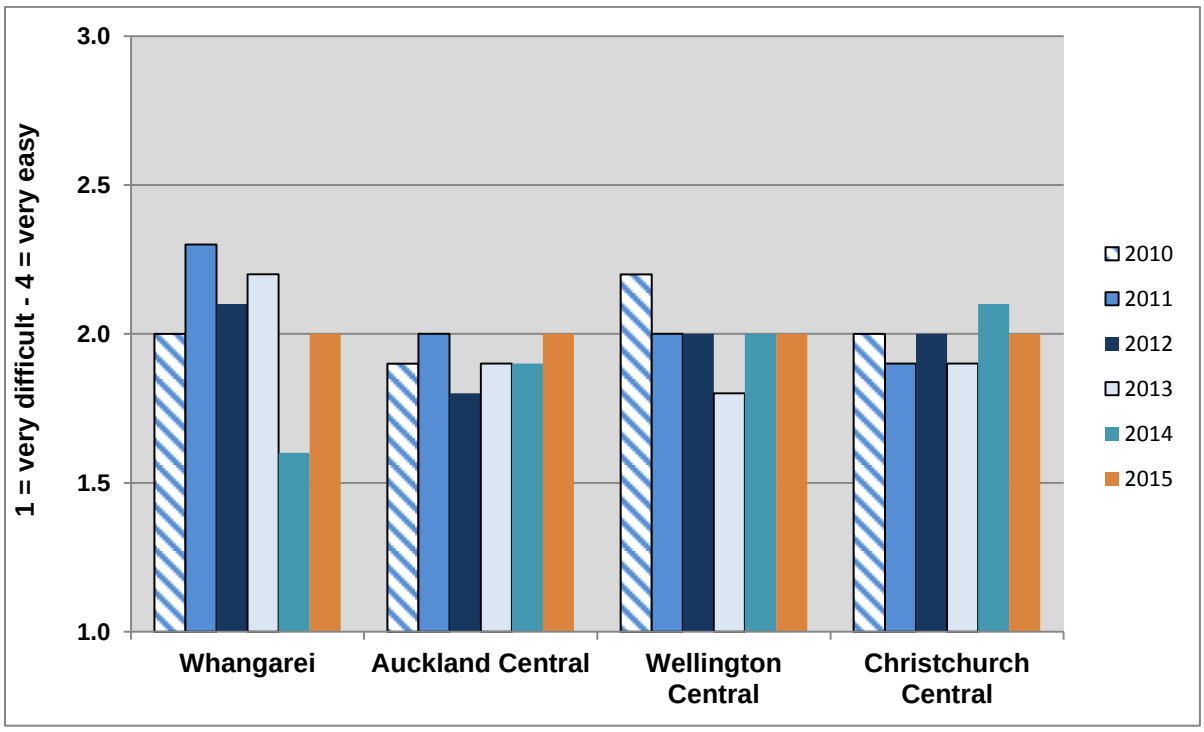
In 2015, 46% of the detainees reported the availability of ecstasy had been 'stable', 21% said it had become 'more difficult' and 14% said it had been 'fluctuating' over the previous six months (Table 6.3). There was no statistically significant change in the perception of the change in the availability of ecstasy from 2010 to 2015 (p=0.4983) (i.e. largely 'stable/more difficult').

Table 6 3: Police detainees' perceptions of the change in availability of ecstasy by location, 2010-2015

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
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
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
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

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

Figure 6 7: Mean score of the change in the availability of ecstasy by location, 2010-2015



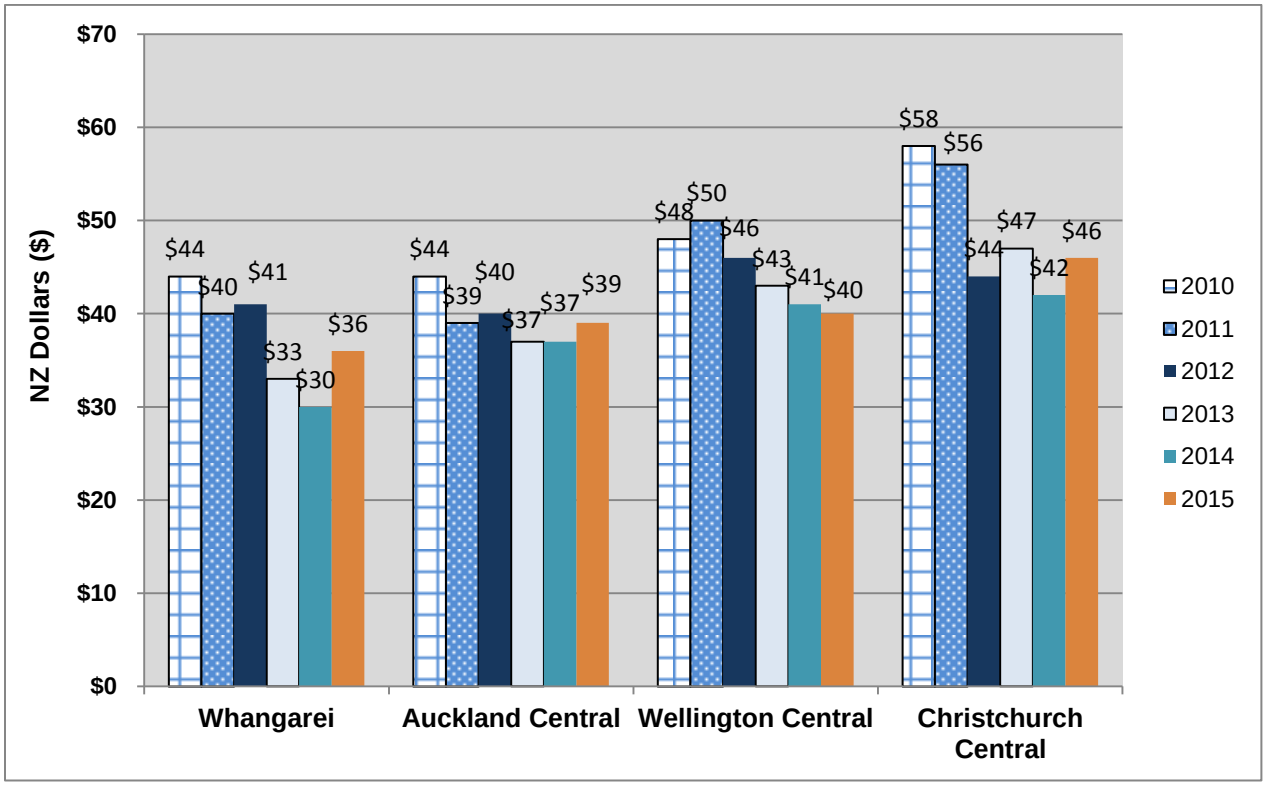
Current price of ecstasy

The detainees reported the median price of a pill of ecstasy was $40 in 2015 (mean $42) (Table 6.4). The price of a pill of ecstasy decreased from $50 in 2010 to $42 in 2015 (p=0.0013) (Figure 6.8). The detainees in Wellington Central reported a decline in the price of an ecstasy pill from $50 in 2011 to $40 in 2015 (p=0.0544). The price paid for a pill of ecstasy by the Christchurch Central detainees declined from $58 in 2010 to $46 in 2015 (p=0.0040).

Table 6 4: Current median (mean) price paid by police detainees for a pill of ecstasy (NZD) by location, 2010-2015

Current price of ecstasy ($)	Median (mean) price "Pill"			
	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
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
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
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
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

Figure 6 8: Mean price paid for a pill of ecstasy by location, 2010-2015



Change in the price of ecstasy

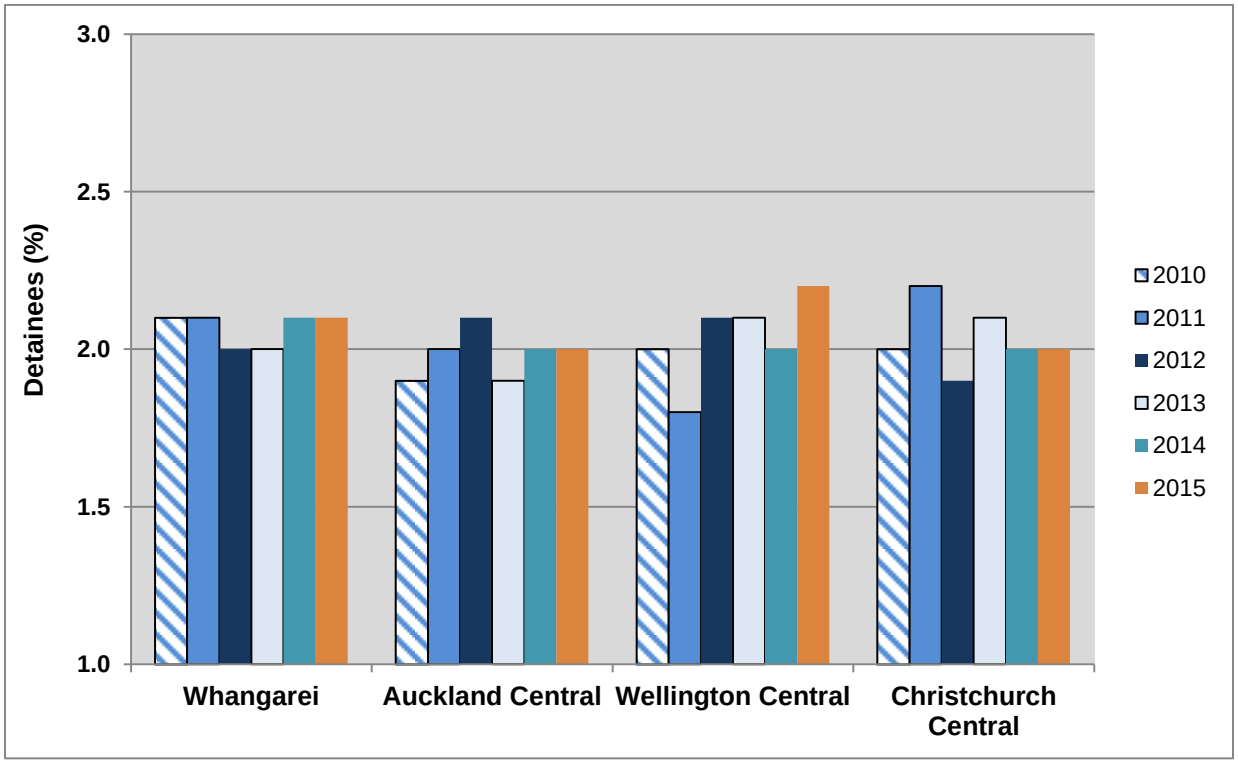
The detainees reported the price of ecstasy had been 'stable/fluctuating' over the past six months in 2015 (Table 6.6). There was no statistically significant change in the detainees' perceptions of the change in the price of ecstasy from 2010 to 2015.

Table 6 5: Police detainees' perceptions of the change in the price of ecstasy in the past six months by location, 2010-2015

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
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
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
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

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

Figure 6 9: Mean score of the change in the price of ecstasy by location, 2010-2015



Current strength of ecstasy

In 2015, 35% of the detainees reported the current strength of ecstasy was 'high', 25% said it was 'medium', and 19% said it was 'low' (Table 6.6). There was an increase in the reported current strength of ecstasy from 2013 to 2015 (up from 1.9 to 2.2, p=0.0446). The strength of ecstasy had increased in Wellington Central from 2012 to 2015 (up from 1.5 to 2.2, p=0.0069).

Table 6 6: Police detainees' perceptions of the current strength of ecstasy in the past six months by location, 2012-2015

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
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
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
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
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

Change in strength of ecstasy

Forty-two percent of the detainees reported the strength of ecstasy had been 'stable', 27% said it had been 'fluctuating' and 20% said it had been 'decreasing' in the previous six months in 2015 (Table 6.7). There was no statistically significant change in perceptions of the change in the strength of ecstasy from 2012 to 2015.

Table 6 7: Police detainees' perceptions of change in strength of ecstasy in the past six months by location, 2012- 2015

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
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
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
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
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

Time taken to purchase ecstasy

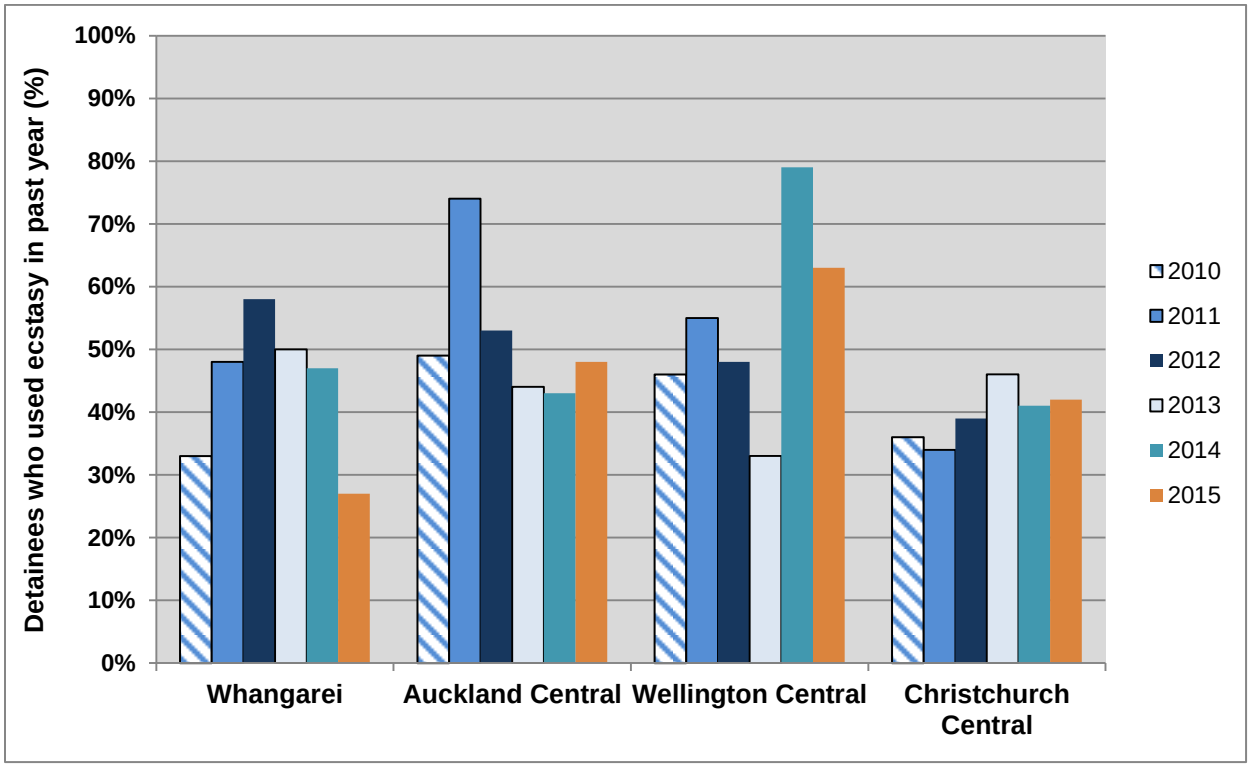
Forty-seven percent of the detainees who had used ecstasy in the previous year were able to purchase it in one hour or less in 2015 (Table 6.8). The proportion of detainees in Auckland Central who were able to purchase ecstasy in one hour or less decreased from 74% in 2011 to 48% in 2015, although this decline was not statistically significant (p=0.0810) (Figure 6.10).

Table 6 8: Time taken by police detainees to purchase ecstasy by location, 2010-2015

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%
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%
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%
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%

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%

Figure 6 10: Proportion of police detainees who could purchase ecstasy in one hour or less, 2010-2015



Effect of ecstasy on the likelihood of becoming angry

Those detainees who reported using ecstasy in the past 12 months were asked what effect using ecstasy had on their likelihood of becoming angry. The detainees largely reported that using ecstasy was 'less likely' or had 'no effect' on their likelihood of becoming angry.

Table 6 9: Effect of ecstasy on police detainees' likelihood of becoming angry, 2010-2015

Effect of ecstasy on likelihood of becoming angry	All Sites					
	2010	2011	2012	2013	2014	2015
	n=164	n=213	n=167	n=187	n=134	n=140
Much more likely [5]	2%	2%	4%	3%	1%	3%
More Likely [4]	5%	5%	3%	7%	12%	6%
No effect [3]	34%	39%	42%	45%	43%	49%
Less likely [2]	24%	24%	28%	25%	18%	23%
Much less likely [1]	36%	30%	23%	21%	24%	20%
Mean impact on likelihood to become angry [1=much less - 5=much more]	2.1	2.3	2.4	2.5	2.5	2.5

Driving under the influence of ecstasy

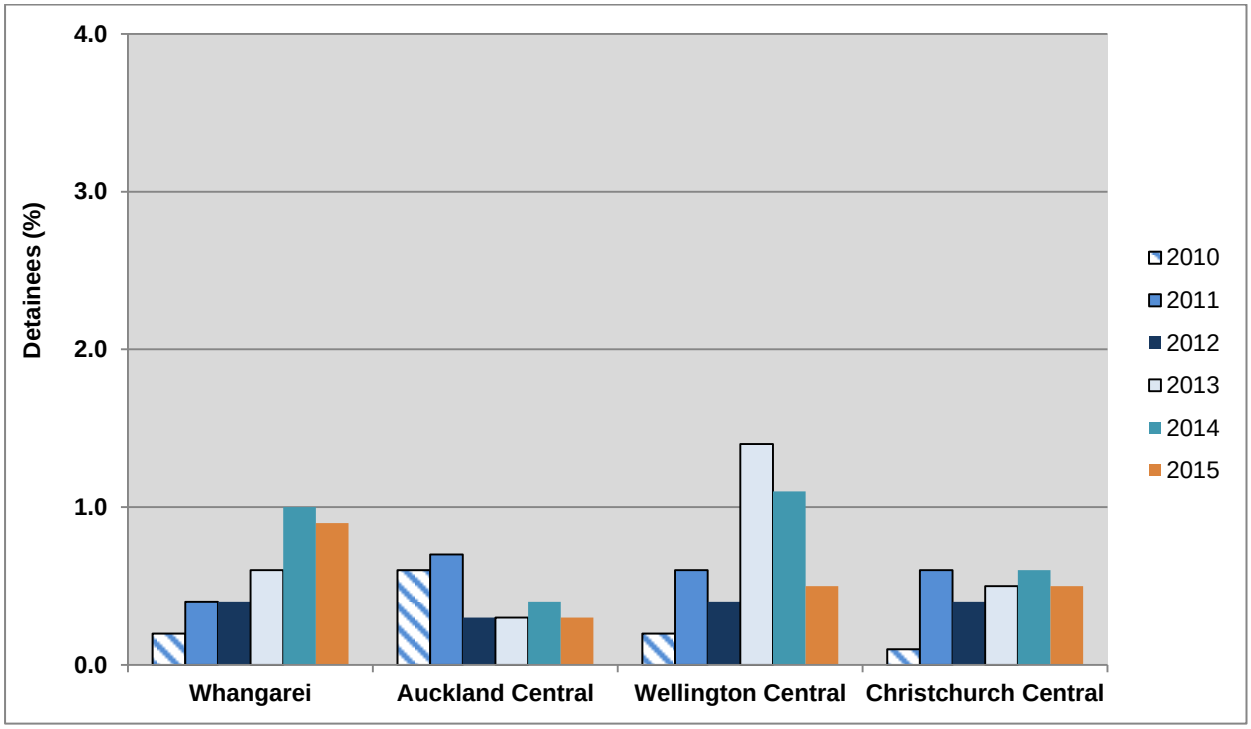
Those detainees who had used ecstasy in the past year were asked how often they drove under the influence of ecstasy. Nineteen percent of the detainees said they did not drive and a further 11% said their driver license was suspended. In 2015, 15% of the ecstasy using detainees had completed at least some of their driving under the influence of ecstasy (Table 6.10).

Table 6 10: Extent police detainees who drove and who used ecstasy in the past 12 months had driven under the influence of ecstasy by location, 2010 - 2015

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%	1.0
	2015	n=10	10%	0%	20%	10%	60%	0.9
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
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
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

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

Figure 6 11: Mean score of the extent to which police detainees who drove and who used ecstasy in the past 12 months had driven under the influence of ecstasy by location, 2010-2015



Summary

- The proportion of detainees who had tried ecstasy in their lifetimes increased from 42% in 2010 to 54% in 2015
- The mean age at which the detainees had first tried ecstasy declined from 21 years in 2010 to 19 years in 2015
- The proportion of detainees who had used ecstasy in the previous year decreased from 28% in 2011 to 19% in 2015
- The proportion of Whangarei detainees who had used ecstasy in the previous year declined from 36% in 2011 to 6% in 2015
- Conversely, the proportion of Christchurch Central detainees who had used ecstasy in the previous year increased from 14% in 2014 to 24% in 2015
- The number of days the detainees had used ecstasy in the previous year increased slightly from 11 in 2010 to 14 in 2015
- The number of days detainees in Christchurch Central had used ecstasy in the past year increased from five days in 2010 to 14 days in 2015
- Only three percent of the ecstasy using detainees felt they were dependent on the drug in 2015
- Only one percent of the detainees had been using ecstasy prior to their arrest in 2015
- The current availability of ecstasy was reported to be 'easy/very easy' in 2015
- The availability of ecstasy was described as 'stable/more difficult' in the previous six months in 2015
- The mean price of a pill of ecstasy has declined from $50 in 2010 to $42 in 2015
- The mean price of a pill of ecstasy declined in Christchurch Central from $58 in 2010 to $46 in 2015
- The detainees reported the price of ecstasy was 'stable/fluctuating' in 2015

- The current strength of ecstasy was reported to be ‘high/medium’ in 2015
- The current strength of ecstasy increased from 2013 to 2015
- Forty-seven percent of detainees who had used ecstasy in the previous year were able to purchase it in one hour or less in 2015
- The proportion of detainees in Auckland Central who were able to purchase ecstasy in one hour or less decreased from 74% in 2011 to 48% in 2015
- In 2015, 43% of detainees thought ecstasy was ‘less likely’ or ‘much less likely’ to make them feel angry
- The detainees were more likely to report that ecstasy increased their likelihood of becoming angry from 2010 to 2015
- In 2015, 15% of detainees who drove and used ecstasy had competed some of their driving under the influence of ecstasy

Chapter 7 - Opioids

Introduction

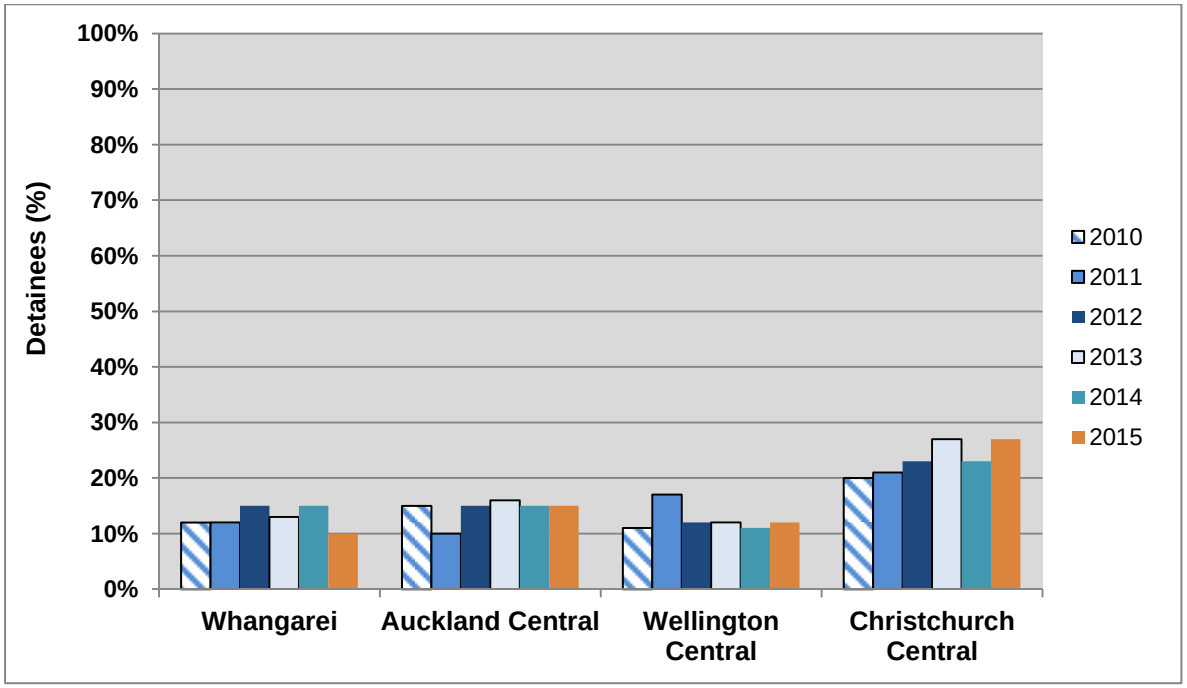
The international supply of heroin to New Zealand was substantially disrupted in the late 1970s by the arrest of members of the 'Mr Asia' international heroin syndicate (New Zealand Customs Service, 2002; Newbold, 2000). In the subsequent decades three domestic sources of opioids emerged to largely replace 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). Consequently, to gain a picture of opioid drug use among the police detainees they were asked about the use of a range of opioids including 'heroin, morphine, opiates/opioids, smack, skag, junk and misties'.

While morphine has traditionally been the principal opioid used by injecting drug users in New Zealand, there is evidence that newer pharmaceutical opioid products, such as oxycodone, are increasingly being used (Wilkins et al., 2011a). The IDMS found the proportion of frequent injecting drug users using oxycodone increased from 9% in 2008 to 46% in 2013, before decreasing to 20% in 2014, perhaps reflecting tighter prescribing practices (Wilkins, et al., 2015b). The IDMS had previously found a sudden decline in the availability of 'street' morphine in Christchurch from 2011 to 2013, accompanied by a substantial increase in price, suggesting a major disruption in the market. The availability of morphine recovered quite sharply in 2014. The proportion of frequent drug users from Christchurch who had purchased street morphine from a 'gang member' increased from 7% in 2012 to 51% in 2014, and the proportion who purchased from a 'drug dealer' increased from 46% in 2011 to 98% in 2014. These findings suggest organised drug dealing gangs may be having a growing influence on the street morphine market in Christchurch.

Use of opioids

Eighteen percent of the police detainees had used an opioid in their lifetimes, 6% had used an opioid in the previous 12 months and 3% had used an opioid in the past 30 days in 2015 (Table 7.1). There was no statistically significant change in the proportion of detainees who had ever tried opioids from 2010 to 2015 (p=0.4883). In 2015, detainees in Christchurch Central were more likely to have ever tried an opioid than detainees in Auckland Central (27% vs. 15%, p=0.0044), Whangarei (27% vs. 10%, p<0.0001) and Wellington Central (27% vs. 12%, p=0.0139) (Figure 7.1).

Figure 7 1: Proportion of police detainees who had ever used opioids by location, 2010-



There was no statistically significant change in the age at which the detainees had first tried opioids in 2015 compared to 2010 (20 vs. 21 years, p=0.4285). There was also no change in the proportion of detainees who had used an opioid in the previous 12 months from 2010 to 2015 (i.e. 8% to 6%). In 2015, detainees in Christchurch Central were more likely to have used an opioid in the previous 12 months than detainees in Whangarei (11% vs. 2%, p=0.0094) and Auckland Central (11% vs. 4%, p=0.0113) (Figure 7.2).

Figure 7 2: Proportion of police detainees who had used opioids in the past 12 months by location, 2010-2015

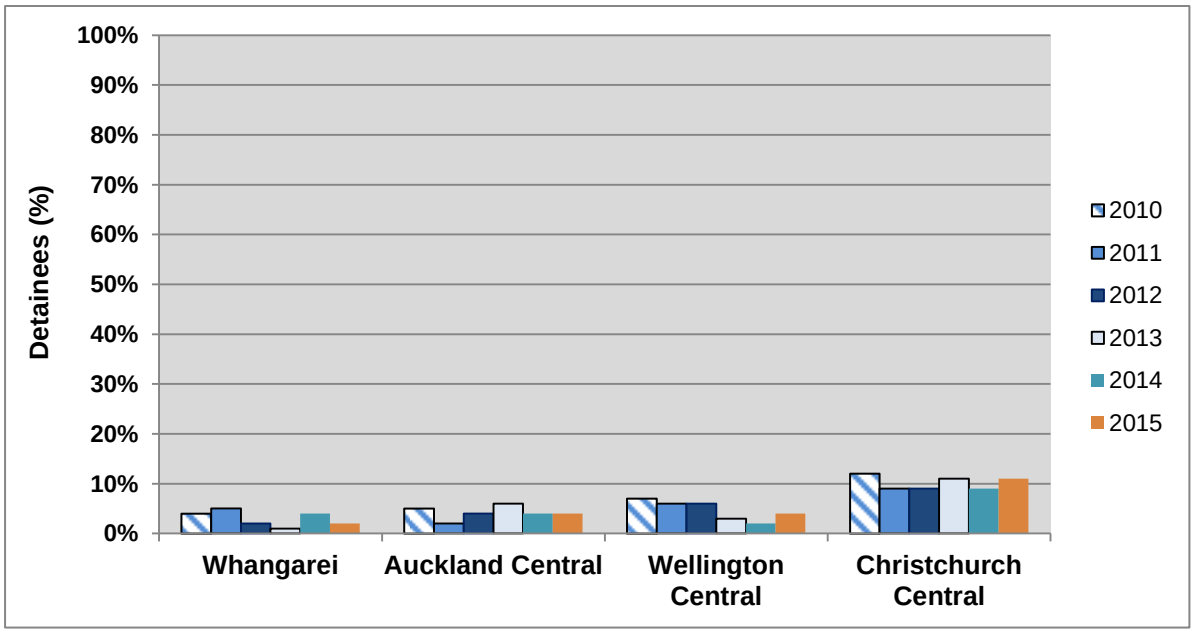


Table 7 1: Police detainees' patterns of opioid use by location, 2010-2015

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
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
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
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

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

* 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 92 days in the past 12 months in 2015 (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 2015.

Dependency on opioids

Forty percent of the detainees who had used an opioid in the previous year reported they felt dependent on them in 2015. There was no statistically significant change in level of dependency on opioids from 2010 to 2015.

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 2015, and this had not changed from previous years.

Current availability of opioids

Thirty-six percent of detainees described the current availability of opioids as 'very easy', 24% as 'easy' and 23% as 'difficult' in 2015 (Table 7.2). There was no statistically significant change in the current availability of opioids from 2010 to 2015.

Table 7 2: Police detainees' perceptions of the current availability of opioids, 2010-2015

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

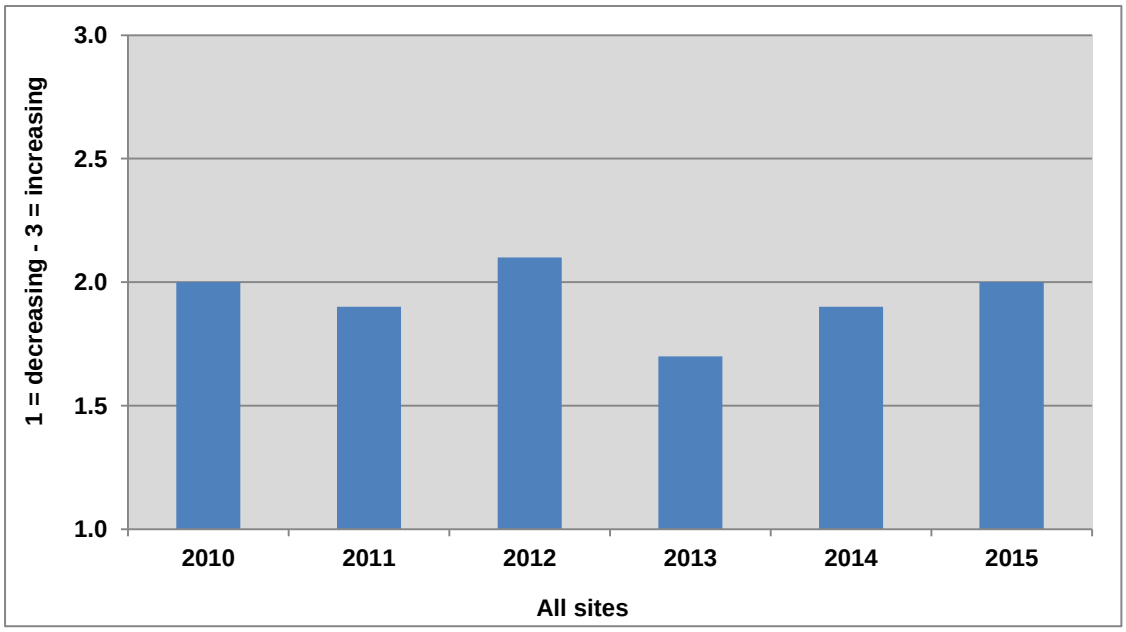
Change in availability of opioids

Thirty-four percent of the opioid using detainees reported the availability of opioids had been 'stable', 25% said availability was 'more difficult', and 21% said it was 'easier' compared to the previous six months in 2015 (Table 7.3).

Table 7 3: Police detainees' perceptions of the change in availability of opioids, 2010-2015

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

Figure 7 3: Change in the availability of opioids, 2010-2015



Current price of opioids

Only 29 of the detainees reported the price of opioids in 2015. 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 $1.40 per milligram).

Change in the price of opioids

Seventy-three percent of the opioid using detainees reported the price of opioids had been 'stable' over the previous six months in 2015 (Table 7.4). There was no statistically significant change in the perceptions of the change in the price of opioids from 2010 to 2015.

Table 7 4: Police detainees' perceptions of the change in the price of opioids in the past six months, 2010-2015

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

Current strength of opioids

The opioid using detainees described the current strength of opioids as 'medium/high' in 2015 (Table 7.5). There was no statistically significant change in the current strength of opioids from 2012 to 2015.

Table 7 5: Police detainees' perceptions of the current strength of opioids in the past six months, 2012-2015

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

Change in strength of opioids

The strength of opioids was reported to have been 'stable' over the previous six months in 2015 (Table 7.6). Seventy-eight percent of the opioid using detainees described the purity as 'stable'.

Table 7 6: Police detainees' perceptions of change in purity of opioids in the past six months in 2015

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

Time taken to purchase opioids

Fifty percent of the detainees who had used an opioid in the previous 12 months reported they could purchase an opioid in one hour or less in 2015 (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 2015 (i.e. 60% in 2010, 49% in 2011, 53% in 2012, 52% in 2013, 55% in 2014 and 50% in 2015).

Table 7 7: Time taken by police detainees to purchase opioids, 2010-2015

Time taken to purchase opioids [%]	All sites					
	2010	2011	2012	2013	2014	2015
	n=53	n=48	n=38	n=47	n=41	n=43
Months	0%	5%	7%	9%	5%	0%
Weeks	25%	4%	0%	2%	0%	3%
Days	6%	14%	0%	7%	12%	16%
About one day	4%	13%	24%	10%	11%	7%
Hours	28%	16%	16%	19%	17%	24%
1 Hour	25%	17%	21%	20%	31%	19%
Less than 20 minutes	36%	31%	32%	32%	24%	31%

Effect of opioids on the likelihood of becoming angry

Those detainees who reported using opioids in the past 12 months were asked what effect using opioids had on their likelihood of becoming angry. Fifty-eight percent of the detainees reported that using opioids was 'less likely' or 'much less likely' to make them become angry (Table 7.8).

Table 7 8: Effect of opioids on detainees' likelihood of becoming angry, 2010-2015

Effect of opioids on likelihood of becoming angry	All Sites					
	2010	2011	2012	2013	2014	2015
	n=56	n=43	n=44	n=50	n=43	n=49
Much more likely [5]	2%	5%	3%	0%	4%	5%
More Likely [4]	9%	8%	5%	2%	5%	9%
No effect [3]	21%	30%	36%	46%	52%	25%
Less likely [2]	30%	26%	29%	23%	13%	31%
Much less likely [1]	38%	31%	27%	30%	26%	27%
Mean impact on likelihood to become angry [1=much less - 5=much more]	2.1	2.3	2.3	2.2	2.5	2.2

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 2015, 37% of the opioid using detainees said they did not drive and a further 10% said their license was suspended. Twenty-three percent of the detainees who used opioids and drove had completed at least some of their driving under the influence of opioids in 2015 (Table 7.9). There was no statistically significant change in the extent of driving under the influence of opioids from 2010 to 2015.

Table 7 9: Extent to which police detainees who drove and who had used opioids in the past 12 months had driven under the influence of opioids, 2010-2015

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

Summary

- Eighteen percent of the detainees in 2015 had tried an opioid in their lifetimes, and this had not changed from previous years
- In 2015, detainees in Christchurch Central were more likely to have ever tried an opioid than those in Whangarei, Auckland Central and Wellington Central
- There was no change in the proportion of detainees who had used an opioid in the previous year from 2010 to 2015 (i.e. 8% to 6%)
- In 2015, detainees in Christchurch Central were more likely to have used an opioid in the past 12 months than those in Whangarei and Auckland Central
- The opioid using detainees had used opioids on a mean of 92 days in the previous 12 months in 2015, and this had not changed from previous years
- Forty percent of the opioid using detainees felt they were dependent on opioids in 2015
- Only 1% of the detainees had been using opioids at the time of their arrest in 2015
- In 2015, 36% of detainees described the current availability of opioids as 'very easy', 24% as 'easy' and 23% as 'difficult'
- There was no change in the current availability of opioids from 2010 to 2015
- The median price of 100 milligrams of opioids was reported to be $100 in 2015
- The price of opioids was reported to be 'stable' in 2015
- The current purity of opioids was reported to be 'medium/high' in 2015
- In 2015, 78% of the opioid using detainees described the purity of opioids as having been 'stable' in past six months
- Fifty-eight percent of the detainees reported that using opioids was 'less likely' or 'much less likely' to make them become angry in 2015
- In 2015, 23% 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, 2008c). 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). The established market for methamphetamine in New Zealand may therefore inhibit any expansion of cocaine use.

However, 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).

There has been a steady increase in the proportion of police detainees who have tried cocaine at some point in their lifetimes, but little evidence of increasing recent use and availability. Some of the reported experimentation with cocaine may have occurred overseas in Australia and in the United States and Europe where cocaine is much more readily available. NZ-ADUM and the IDMS have consistently found low levels of cocaine availability in New Zealand. Seizures of cocaine in New Zealand vary greatly from year to year, with the larger seizures generally discovered at the border and thought to be destined for the Australian market (NDIB, 2014).

Use of cocaine

Twenty-four percent of the police detainees had tried cocaine in their lifetimes, and 5% had used cocaine in the previous year in 2015 (Table 8.1). The proportion of detainees who had ever used cocaine increased from 17% in 2010 to 24% in 2015 (p=0.0091). The proportion of

detainees who had ever used cocaine in Christchurch Central increased from 13% in 2010 to 24% in 2015 (p=0.0090) (Figure. 8.1).

Figure 8 1: Proportion of police detainees who had ever used cocaine by location, 2010-2015

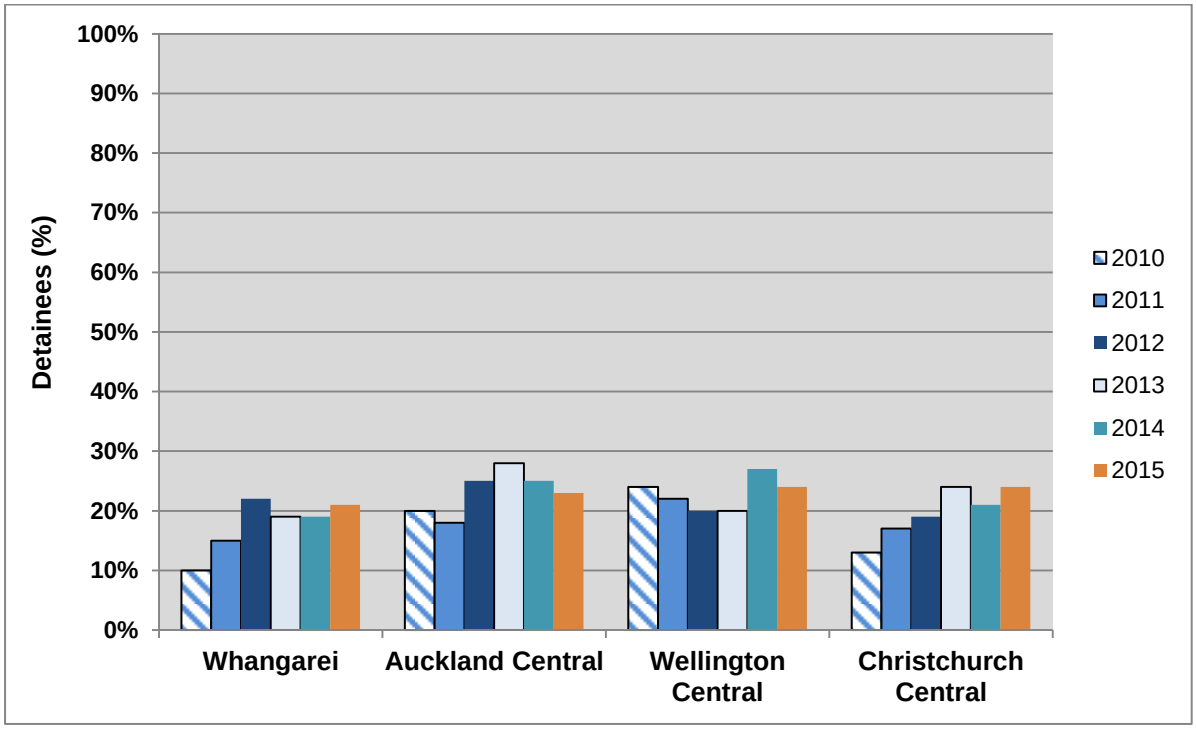


Table 8 1: Police detainees' patterns of cocaine use by location, 2010-2015

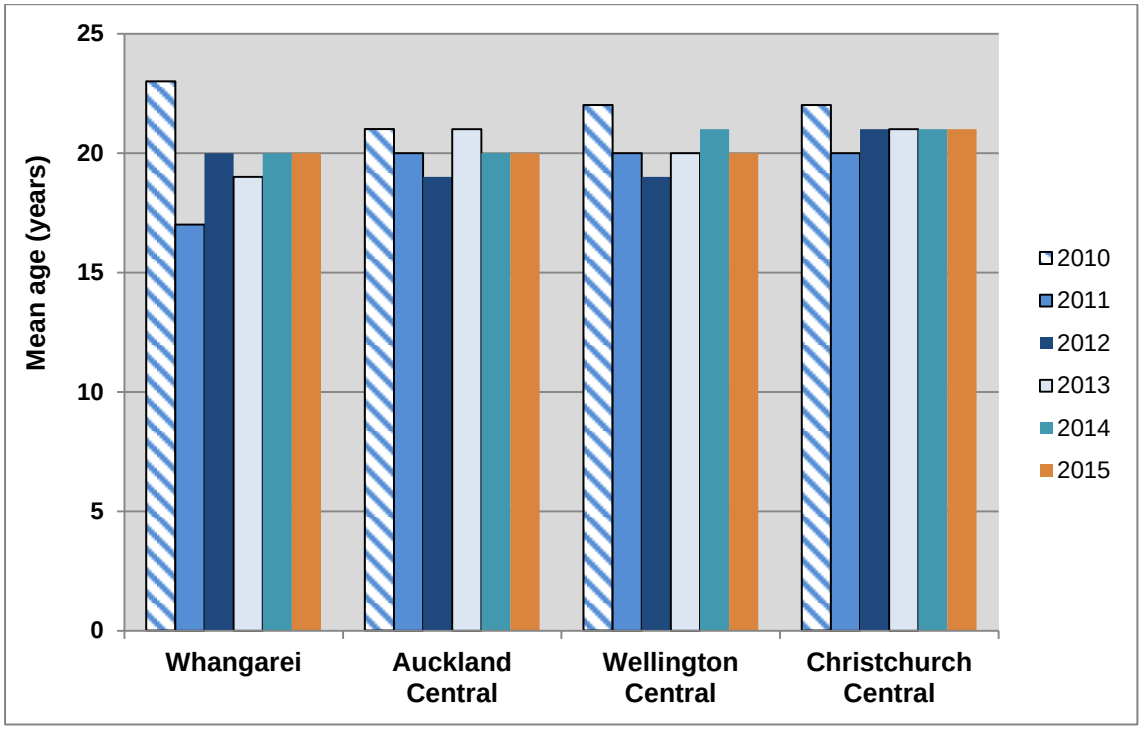
Use of cocaine	Year	N - value	Ever used (%)	Mean age first used (years)*	Used in past 12 months (%)	Mean number of days used in past 12 months **
Whangarei	2010	n=115	10%	23	0%	-
	2011	n=149	15%	17	4%	93
	2012	n=151	22%	20	5%	7
	2013	n=152	19%	19	1%	3
	2014	n=151	19%	20	3%	10
	2015	n=168	21%	20	2%	47
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
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
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
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

* of those who had ever tried

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

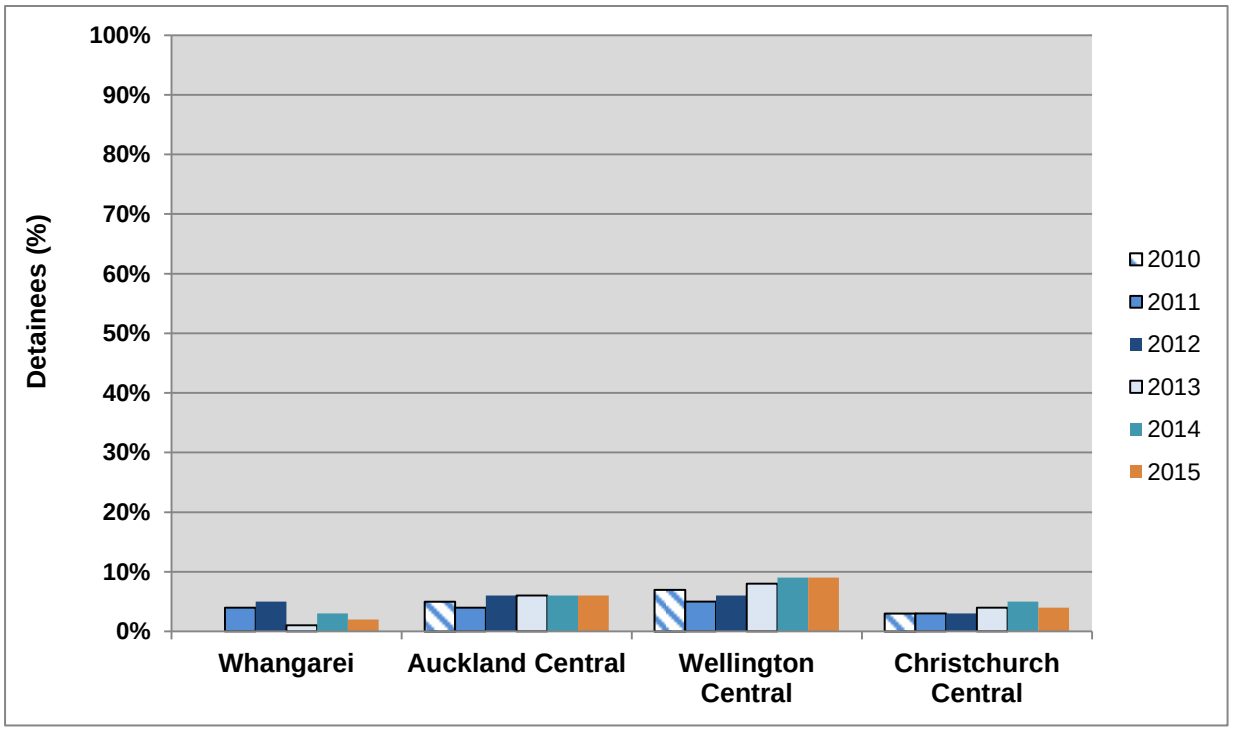
The detainees had tried cocaine at a mean age of 20 years old in 2015.

Figure 8 2: Mean age detainees had first used cocaine by location, 2010-2015



There was no statistically significant change in the proportion of detainees who had used cocaine in the previous 12 months from 2010 to 2015 (Figure 8.3). In 2015, the proportion of detainees who had used cocaine in the previous 12 months was higher in Wellington Central than in Whangarei (9% vs. 2%, p=0.0441).

Figure 8 3: Proportion of police detainees who had used cocaine in the past 12 months by location, 2010-2015



Frequency of cocaine use

The detainees who had used cocaine in the previous year had used it on a mean of only 10 days in the past 12 months in 2015 (median 2, 1-120 days). There was no statistically significant change in the frequency of cocaine use from 2010 to 2015.

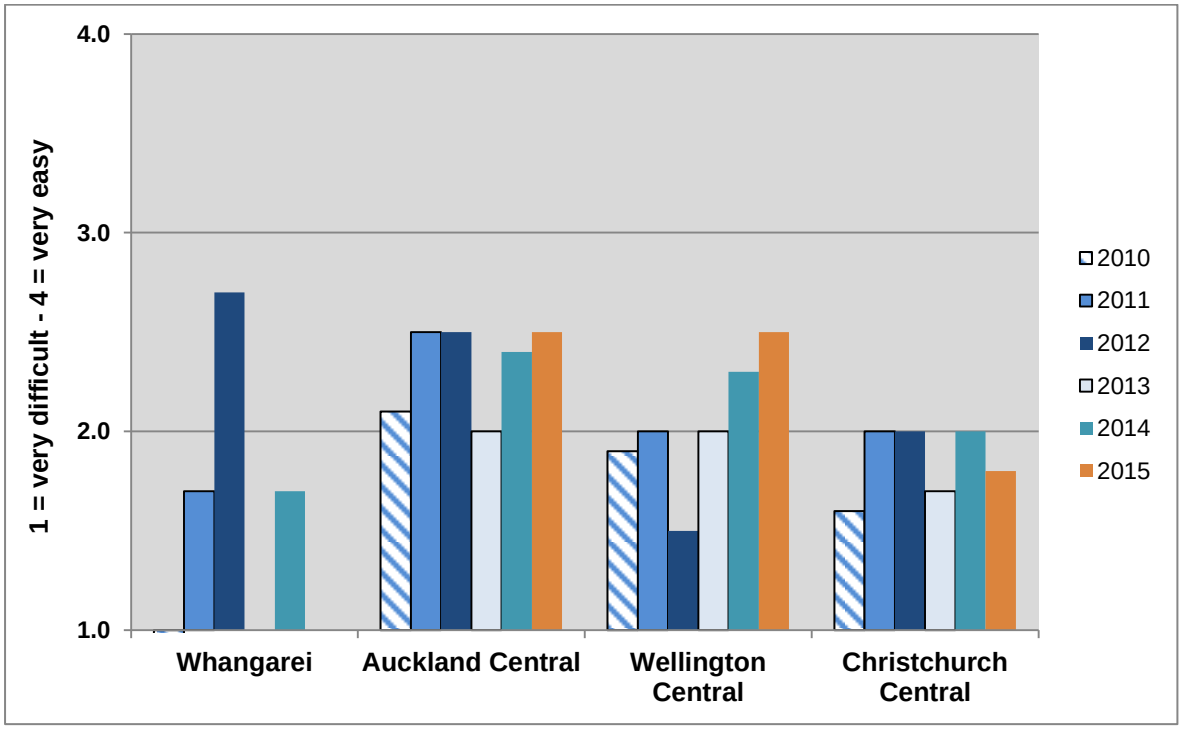
Current availability of cocaine

Forty-three percent of the detainees described the current availability of cocaine as 'difficult', and a further 23% described it as 'very difficult' in 2015 (Table 8.2). There was no statistically significant change in the current availability of cocaine from 2010 to 2015 (Figure 8.4).

Table 8 2: Police detainees' perceptions of the current availability of cocaine, 2010-2015

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

Figure 8 4: Police detainees' perceptions of the current availability of cocaine, 2010-2015



Change in availability of cocaine

The detainees reported the availability of cocaine had been 'stable/more difficult' over the previous six months in 2015 (Table 8.3). Twenty-two percent said availability had been 'more difficult' in the previous six months. There was no change in this assessment of the availability of cocaine from 2010 to 2015 (i.e. largely 'stable/more difficult').

Table 8 3: Police detainees' perceptions of the current availability of cocaine, 2010-2015

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

Current price of cocaine

Only seven of the detainees were able to provide a price for cocaine in 2015. They reported paying a median price of $350 for a gram of cocaine (mean $366).

Change in the price of cocaine

Forty-four percent of the detainees reported the price of cocaine had been 'stable', and 34% said the price had been 'fluctuating' over the previous six months in 2015 (Table 8.4). There was no statistically significant change in perceptions of the change in the price of cocaine from 2010 to 2015.

Table 8 4: Police detainees' perceptions of the change in the price of cocaine in the past six months, 2010-2015

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

Current purity of cocaine

Forty-four percent of the detainees described the current purity of cocaine as 'high' and 29% said it was 'medium' in 2015 (Table 8.5). There was no statistically significant change in perceptions of the current strength of cocaine from 2012 to 2015.

Table 8 5: Police detainees' perceptions of current purity of cocaine in the past six months, 2012-2015

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

Change in purity of cocaine

The strength of cocaine was reported to have been 'stable/fluctuating' over the past six months in 2015 (Table 8.6). There was no statistically significant change in perceptions of the change in the strength of cocaine from 2012 to 2015.

Table 8 6: Police detainees' perceptions of change in purity of cocaine in the past six months, 2012-2015

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

Summary

- The proportion of detainees who had tried cocaine in their lifetimes increased from 17% in 2010 to 24% in 2015
- There was an increase in the proportion of detainees who had ever used cocaine in Christchurch Central and Whangarei in 2015
- There was no change in the proportion of detainees who had used cocaine in the previous year from 2010 to 2015 (4% to 5%)
- The detainees had used cocaine on a mean of only 10 days in the previous 12 months in 2015
- Forty-three percent of detainees described the current availability of cocaine as 'difficult' and a further 23% described it as 'very difficult' in 2015
- The median price of a gram of cocaine was $350 (mean $366)in 2015

- The detainees reported the price of cocaine had been ‘stable/fluctuating’ over the past six months in 2015

- Forty-four percent of the detainees described the current purity of cocaine as ‘high’ and 29% said it was ‘medium’ in 2015

- The purity of cocaine was reported to have been ‘stable/fluctuating’ over the past six months in 2015

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 has increased from 166 in 2009 to 541 in 2014 (UNODC, 2015). Some of these compounds have been sold in so called 'legal high' products as they are often not controlled under international drug control treaties, although increasingly they are being scheduled in individual countries under domestic laws.

New Zealand has been at the forefront of the NPS phenomena with an established legal high market for BZP 'party pills' operating in the mid-2000s, followed by DMMA 'party pills', nitrous oxide and most recently a range of synthetic cannabinoid products (Wilkins et al., 2013). The high demand for NPS in New Zealand may reflect the poor supply of many illegal drug types which are common in other parts of the world, such as MDMA and cocaine. The enactment of the *Psychoactive Substances Act* (PSA) in New Zealand in July 2013 established an interim regulated legal market for a number of approved NPS products from licensed retail outlets (Wilkins, 2014a, Wilkins, 2014b). The majority of these approved products were synthetic cannabinoids (Wilkins et al., 2014c). The PSA interim 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)

The 2014 NZ-ADUM found the proportion of police detainees who had tried a drug for the first time had increased from 19% in 2012 to 29% in 2014. The drug types which the detainees had most commonly used for the first time were synthetic cannabinoids (36%), methamphetamine (9%), LSD (9%), ecstasy (7%), 'magic mushrooms' (7%), cocaine (6%), amphetamine (5%), and GHB (4%). The 2014 IDMS also found the proportion of frequent drug users who had tried a new drug had increased to 37% from 24% in 2009. The new drug

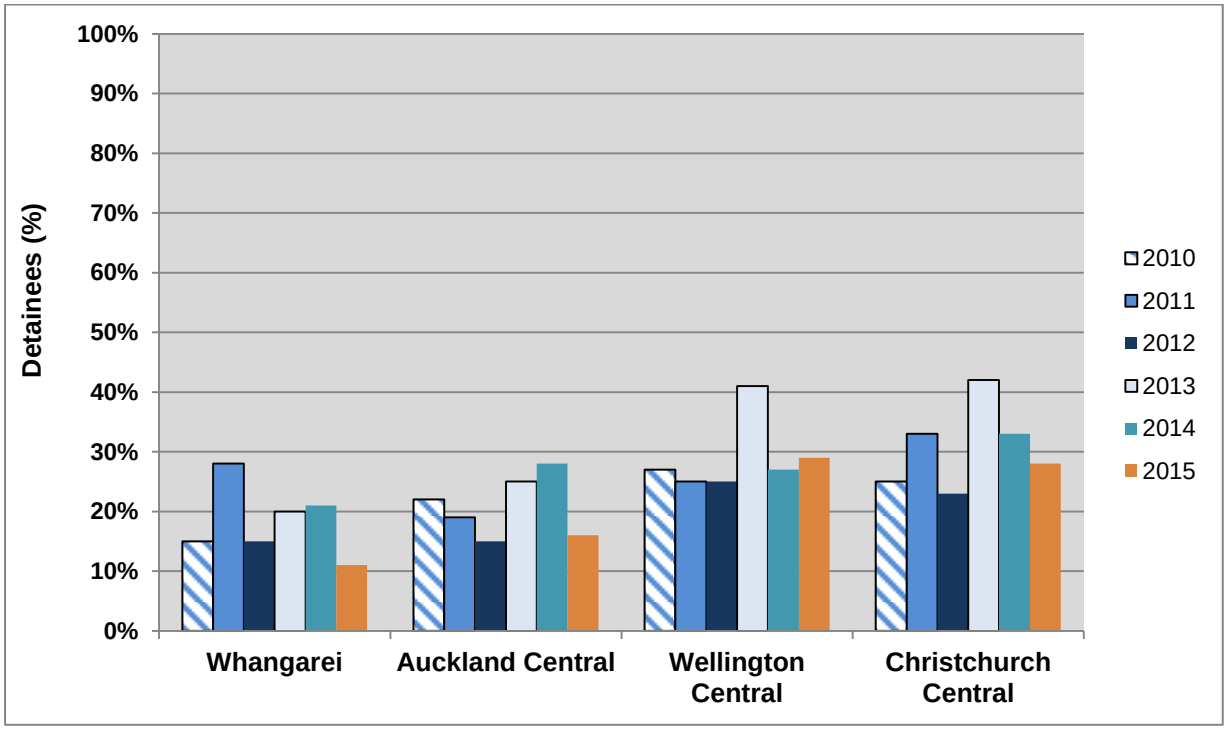
types most commonly reported were 'new synthetics', MDMA 'powder', mephedrone, synthetic hallucinogens (e.g. 25I-NBOMe), unspecified 'ecstasy' pills (5%), 2C drugs (e.g. 2CB, 2CI) and methylone.

Drug types used for the first time in 2015

Twenty-two percent of the detainees had tried a drug for the first time in the previous 12 months in 2015. The proportion of detainees who had tried a drug for the first time declined from 32% in 2013 to 22% in 2015 ($p<0.0001$). The proportion of detainees who had used a drug for the first time had previously increased sharply from 19% in 2012 to 32% in 2013 ($p<0.0001$).

The proportion of detainees from Whangarei who had tried a drug for the first time declined from 28% in 2011 to 11% in 2015 ($p=0.0020$) (Figure 9.1). There were also declines in first use of a drug in Auckland Central (down from 28% in 2014 to 16% in 2015, $p=0.0213$) and Christchurch Central (down from 42% in 2013 to 28% in 2015, $p=0.0082$). In 2015, detainees in Auckland Central were less likely to have tried a drug for the first time than those in Christchurch Central (16% vs. 28%, $p=0.0046$) and Wellington Central (16% vs. 29% vs. 16%, $p=0.0340$). The detainees in Whangarei were also less likely to have tried a drug for the first time than those in Christchurch Central (11% vs. 28%, $p=0.0002$) and Wellington Central (11% vs. 29%, $p=0.00120$).

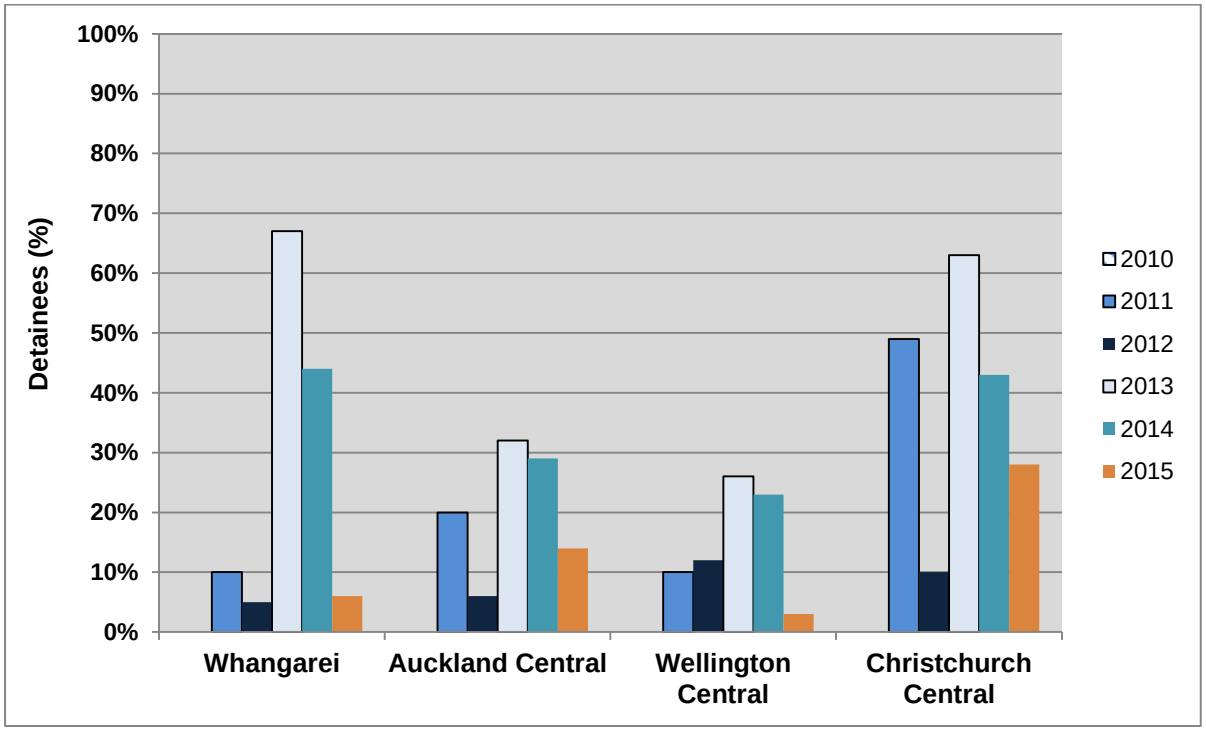
Figure 9 1: Proportion of police detainees who had tried a drug for the first time in the past 12 months by location, 2010-2015



The drug types which the detainees had most commonly used for the first time in 2015 were synthetic cannabinoids (17%), methamphetamine (17%), LSD (10%), cocaine (9%), ecstasy (7%), 'magic mushrooms' (psilocybin) (6%), amphetamine (5%), MDPV (5%), Duromine™ (5%), 'other synthetics' (5%), methylone (4%), GHB (4%), PCP (4%), cannabis (3%), NBOMe (3%), 2C drugs (3%) and benzodiazepines (3%).

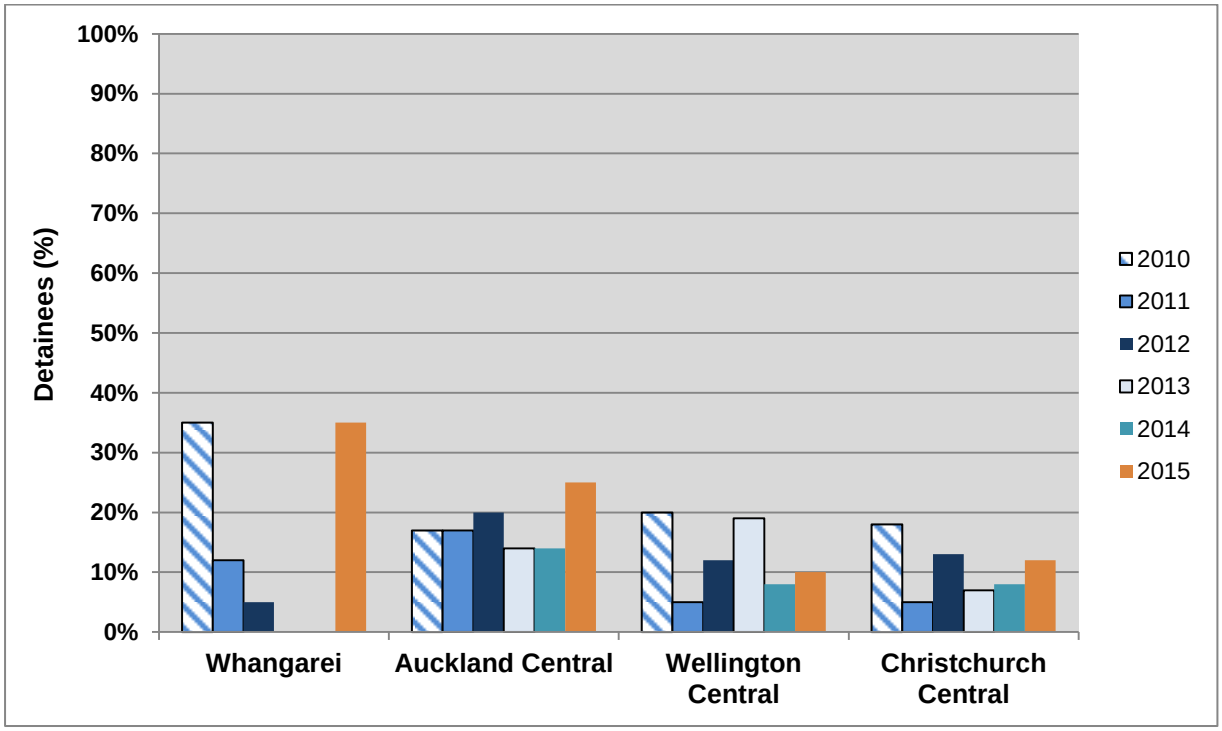
The proportion of detainees who had used synthetic cannabinoids for the first time had previously increased dramatically from 9% in 2012 to 46% in 2013 ($p<0.0001$). The first time use of synthetic cannabinoids subsequently declined from 35% in 2014 to 17% in 2015 ($p=0.0004$). Similar declines in the first time use of synthetic cannabinoids were found in each of the four sites from 2013 onwards (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), 2010-2015



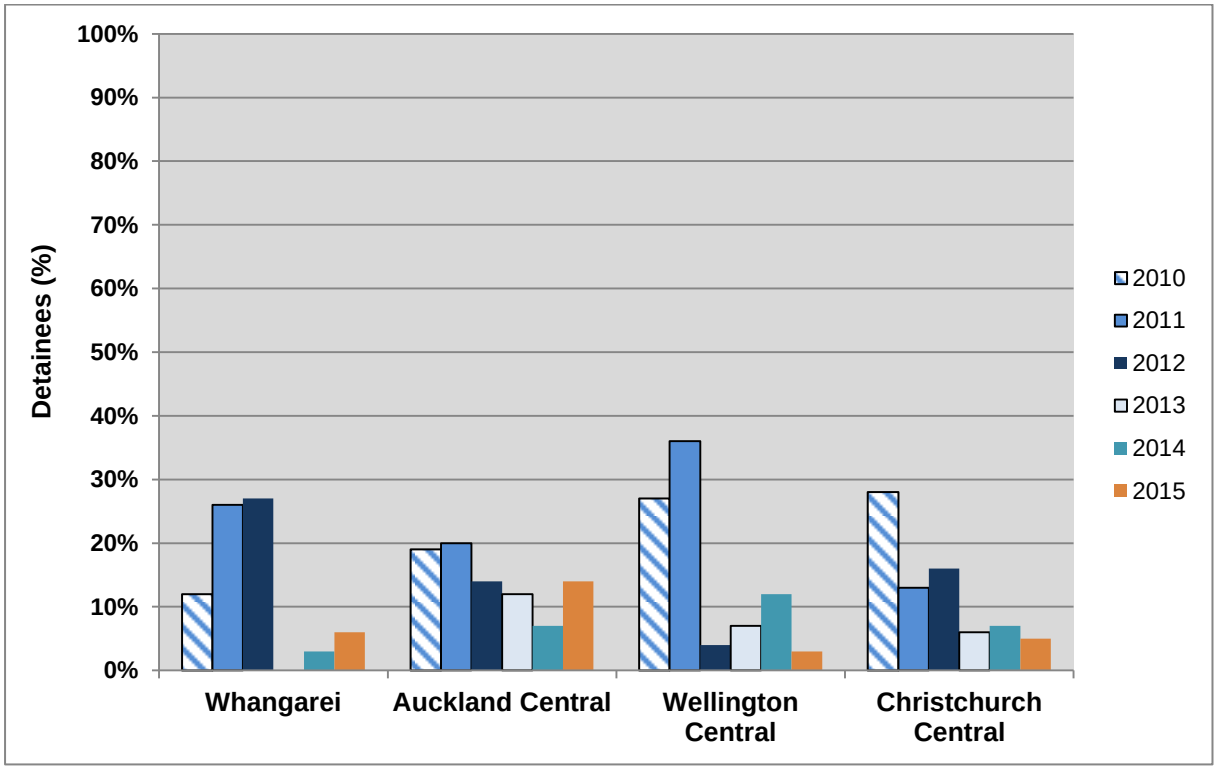
There had previously been a decline in the proportion of detainees who had tried methamphetamine for the first time from 20% in 2010 to 9% in 2014 (p=0.0145). The proportion of detainees who had tried methamphetamine for the first time increased from 9% in 2014 to 17% in 2015, although this increase was not statistically significant (p=0.1265). There was a particularly large spike in the first time use of methamphetamine in Whangarei from 0% in 2013 and 0% in 2014 to 35% in 2015 (p<0.0001) (Figure 9.3). The small number of detainees who answered this question in Whangarei (i.e. 2010=14, 2011=42, 2012=22, 2013=30, 2014=32, 2015=17) makes this measure particularly variable and consequently the results should be interpreted with caution.

Figure 9 3: Proportion of police detainees who had tried methamphetamine for the first time in the past 12 months by location (of those who had tried a drug for the first time), 2010-2015



The proportion of detainees who had tried ecstasy for the first time declined from 21% in 2011 to 5% in 2015 (p=0.0023). The proportion who had tried ecstasy for the first time in Christchurch Central declined from 28% in 2010 to 5% in 2015 (p=0.0075) (Figure 9.4).

Figure 9 4: Proportion of police detainees who had tried ecstasy for the first time in the past 12 months by location (of those who had tried a drug for the first time), 2010-2015

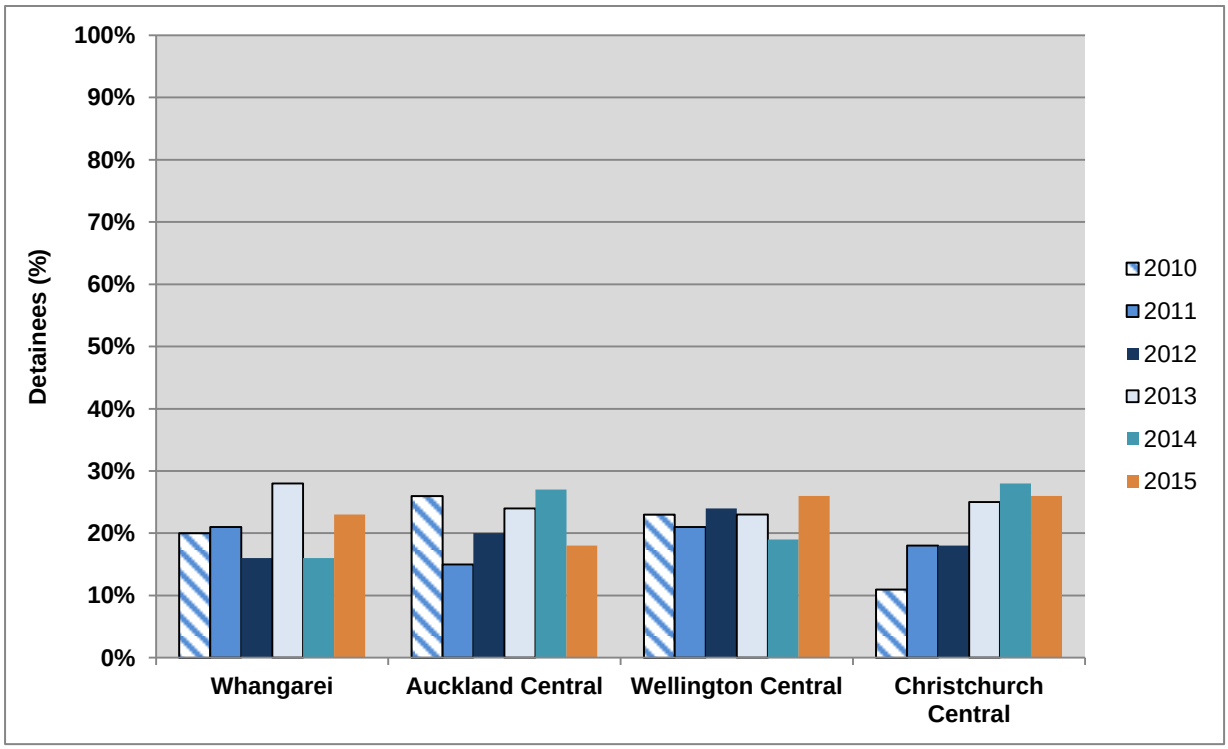


The proportion of detainees who had used natural cannabis for the first time had previously declined from 7% in 2010 to 1% in 2013, and this decline was very close to being statistically significant (p=0.0524). The proportion of detainees who had tried 'street BZP' for the first time declined from 8% in 2011 to <1% in 2015, and this was also close to being statistically significant (p=0.0919).

New drugs noticed

The detainees were also asked whether they had heard of any 'new drugs' being used in 2015. The proportion of detainees who had heard of a new drug(s) being used increased from 18% in 2011 to 23% in 2015 (p=0.0002). The proportion of detainees in Christchurch Central who had heard of new drugs being used increased from 11% in 2010 to 26% in 2015 (p<0.0001) (Figure 9.5).

Figure 9 5: Proportion of police detainees who had heard of a new drug being used by location, 2010-2015



The 'new' drug types which the detainees had most commonly heard of being used in 2015 were synthetic cannabinoids (15%), 'GHB' (11%), ecstasy (9%), methamphetamine (8%), other drugs (8%), LSD (7%), cannabis (5%), cocaine (4%), PCP (4%), amphetamine (4%), MEC (4%) and DMT (3%).

Summary

- The proportion of detainees who had tried a drug for the first time had previously increased sharply from 19% in 2012 to 32% in 2013
- The proportion of detainees who had tried a drug for the first time declined from 32% in 2013 to 22% in 2015
- There was decline in the proportion of detainees using a drug for the first time in Whangarei (down from 28% in 2011 to 11% in 2015), Auckland Central (from 28% in 2014 to 16% in 2015) and Christchurch Central (down from 42% in 2013 to 28% in 2015)
- In 2015, detainees in Christchurch Central were more likely to have tried a drug for the first time than those in Auckland Central (28% vs. 16%) and Whangarei (28% vs. 11%)
- The drug types which the detainees had most commonly used for the first time in 2015 were synthetic cannabinoids (17%), methamphetamine (17%), LSD (10%), cocaine (9%), ecstasy (7%), 'magic mushrooms' (psilocybin) (6%), amphetamine (5%), MDPV (5%), Duromine™ (5%), 'other synthetics' (5%), methylone (4%), GHB (4%), PCP (4%), cannabis (3%), NBOMe (3%), 2C (3%) and benzodiazepines (3%)
- The proportion of detainees who had tried synthetic cannabinoids for the first time declined from 35% in 2014 to 17% in 2015
- Declines in the first time use of synthetic cannabinoids were found in all sites from 2014 to 2015
- The proportion of detainees in Whangarei who had tried methamphetamine for the first time increased from 0% in 2014 to 35% in 2015, although this result should be interpreted with caution due to the low number of detainees answering this question
- The proportion of detainees who had tried ecstasy for the first time declined from 21% in 2011 to 5% in 2015
- The proportion of detainees who noticed a new drug being used increased from 18% in 2011 to 23% in 2015
- The proportion of detainees from Christchurch Central who noticed a new drug being used increased from 11% in 2010 to 26% in 2015

- The ‘new’ drug types which the detainees had most commonly heard of being used in 2015 were synthetic cannabinoids (15%), ‘GHB’ (11%), ecstasy (9%), methamphetamine (8%), ‘other drugs’ (8%), LSD (7%), cannabis (5%), cocaine (4%), PCP (4%), amphetamine (4%), MEC (4%) and DMT (3%)

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 biological testing for the presence of drug use via urine sampling. 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. For example, the 2014 NZ-ADUM found 84% of those detainees who tested positive for cannabis use had self-reported cannabis use in the face-to-face interview.

The validity of the comparison between a positive urine test and survey 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 198 detainees provided urine samples for testing as part of the 2015 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.

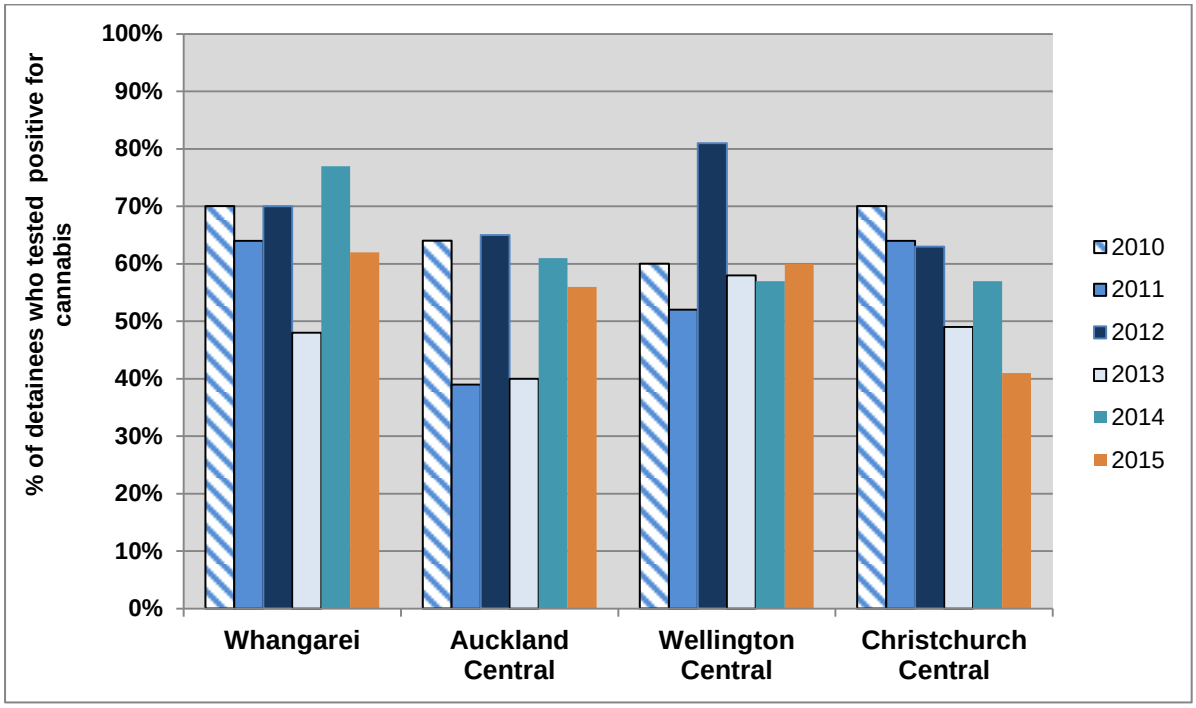
Urine test results for drug use

In 2015, 55% of the detainees who provided a urine sample tested positive for cannabis use, 20% tested positive for methamphetamine, 19% tested positive for amphetamine, 3% tested positive for benzodiazepines and 3% tested positive for morphine (Table 10.1).

Urine test results for cannabis use

The proportion of the detainees testing positive for cannabis use declined from 68% in 2012 to 55% in 2015, and this was very close to being statistically significant (p=0.0566). There were declines in the proportion of detainees testing positive for cannabis, from 65% in 2010 to 50% in 2013 (p=0.0136) and from 68% in 2012 to 50% in 2013 (p=0.0020). The detainees in Auckland Central were less likely to test positive for cannabis use from 2012 to 2013 (down from 65% to 40%, p=0.0407) (Figure 10.1). The proportion of detainees from Christchurch Central who tested positive for cannabis use also declined from 70% in 2010 to 41% in 2015 (p=0.0330).

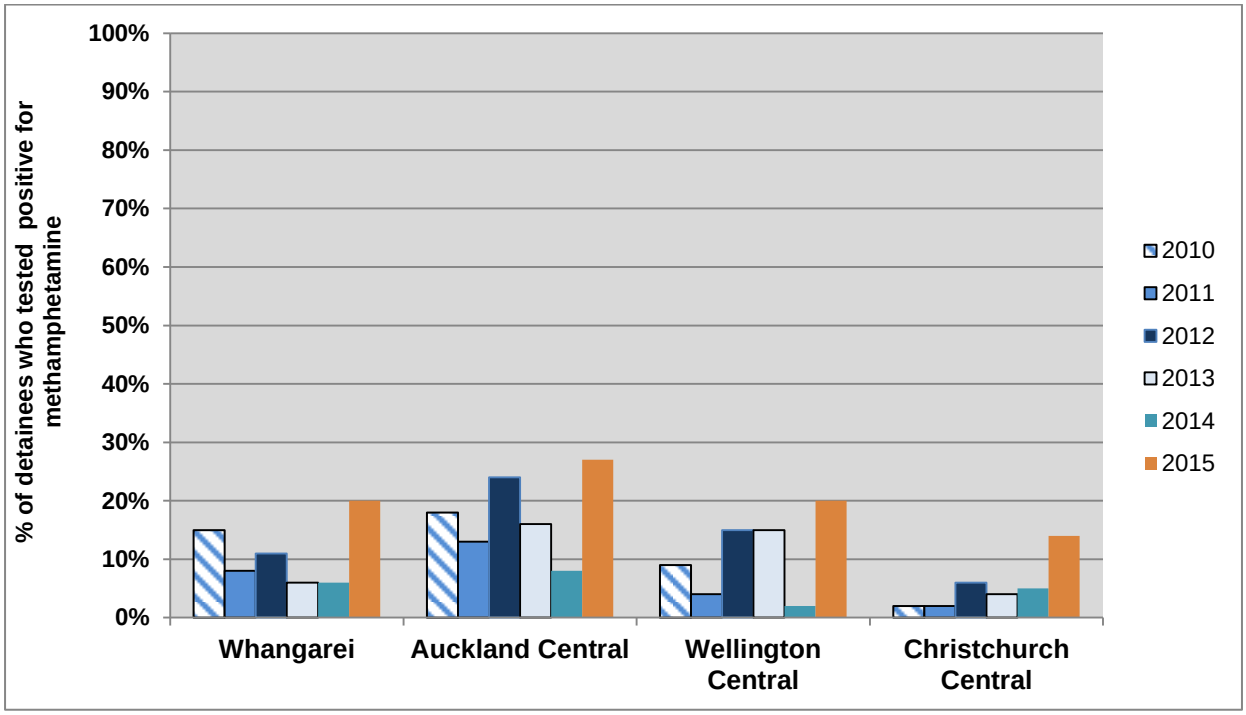
Figure 10 1: Proportion of detainees who tested positive for cannabis at the time of interview by location (of the 198 detainees tested), 2010-2015



Urine test results for methamphetamine use

The proportion of detainees testing positive for methamphetamine increased from 6% in 2011 to 20% in 2015 (p=0.0016), and from 5% in 2014 to 20% in 2015 (p=0.0003). There were insufficient numbers of positive tests for methamphetamine use to make comparisons between the sites over the previous six years, but Figure 10.2 appears to show the increase in methamphetamine use occurred in all sites in 2015.

Figure 10 2: Proportion of detainees who tested positive for methamphetamine at the time of interview by location (of the 198 detainees tested), 2010-2015



Urine test results for amphetamine use

The proportion of detainees who tested positive for amphetamine use increased from 8% in 2010 to 19% in 2015 (p=0.0286), from 6% in 2011 to 19% in 2015 (p=0.0053) and from 8% in 2014 to 19% in 2015 (p=0.0401) (Figure 10.3).

Figure 10 3: Proportion of detainees who tested positive for amphetamine at the time of interview by location (of the 198 detainees tested), 2010-2015

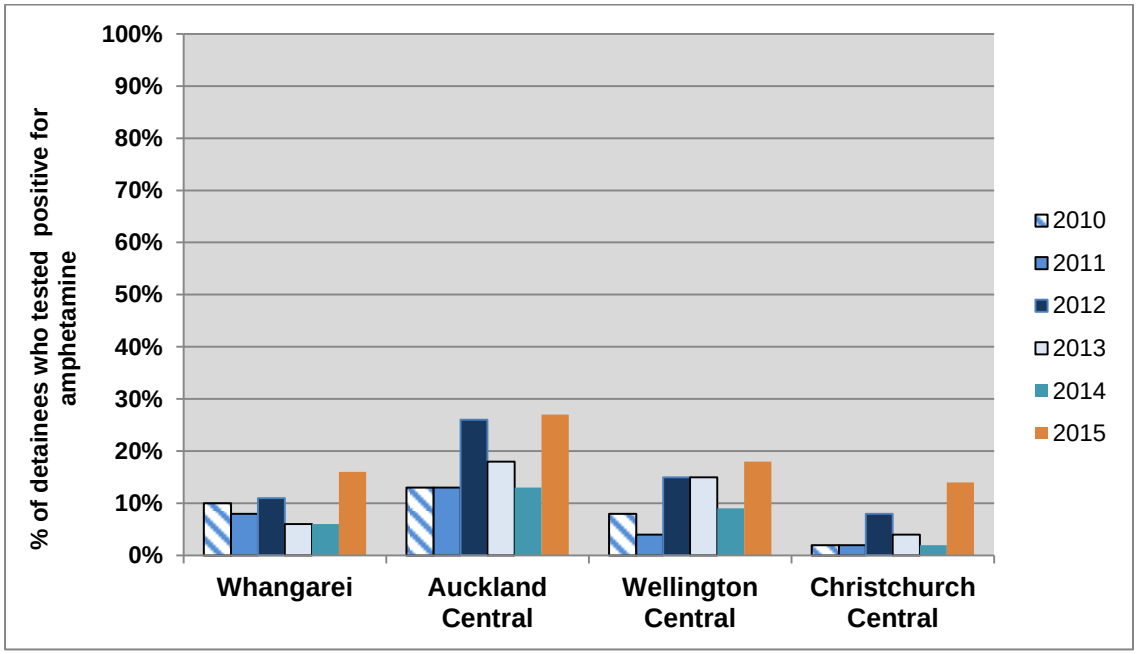


Table 10 1: Proportion of police detainees who tested positive for drug use at the time of interview (of the 198 detainees tested), 2010-2015

Positive urine test for drug use [% detainees]	Year	N -Value	Cannabis	Amphetamine	Methamphetamine	Benzodiazepines	Codeine	Morphine	Methadone	Benzylpiperazine
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=13	48%	6%	6%	0%	3%	0%	0%	0%
	2014	n=31	77%	6%	6%	3%	0%	0%	-	0%
	2015	n=44	62%	16%	20%	2%	2%	3%	-	-
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=32	56%	27%	27%	2%	2%	5%	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=27	60%	18%	20%	5%	3%	3%	3%	-
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=28	41%	14%	14%	4%	0%	2%	0%	0%

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=131	55%	19%	20%	3%	2%	3%	1%	0%

Corroboration of self-reported drug use with urinalysis

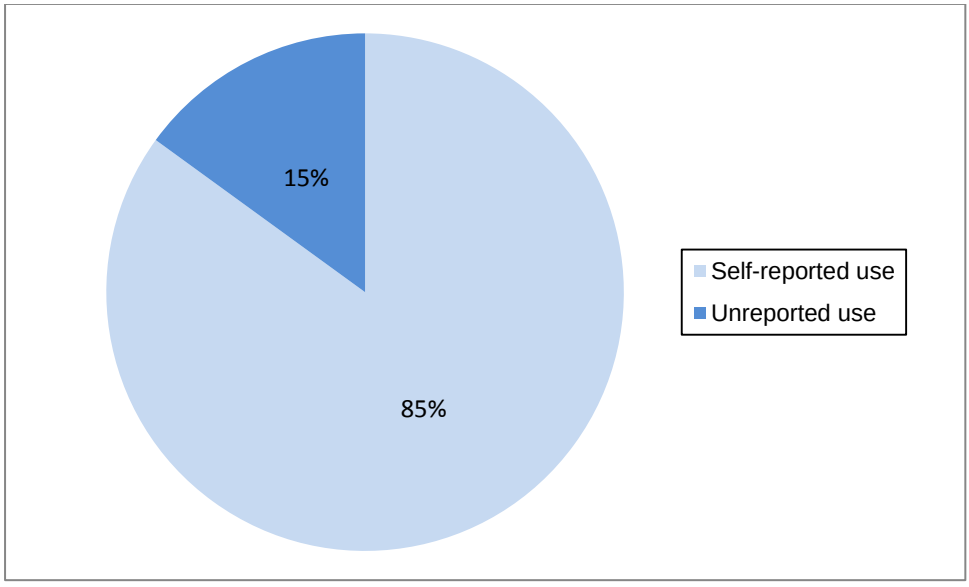
Cannabis use

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 from the face-to-face interviews. In 2015, 85% of those detainees who tested positive for cannabis (n=108) had also self-reported using cannabis in the past month (Figure 10.4). Interestingly, 29% 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, 2010-2015

Self-reported cannabis use in the past month [%]												
	2010		2011		2012		2013		2014		2015	
Tested positive for cannabis use [%]	**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%
Yes	6%	94%	11%	89%	16%	84%	21%	79%	16%	84%	15%	85%

Figure 10 4: Proportion of police detainees who tested positive for cannabis use and who also self-reported cannabis use in the previous month, 2015



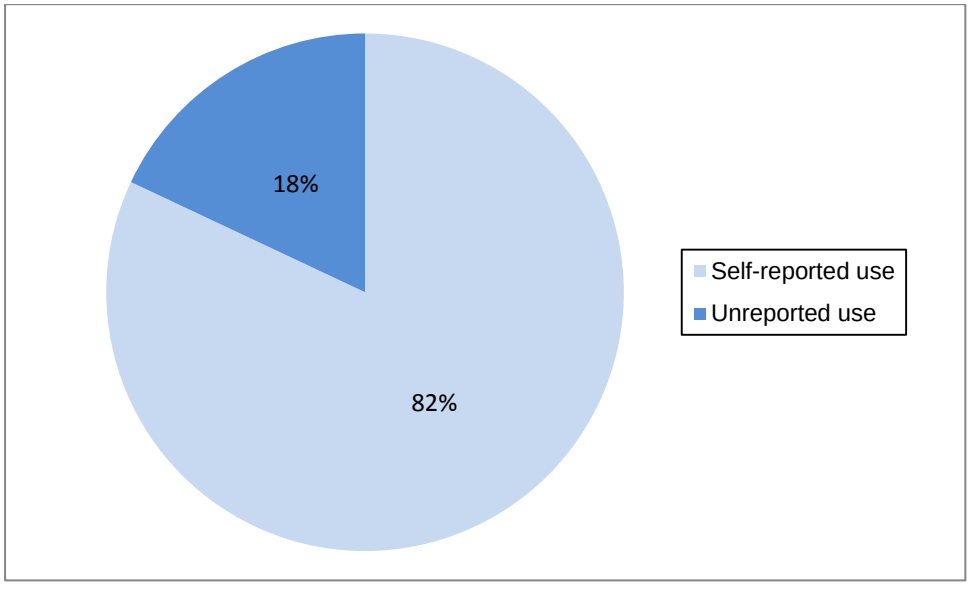
Methamphetamine use

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 2015, 82% percent of those detainees who tested positive for methamphetamine (n=39) had also self-reported using methamphetamine in the previous month (Figure 10.5). Nine percent of the detainees who did not test positive for methamphetamine self-reported use in the past month in 2015.

Table 10 3: Comparison of test results for the presence of methamphetamine use with self-reported methamphetamine use in the past month, 2010-2015

Self-reported methamphetamine use in the past month [%]												
	2010		2011		2012		2013		2014		2015	
Tested positive for methamphetamine use [%]	**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%
Yes	18%	82%	42%	58%	24%	76%	19%	81%	26%	74%	18%	82%

Figure 10 5: Proportion of police detainees who tested positive for methamphetamine use and who also self-reported methamphetamine use in the past month, 2015



Opioid use

Table 10.4 compares the police detainees' test results for the presence of opioids with levels of self-reported opioid use in the previous month. The self-reported opioid category includes the self-reporting of morphine and methadone use in the previous 30 days. Only seven of the detainees provided a urine sample which tested positive for the presence of opioids in 2015. Of these, only four had also self-reported use. The low numbers mean the percentage comparison should be treated with caution.

Table 10 4: Comparison of test results for the presence of opioid use with self-reported opioid use in the past month, 2010 - 2015

Self-reported opioid use in the past month [%]												
	2010		2011		2012		2013		2014		2015	
Tested positive for opioid use [%]	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**
No	97%	3%	98%	2%	97%	3%	96%	4%	96%	4%	100%	0%
Yes	55%	45%	52%	48%	71%	29%	67%	33%	36%	64%	43%	57%

Summary

- In 2015, 55% of the police detainees tested positive for cannabis use, 20% tested positive for methamphetamine, 19% tested positive for amphetamine, 3% tested positive for benzodiazepines and 3% tested positive for morphine

- The proportion of the detainees testing positive for cannabis use declined from 65% in 2012 to 55% in 2015

- The proportion of detainees from Christchurch Central who tested positive for cannabis use declined from 70% in 2010 to 41% in 2015

- The proportion of detainees testing positive for methamphetamine increased from 5% in 2014 to 20% in 2015

- The proportion of detainees who tested positive for amphetamine use increased from 8% in 2014 to 19% in 2015

- In 2015, 85% of the detainees who tested positive for cannabis use had also self-reported use in the previous month

- In 2015, 82% of the detainees who tested positive for methamphetamine use had also self-reported use of methamphetamine in the past month

- Only a very small number of the detainees tested positive for opioids in 2015 (n=7)

Chapter 11 – Offending behavior

Introduction

Alcohol and drug use can contribute to criminal offending in a number of ways (see Bennett & Holloway, 2005; Hammersley et al., 1989; Seddon, 2000). Intoxication can precipitate criminal acts and escalate the seriousness of offending, for example drunkenness may lead to violent altercations. Secondly, withdrawal from substance use may make a person more likely to strike out. Thirdly, offending may be motivated by the need to obtain money to pay for alcohol and drug use. Finally, in the case of the illegal drugs market, violence may be used to resolve disputes, protect market share and rob other participants.

In New Zealand, a strong association has been found among police detainees between levels of spending on methamphetamine and property crime and drug dealing (Wilkins & Sweetsur, 2008a, 2011b). Detainees who spent $1,000 or more on methamphetamine in the previous month were found to have earned an average of $2,735 from property crime in the same month (Wilkins & Sweetsur, 2010). In contrast, those detainees who spent no money on methamphetamine had earned only $368 from property crime over the same period (Wilkins & Sweetsur, 2010). Further research is required to identify the primary causal factors in these associations, and the influence that developmental factors, such as poor family life and risky adolescent behaviour, may have on levels of drug use and criminal offending.

Shoplifting in the previous month

Seventeen percent of the police detainees self-reported shoplifting in the previous month in 2015 (Table 11.1). Nine percent of the detainees had shoplifted weekly or more often. There was no statistically significant change in the level of shop lifting in the past month from 2010 to 2015.

Figure 11 1: Proportion of police detainees who had shoplifted in the previous month by location, 2010–2015

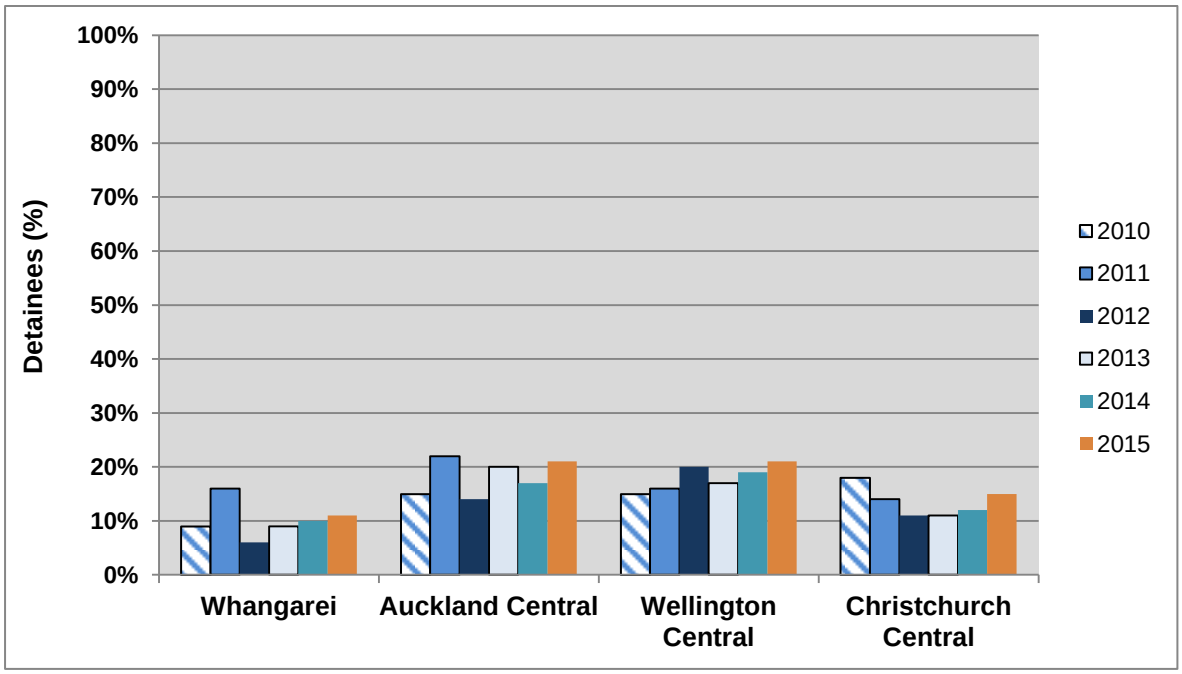


Table 11 1: Frequency police detainees had shoplifted in the previous month by location, 2010-2015

Frequency shoplifted in past month [%]	Year	N- Value	Never	1-2 times	Once a week	More than once per week [but not daily]	Daily
Whangarei	2010	n=110	91%	5%	1%	3%	1%
	2011	n=144	84%	10%	3%	2%	1%
	2012	n=143	94%	5%	1%	1%	0%
	2013	n=145	91%	5%	2%	1%	1%
	2014	n=149	90%	6%	1%	1%	3%
	2015	n=167	89%	5%	2%	1%	2%
Auckland Central	2010	n=267	85%	6%	4%	3%	2%
	2011	n=302	78%	13%	3%	3%	3%
	2012	n=241	86%	7%	3%	2%	2%
	2013	n=289	80%	11%	3%	2%	4%
	2014	n=311	83%	8%	3%	3%	4%
	2015	n=259	79%	10%	3%	3%	4%
Wellington Central	2010	n=149	85%	9%	3%	1%	2%
	2011	n=164	84%	5%	2%	6%	2%
	2012	n=100	80%	10%	1%	7%	2%
	2013	n=99	83%	10%	2%	4%	1%
	2014	n=95	81%	9%	2%	2%	5%
	2015	n=107	79%	10%	4%	5%	2%
Christchurch Central	2010	n=259	82%	11%	2%	3%	3%
	2011	n=188	8%	8%	3%	2%	2%
	2012	n=301	89%	6%	1%	1%	2%
	2013	n=281	89%	8%	1%	1%	1%
	2014	n=273	88%	8%	1%	2%	1%
	2015	n=287	85%	6%	3%	4%	2%

All Sites	2010	n=785	85%	8%	3%	3%	2%
	2011	n=798	82%	9%	3%	3%	2%
	2012	n=785	87%	7%	2%	2%	2%
	2013	n=815	85%	9%	2%	2%	2%
	2014	n=830	85%	8%	2%	2%	3%
	2015	n=820	83%	8%	3%	3%	3%

Property crime in the previous month

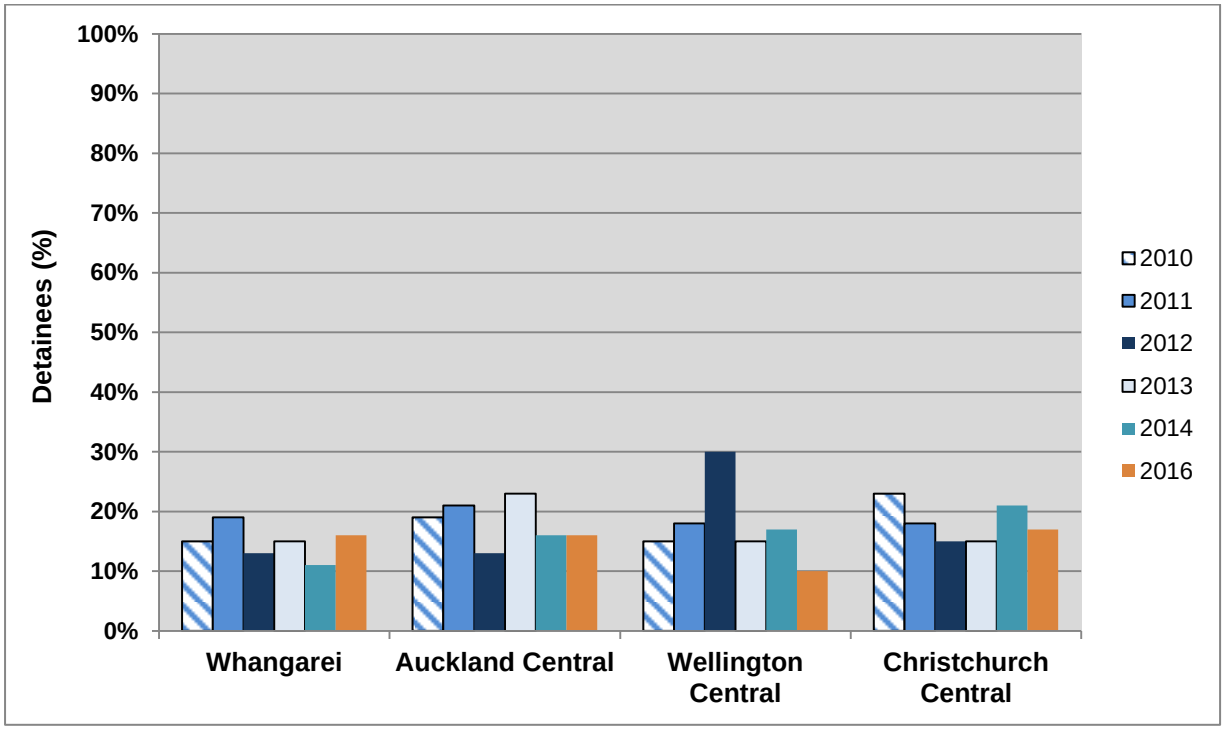
Fifteen percent of the detainees self-reported they had committed a property crime in the previous month in 2015 (Table 11.2). Five percent had committed a property crime weekly or more often. Overall, there was no statistically significant change in the level of property offending from 2010 to 2015. The proportion of Wellington Central detainees who had committed a property offence decreased from 30% in 2012 to 10% in 2015 (p=0.0087) (Figure 11.2).

Table 11 2: Frequency police detainees had committed a property crime in the previous month by location, 2010-2015

Frequency committed property crime in past month [%]	Year	N- Value	Never	1-2 times	Once a week	More than once per week [but not daily]	Daily
Whangarei	2010	n=110	85%	13%	2%	0%	1%
	2011	n=145	81%	17%	2%	1%	0%
	2012	n=142	87%	8%	3%	1%	0%
	2013	n=144	85%	13%	1%	1%	0%
	2014	n=149	89%	7%	1%	3%	1%
	2015	n=167	84%	13%	1%	1%	1%
Auckland Central	2010	n=267	81%	12%	3%	3%	2%
	2011	n=297	79%	15%	2%	1%	2%
	2012	n=239	87%	8%	3%	2%	1%
	2013	n=289	77%	14%	4%	3%	2%
	2014	n=310	84%	8%	3%	3%	2%
	2015	n=259	84%	11%	3%	2%	1%
Wellington Central	2010	n=149	85%	7%	3%	2%	3%
	2011	n=164	82%	13%	2%	2%	1%
	2012	n=100	70%	19%	2%	7%	2%
	2013	n=99	85%	8%	6%	1%	0%
	2014	n=95	83%	11%	3%	3%	0%
	2015	n=107	90%	7%	0%	3%	0%
Christchurch Central	2010	n=259	77%	17%	3%	2%	1%
	2011	n=188	82%	13%	3%	3%	0%
	2012	n=302	85%	12%	2%	2%	0%
	2013	n=280	85%	11%	1%	2%	1%
	2014	n=272	79%	17%	2%	1%	1%
	2015	n=288	83%	11%	2%	2%	1%

All Sites	2010	n=785	81%	13%	3%	2%	2%
	2011	n=794	81%	14%	2%	2%	1%
	2012	n=784	83%	11%	2%	3%	1%
	2013	n=812	82%	12%	3%	2%	1%
	2014	n=828	83%	11%	2%	2%	1%
	2015	n=821	85%	11%	2%	2%	1%

Figure 11 2: Proportion of police detainees who had committed a property crime in the previous month by location, 2010–2015



Drug dealing in the previous month

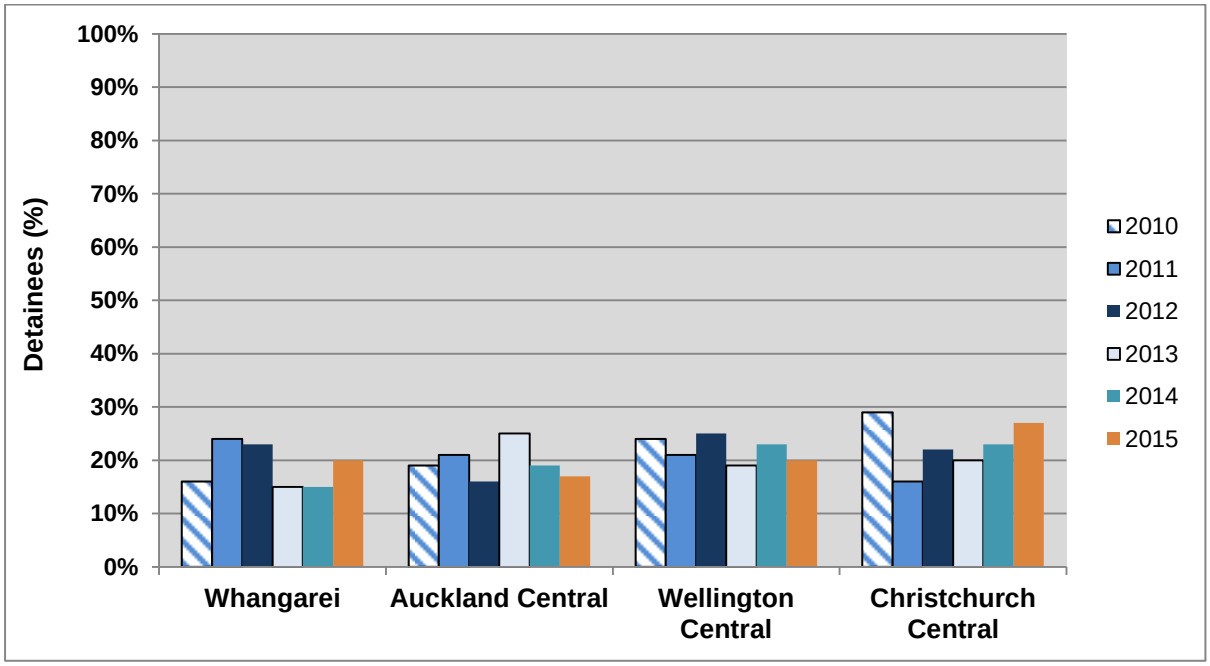
Twenty-one percent of the detainees self-reported selling drugs in the previous month in 2015 (Table 11.3). Fifteen percent had sold drugs weekly or more often. Overall, there was no statistically significant change in the proportion of detainees who had sold drugs in the previous month from 2010 to 2015. The proportion of detainees in Christchurch Central who had sold drugs in the previous month increased from 16% in 2011 to 27% in 2015, and this increase was close to being statistically significant (p=0.0825) (Figure 11.3) In 2015, Christchurch Central detainees were more likely to have sold drugs in the previous month than Auckland Central detainees (27% vs. 18%, p=0.0328).

Table 11 3: Frequency police detainees had sold drugs in the previous month by location, 2010-2015

Frequency sold drugs in past month [%]	Year	N- Value	Never	1-2 times	Once a week	More than once per week [but not daily]	Daily
Whangarei	2010	n=109	84%	4%	2%	1%	9%
	2011	n=145	76%	8%	2%	6%	9%
	2012	n=142	77%	8%	1%	6%	8%
	2013	n=144	85%	6%	2%	0%	7%
	2014	n=150	85%	2%	3%	3%	7%
	2015	n=167	80%	4%	2%	5%	8%
Auckland Central	2010	n=267	81%	4%	2%	5%	8%
	2011	n=301	79%	6%	5%	4%	6%
	2012	n=240	84%	3%	3%	4%	6%
	2013	n=289	75%	7%	4%	6%	7%
	2014	n=310	81%	6%	1%	6%	5%
	2015	n=259	83%	6%	2%	4%	6%
Wellington Central	2010	n=149	76%	3%	2%	4%	15%
	2011	n=162	79%	7%	2%	5%	6%
	2012	n=100	85%	8%	3%	3%	11%
	2013	n=99	81%	2%	5%	5%	7%
	2014	n=95	77%	6%	0%	7%	9%
	2015	n=107	80%	7%	0%	6%	7%
Christchurch Central	2010	n=259	71%	8%	4%	7%	10%
	2011	n=188	84%	6%	1%	5%	4%
	2012	n=302	78%	6%	2%	8%	6%
	2013	n=281	80%	5%	4%	6%	5%
	2014	n=273	77%	7%	3%	8%	7%
	2015	n=288	73%	7%	5%	5%	10%

All Sites	2010	n=784	77%	5%	2%	5%	10%
	2011	n=798	80%	6%	3%	5%	6%
	2012	n=785	79%	6%	2%	5%	7%
	2013	n=815	79%	5%	4%	5%	6%
	2014	n=830	79%	6%	2%	6%	7%
	2015	n=821	79%	6%	2%	5%	8%

Figure 11 3: Proportion of the police detainees who had sold drugs in the previous month by location, 2010-2015



Violent crime in the previous month

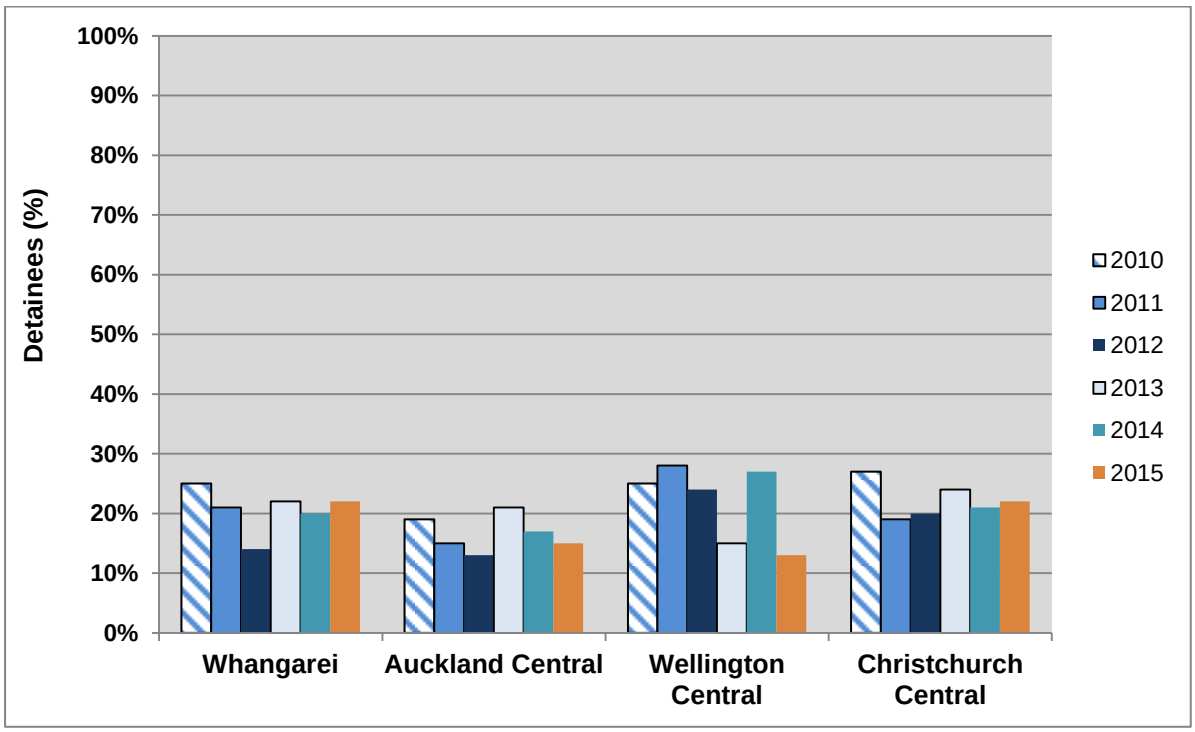
Eighteen percent of the detainees self-reported committing a violent crime in the previous month in 2015 (Table 11.4). Two percent had done so weekly or more often. Overall, the proportion of detainees who self-reported committing a violent crime in the previous month declined from 24% in 2010 to 17% in 2015 (p=0.0246) (Figure 11.4). The proportion of Wellington Central detainees who had committed a violent crime in the previous month declined from 27% in 2011 to 13% in 2015, and this decline was close to being statistically significant (p=0.0786).

Table 11 4: Frequency police detainees had committed violent crime in the previous month by location, 2010 - 2015

Frequency committed violent crime in past month [%]	Year	N- Value	Never	1-2 times	Once a week	More than once per week [but not daily]	Daily
Whangarei	2010	n=109	75%	22%	3%	0%	0%
	2011	n=145	79%	19%	1%	1%	0%
	2012	n=145	86%	14%	1%	0%	0%
	2013	n=144	78%	21%	1%	1%	0%
	2014	n=147	80%	18%	1%	0%	1%
	2015	n=166	78%	19%	1%	1%	1%
Auckland Central	2010	n=266	81%	17%	2%	<1	0%
	2011	n=299	85%	14%	0%	<1	<1
	2012	n=239	87%	11%	1%	<1	0%
	2013	n=290	79%	16%	3%	1%	1%
	2014	n=311	83%	15%	1%	1%	1%
	2015	n=259	85%	14%	<1	2%	0%
Wellington Central	2010	n=149	75%	18%	5%	2%	1%
	2011	n=162	72%	23%	3%	1%	1%
	2012	n=100	76%	15%	3%	6%	0%
	2013	n=99	85%	13%	1%	0%	1%
	2014	n=95	73%	21%	4%	1%	1%
	2015	n=106	87%	12%	0%	1%	0%
Christchurch Central	2010	n=259	73%	24%	2%	1%	<1
	2011	n=188	81%	16%	2%	1%	0%
	2012	n=302	80%	18%	<1	1%	0%
	2013	n=281	76%	23%	1%	<1	0%
	2014	n=273	79%	20%	<1	1%	0%
	2015	n=288	78%	19%	1%	1%	<1

All Sites	2010	n=783	77%	20%	2%	1%	<1
	2011	n=794	81%	17%	1%	1%	<1
	2012	n=787	83%	15%	1%	1%	0%
	2013	n=816	79%	19%	1%	1%	1%
	2014	n=829	79%	18%	1%	1%	1%
	2015	n=819	82%	16%	1%	1%	<1

Figure 11 4: Proportion of police detainees who had committed violent crime in the previous month by location, 2010–2015



Summary

- In 2015, 17% of the detainees self-reported that they had shoplifted in the previous month

- In 2015, 15% of the detainees self-reported that they had committed a property crime in the previous month

- The proportion of Wellington Central detainees who had committed a property crime in the past month decreased from 30% in 2012 to 10% in 2015

- In 2015, 21% of the detainees self-reported they had sold drugs in the previous month

- The proportion of Christchurch Central detainees who had sold drugs in the previous month increased from 16% in 2011 to 27% in 2015

- In 2015, Christchurch Central detainees were more likely than Auckland Central detainees to have sold drugs in the previous month

- In 2015, 18% of the detainees self-reported they had committed a violent crime in the previous month

- The proportion of Wellington Central detainees who had recently committed a violent crime in the past month declined from 27% in 2013 to 13% in 2015

Chapter 12 - Contact with criminal justice system

Introduction

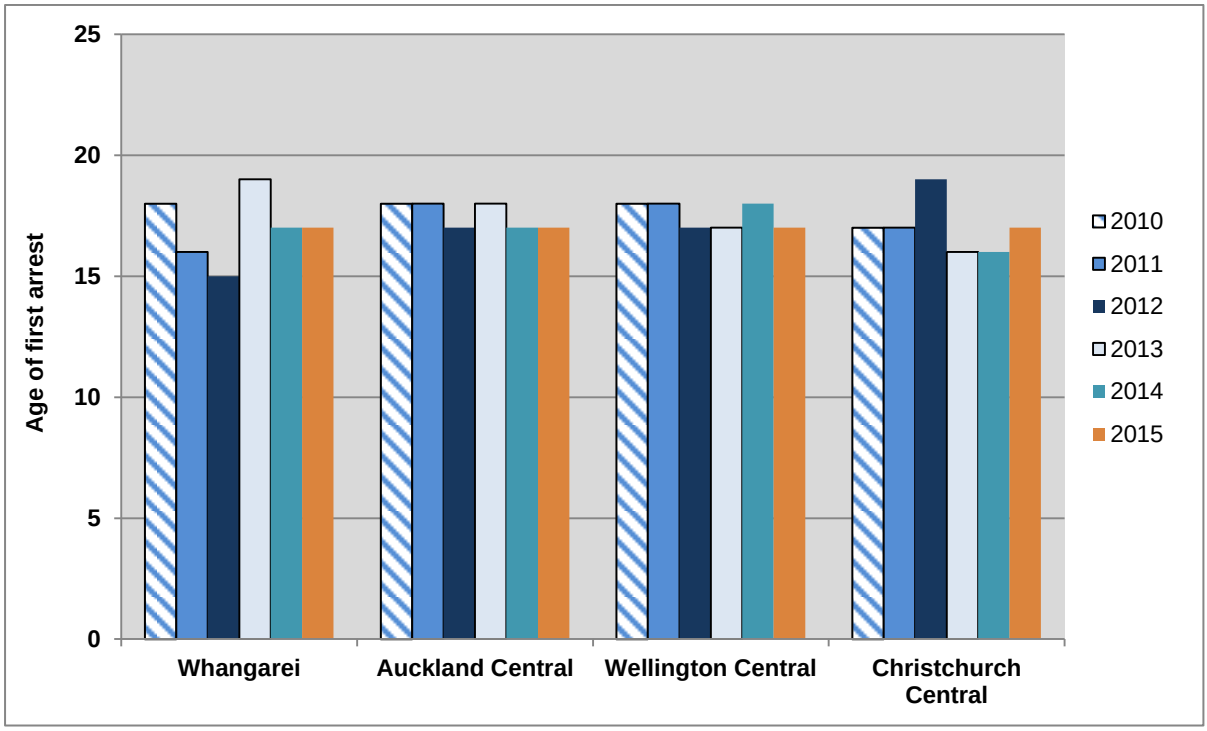
Heavy alcohol and drug use can sometimes lead to an ongoing cycle of offending and arrest, which consumes police time and criminal justice resources (Wilkins, et al., 2012a). In recognition of the role substance use can play in facilitating offending, the criminal justice system is increasingly being utilised to direct problematic alcohol and drug users into drug treatment programmes with the aim of breaking this cycle (see Caulkins & Reuter, 2009; Hough, 1996). Contact with the criminal justice system potentially provides an opportunity to assess a detainee's alcohol and drug use and the role it plays in their offending, and include alcohol and drug treatment as part of their pre-trial diversion, sentencing and parole conditions (Strang et al., 2012).

Two pilot Alcohol and Drug Treatment Courts were established at the Auckland and Waitakere District Courts in November 2012. Offenders who are substance dependent and plead guilty to an offence (excluding arson, serious violence or sexual offences) and who would otherwise be sentenced to a prison term of up to three years are eligible for the drug court programme. Once in the programme, offenders will be required to comply with a treatment plan imposed by the courts, which includes mandatory drug testing and attendance at treatment meetings. Once a detainee has completed the programme the judge will take their compliance into account when sentencing them for their original offence.

Age of first arrest

The detainees had been arrested for the first time at a mean age of 17 years (median 16 years, range 16–56 years). Overall, there was no change in the mean age at which the detainees were first arrested from 2010 to 2015. There was a decrease in the age of first arrest in Christchurch Central from 19 years in 2012 to 17 years in 2015 ($p=0.0097$) (Figure 12.1).

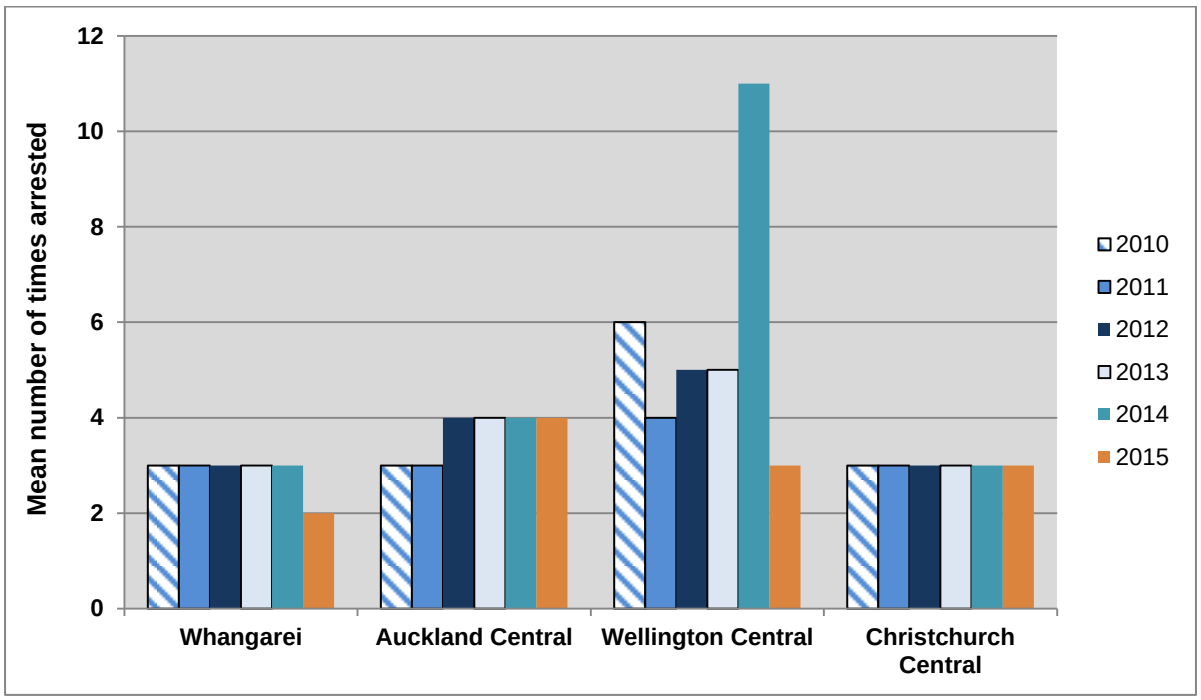
Figure 12 1: Age of the detainees when they were arrested for the first time by location, 2010-2015



Recent arrest history

The detainees reported they had been arrested a mean of 3.5 times in the previous 12 months in 2015 (median 2 times, range 1–100 times). There was no statistically significant change in the mean number of times the detainees had been arrested in the previous year from 2010 to 2015 (i.e. 2010=3.6, 2011=3.3, 2012=3.7, 2013=3.7, 2014=4.7, 2015=3.5). In 2015, Whangarei detainees were arrested on fewer occasions than detainees from Auckland Central (2.4 vs. 4.2 times, $p<0.0001$), Wellington Central (2.4 vs. 3.3 times, $p=0.0295$) and Christchurch Central (2.4 vs. 3.3 times, $p=0.0026$).

Figure 12 2: Mean number of times the detainees had been arrested in the previous 12 months by location (rounded up to nearest whole number), 2010-2015

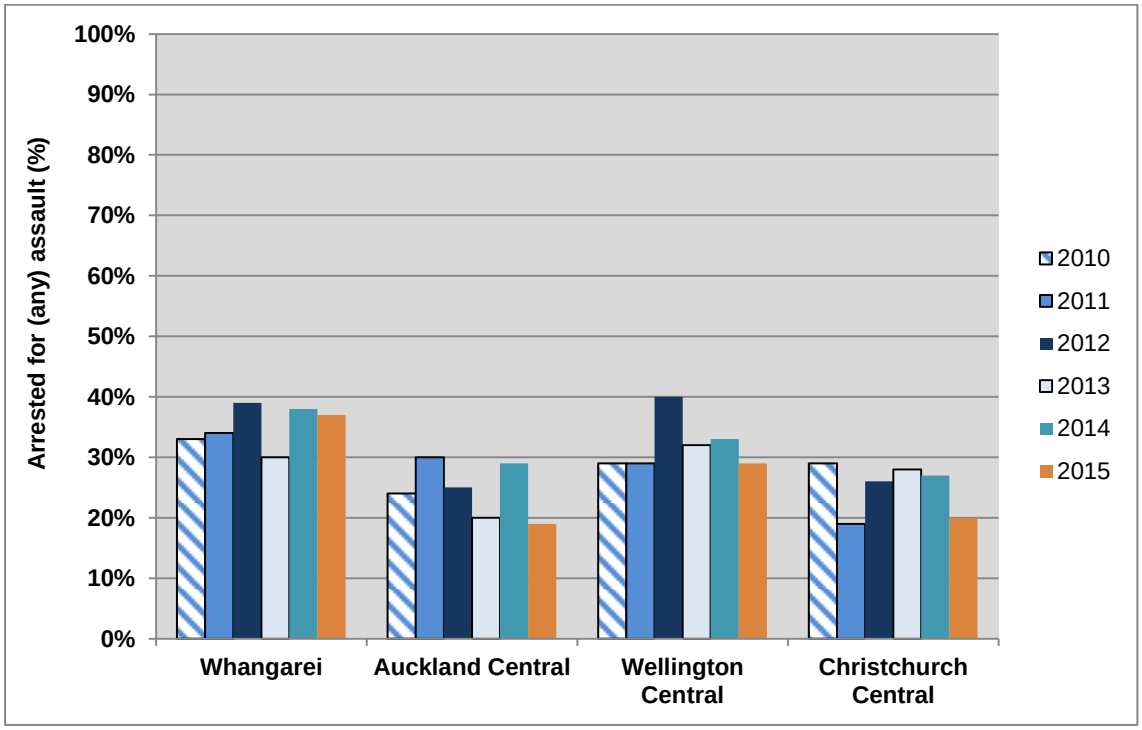


The detainees were asked what offence type(s) they had been arrested for over the previous 12 months (including the offence they were currently being held for). The offence category 'Against Justice' refers to situations where a detainee has failed to comply with a court order in relation to a previous offence and includes charges such as 'breach of bail', 'breach of a non-association order', 'failure to appear in court', 'breach of a protection order', 'breach of parole' and 'breach of periodic detention'. In these situations, the interviewers encouraged the detainee to name their original offence in order to obtain a clearer picture of the detainee's offending history. In instances where this additional information was divulged the Against Justice offence was recoded as the original offence. The 'serious assault' category includes arrests for partner violence (i.e. 'male assaults female').

The offence types the detainees had been most commonly been arrested for in 2015 were 'Against Justice' (unspecified) (51%), driving offences (17%) [i.e. alcohol impaired driving, disqualified driving, driving unregistered vehicle, etc.], serious assault (12%), burglary (10%), assault (unspecified) (9%), car conversion (8%), shoplifting (8%), wilful damage (7%), fines (7%), theft (7%), public disorder (6%), trespass (5%), robbery (4%) and 'new drugs' (4%).

Overall, the proportion of detainees who had been arrested for (any) assault [i.e. minor assault, serious assault, grievous assault, assault unspecified] decreased from 31% in 2014 to 24% in 2015 (p=0.0432). The proportion of Auckland Central detainees who had been arrested for (any) assault declined from 30% in 2011 to 19% in 2015 (p=0.0342), and from 29% in 2014 to 19% in 2015 (p=0.0543) (Figure 12.3).

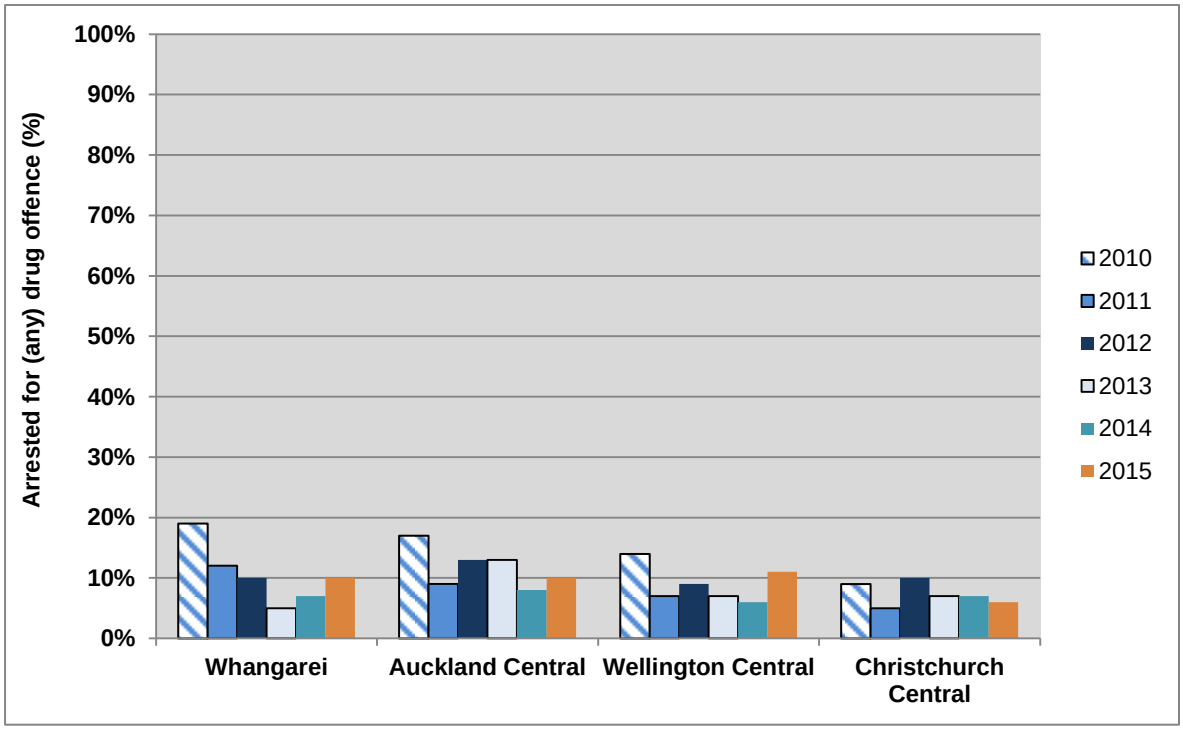
Figure 12 3: Proportion of detainees who had been arrested for (any) assault by location, 2010-2015



Recent arrest for drug offences

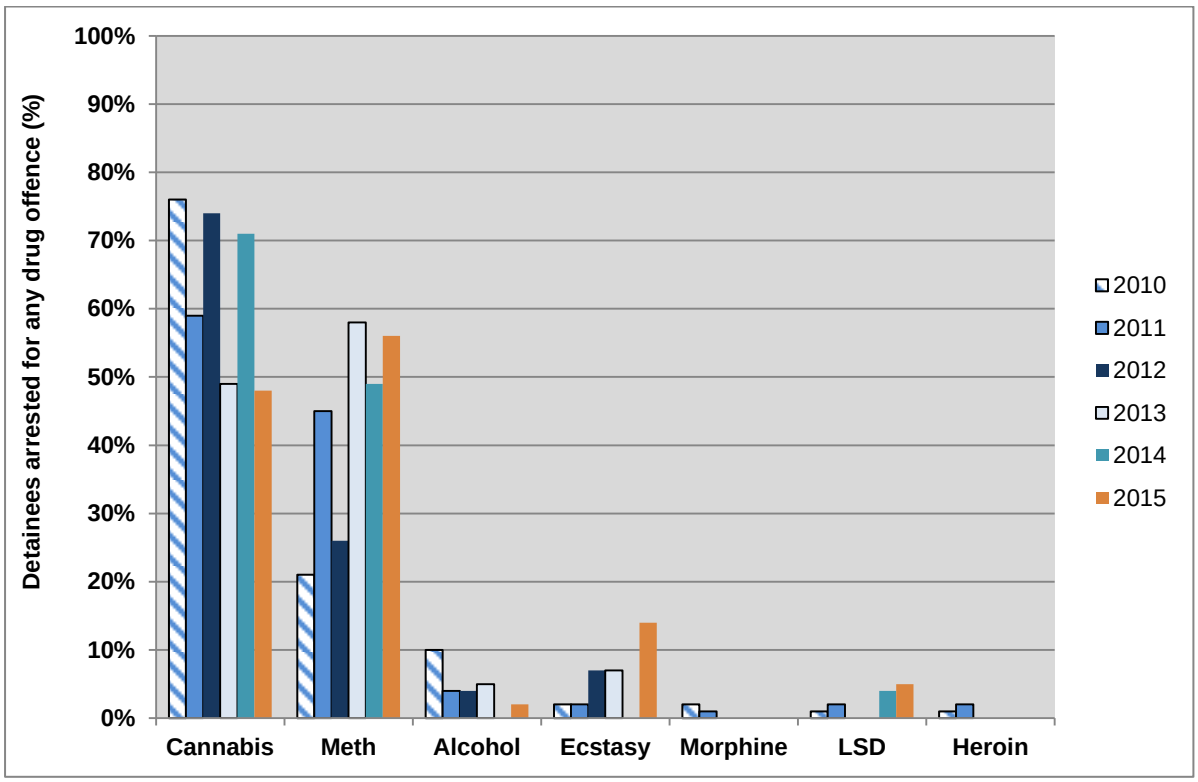
The proportion of detainees who had been arrested for (any) drug offence [i.e. cannabis offence, non-cannabis drug offence, new drug, drugs unspecified] declined from 14% in 2010 to 9% in 2015 (p=0.0132) (Figure 12.4).

Figure 12 4: Proportion of detainees who had been arrested for (any) drug offence by location, 2010-2015



The drug types involved in the drug arrests in 2015 were methamphetamine (56%), cannabis (48%), ecstasy (14%), LSD (5%) and alcohol (2%). Detainees' drug offending can involve more than one substance. None of the detainees reported been arrested for heroin or morphine offences. The proportion of the detainees arrested for a drug offence who had been arrested for a methamphetamine offence had previously increased from 21% in 2010 to 58% in 2013 (p=0.0429) (Figure 12.5).

Figure 12 5: Drug type(s) involved in arrest for a drug offence in the past 12 months (of those who had been arrested for a drug offence in the past year), 2010-2015



Conviction history

Seventy-four percent of the detainees in 2015 had been convicted of a criminal offence in their lifetimes (Table 12.1). There was no change in the proportion of detainees who had ever been convicted of a crime from 2010 to 2015. The proportion of detainees who had ever been convicted of a crime in Auckland Central declined from 77% in 2014 to 64% in 2015 (p=0.0054) (Figure 12.6). Fourteen percent of the detainees had been imprisoned in the previous 12 months in 2015.

Figure 12 6: Proportion of police detainees who had ever been convicted of a crime by location, 2010-2015

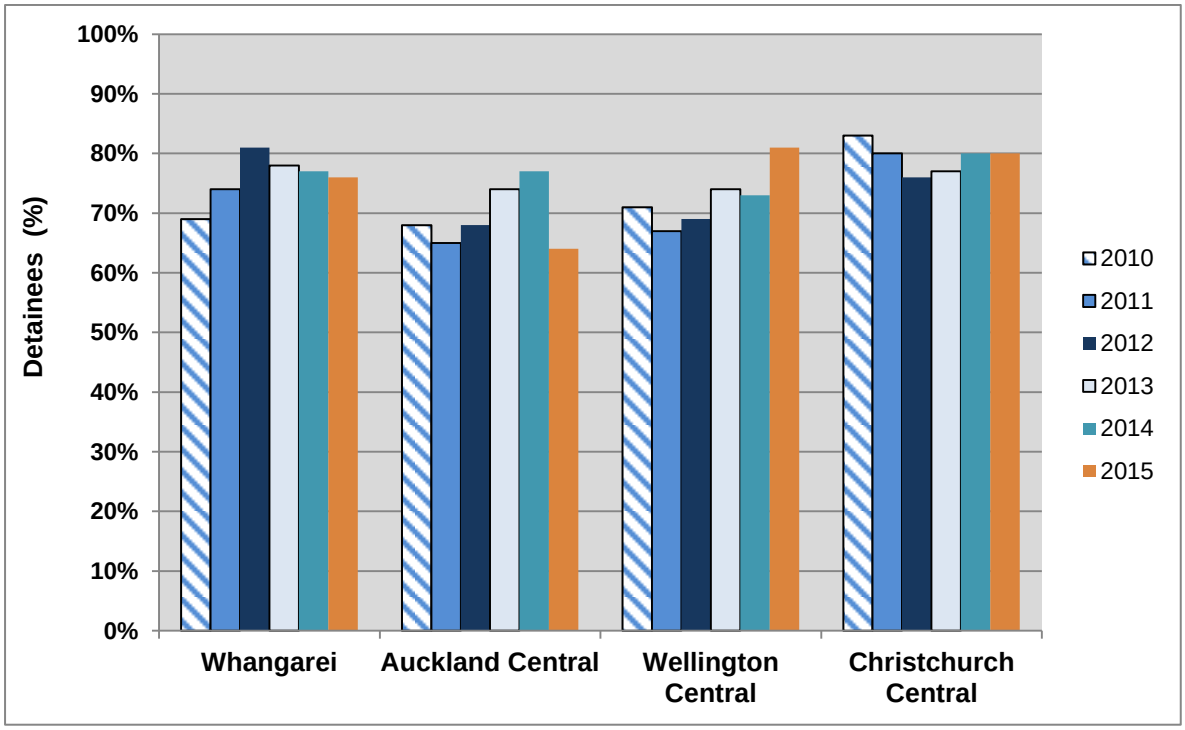


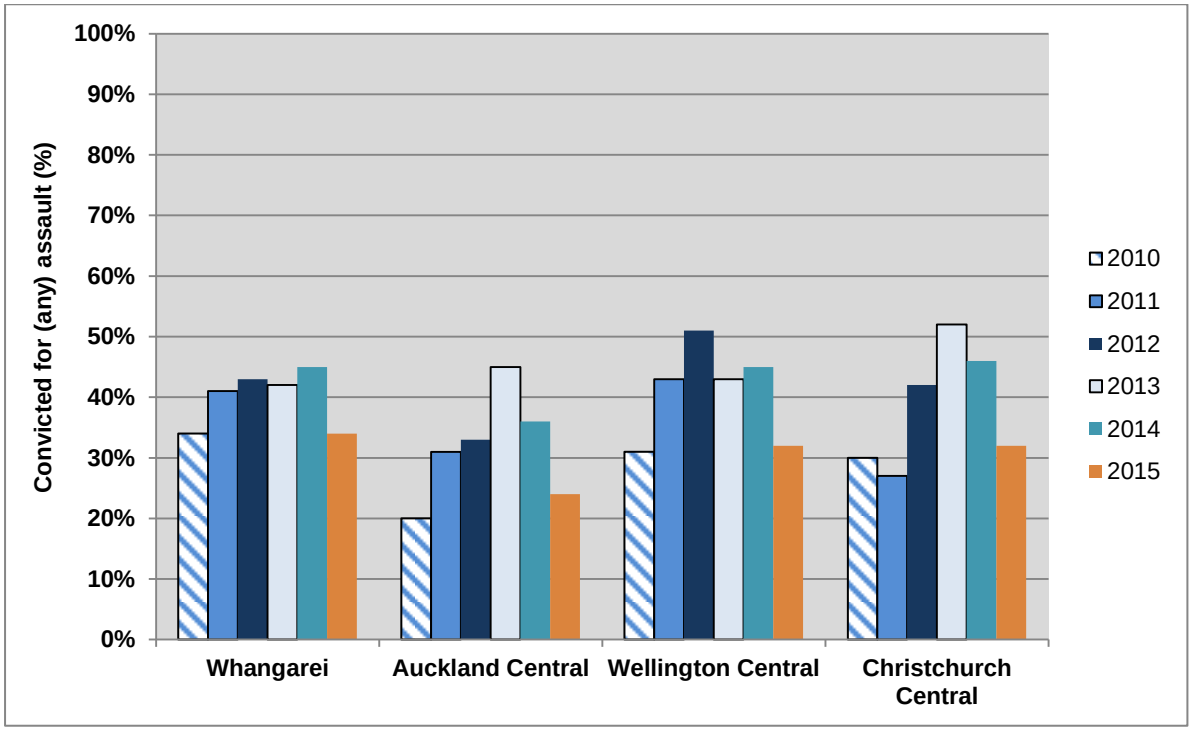
Table 12 1: Police detainees' history of conviction and imprisonment by location, 2010-2015

Arrest history			Ever convicted of a criminal offence	Ever been in prison	Imprisonment in past 12 months
Whangarei	2010	(n=106)	69%	37%	9%
	2011	(n=145)	74%	44%	14%
	2012	(n=144)	81%	45%	20%
	2013	(n=143)	78%	38%	19%
	2014	(n=150)	77%	49%	17%
	2015	(n=169)	76%	42%	13%
Auckland Central	2010	(n=266)	68%	36%	11%
	2011	(n=298)	65%	34%	15%
	2012	(n=240)	68%	34%	15%
	2013	(n=285)	74%	39%	18%
	2014	(n=311)	77%	41%	13%
	2015	(n=259)	64%	32%	12%
Wellington Central	2010	(n=147)	71%	37%	14%
	2011	(n=163)	67%	35%	16%
	2012	(n=100)	69%	37%	19%
	2013	(n=99)	74%	42%	16%
	2014	(n=95)	73%	37%	9%
	2015	(n=106)	81%	43%	19%
Christchurch Central	2010	(n=259)	83%	43%	16%
	2011	(n=189)	80%	43%	17%
	2012	(n=302)	76%	43%	17%
	2013	(n=278)	77%	41%	15%
	2014	(n=273)	80%	45%	11%
	2015	(n=288)	80%	41%	15%
All sites	2010	(n=777)	73%	39%	13%
	2011	(n=795)	72%	39%	16%
	2012	(n=786)	73%	39%	17%
	2013	(n=807)	75%	40%	17%
	2014	(n=831)	77%	43%	12%
	2015	(n=824)	74%	39%	14%

Those detainees who had been convicted of a crime were asked about the criminal offences for which they had been convicted. The offences for which the detainees had most often been convicted were a 'driving offence' (36%), (any) assault (32%) [i.e. minor assault, serious assault, grievous assault and assault (unspecified)], 'burglary' (20%), (any) drug offence (17%) [i.e. cannabis offence, non-cannabis drug offence, new drug and drug offence unspecified], 'car conversion' (16%), 'theft' (13%), 'against justice' (unspecified) (11%), 'shoplifting' (10%), 'robbery' (9%) and wilful damage (9%).

The proportion of the convicted detainees who had ever been convicted for (any) assault decreased from 47% in 2013 to 30% in 2015 ($p<0.0001$). The proportion of convicted detainees in Auckland Central who had been convicted for (any) assault decreased from 45% in 2013 to 24% in 2015 ($p=0.0003$) (Figure 12.7). Similarly, the proportion of Christchurch Central detainees who had been convicted of (any) assault declined from 52% in 2013 to 32% in 2015 ($p=0.0006$).

Figure 12 7: Proportion of convicted detainees who had been convicted for (any) assault by location, 2010-2015

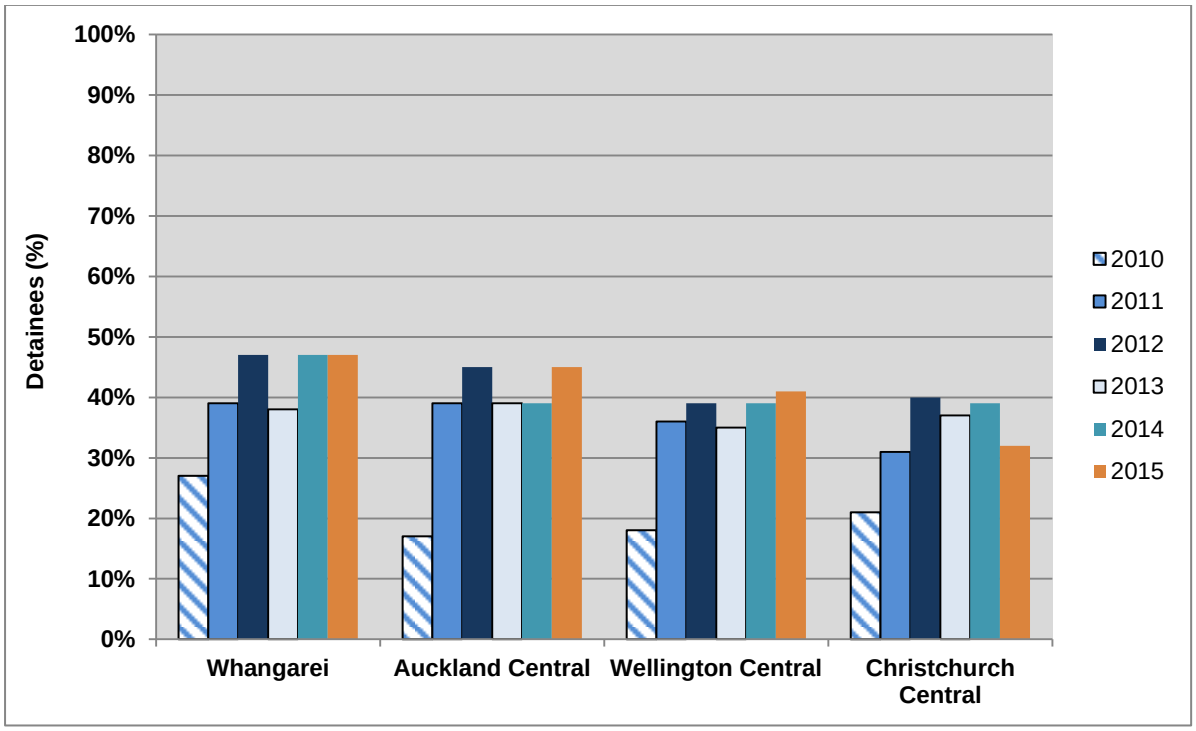


There was no change in the proportion of convicted detainees who had been convicted for (any) drug offence from 2013 to 2015 (16% in both years).

Drug treatment as part of sentencing

The detainees who had been convicted of a criminal offence were asked if they had ever received any treatment for drug and alcohol issues as part of their sentence. The proportion of convicted detainees who had ever received treatment for substance abuse problems increased from 20% in 2010 to 40% in 2015 ($p<0.0001$). The proportion of detainees in Auckland Central who had received treatment as part of their sentence increased from 17% in 2010 to 45% in 2015 ($p<0.0001$) (Figure 12.8). Similarly, Wellington Central detainees were more likely to have received treatment as part of their sentence, the proportion increasing from 18% in 2010 to 41% in 2015 ($p=0.0073$). Finally, the proportion of detainees in Whangarei who had received treatment as part of their sentence increased from 27% in 2010 to 47% in 2015, and this increase was close to being statistically significant ($p=0.06470$).

Figure 12 8: Proportion of police detainees who had ever received treatment for drug and alcohol issues as part of their sentence (of those who had ever been convicted of a crime) by location, 2010-2015

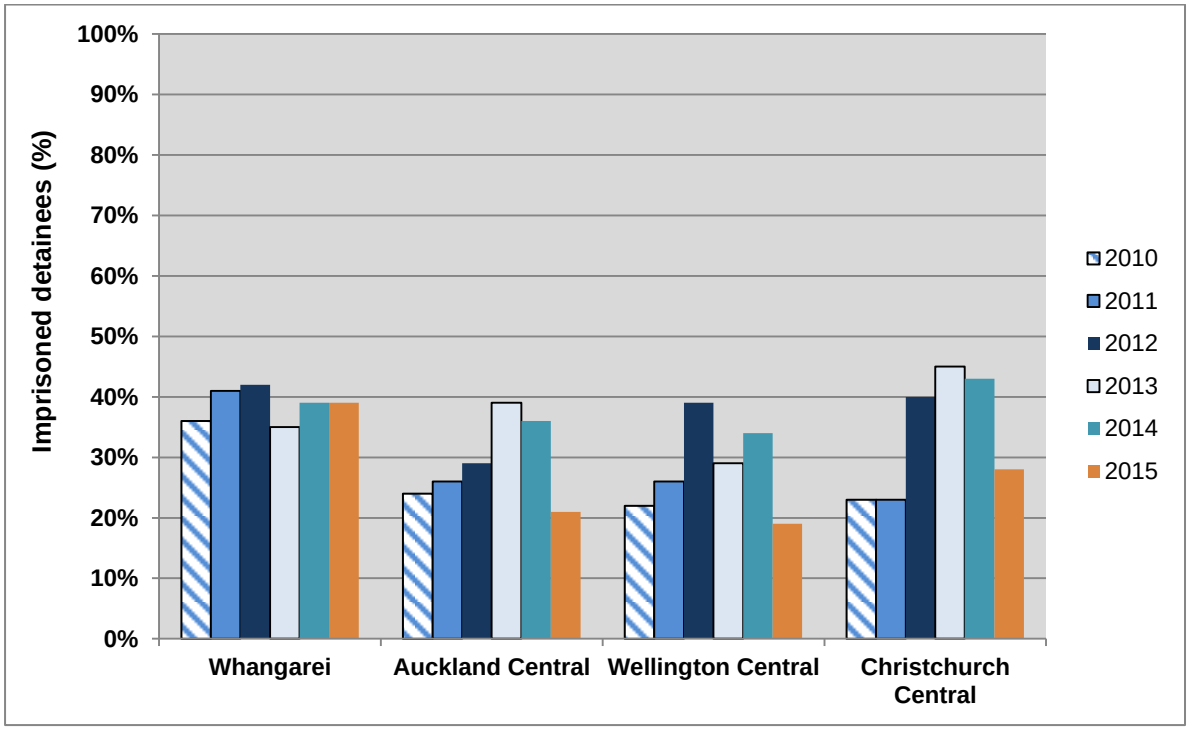


Ever been to prison

Thirty-nine percent of the detainees had been imprisoned at some point in their lifetimes in 2015. There was no change in the proportion of detainees who had ever been to prison from 2010 to 2015 (i.e. 39%=2010, 39%=2011, 38%=2012, 40%=2013, 43% 2014, 39% 2015). Those detainees who had ever been to prison were asked what crime they had been sent to prison for. In 2015, 27% had been imprisoned for (any) assault [i.e. minor assault, serious assault, grievous assault and assault (unspecified)], 23% for burglary, 21% for against justice (unspecified), 18% for driving offences, 15% for robbery, 13% for assault (unspecified), 13% for intimidation/threat, 12% for car conversion and 10% for serious assaults [including male assaults female] (Table 12.4).

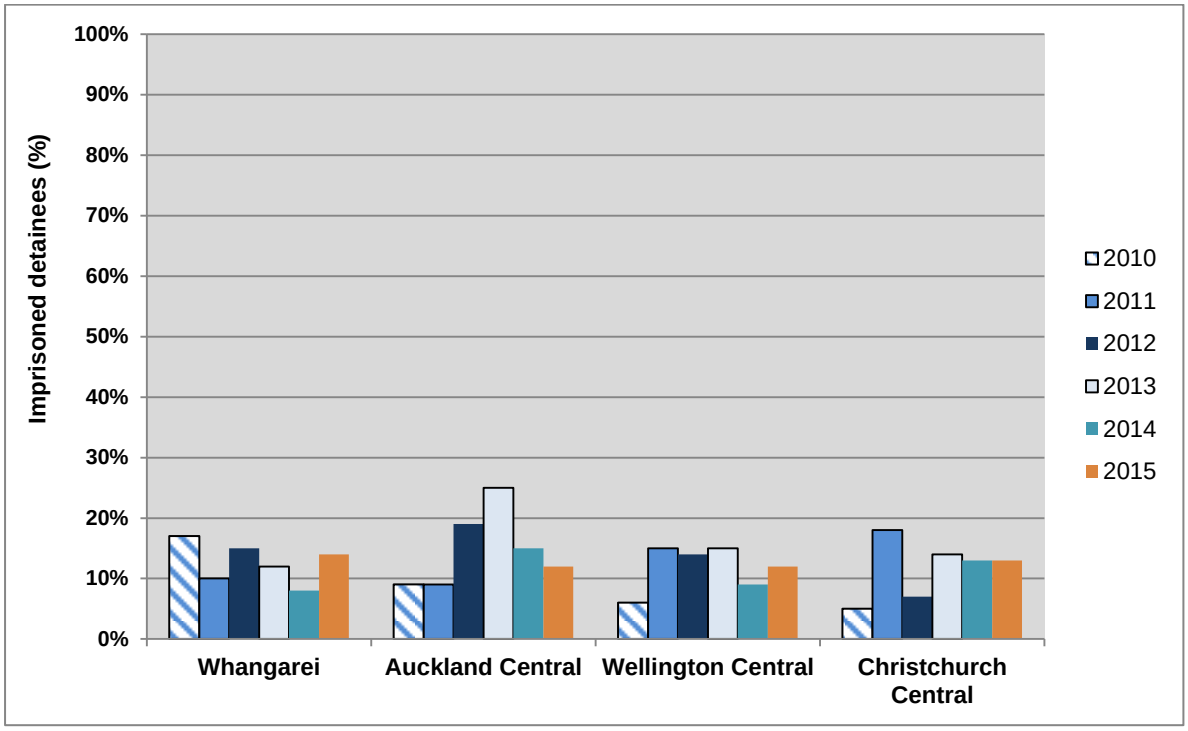
The proportion of detainees who had been imprisoned for (any) assault increased from 24% in 2010 to 39% in 2014 (p=0.0003), before declining from 39% in 2014 to 26% in 2015 (p=0.0063). The proportion of Christchurch Central detainees who had been imprisoned for assault increased from 23% in 2010 to 43% in 2014 (p=0.0279), but then declined from a peak of 45% in 2013 to 28% in 2015, and this was close to being statistically significant (p=0.0781) (Figure 12.9). Similarly, the proportion of Auckland Central detainees who were imprisoned for assault declined from 39% in 2013 to 21% in 2015, and this was also close to being statistically significant (p=0.0802).

Figure 12 9: Proportion of detainees who had been imprisoned for (any) assault by location (of those who had ever been imprisoned), 2010-2015



There had previously been an increase in the proportion of detainees who had been imprisoned for (any) drug offence from 7% in 2010 to 17% in 2013 (p=0.0026). There had also previously been an increase in the proportion of Auckland Central detainees imprisoned for (any) drug offence from 2010 to 2013 (up from 8% to 25%, p=0.0285) (Figure 12.10).

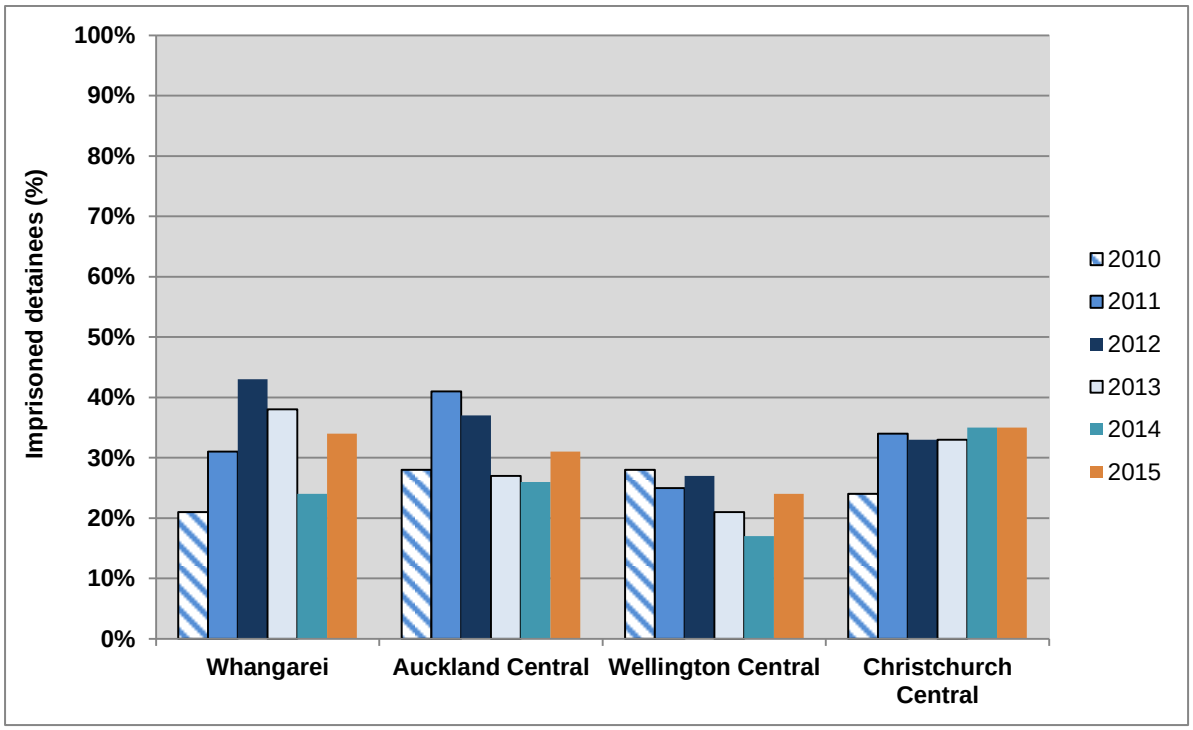
Figure 12 10: Proportion of detainees who had been imprisoned for (any) drug offence by location (of those who had ever been imprisoned), 2010-2015



Alcohol and drug treatment while in prison

In 2015, 32% of these detainees who had ever been to prison had received treatment for alcohol and drug issues as part of their prison sentence (Figure 12.11).

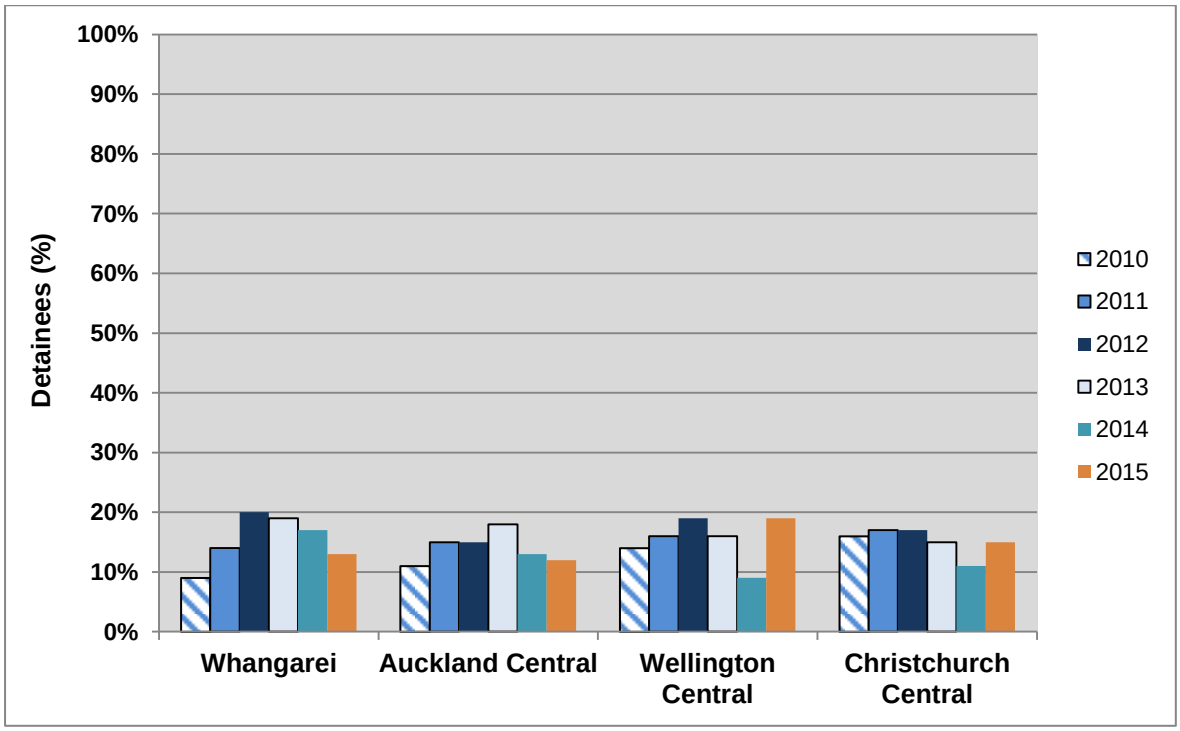
Figure 12 11: Proportion of police detainees who had ever received treatment for drug and alcohol issues as part of their prison sentence by location (of those who had ever been to prison), 2010-2015



Prison in the previous 12 months

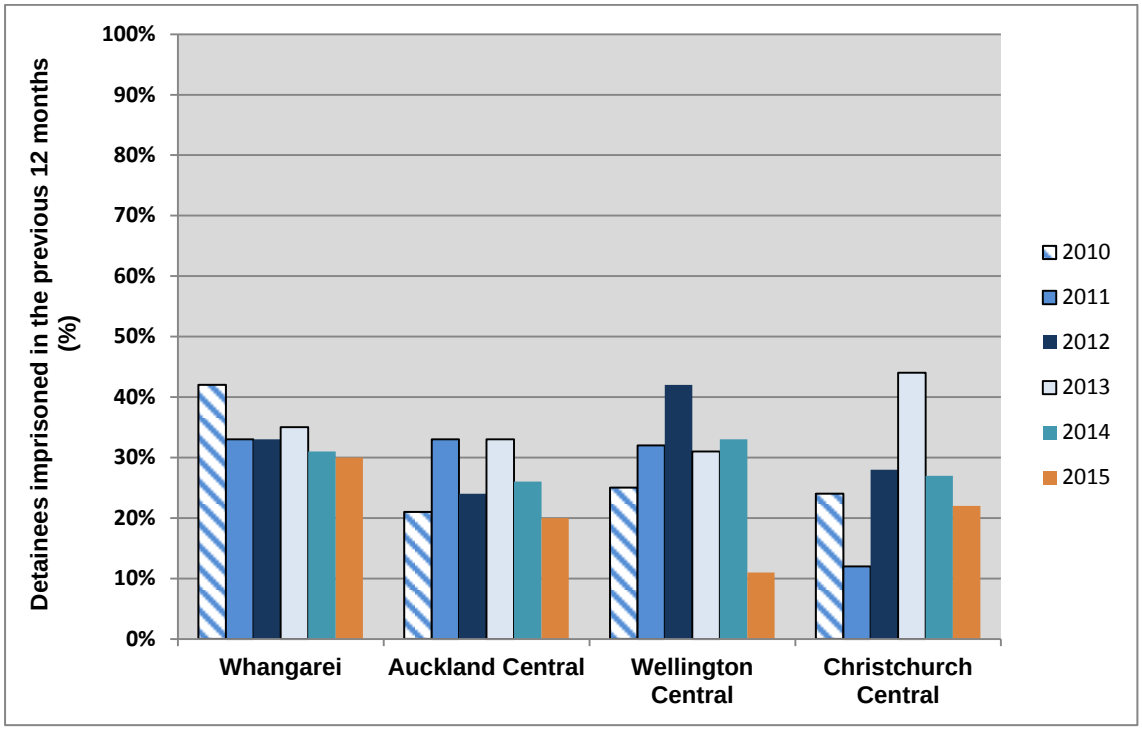
Fourteen percent of the detainees had been in prison in the previous 12 months in 2015. The proportion of detainees who had been imprisoned in the past 12 months had previously declined from 17% in 2012 to 12% in 2014 (p=0.0015) (Figure 12.12).

Figure 12 12: Proportion of detainees who had been in prison in the previous 12 months by location, 2010-2015



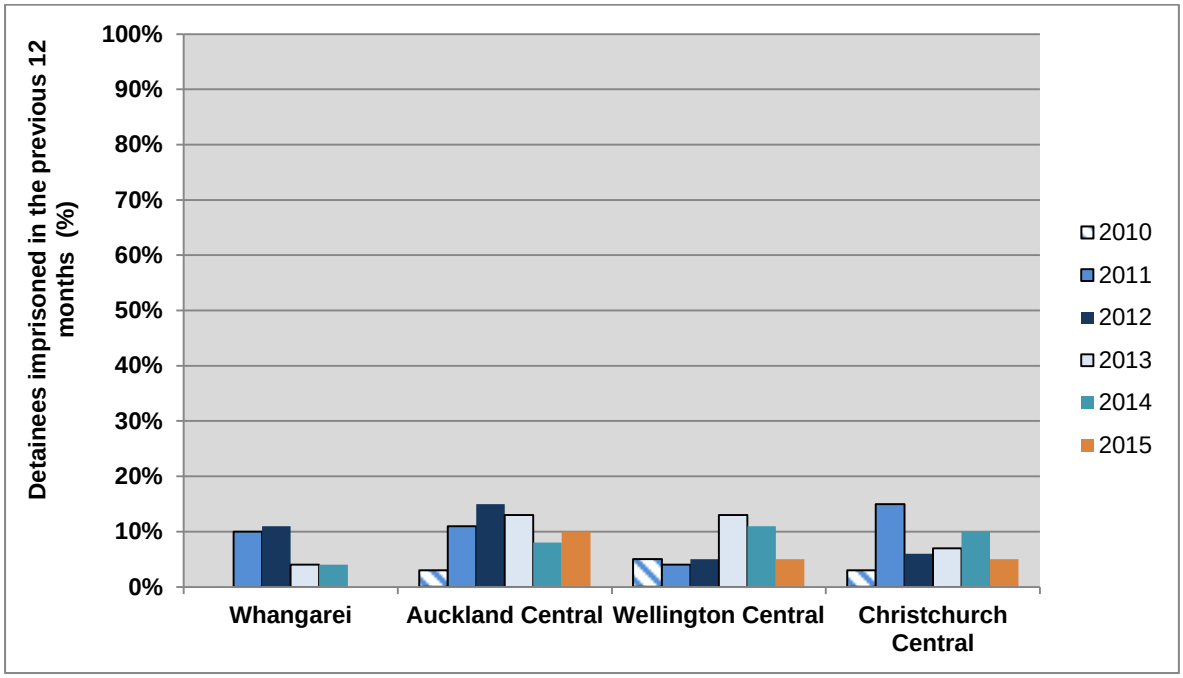
Those detainees who had been imprisoned in the previous 12 months were asked what crime they had been sent to prison for. Twenty-seven percent had been imprisoned for against justice (unspecified), 20% for (any) assault [i.e. minor assault, serious assault, grievous assault and assault (unspecified)], 19% for Burglary, 15% for car conversion, 11% for serious assaults (including male assault female), 11% for driving offence, 10% for robbery and 10% for shoplifting.

Figure 12 13: Proportion of police detainees who had been imprisoned for (any) assault in the past 12 months (of those who had been imprisoned in past 12 months), 2010-2015



Six percent of detainees who had been imprisoned in the previous 12 months had been imprisoned for (any) drug offence (Figure 12.14). The five detainees who were imprisoned for a drug offence in 2015 included four imprisoned for methamphetamine offences and one who was imprisoned for alcohol and cannabis offences.

Figure 12 14: Proportion of police detainees who had been imprisoned for a drug offence in the past 12 months (of those who had been imprisoned in past 12 months), 2010-2015



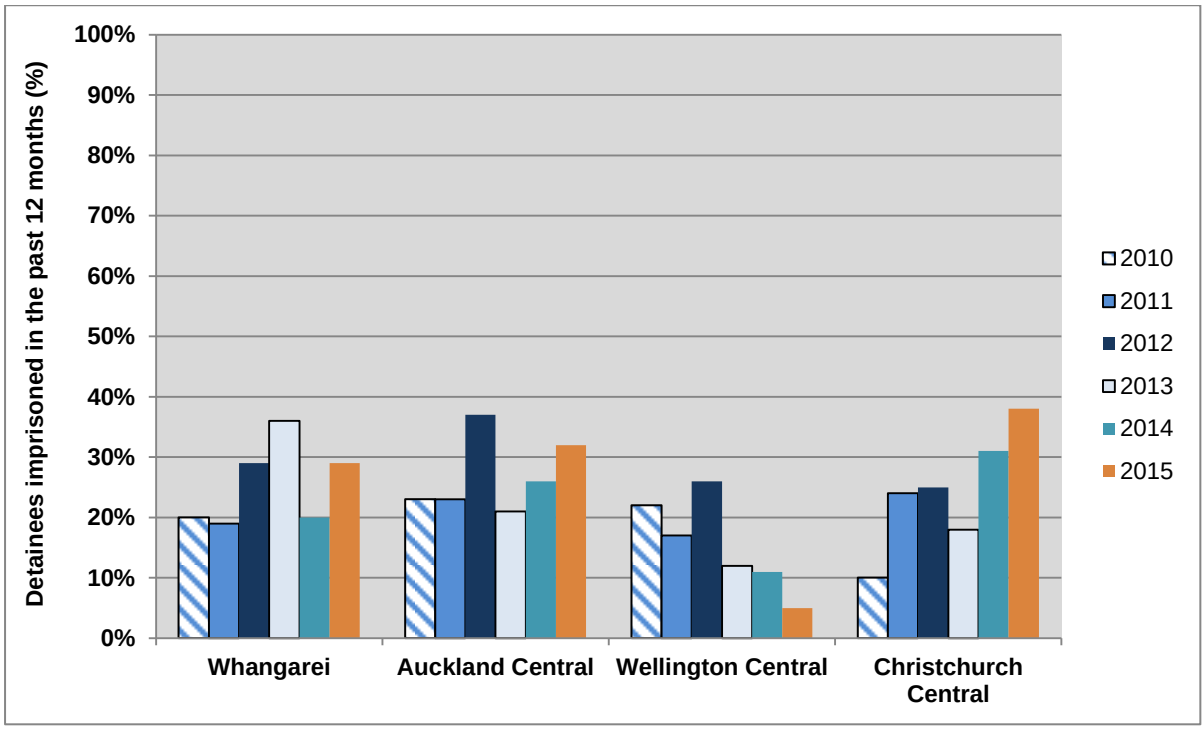
Drug use in prison in the previous 12 months

Thirty-seven percent of the detainees who had been to prison in the past 12 months reported they had used drugs while in prison. There was no change in the proportion of detainees who had used drugs while in prison from 2010 to 2015.

Alcohol and drug treatment while in prison in previous 12 months

Twenty-six percent of the detainees who had been in prison in the past 12 months had received treatment for drug and alcohol issues as part of their prison sentence. There was no statistically significant difference from 2010 to 2015 in the proportion of detainees who had been imprisoned in the past 12 months who had received treatment for alcohol and drug treatment (Figure 12.15).

Figure 12 15: Proportion of police detainees who had received treatment for drug and alcohol issues in the previous 12 months as part of their prison sentence by location (of those who had been to prison in the previous 12 months), 2010-2015



Summary

- The detainees had been arrested for the first time at a mean age of 17 years

- The detainees had been arrested a mean of 3.5 times in the previous 12 months, and this had not changed from previous years

- The offence types the detainees had been most commonly arrested for in 2015 were 'Against Justice' (unspecified) (51%), driving offences (17%) [i.e. alcohol impaired driving, disqualified driving, driving unregistered vehicle, etc.], serious assault (12%), burglary (10%), assault (unspecified) (9%), car conversion (8%), shoplifting (8%), wilful damage (7%), fines (7%), theft (7%), public disorder (6%), trespass (5%) and robbery (4%)

- The proportion of detainees who had been arrested for (any) assault [i.e. minor assault, serious assault, grievous assault, assault unspecified] decreased from 31% in 2014 to 24% in 2015

- The proportion of Auckland Central detainees who had been arrested for (any) assault declined from 29% in 2014 to 19% in 2015

- The proportion of detainees who had been arrested for (any) drug offence [i.e. cannabis offence, non-cannabis drug offence, new drug] declined from 14% in 2010 to 9% in 2015

- The drug types involved in the drug arrests in 2015 were methamphetamine (56%), cannabis (48%), ecstasy (14%), LSD (5%) and alcohol (2%)

- The proportion of detainees who had been convicted of a crime who had ever received treatment for drug and alcohol problems increased from 20% in 2010 to 40% in 2015

- The proportion of detainees in Auckland Central who had received treatment as part of their sentence increased from 17% in 2010 to 45% in 2015

- Wellington Central detainees were also more likely to have received treatment as part of their sentence from 18% in 2010 to 41% in 2015

- In 2015, 14% of the detainees who had been imprisoned in the previous 12 months

- Five detainees had been imprisoned for (any) drug offence in the previous 12 months (i.e. four for methamphetamine and one for cannabis and alcohol)

- Thirty seven percent of the detainees who had been in prison in the past 12 months reported they had used drugs while in prison, and this had not changed from previous years

- In 2015, 26% of the detainees who had been in prison in the past 12 months had received treatment for drug and alcohol issues as part of their prison sentence

Chapter 13 – 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, chronic illness, mental illness, relationship breakdown, suicide, violence, sexual abuse, physical injury, impaired educational achievement, unemployment, work place accidents and low work productivity (Babor, et al., 2010). As a population with high levels of alcohol and other drug use, police detainees experience particulalrly high levels of substance related harm. This includes problems which are directly borne by the detainee themselves, such as acute illness, poisoning, overdose, anxiety, depression and psychosis, and wider social harms which are borne by their family, friends, neighbors and work mates, such as parental neglect, family violence, sexual abuse, financial stress, and unsafe driving and workplace practices.

The 2014 NZ-ADUM found 89% of the substance using police detainees had experienced at least one problem from their alcohol and other drug use in the previous year, and this had not changed from the previous four years. In 2014, 43% of the detainees had 'damaged someone's property', 37% had 'physically hurt someone', 32% had 'stole someone's property' and 14% 'couldn't remember driving home' as a result of their alcohol and other drug use. Eleven percent had 'had a car crash' as a result of their substance use in 2014.

Extent of alcohol and other drug use

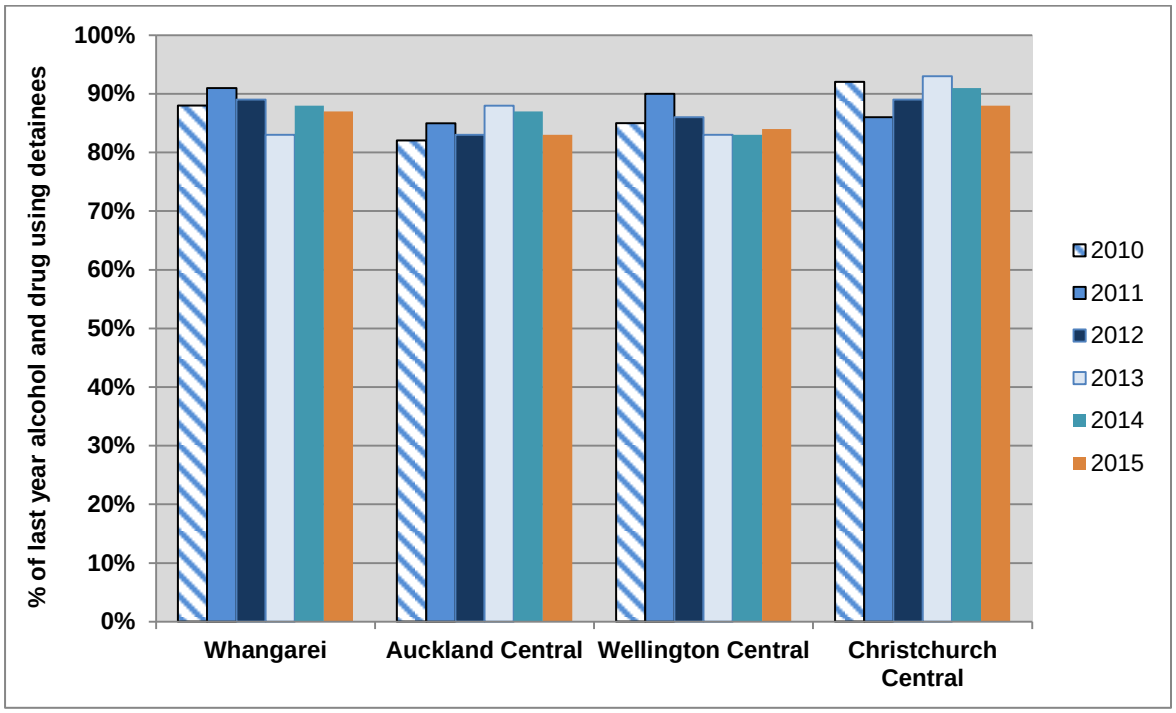
Ninety-seven percent of police detainees had used alcohol, tobacco, legal highs or other drugs in the previous 12 months in 2015. There has been no change in this level of substance use among detainees over the previous five years (i.e. 97%=2010, 98%=2011, 98%=2012, 97%=2013, 98%=2014, 97%=2015). In 2015, 86% of the detainees had drunk alcohol, 84% had smoked tobacco, 69% had smoked cannabis, 36% had used methamphetamine, 27% had smoked synthetic cannabinoids, 21% had used hallucinogens and 19% had used ecstasy in the previous year. Seventy-six percent of the detainees had used an illegal drug in the previous 12 months in 2015. 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).

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. Eighty-five percent had experienced at least one problem related to their substance use in 2015. There was no change in the proportion of detainees who had reported at least one harm due to their substance use from 2010 to 2015 (87%=2010, 87%=2011, 86%=2012, 88%=2013, 88%=2014, 85%=2015) (Figure 13.1).

Figure 13 1: Proportion of police detainees who experienced at least one problem from their alcohol and other drug use in the past 12 months by location (of those who used alcohol and other drugs in the past 12 months), 2010-2015



General problems due to alcohol and other drug use

Forty-nine percent of the alcohol and drug using police detainees reported they 'couldn't remember what happened the night before' due to their substance use in 2015 (Table 13.1).

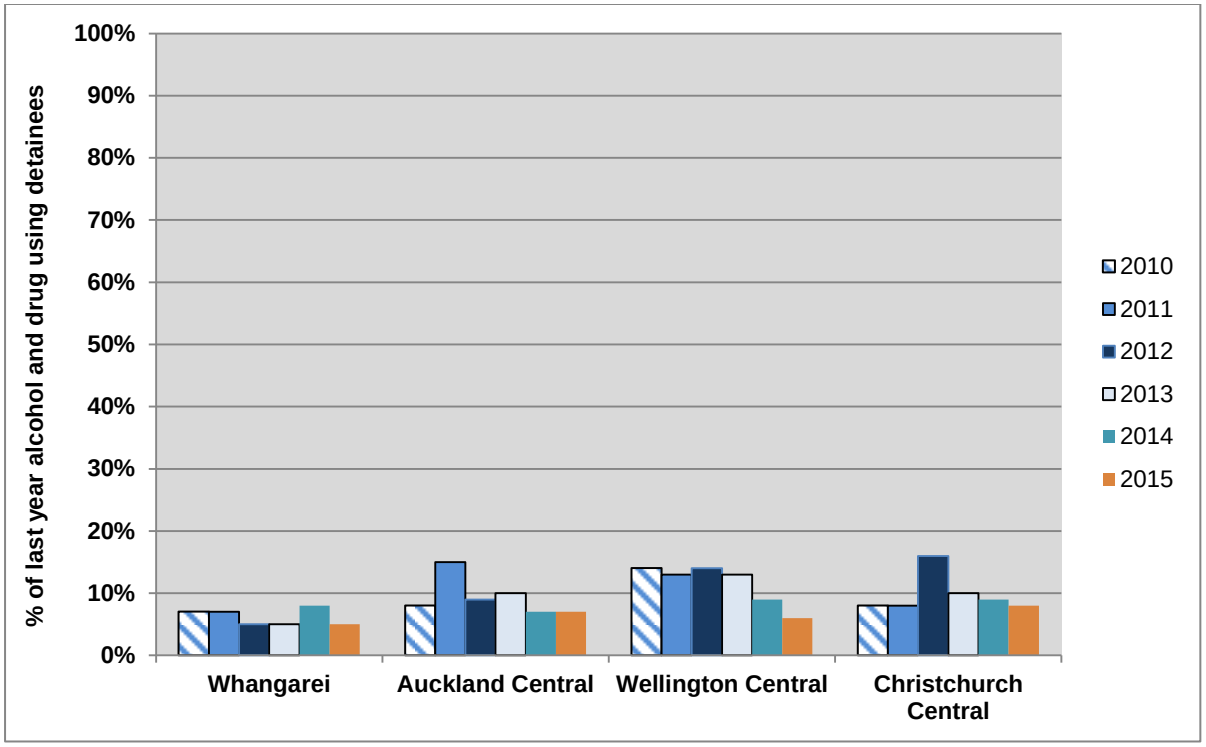
Forty-nine percent had 'upset a family relationship', 32% had 'got into debt/owing money', 31% had 'damaged someone else's property' and 31% had 'reduced work/study performance' as a result of their substance use. Twenty-six percent had 'stole someone's property' and 17% had 'physically hurt themselves' as a result of their alcohol and other drug use.

Table 13 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, 2010-2015

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

Seven percent of the substance using detainees had 'overdosed on drugs' during the previous year. The proportion of substance using detainees who 'overdosed' declined from 11% in 2011 to 7% in 2015 (p=0.0491) (Figure 13.3).

Figure 13 2: Proportion of police detainees who 'overdosed' on drugs (of those who used alcohol and other drugs in the past 12 months), 2010-2015



Aggression due to alcohol and other drug use

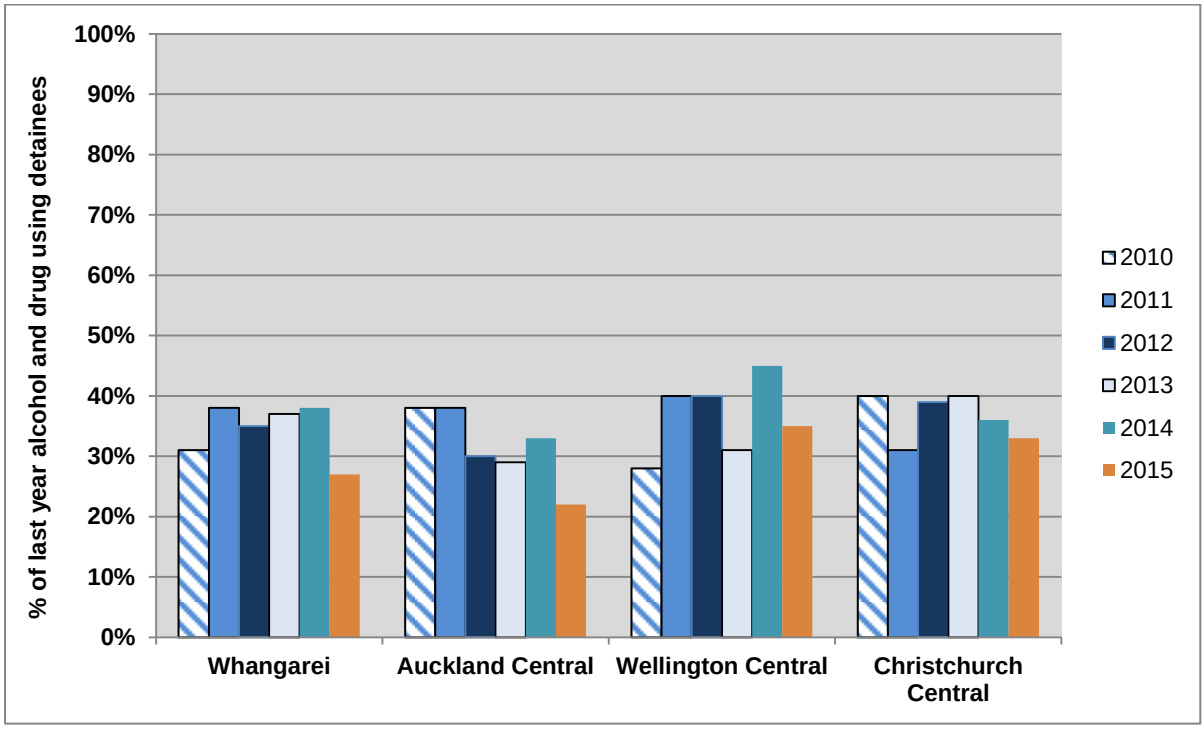
Forty-one percent of the alcohol and other drug using police detainees had 'physically or verbally threatened someone' and 29% had 'physically hurt someone' due to their substance use during the previous 12 months in 2015 (Table 13.2).

Table 13 2: Proportion of alcohol and other drug using detainees who reported aggression due to their substance use in the past 12 months, 2010-2015

Harm (%)	All sites					
	2010	2011	2012	2013	2014	2015
	(n=785)	(n=801)	(n=766)	(n=800)	(n= 811)	(n=798)
Physically or verbally threatened someone	50	50	50	50	51	41
Were physically or verbally threatened	42	42	42	40	41	34
Physically hurt someone	36	36	36	34	37	29
Were physically assaulted	34	35	36	32	33	27

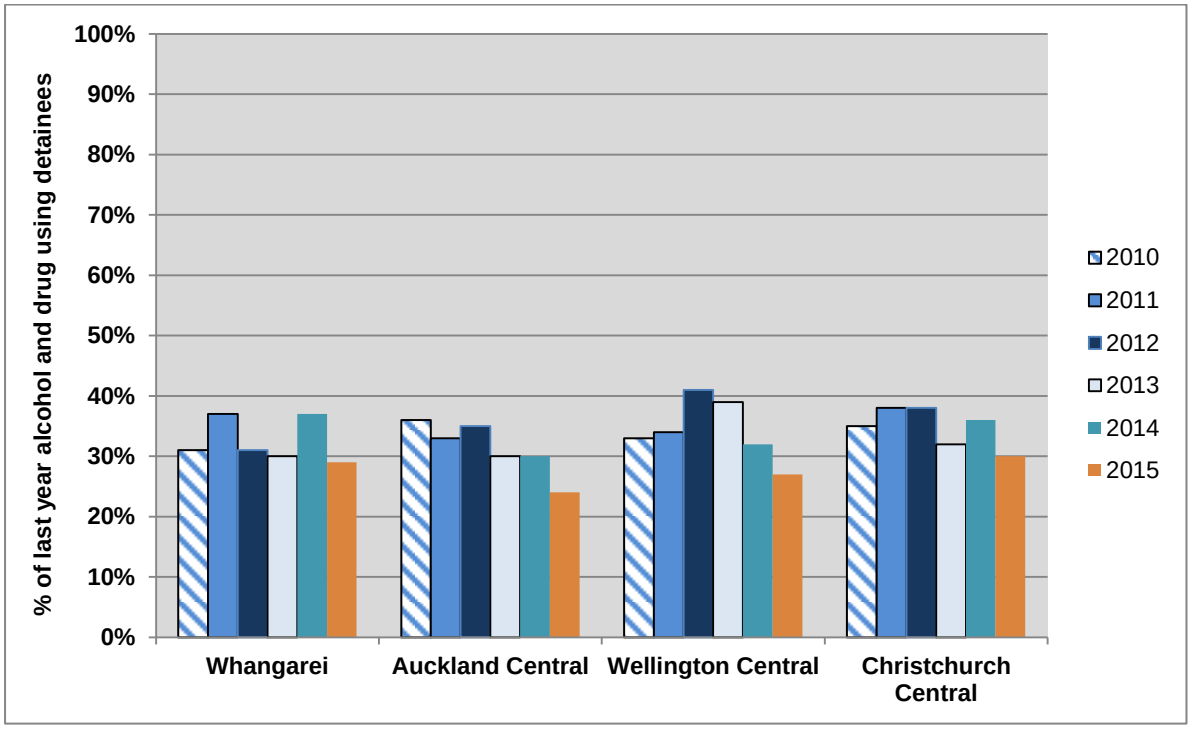
The proportion of detainees who had 'physically hurt someone' declined from 37% in 2014 to 29% in 2015 (p=0.0028). The proportion of Auckland Central detainees who had physically hurt someone declined from 33% in 2014 to 22% in 2015 (p=0.0290) (Figure 13.5).

Figure 13 3: 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), 2010-2015



The proportion of detainees who were physically assaulted (themselves) also declined from 31% in 2014 to 17% in 2015 ($p<0.0001$). Declines in the physical assault of detainees were found in all four sites (Figure 13.6).

Figure 13 4: 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), 2010-2015



Driving incidents due to alcohol and other drug use

Twenty-one percent of the alcohol and other drug using detainees who drove reported driving 'too fast' due to their substance use in 2015. Twenty percent had been charged with a 'driving offence', 15% had received a traffic ticket, and 11% reported they had 'had a car crash' due to their alcohol and other drug use (Table 13.3).

Table 13 3: Proportion of alcohol and other drug using detainees who reported a driving related incident due to their alcohol and other drug use in the past 12 months by location, 2015

Harm (%)	
	(n=725)
Drove too fast	21
Charged with a driving offence	20
Lost concentration while driving	16
Got a traffic ticket	15
Drove through a stop sign or red light	14
Lost your temper at another driver	12
Had a car crash	11
Couldn't remember driving home	10

Sexual harm incidents due to alcohol and other drug use

Thirty-two percent of the detainees had 'unprotected sex' due to their alcohol and other drug use in 2015 (Table 15.4). The proportion of detainees who had 'unprotected sex' due to their alcohol and other drug use declined from 51% in 2010 to 32% in 2015 ($p<0.0001$). The proportion of detainees who had 'unprotected sex' due to substance use declined in Auckland Central (down from 43% in 2014 to 20% in 2015, $p<0.0001$), Wellington Central (down from 45% in 2013 to 29% in 2015, $p=0.0386$) and Christchurch Central (down from 57% in 2014 to 41% in 2015, $p=0.0021$).

Table 13 4: Proportion of alcohol and other drug using detainees who reported sexual harm related to their substance use in the past 12 months by location, 2010-2015

Harm (%)	All sites					
	2010	2011	2012	2013	2014	2015
	(n=783)	(n=800)	(n=757)	(n=792)	(n=806)	(n=797)
Had unprotected sex	51	48	50	43	46	32
Were sexually harassed	6	6	7	6	7	4
Were sexually assaulted	3	4	3	4	3	2

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 2015, detainees named three drug types as largely responsible for their substance use related problems: alcohol (78%), cannabis (34%) and methamphetamine (31%) (Table 13.5). Eleven percent of the detainees considered synthetic cannabinoids to be responsible for their substance use problems (up from only <1% in 2012). In Christchurch Central, 23% of the detainees named synthetic cannabinoids as the substance responsible for their drug related harm

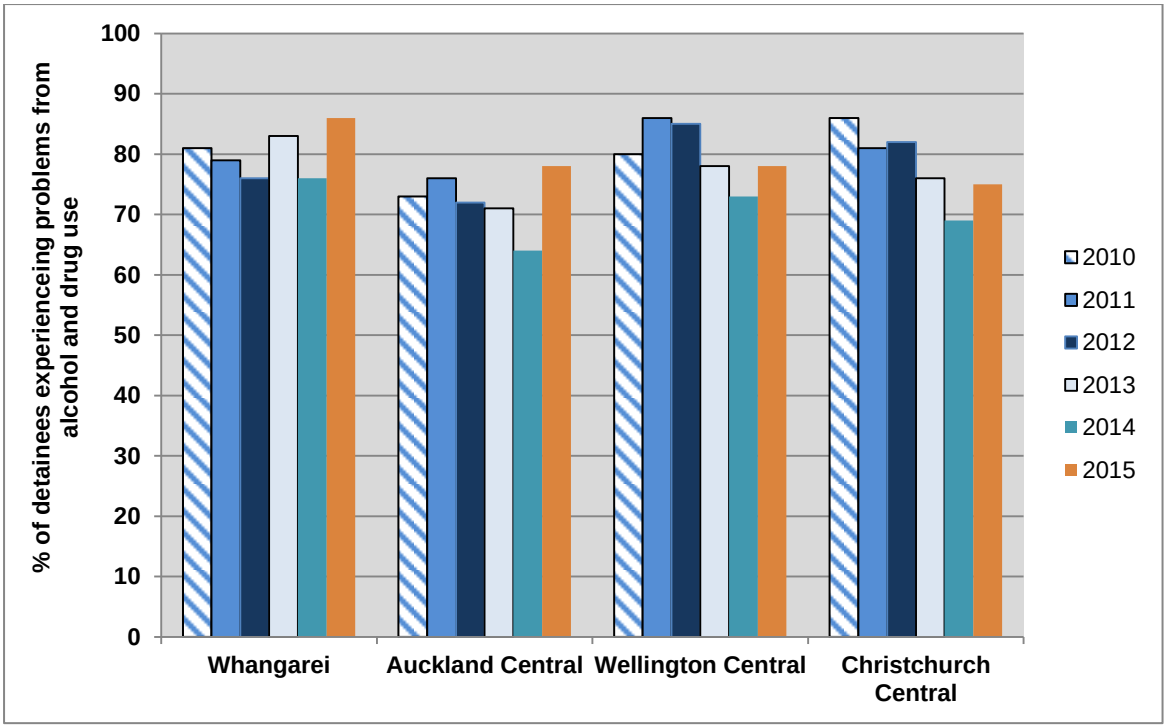
Table 13 5: Drug type(s) which the police detainees nominated as responsible for their substance related problems in the past 12 months by location, 2010-2015

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

The proportion of detainees who attributed their substance use problems to alcohol declined from 80% in 2010 to 69% in 2014 ($p<0.0001$) and then increased from 69% in 2014 to 78% in 2015 ($p=0.0026$). The proportion of Auckland Central detainees who attributed their substance related problems to alcohol declined from 76% in 2011 to 64% in 2014 ($p=0.0247$), and then increased from 64% in 2014 to 78% in 2015 ($p=0.0077$) (Figure 13.10).

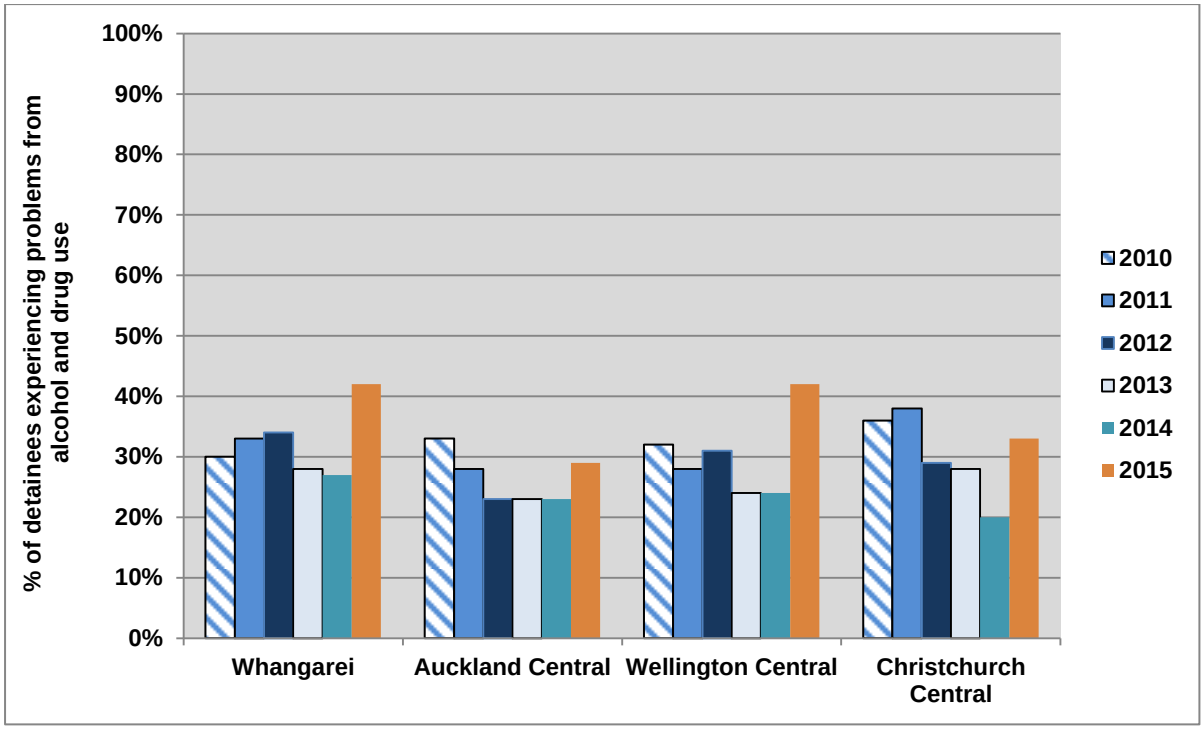
The proportion of Christchurch Central detainees who attributed their problems to alcohol declined from 86% in 2010 to 74% in 2015 (p=0.0246).

Figure 13 5: Proportion of police detainees who attributed their substance use related problems to alcohol by location (of those detainees who had experienced an alcohol and drug problem in the past 12 months), 2010-2015



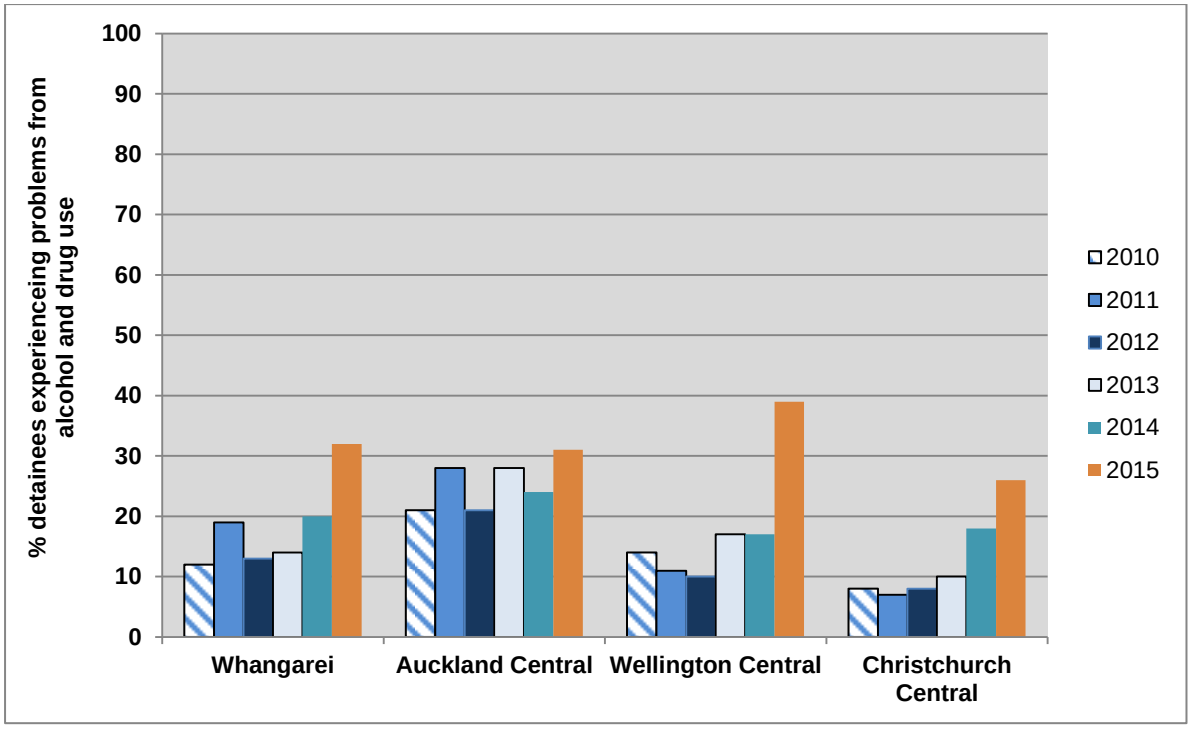
The proportion of detainees who attributed their substance use related problems to cannabis declined from 33% in 2010 to 23% in 2014 (p=0.0002), and then increased from 23% in 2014 to 34% in 2015 (p<0.0001). The proportion of Christchurch Central detainees who attributed their substance use related problems to cannabis declined from 36% in 2010 to 20% in 2014 (p=0.0012), and then increased from 20% in 2014 to 33% in 2015 (p=0.0198). In 2015, a higher proportion of detainees in Whangarei attributed their substance use problems to cannabis than those in Auckland Central (42% vs. 29%, p=0.0428).

Figure 13 6: 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), 2010-2015



The proportion of detainees who attributed their substance use problems to methamphetamine increased steadily from 14% in 2012 to 31% in 2015 ($p<0.0001$). The proportion of detainees who attributed their substance use problems to methamphetamine increased in Whangarei (from 13% in 2012 to 32% in 2015, $p=0.0040$), Wellington Central (up from 10% in 2012 to 39% in 2015, $p=0.0005$) and Christchurch Central (up from 8% in 2012 to 26% in 2015, $p<0.0001$) (Figure 13.12).

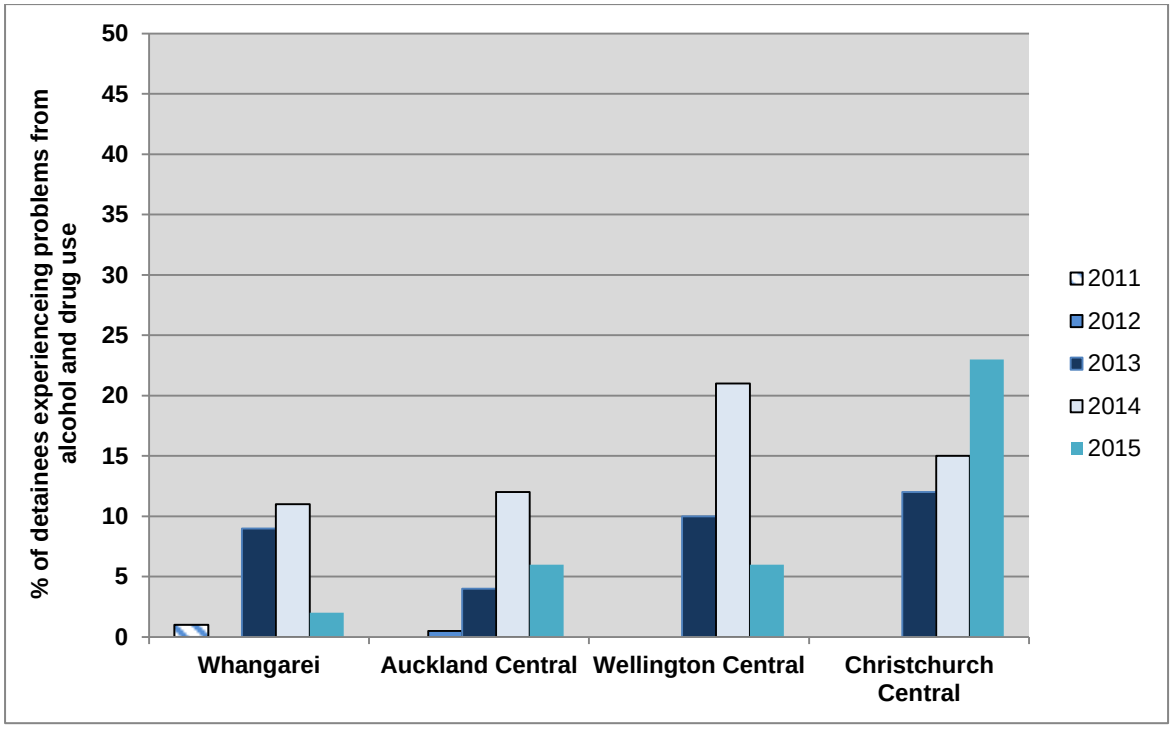
Figure 13 7: Proportion of police detainees who attributed their substance use related problems to methamphetamine by location (of those detainees who had experienced an alcohol and other drug problem in the past 12 months), 2010-2015



The proportion of detainees who attributed their substance use related problems to ecstasy increased from 1% in 2014 to 4% in 2015 (p=0.0122). The proportion of detainees who attributed their substance use related problems to tobacco declined from 6% in 2011 to 3% in 2015 (p=0.0190).

The proportion of detainees who attributed their substance use problems to synthetic cannabinoids declined in Whangarei (down from 11% in 2014 to 2% in 2015), Wellington Central (down from 21% in 2014 to 6% in 2015) and Auckland Central (down from 12% in 2014 to 6% in 2015) (Figure 13.8). In contrast, the proportion of Christchurch Central detainees who attributed their substance use problems to synthetic cannabinoids increased from 12% in 2013 to 23% in 2015 (p=0.0058).

Figure 13 8: 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), 2010-2015



Alcohol and Driving

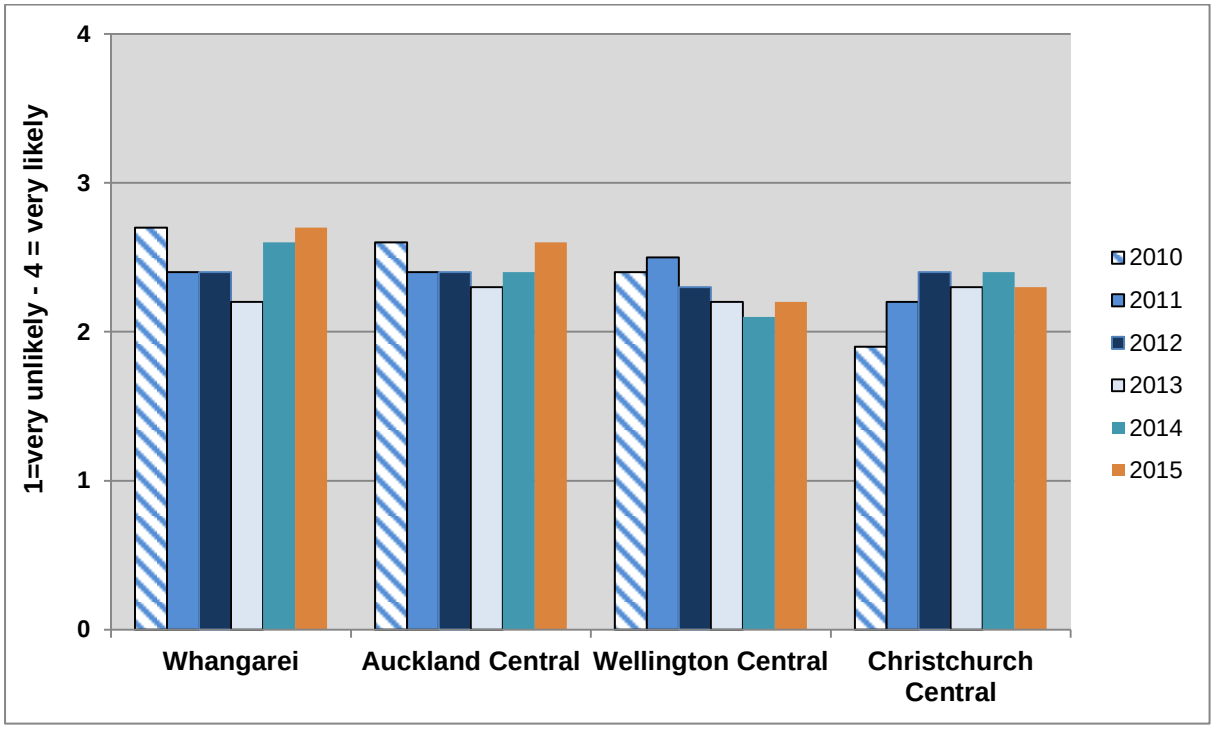
The detainees who had used alcohol and other drugs in the previous 12 months were asked how likely they thought it was that they would be stopped if they drove under the influence of alcohol. In 2015, 19% said they did not drive and a further 7% had had their 'license was suspended'. Thirty-one percent of the detainees who had driven in 2015 thought it was 'very unlikely' they would be stopped by the police while driving under the influence of alcohol (Table 13.6). The detainees were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2015 (up from 2.3 to 2.4), but this increase was not statistically significant (p=0.1067). Detainees from Christchurch Central were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2015 (up from 1.9 to 2.3), and this increase was very close to being statistically significant (p=0.0536) (Figure 15.13).

Table 13 6: 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), 2010-2015

Likelihood of being stopped by police while under influence of alcohol	Whangarei						Auckland Central						Wellington Central						Christchurch Central					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
	(n=29)	(n=112)	(n=116)	(n=107)	(n=96)	(n=139)	9n=153)	(n=205)	(n=149)	(n=194)	(n=166)	(n=167)	(n=110)	(n=102)	(n=69)	(n=54)	(n=63)	(n=83)	(n=226)	(n=140)	(n=227)	(n=167)	(n=184)	(n=195)
Very likely (4)	28	23	26	21	31	34	22	18	28	23	24	26	25	23	17	17	17	14	16	20	27	21	24	22
Likely (3)	28	26	25	20	22	26	33	30	20	22	21	34	22	29	25	20	17	27	16	18	20	23	29	22
Unlikely (2)	31	16	18	22	20	12	25	30	20	22	27	17	22	22	25	28	27	27	15	24	20	18	14	16
Very unlikely (1)	14	36	31	37	27	28	20	22	32	34	28	22	32	26	33	35	38	33	54	38	33	38	33	39
Mean score of likelihood of being stopped (1=Very unlikely – 4=Very likely)	2.7	2.4	2.5	2.2	2.6	2.7	2.6	2.4	2.4	2.3	2.4	2.6	2.4	2.5	2.3	2.2	2.1	2.2	1.9	2.2	2.4	2.3	2.4	2.3

Likelihood of being stopped by police while under influence of alcohol	All Sites					
	2010	2011	2012	2013	2014	2015
	(n=518)	(n=513)	(n=528)	(n=522)	(n=509)	(n=584)
Very likely (4)	20	20	25	21	24	24
Likely (3)	23	25	22	22	23	27
Unlikely (2)	20	25	21	22	21	18
Very unlikely (1)	37	30	32	35	32	31
Mean score of likelihood of being stopped (1=Very unlikely – 4=Very likely)	2.3	2.4	2.4	2.3	2.4	2.4

Figure 13 9: 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), 2010-2015



Drugs and Driving

The detainees who had recently used alcohol and other drugs 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). Again, 19% of the detainees said they 'did not drive' and a further 8% had had their 'license suspended'. In 2015, thirty-six percent of the detainees who did drive thought it was 'very unlikely' they would be stopped by the police while driving under the influence of drugs; a futher 28% said they were 'unlikely' to be stopped (Table 13.7).

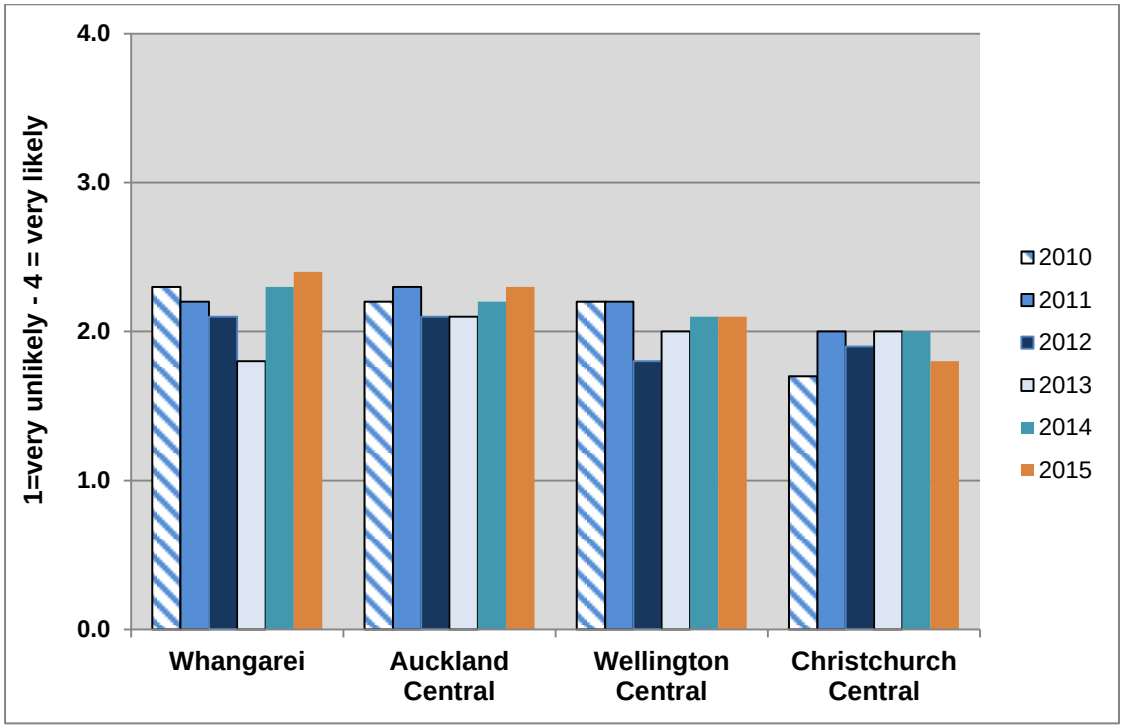
Table 13 7: Police detainees' perceived likelihood of being stopped by the police whilst driving under the influence of drugs other than alcohol by location (of those detainees who had used alcohol and drugs in the past year and who drove), 2010-2015

Likelihood of being stopped by police while under influence of drugs	Whangarei						Auckland Central						Wellington Central						Christchurch Central					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
	(n=29)	(n=93)	(n=110)	(n=109)	(n=95)	(n=137)	(n=144)	(n=176)	(n=131)	(n=192)	(n=162)	(n=165)	(n=106)	(n=92)	(n=66)	(n=101)	(n=63)	(n=83)	(n=219)	(n=132)	(n=202)	(n=165)	(n=179)	(n=190)
Very likely (4)	14	18	14	9	22	20	15	13	16	13	14	15	20	16	5	15	13	8	9	11	11	16	12	10
Likely (3)	24	25	20	17	17	25	24	30	16	22	21	27	19	22	23	17	19	27	16	23	16	16	22	14
Unlikely (2)	45	18	30	20	26	27	28	31	30	30	33	33	26	27	26	23	32	28	17	23	28	18	21	24
Very unlikely (1)	17	39	36	53	35	28	33	27	38	35	31	25	35	35	47	45	37	37	58	42	45	49	44	52
Mean score of likelihood of being stopped (1=Very unlikely – 4=Very likely)	2.3	2.2	2.1	1.8	2.3	2.4	2.2	2.3	2.1	2.1	2.2	2.3	2.2	2.2	1.8	2.0	2.1	2.1	1.7	2.0	1.9	2.0	2.0	1.8

Likelihood of being stopped by police while under influence of drugs	All Sites					
	2010	2011	2012	2013	2014	2015
	(n=498)	(n=501)	(n=501)	(n=519)	(n=499)	(n=575)
Very likely (4)	13	13	12	14	14	13
Likely (3)	19	25	18	19	20	23
Unlikely (2)	24	26	28	24	27	28
Very unlikely (1)	44	36	42	44	38	36
Mean score of likelihood of being stopped (1=Very unlikely – 4=Very likely)	2.0	2.2	2.0	2.0	2.1	2.1

Overall, there was no change in perceptions of the likelihood of being stopped while under the influence of drugs from 2010 to 2015. Whangarei detainees were more likely to believe they would be stopped by police while driving under the influence of drugs from 2013 to 2015 (up from 1.8 to 2.4, p=0.0013) (Figure 13.10).

Figure 13 10: 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 drugs in the past year and who drove), 2010-2015



Extent help needed to reduce alcohol and drug use

The detainees who had used alcohol, tobacco and other drugs in the previous 12 months were asked to what extent the extent they felt they needed help to reduce their substance use. The interviewer read options from a scale of 'no help' to 'a lot of help'. In 2015, thirty-seven percent of the detainees felt they needed at least some help to reduce their alcohol and drug use, with 19% saying they needed 'a lot' of help to reduce their alcohol and drug use. Auckland Central detainees were less likely to think they needed help to reduce their substances use from 2010 to 2015 (p=0.0311).

Wanted help but did not receive it

The detainees were asked whether they had wanted help to reduce their level of alcohol and drug use 'but not got it' in the previous 12 months. In 2015, twenty-nine percent of the detainees reported that they had wanted help to reduce their alcohol and drug use but did not receive it.

Barriers to receiving help

The detainees who had sought help to reduce their alcohol and drug use but did not receive it were asked what barriers, if any, they had come across when trying to get help (Table 13.8). The interviewer read out a list of barriers experienced when seeking help for substance use. The detainees could nominate more than one barrier on the list and could also suggest a barrier that was not on the list. The barriers to finding help most commonly mentioned by the detainees in 2015 were 'didn't know where to go' (36%),'social pressure to keep on using' (25%), 'fear of what might happen once made contact with the service' (24%), 'no transport to get there' (20%) and 'fear of losing friends' (17%). The proportion of detainees who mentioned 'long waiting lists' declined from 18% in 2011 to 11% in 2015 (p=0.0265). Conversely the proportion who mentioned 'no after-hours service' increased from 45 in 2011 to 11% in 2015 (p=0.0112).

Table 13 8: Police detainees' perceived barriers to receiving help for alcohol and drug use, 2011-2015

	2011 (n=252)	2012 (n=245)	2013 (n=280)	2014 (n=266)	2015 (n=233)
Other barrier (not on list)	42	51	43	34	43
Didn't know where to go	34	32	31	39	36
Social pressure to keep using	25	18	24	26	25
Fear of what might happen once contact made with the service	20	19	29	25	24
Had no transport to get there	20	14	19	17	20
Fear of losing friends	14	17	19	15	17
Costs too much	14	13	15	13	15
Couldn't get appointment soon enough/ at a suitable time	9	15	14	13	14
No appropriate local services	10	12	14	12	12
No local service available	7	8	16	11	12
Concern about impact on job/ career prospects	19	15	21	17	11
Service not appropriate for type of drug use/ problems	8	12	10	10	11
Long waiting lists	18	9	13	11	11
No after-hours service	4	6	8	10	11
Fear of the police	15	11	18	14	10
Not eligible for admission	5	6	5	4	9
Fear of social welfare agencies	9	12	9	12	8
Lack of childcare	4	4	4	5	5
Lack of self-motivation	6	8	1	0	0

Currently in an alcohol and drug treatment programme

In 2015, 16% of the detainees had been in an alcohol and drug treatment programme in the previous 12 months in 2015. Six percent were currently in a treatment programme.

Summary

- In 2015, 86% of the detainees had drunk alcohol, 84% had smoked tobacco, 69% had smoked cannabis, 36% had used methamphetamine, 27% had smoked synthetic cannabinoids, 21% had used hallucinogens and 19% had used ecstasy in the previous year

- Seventy-six percent of the detainees had used an illegal drug in the previous 12 months in 2015, and again this had not changed over the previous five years

- Eighty-five percent of the substance using detainees had experienced at least one problem from their alcohol and other drug use in 2015, and this had not changed over the past five years

- In 2015, 31% of the substance using detainees had 'damaged someone's property', 29% had 'physically hurt someone' and 26% had 'stole someone's property' as a result of their alcohol and other drug use

- Seven percent of the substance using detainees had overdosed on drugs in 2015

- In 2015, 20% of the substance using detainees had been charged with a driving offence, 15% had received a traffic ticket, 11% had 'had a car crash' and 10% 'couldn't remember driving home' as a result of their alcohol and other drug use

- In 2015, 4% of the substance using detainees had been sexually harassed and 2% were sexually assaulted

- In 2015, the detainees named three drug types as mainly responsible for their substance use problems: alcohol (78%), cannabis (34%) and methamphetamine (31%)

- The proportion of detainees who attributed their substance use related problems to alcohol increased from 69% in 2014 to 78% in 2015

- The proportion of detainees who attributed their substance use related problems to methamphetamine increased from 14% in 2012 to 31% in 2015

- The proportion of detainees who attributed their substance use problems to methamphetamine increased in Whangarei (from 13% in 2012 to 32% in 2015), Wellington Central (up from 10% in 2012 to 39% in 2015) and Christchurch Central (up from 8% in 2012 to 26% in 2015)

- The proportion of detainees who attributed their substance use related problems to cannabis increased from 23% in 2014 to 34% in 2015

- In 2015, 11% of the detainees considered synthetic cannabinoids to be responsible for their substance use problems (up from only <1% in 2012)

- The proportion of detainees who attributed their substance use problems to synthetic cannabinoids declined in Whangarei (down from 11% in 2014 to 2% in 2015) and Wellington Central (down from 21% in 2014 to 6% in 2015)

- In contrast, the proportion of Christchurch Central detainees who attributed their substance using problems to synthetic cannabinoids increased from 12% in 2013 to 23% in 2015

- In 2015, 31% of the detainees who drove thought it was 'very unlikely' they would be stopped by the police while driving under the influence of alcohol

- Detainees from Christchurch Central were more likely to believe they would be stopped while driving under the influence of alcohol from 2010 to 2015

- In 2015, 36% of the detainees who drove thought it was ' 'very unlikely' they would be stopped by the police while driving under the influence of drugs

- Whangarei detainees believed they were more likely to be stopped by police while driving under the influence of drugs from 2013 to 2015

- In 2015, thirty-seven percent of the detainees felt they needed at least some help to reduce their alcohol and drug use

- In 2015, twenty-nine percent of the detainees reported that they had wanted help to reduce their alcohol and drug use but did not receive it

Chapter 14 – Synthetic cannabinoids

Introduction

Synthetic cannabinoids include a wide range of compounds that bind to cannabinoid CB1 and CB2 receptors in the brain, and mimic the effects of delta-9-tetrahydrocannabinol (THC) in natural cannabis, although often with greater affinity (Aung et al., 2000; Castaneto et al., 2014; Hermanns-Clausen et al., 2013; Uchiyama et al., 2011). Synthetic cannabinoid products are often marketed as 'legal' alternatives to natural cannabis and are not detectable in standard drug testing assays. Studies of synthetic cannabinoids 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; Winstock & Barrett, 2013) (Winstock and Barratt, 2013a). Acute synthetic cannabinoid intoxication has resulted in emergency department admissions requiring supportive care, benzodiazepines, and fluids, with severe cases resulting in hospitalisation for up to two weeks (Castaneto, et al., 2014; Winstock & Barratt, 2013). Some cases of dependence on SC have been reported after chronic use (Castaneto, et al., 2014; Nacca et al., 2013; Vandrey et al., 2012; Zimmermann et al., 2009).

Synthetic cannabinoids products first emerged in New Zealand around 2009 (Wilkins et al., 2013). Dozens of synthetic cannabinoid products were introduced over subsequent years and these were able to be legally sold as their active ingredients were new compounds which had not been specifically scheduled in the *Misuse of Drugs Act*. While a number of synthetic cannabinoid compounds were able to be quickly withdrawn from the market using temporary bans, new products with alternative ingredients swiftly took their place. In July 2013, the *Psychoactive Substances Act* (PSA) was enacted which allowed a number of synthetic cannabinoid products to be legally sold from licensed retail outlets under new retail restrictions (e.g. R18, no convenience stores) (Wilkins, 2014a, 2014b). A survey of frequent

synthetic cannabinoid users during this time found 47% were daily users and 54% were classified as dependent (Wilkins, et al., 2015b). The most common problems reported from synthetic cannabinoid use were insomnia (29%), 'vomiting/nausea' (25%), 'short temper/agitation' (21%), 'anxiety' (21%), 'strange thoughts' (16%) and 'heart palpitations' (14%) (Wilkins et al. 2015). The PSA regime was brought to an abrupt end in May 2014 (Wilkins, 2014c), effectively making all products with psychoactive effects illegal (Rychert & Wilkins, 2015, 2016).

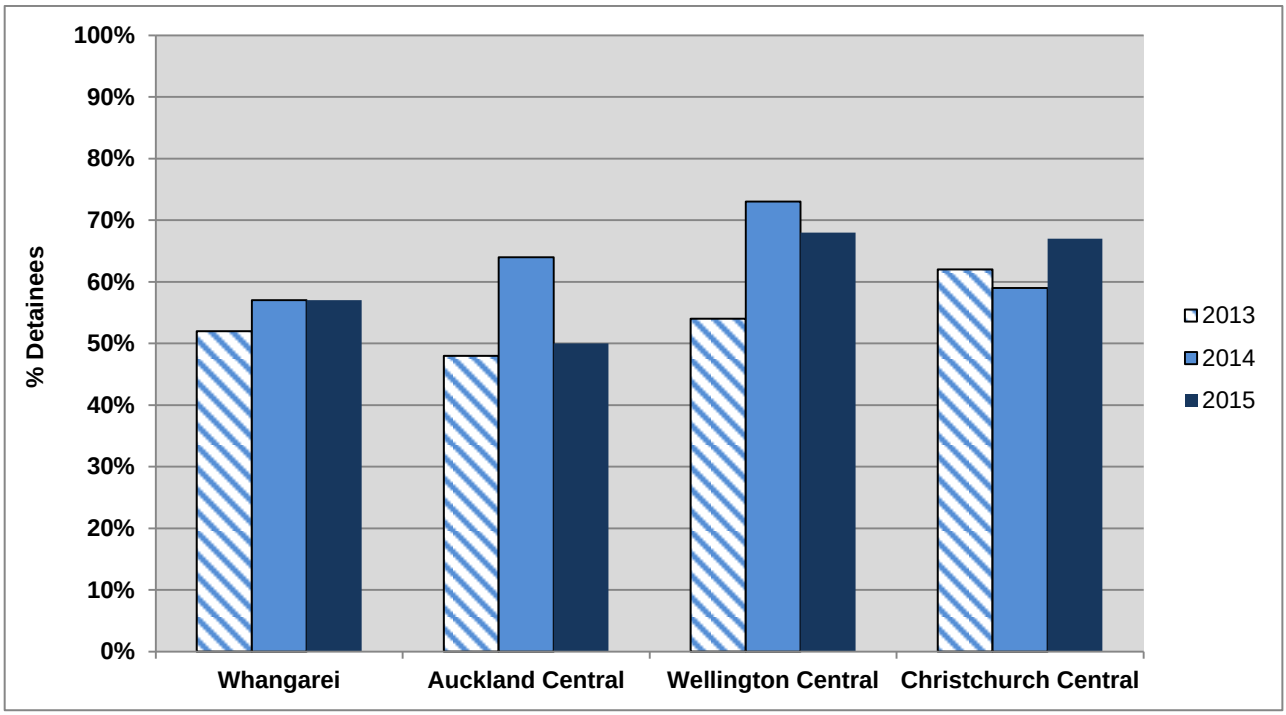
Interviewing for NZ-ADUM is completed from mid-April to the end of July each year. In 2014, a small number of of interviews were conducted before the early May 2014 bans were imposed, but the vast majority were conducted after the bans. However, respondents were asked whether they had used in their lifetimes and in the *previous* 12 months, and about changes in availability and price over the *previous* six months, and this includes periods of time before the bans were imposed. Furthermore, due to the leakage of previous legal stocks to the illegal drugs market, the 2014 bans may take many months to negatively impact supply and availabilty. Conseuqently, the 2014 NZ-ADUM findings did not fully capture the impact of the bans. The 2015 NZ-ADUM results provide a clearer picture of the impact of the bans on use and availability as last year use measures, and past six month availability measures, cover periods of time after the bans were imposed.

Use of synthetic cannabinoids

In 2015, 60% of the police detainees had tried synthetic cannabinoids at some point in their lives, 27% had used synthetic cannabinoids in the previous 12 months, and 12% had used them in the past month (Table 14.1). The proportion of detainees who had ever tried synthetic cannabinoids increased from 54% in 2013 to 60% in 2015, and this increase was very close to being statistically significant (p=0.0545). Lifetime experience of using synthetic cannabinoids increased sharply in Auckland Central from 48% in 2013 to 64% in 2014 (p=0.0005), before declining to 50% in 2015 (p=0.0028) (Figure 14.1). Lifetime experience of using synthetic cannabinoids also

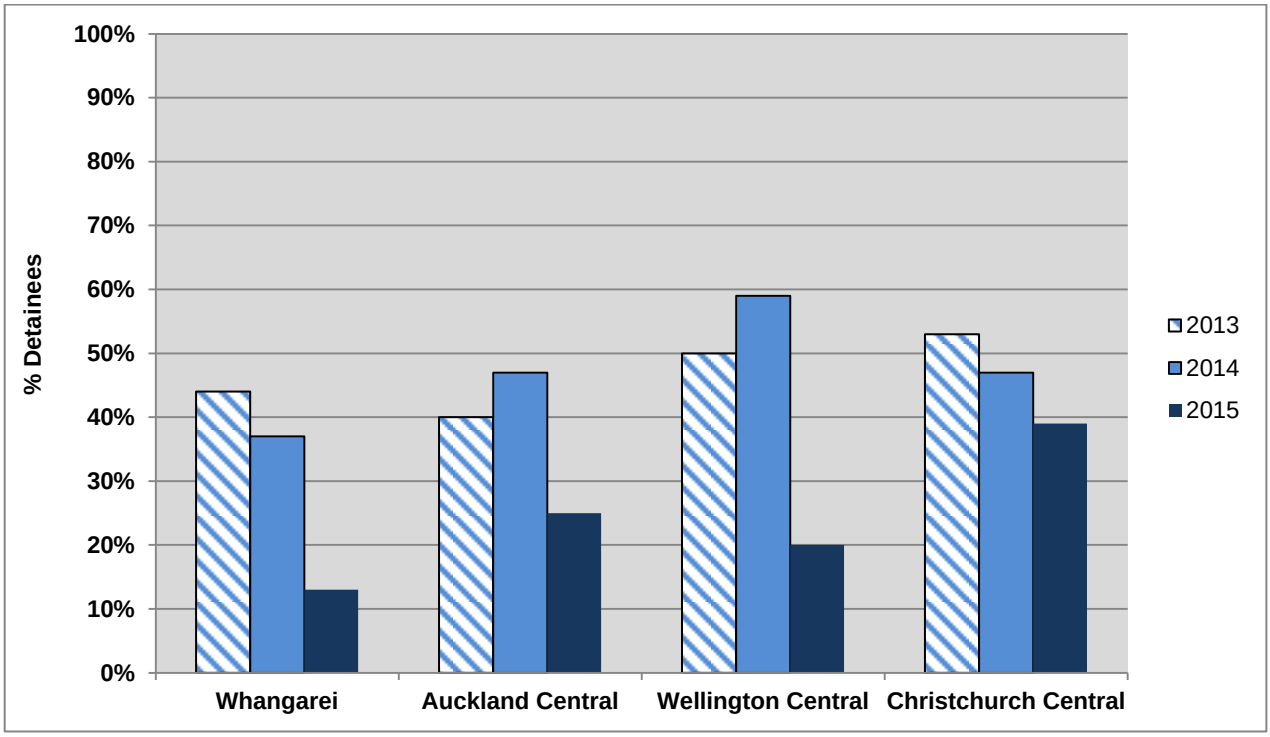
increased in Wellington Central from 54% in 2013 to 68% in 2015, and this increase was close to being statistically significant (p=0.0784).

Figure 14 1: Proportion of police detainees who had ever used synthetic cannabinoids by location, 2013-2015



The proportion of detainees who had used synthetic cannabinoids in the previous 12 months declined from 47% in 2014 to 27% in 2015 (p<0.0001). There was a decline the proportion of detainees who had used synthetic cannabinoids in the previous year in Whangarei (down from 37% in 2014 to 13% in 2015, p<0.0001), Auckland Central (down from 47% in 2014 to 25% in 2015, p<0.0001), Wellington Central (down from 59% in 2014 to 20% in 2015, p<0.0001) and Christchurch Central (down from 53% in 2013 to 39% in 2015, p=0.0021) (Figure 14.2). In 2015, detainees in Christchurch Central were more likely to have used synthetic cannabinoids in the previous 12 months than those in Auckland Central (39% vs. 25%, p=0.0015), Wellington Central (39% vs. 20%, p=0.0013) and Whangarei (39% vs. 13%, p<0.0001).

Figure 14 2: Proportion of police detainees who had used synthetic cannabinoids in the past 12 months by location, 2013-2015



Similarly, the proportion of detainees who had used synthetic cannabinoids in the past month declined from 24% in 2014 to 12% in 2015 ($p<0.0001$) (Figure 14.3). The proportion of detainees who had used synthetic cannabinoids in the past month declined in Whangarei (down from 19% in 2014 to 5% in 2015, $p=0.0004$), Auckland Central (down from 22% in 2014 to 10% in 2015, $p=0.0003$), Wellington Central (down from 32% in 2014 to 4% in 2015, $p<0.0001$) and Christchurch Central (down from 32% in 2013 to 22% in 2015, $p=0.0206$). In 2015, detainees in Christchurch Central were more likely to have used synthetic cannabinoids in the previous month than those in Whangarei (22% vs. 5%, $p<0.0001$), Auckland Central (22% vs. 10%, $p=0.0002$), and Wellington Central (22% vs. 4%, $p=0.0006$).

Figure 14 3: Proportion of police detainees who had used synthetic cannabinoids in the past month by location, 2013-2015

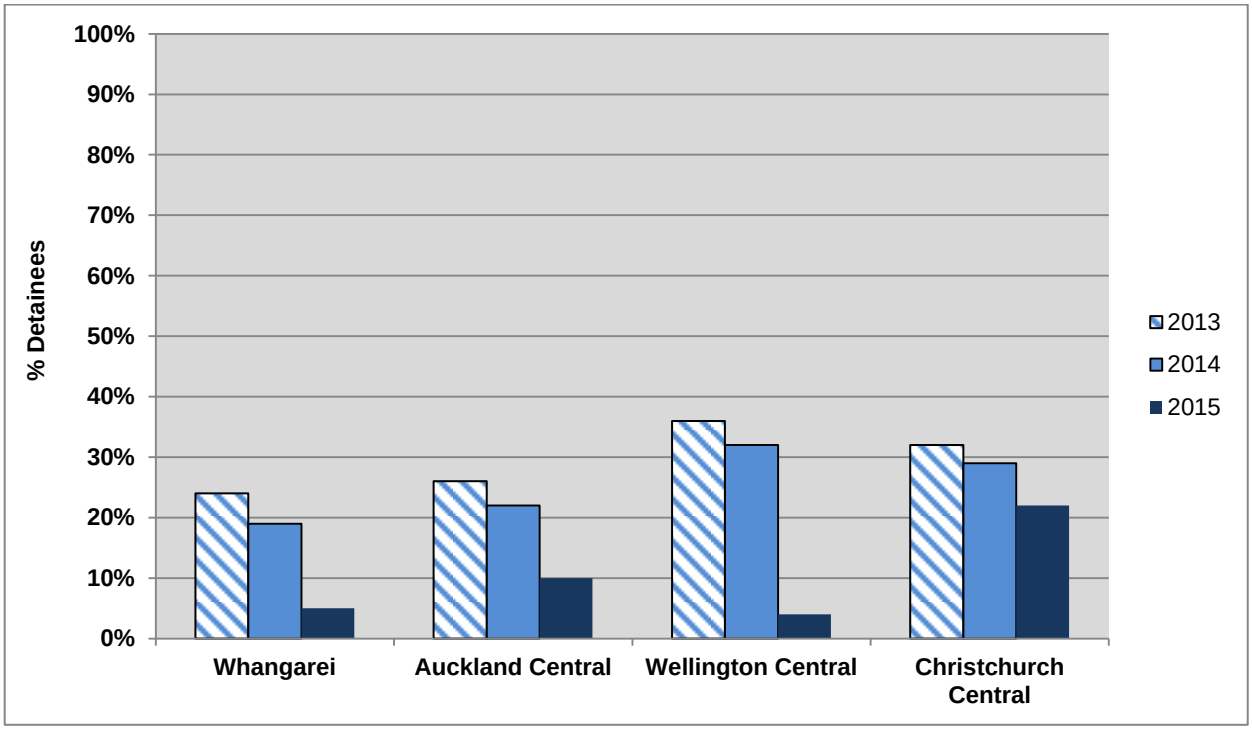


Table 14 1: Police detainees' patterns of synthetic cannabinoid use by location, 2013-2015

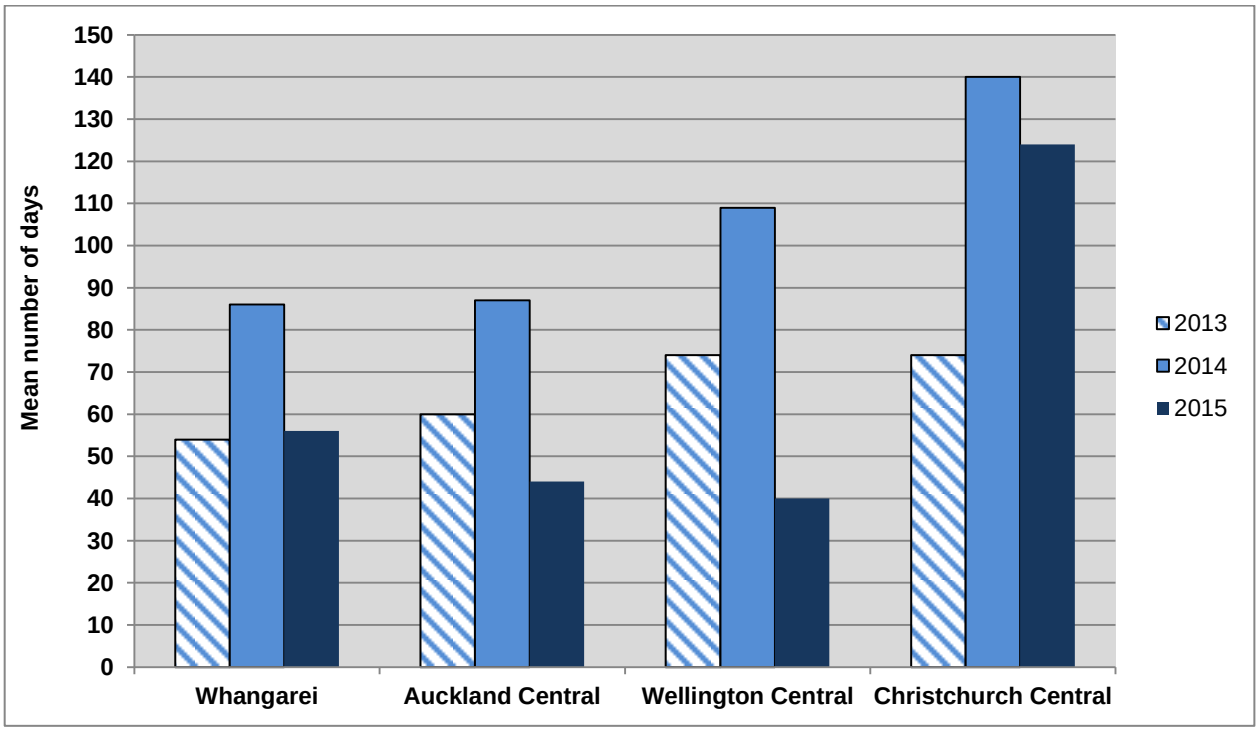
Use of synthetic cannabinoids	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All Sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=149)	(n=151)	(n=169)	(n=287)	(n=315)	(n=267)	(n=106)	(n=95)	(n=107)	(n=280)	(n=273)	(n=292)	(n=822)	(n=834)	(n=835)
Ever used (%)	52	57	57	48	64	50	54	73	68	62	59	67	54	62	60
Used in past 12 months (%)	44	37	13	40	47	25	50	59	20	53	47	39	47	47	27
Mean number of days used in past 12 months**	54	86	56	60	87	44	74	109	40	74	140	124	67	110	82
Felt dependent in the past 12 months (%)**	10	25	9	12	28	17	16	29	20	24	36	37	17	30	26
Used in past month (%)	24	19	5	26	22	10	36	32	4	32	29	22	29	24	12
Mean number of days used in past month***	10	12	14	10	14	10	11	15	10	12	14	17	11	14	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 had used synthetic cannabinoids on a mean of 82 days in the previous 12 months in 2015 (median 4, 1-365 days). The number of days the detainees had used synthetic cannabinoids in the past year increased from 67 days in 2013 to 110 days in 2014 (p=0.0011), and then declined from 110 days in 2014 to 82 days in 2015 (p=0.0398). The number of days the detainees in Christchurch Central had used synthetic cannabinoids in the previous 12 months increased from 74 days in 2013 to 140 days in 2015 (p=0.0074) (Figure 14.4). In 2015, the detainees in Christchurch Central had used synthetic cannabinoids on a higher mean number of days than those in Auckland Central (124 days vs. 44 days, p=0.0098) and Whangarei (124 days vs. 56 days, p=0.0197).

Figure 14 4: Mean number of days police detainees used synthetic cannabinoids in the past 12 months by location, 2010- 2015



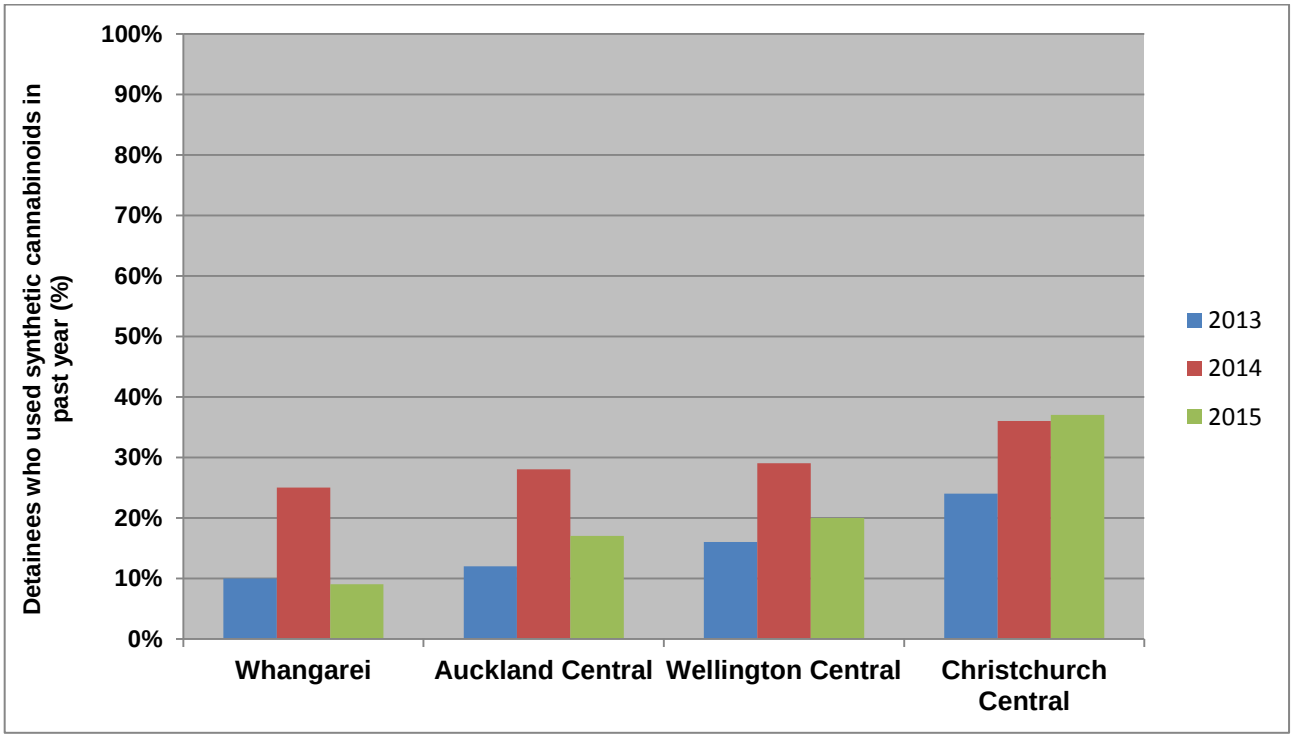
The detainees had used synthetic cannabinoids on an average of 14 days in the previous month in 2015 (median 10, 1-30 days). The mean number of days the detainees had used synthetic cannabinoids in the past month increased from 11 in 2013 to 14 in 2014 (p=0.0400). The number of days the detainees in Central

Christchurch had used synthetic cannabinoids in the past month increased from 12 in 2013 to 17 in 2015 (p=0.0162). In 2015, the Christchurch Central detainees had used synthetic cannabinoids on a higher number of days in the past month than detainees in Auckland Central (17 days vs. 10 days), and this difference was close to being statistically significant (p=0.0662).

Dependency on synthetic cannabinoids

In 2015, 26% of the detainees who had used synthetic cannabinoids in the previous year felt they were dependent on them. The proportion of detainees who felt dependent on synthetic cannabinoids increased from 17% in 2013 to 26% in 2015 (p=0.0202), with a large increase from 17% in 2013 to 30% in 2014 (p<0.0001). The proportion of detainees from Auckland Central who felt dependent on synthetic cannabinoids increased from 12% in 2013 to 28% in 2014 (p=0.0040) (Figure 14.5). The proportion of Christchurch Central detainees who felt dependent on synthetic cannabinoids increased from 24% in 2013 to 37% in 2015, and this increase was close to being statistically significant (p=0.0887). In 2015, detainees in Christchurch Central were more likely to feel dependent on synthetic cannabinoids than those in Auckland Central (37% vs. 17%, p=0.0297).

Figure 14 5: 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), 2013-2015



Synthetic cannabinoid use at the time of arrest

Four percent of the detainees had been using synthetic cannabinoids prior to their arrest in 2015 (Table 14.2). The proportion of detainees who had been using synthetic cannabinoids prior to arrest declined from 7% in 2013 to 4% in 2015 (p=0.0071). In 2015, the detainees in Christchurch Central were more likely to have been using synthetic cannabinoids prior to their arrest than those in Whangarei (8% vs. 1%, p=0.0356).

Table 14 2: Synthetic cannabinoid use by police detainees at time of arrest by location, 2013-2015

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

Current availability of synthetic cannabinoids

Sixty-one percent of the detainees described the current availability of synthetic cannabinoids as 'very easy' and a further 18% described it as 'easy' in 2015 (Table 14.6). The availability of synthetic cannabinoids declined from 2013 to 2014 (down from 3.6 to 3.2, $p<0.0001$). There was no statistically significant difference in current availability from 2014 to 2015. The current availability of synthetic cannabinoids declined from 2013 to 2014 in Auckland Central (down from 3.5 to 3.0, $p=0.0021$) and Wellington Central (down from 3.8 to 3.0, $p=0.0002$) (Figure 14.3). There was little change in the current availability of synthetic cannabinoids in Christchurch Central from 2013 to 2015. In 2015, the availability of synthetic cannabinoids was higher in Christchurch Central than in Auckland Central (3.7 vs. 2.9, $p<0.0001$), Wellington Central (3.7 vs. 2.8, $p=0.0005$) and Whangarei (3.7 vs. 3.1, $p=0.0398$).

Figure 14 6: Current availability of synthetic cannabinoids by location, 2013-2015

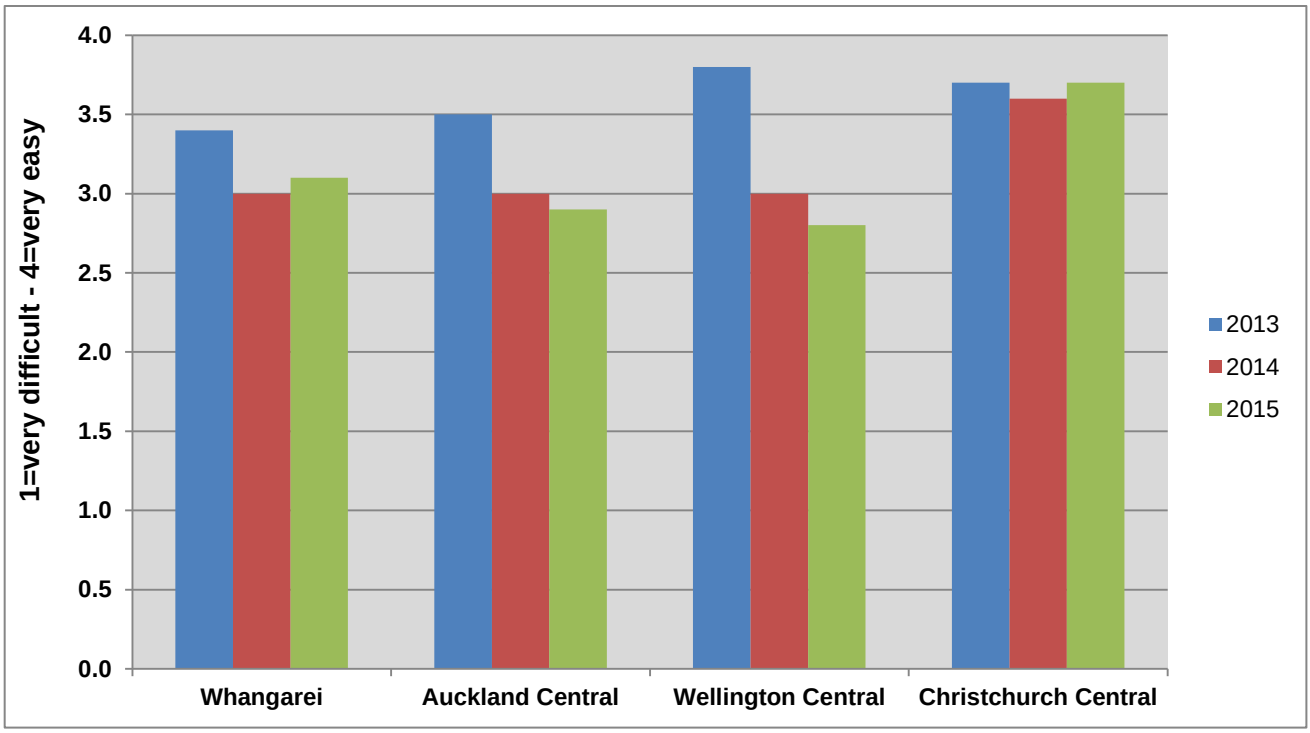


Table 14 3: Police detainees' perceptions of the current availability of synthetic cannabinoids by location, 2013-2015

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

Change in availability of synthetic cannabinoids

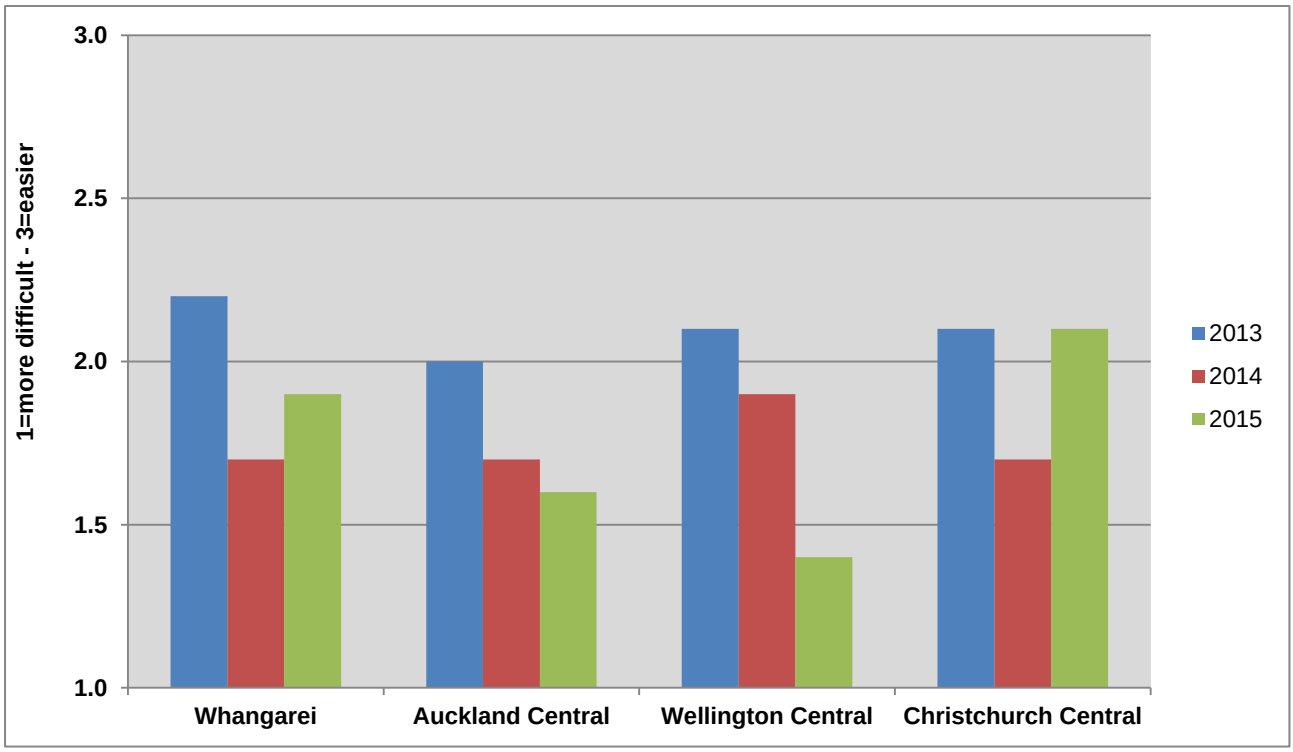
Thirty-six percent of the detainees described the availability of synthetic cannabinoids as 'more difficult' compared to six months ago in 2015 (Table 14.4).

There was a sharp decline in the availability of synthetic cannabinoids from 2013 to 2014 (down from 2.1 to 1.7, $p<0.0001$). The availability of synthetic cannabinoids declined sharply from 2013 to 2014 in Whangarei (down from 2.2 to 1.7, $p=0.0068$) and Auckland Central (down from 2.0 to 1.7, $p=0.0048$) (Figure 14.7). The availability of synthetic cannabinoids in Christchurch Central decreased from 2013 to 2014 (down from 2.1 to 1.7, $p<0.0001$), but then increased from 2014 to 2015 (up from 1.7 to 2.1, $p<0.0001$). In 2015, the availability of synthetic cannabinoids was more likely to be increasing in Christchurch Central than in Auckland Central (2.1 vs. 1.6, $p<0.0001$) and Wellington Central (2.1 vs. 1.4, $p=0.0002$).

Table 14 4: Police detainees' perceptions of the change in availability of synthetic cannabinoids by location, 2015

Change in availability of synthetic cannabinoids (%)	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All Sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=56)	(n=45)	(n=21)	(n=112)	(n=129)	(n=58)	(n=47)	(n=47)	(n=17)	(n=146)	(n=121)	(n=107)	(n=361)	(n=341)	(n=203)
Easier [3]	38%	13%	29%	17%	20%	12%	21%	32%	0%	26%	18%	34%	24%	20%	24%
Stable [2]	36%	31%	24%	58%	24%	21%	70%	21%	29%	51%	26%	43%	53%	26%	34%
Fluctuates [2]	5%	11%	5%	8%	7%	12%	2%	2%	6%	6%	2%	4%	6%	5%	6%
More difficult [1]	21%	44%	43%	17%	49%	55%	6%	45%	65%	16%	53%	20%	16%	49%	36%
Average change in availability score (1=more difficult – 3=easier)	2.2	1.7	1.9	2	1.7	1.6	2.1	1.9	1.4	2.1	1.7	2.1	2.1	1.7	1.8
Overall recent change	Easier/Stable	More difficult/Stable	More difficult/ easier	Stable/ easier	More difficult/Stable	More difficult/Stable	Stable	More difficult/easier	More difficult/Stable	Stable/ easier	More difficult/ Stable	Stable/ easier	Stable/ easier	More difficult/Stable	More difficult /Stable

Figure 14 7: Change in availability of synthetic cannabinoids by location, 2013-2015



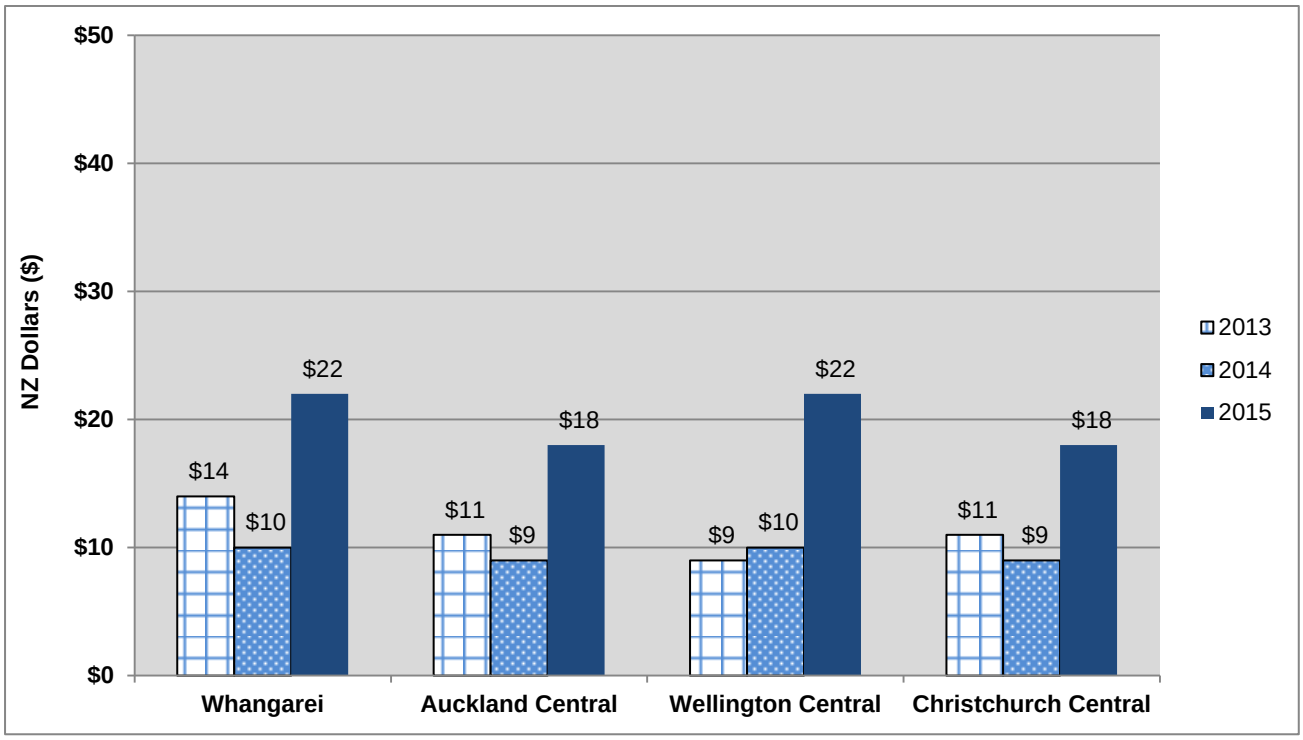
Price

The detainees reported paying a mean price of $18 for a gram of synthetic cannabinoid in 2015 (median $20). The price of a gram of synthetic cannabinoids decreased from $11 in 2013 to $9 in 2014 ($p=0.0021$) and then increased from $9 in 2014 to $18 in 2015 ($p<0.0001$). The price in 2015 was higher than in 2013 ($p<0.0001$). All of the sites reported the same statistically significant pattern of decreasing prices from 2013 to 2014 followed by increasing prices from 2014 to 2015 (Figure 14.8).

Table 14 5: Current price of synthetic cannabinoid by location, 2015

Current price of synthetic cannabinoid ($)	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=52)	(n=37)	(n=14)	(n=110)	(n=104)	(n=47)	(n=46)	(n=44)	(n=13)	(n=131)	(n=108)	(n=96)	(n=339)	(n=293)	(n=170)
Price ($/gram)	$14	$10	$22	$11	$9	$18	$9	$10	$22	$11	$9	$18	$11	$9	$18

Figure 14 8: Mean price of synthetic cannabinoid per gram by location, 2013-2015



Change in the price of synthetic cannabinoids

In 2015, 48% of the detainees reported the price of synthetic cannabinoids had been 'stable' and 36% said the price had been 'increasing' in the previous six months. The price of synthetic cannabinoids was reported to have been increasing from 2013 to 2015 (up from 1.9 to 2.3, $p<0.0001$). The price of synthetic cannabinoids was reported to be increasing from 2013 to 2015 in Auckland Central (up from 1.9 to 2.4, $p=0.0002$) and Christchurch Central (up from 1.9 to 2.3, $p<0.0001$) (Figure 14.9).

Figure 14 9: Mean score of the change in the price of synthetic cannabinoids by location, 2013-2015

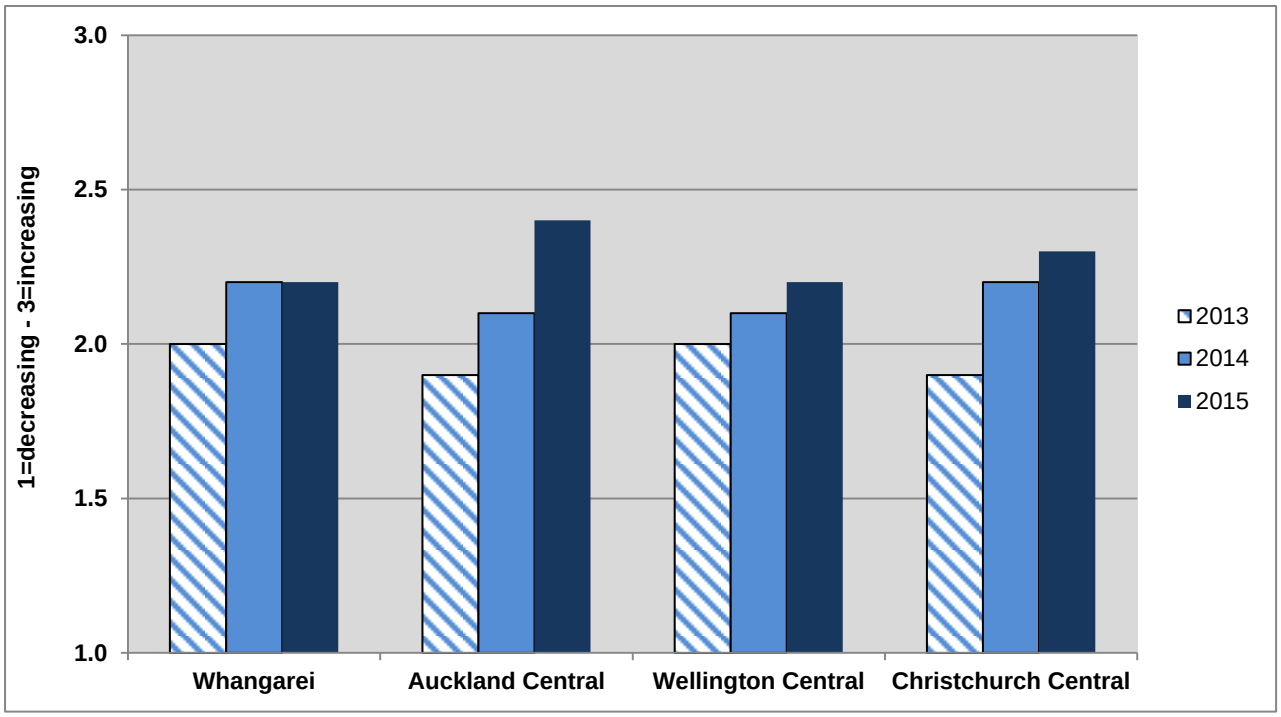


Table 14 6: Police detainees' perceptions of the change in the price of synthetic cannabinoids in the past six months by location, 2015

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

Current strength of synthetic cannabinoids

In 2015, 55% of the detainees described the current strength of synthetic cannabinoids as 'high' (Table 14.6). There was no statistically significant change in the strength of synthetic cannabinoids from 2013 to 2015.

Table 14 7: Police detainees' perceptions of current strength of synthetic cannabinoids in the past six months, 2013-2015

Current strength of synthetic cannabinoids (%)	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=55)	(n=43)	(n=20)	(n=118)	(n=129)	(n=60)	(n=51)	(n=45)	(n=14)	(n=149)	(n=121)	(n=106)	(n=373)	(n=338)	(n=200)
High [3]	65%	72%	60%	47%	61%	55%	51%	47%	50%	68%	70%	55%	59%	64%	55%
Medium [2]	16%	7%	10%	22%	13%	17%	29%	31%	14%	13%	7%	14%	19%	12%	15%
Fluctuates [2]	5%	2%	0%	7%	10%	12%	10%	16%	14%	3%	7%	17%	6%	9%	14%
Low [1]	13%	19%	30%	24%	16%	17%	10%	7%	21%	15%	16%	14%	17%	15%	17%
Average strength score (1=low – 3=high)	2.5	2.5	2.3	2.2	2.5	2.4	2.4	2.4	2.3	2.5	2.5	2.4	2.4	2.5	2.4
Overall current status	High/ medium	High	High/ low	High/ low	High/low	High/medium	High/ medium	High/medium	High/ low	High/ low	High	High/fluctuates	High/ medium	High/low	High/low

Change in strength of synthetic cannabinoids

Forty percent of the detainees reported the strength of synthetic cannabinoids had been 'stable' in the past six months in 2015. There was no statistically significant change in perceptions of the change in the strength of synthetic cannabinoids from 2013 to 2015.

Table 14 8: Police detainees' perceptions of change in strength of synthetic cannabinoids in the past six months, 2015

Change in strength of synthetic cannabinoids (%)	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=42)	(n=30)	(n=14)	(n=93)	(n=104)	(n=53)	(n=41)	(n=35)	(n=10)	(n=136)	(n=103)	(n=94)	(n=312)	(n=272)	(n=171)
Increasing [3]	14%	23%	29%	13%	22%	17%	27%	26%	10%	18%	23%	21%	17%	23%	20%
Stable [2]	71%	47%	50%	69%	47%	49%	46%	46%	60%	60%	40%	32%	63%	44%	40%
Fluctuating [2]	5%	7%	0%	5%	11%	15%	22%	9%	0%	13%	24%	27%	11%	15%	19%
Decreasing [1]	10%	23%	21%	13%	20%	19%	5%	20%	30%	9%	13%	20%	10%	18%	20%
Average change in strength (1=decreasing – 3=increasing)	2.0	2.0	2.1	2.0	2.0	2.0	2.2	2.1	1.8	2.1	2.1	2.0	2.1	2.1	2.0
Overall recent change	Stable	Stable/ increasing	Stable/ increasing	Stable/ increasing	Stable/ increasing	Stable/ decreasing	Stable/ increasing	Stable/increasing	Stable/ decreasing	Stable/ increasing	Stable/ fluctuating	Stable/ fluctuating	Stable/ increasing	Stable/ increasing	Stable/ increasing

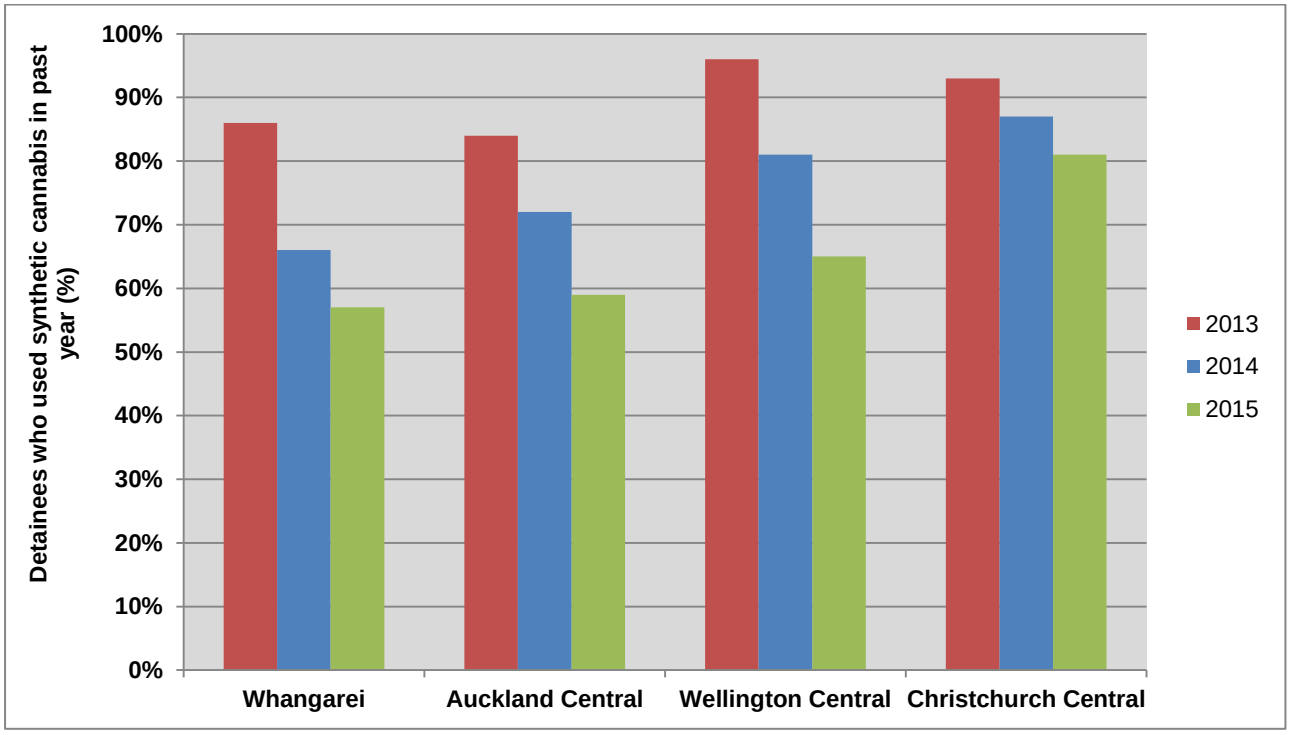
Time taken to purchase synthetic cannabinoids

In 2015, 71% of the detainees who had used synthetic cannabinoids in the previous year were able to purchase them in one hour or less (Table 14.8). Fifty-two percent could purchase synthetic cannabinoids in 20 minutes or less. The proportion of detainees who could purchase synthetic cannabinoids in one hour or less declined from 88% in 2013 to 71% in 2015 ($p<0.0001$). The proportion who could purchase synthetic cannabinoids in one hour or less had previously declined from 88% in 2013 to 78% in 2014 ($p=0.0004$). There was a further decline from 2014 to 2015, but this was not quite statistically significant ($p=0.0799$). There was a decline in the proportion of detainees who could purchase synthetic cannabinoids in one hour or less in Auckland Central (down from 84% to 59%, $p=0.0018$), Wellington Central (down from 96% to 65%, $p=0.0114$) and in Christchurch Central (down from 93% to 81%, $p=0.0120$) (Figure 14.4). In 2015, detainees in Christchurch Central were more likely than those in Auckland Central to be able to purchase synthetic cannabinoids in one hour or less (81% vs. 59%, $p=0.0169$).

Table 14 9: Time taken by police detainees to purchase synthetic cannabinoids by location, 2015

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

Figure 14 10: Proportion of police detainees who could purchase synthetic cannabinoids in one hour or less by location, 2013-2015



Effect of synthetic cannabinoids on the likelihood of becoming angry

Those detainees who reported using synthetic cannabinoids in the past 12 months were asked what effect using synthetic cannabinoids had on their likelihood of becoming angry. In 2015, 51% of the detainees said that using synthetic cannabinoids had 'no effect' on their likelihood of becoming angry (Table 14.9). Nineteen percent said it was 'less likely' to make them feel angry.

Table 14 10: Effect of synthetic cannabinoids on police detainees' likelihood of becoming angry, 2015

Effect of synthetic cannabinoids on likelihood of becoming angry	Whangarei			Auckland Central			Wellington Central			Christchurch Central			All sites		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
	(n=61)	(n=54)	(n=22)	(n=112)	(n=140)	(n=67)	(n=53)	(n=55)	(n=20)	(n=148)	(n=124)	(n=109)	(n=374)	(n=373)	(n=218)
Much more likely [5]	5%	11%	9%	6%	6%	4%	9%	7%	5%	5%	10%	5%	6%	8%	5%
More likely [4]	5%	11%	0%	4%	10%	12%	13%	11%	25%	12%	9%	9%	9%	10%	11%
No effect [3]	44%	35%	59%	51%	49%	48%	57%	45%	45%	54%	57%	52%	52%	49%	51%
Less likely [2]	23%	20%	18%	27%	21%	19%	13%	18%	20%	17%	11%	18%	20%	17%	19%
Much less [1]	23%	22%	14%	12%	15%	16%	8%	18%	5%	11%	12%	16%	13%	16%	15%
Mean impact on likelihood to become angry (1=much less - 5=much more)	2.5	2.7	2.7	2.7	2.7	2.7	3.0	2.7	3.1	2.8	2.9	2.7	2.8	2.8	2.7

Summary

- Sixty-two percent of the detainees had tried synthetic cannabinoids at some point in their lives

- The proportion of detainees who had used synthetic cannabinoids in the previous 12 months declined from 47% in 2014 to 27% in 2015

- There was a decline in the proportion of detainees who had used synthetic cannabinoids in the previous year in Whangarei (down from 37% in 2014 to 13% in 2015), Auckland Central (down from 47% in 2014 to 25% in 2015), Wellington Central (down from 59% in 2014 to 20% in 2015) and Christchurch Central (down from 53% in 2013 to 39% in 2015)

- In 2015, detainees in Christchurch Central were more likely to have used synthetic cannabinoids in the previous 12 months than those in Auckland Central (39% vs. 25%), Wellington Central (39% vs. 20%) and Whangarei (39% vs. 13%)

- The number of days the detainees had used synthetic cannabinoids in the past year increased from 67 days in 2013 to 110 days in 2014, and then declined from 110 days in 2014 to 82 days in 2015

- In 2015, Christchurch Central detainees had used synthetic cannabinoids on a higher mean number of days than those in Auckland Central (124 days vs. 44 days, p=0.0098) and Whangarei (124 days vs. 56 days, p=0.0197)

- The proportion of detainees who felt dependent on synthetic cannabinoids increased from 17% in 2013 to 26% in 2015

- In 2015, detainees in Christchurch Central were more likely to feel dependent on synthetic cannabinoids than those in Auckland Central (37% vs. 17%)

- The proportion of detainees who had been using synthetic cannabinoids prior to arrest declined from 7% in 2013 to 4% in 2015

- In 2015, the detainees in Christchurch Central were more likely to be using synthetic cannabinoids prior to their arrest than those in Whangarei (8% vs. 1%)

- The availability of synthetic cannabinoids declined from 2013 to 2014

- The availability of synthetic cannabinoids declined from 2013 to 2014 in Auckland Central and Wellington Central

- The availability of synthetic cannabinoids in Christchurch Central decreased from 2013 to 2014, but increased from 2014 to 2015

- In 2015, the availability of synthetic cannabinoids was higher in Christchurch Central than in Auckland Central, Wellington Central and Whangarei

- The proportion of detainees who could purchase synthetic cannabinoids in one hour or less declined from 88% in 2013 to 71% in 2015

- The price of a gram of synthetic cannabinoid decreased from $11 in 2013 to $9 in 2014 and then increased from $9 in 2014 to $1

References

ACC. (2015). *Australian Crime Commission's Illicit Drug Data Report 2013–14*. Canberra: Australian Crime Commission. https://crimecommission.gov.au/publications/intelligence-products/illicit-drug-data-report/illicit-drug-data-report-2013-14.

Adamson, S., & Sellman, D. (1998). The pattern of intravenous drug use and associated criminal activity in patients on a methadone waiting list. *Drug and Alcohol Review, 17*, 159-166.

Aung, M., Griffin, G., Huffman, J., Wu, M., Keel, C., Yang, B., Showalter, V., Abood, M., & Martin, B. (2000). Influence of the N-1 alkyl chain length of cannabimimetic indoles upon CB(1) and CB(2) receptor binding. *Drug and Alcohol Dependence, 60*(2), 133-140.

Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., Grube, J., Hill, L., Holder, H., Homel, R., Livingston, M., Osterberg, E., Rehm, J., Room, R., & Rossow, I. (2010). *Alcohol: No Ordinary Commodity Research and Public Policy* (2nd ed.). Oxford: Oxford University Press.

Beck, O., Stephanson, J., Sandqvist, S., & Franck, J. (2013). Detection of drugs of abuse in exhaled breath using a device for rapid collection - comparison with plasma, urine and self-report in 47 drug users. *Journal of Breath, 7*(2), doi:10.1088/1752-7155/1087/1082/026006.

Bennett, T., & Holloway, K. (2005). *Understanding Drugs, Alcohol and Crime*. Berkshire: Open University Press.

Boreham, R., Cronberg, A., Dollin, L., & Pudney, S. (2007). *The Arrestee Survey 2003 – 2006* (Home Office Statistical Bulletin 12/07). London: Home Office

Castaneto, M., Gorelick, D., Desrosiers, N., Hartman, R., Pirard, S., & Huestis, M. (2014). Synthetic cannabinoids: epidemiology, pharmacodynamics, and clinical implications. *Drug and Alcohol Dependence, 144*, 12-41.

Caulkins, J., & Reuter, P. (2009). Towards a harm-reduction approach to enforcement. *Safer Communities, 8*(1), 9-23.

EMCDDA. (2016). European Drug Report 2016: Trends and Developments. [European Monitoring Centre for Drugs and Drug Addiction]. Retrieved 16 June 2016, from http://www.emcdda.europa.eu/system/files/publications/2637/TDAT16001ENN.pdf

EMCDDA & Europol. (2016). EU Drug Markets Report: In-depth Analysis. [European Monitoring Centre for Drugs and Drug Addiction and Europol]. Retrieved 16 June 2016, from http://www.emcdda.europa.eu/system/files/publications/2373/TD0216072ENN.PDF

Every-Palmer, S. (2010). Warning: legal synthetic cannabinoid-receptor agonists such as JWH-018 may precipitate psychosis in vulnerable individuals. *Addiction, 105*, 1859-1860.

Every-Palmer, S. (2011). Synthetic cannabinoid JWH-018 and psychosis: An explorative study. *Drug and Alcohol Dependence, 117*, 152-157.

Field, A., & Casswell, S. (1999). *Drug Use in New Zealand: Comparison Surveys 1990 & 1998*. University of Auckland: Alcohol and Public Health Research Unit.

Gaffney, A., Jones, W., Sweeney, J., & Payne, J. (2010). *Drug use Monitoring in Australia: 2008 Annual Report on Drug Use Among Police Detainees* (Monitoring Report No. 9): Australian Institute of Criminology.

Gawin, F., & Ellinwood, E. (1988). Cocaine and other stimulants: actions, abuse and treatment. *New England Journal of Medicine, 318*, 1173-1182.
Glue, P., Al-Shaqsi, S., Hancock, D., Gale, C., Strong, B., & Schep, L. (2013). Hospitalisation associated with use of the synthetic cannabinoid K2. *New Zealand Medical Journal, 126*(1377), 18-23.
Griffiths, P., Evans-Brown, M., & Sedefov, R. (2013). Getting up to speed with the public health and regulatory challenges posed by new psychoactive substances in the information age. *Addiction, 108*(10), 1700-1703.
Hall, W., & Hando, J. (1994). Route of administration and adverse effects of amphetamine use among young adults in Sydney, Australia. *Drug and Alcohol Review, 13*, 277-284.
Hall, W., Renström, M., & Poznyak, V. (Eds.). (2016). *The Health and Social Effects of Nonmedical Cannabis Use: The State of Knowledge: Knowns and Unknowns.* Geneva: Department of Mental Health & Substance Abuse, World Health Organization.
Hammersley, R., Forsyth, A., Morrison, V., & Davies, J. (1989). The relationship between crime and opioid use. *British Journal of Addiction, 84*, 1029-1043.
Harris, C., & Brown, A. (2013). Synthetic cannabinoid intoxication: A case series and review. *Journal of Emergency Medicine, 44*(2), 360-366.
Hart, S. (2003). 2000 Arrestee Drug Abuse Monitoring: Annual Report. [National Institute of Justice]. Retrieved 11 November 2010, from http://www.adam-nij.net/files/ar2000/193013.pdf
Hermanns-Clausen, M., Kneisel, S., Szabo, B., & Auwärter, V. (2013). Acute toxicity due to the confirmed consumption of synthetic cannabinoids: clinical and laboratory findings. *Addiction, 108*(3), 534-544.
Hough, M. (1996). *Drugs Misuse and the Criminal Justice System: A Review of the Literature* (Drugs Prevention Initiative Paper 15). London: Home Office.
Hunt, D., & Rhodes, W. (2001). Arrestee Drug Abuse Monitoring (ADAM) Program: Methodology Guide for ADAM. [National Institute of Justice]. Retrieved 11 November 2010, from http://www.adam-nij.net/files/Admguid.pdf
Kleiman, M. (1992). *Against Excess: Drug Policy for Results*. New York: Basic Books.
Kuhn, C., Swartzwelder, S., & Wilson, W. (1998). *Buzzed: The Straight Facts About the Most Used and Abused Drugs from Alcohol to Ecstacy*. New York: W.W.Norton & Co.
Ministry of Health. (2014). *Amphetamine use 2013/14: New Zealand Health Survey*. Wellington.
Ministry of Health. (2015). *Amphetamine Use 2014/15: New Zealand Health Survey*, December. Wellington.
Nacca, N., Vatti, D., Sullivan, R., Sud, P., Su, M., & Marraffa, J. (2013). The synthetic cannabinoid withdrawal syndrome. *J Addict Med, 7*, 296-298.
National Institute of Justice. (2003). *2000 Arrestee Drug Abuse Monitoring: Annual Report*. Washington, DC: Office of Justice, Programs, US Department of Justice.
NDIB. (2012). *Personal communication*: National Drug Intelligence Bureau.
NDIB. (2013). *Personal communication*. Wellington: National Drug Intelligence Bureau.
NDIB. (2014). *Personal communication*. Wellington: National Drug Intelligence Bureau.
New Zealand Customs Service. (2002). *Review of Customs Drug Enforcement Strategies 2002. Project Horizon Outcome Report*. Wellington.
Newbold, G. (2000). *Crime in New Zealand*. Palmerston North: Dunmore Press.
Office of National Drug Control Policy. (2009). *Adam II 2008 Annual Report Arrestee Drug Abuse Monitoring Program II*. Washington, DC.

Office of National Drug Control Policy. (2011). *ADAM II - 2010 Annual Report: Arrestee Drug Abuse Monitoring Program II*. Washington, DC.

Perrone, D., Helgesen, R., & Fischer, R. (2013). United States drug prohibition and legal highs: How drug testing may lead cannabis users to Spice. *Drugs: Education Prevention and Policy, 20*, 216-224.

Room, R., Fischer, B., Hall, W., Lenton, S., & Reuter, P. (2010). *Cannabis policy: moving beyond stalemate*. Oxford: Oxford University Press.

Rychert, M., & Wilkins, C. (2015). The challenge of a ban on animal testing for the development of a regulated legal market for new psychoactive substances (NPS) ('legal highs') in New Zealand: Issues and options for resolution. *International Journal of Drug Policy, 26*(12), 1273-1278.

Rychert, M., & Wilkins, C. (2016). What products are considered psychoactive under New Zealand's regulated legal market for new psychoactive substances (NPS, 'legal highs')? Implications for law enforcement and penalties. *Drug Testing and Analysis, published online Feb 9*, doi: 10.1002/dta.1943.

Schep, L., Slaughter, R., & Temple, W. (2011). Synthetic cannabinoid use in New Zealand: A brief evaluation of enquiries to the New Zealand National Poisons Centre. *New Zealand Medical Journal, 124*(1347), 99-101.

Seddon, T. (2000). Explaining the drug-crime link: theoretical, policy and research issues. *Journal of Social Policy, 29*(1), 95-107.

Shearer, J., Sherman, J., Wodak, A., & van Beek, I. (2002). Substitution theory for amphetamine users. *Drug and Alcohol Review, 21*, 179-185.

Sindicich, N., & Burns, L. (2012). *An overview of the 2012 EDRS: Ecstasy returns and the emerging class of drugs* (Ecstasy and Related Drugs Reporting System Drug Trends Bulletin, October). Sydney: National Drug and Alcohol Research Centre, The University of New South Wales.

Spaderna, M., Addy, P., & D'Souza, D. (2013). Spicing things up: Synthetic cannabinoids. *Psychopharmacology, 228*, 525-540.

Strang, J., Babor , T., Caulkins, J., Fischer, B., Foxcroft, D., & Humphreys, K. (2012). Drug policy and the public good: evidence for effective interventions. *Lancet, 379*, 71-83.

Taylor, B. (Ed.). (2002). *I-ADAM in Eight Countries: Approaches and Challenges.* Office of Justice Programs & National Institute of Justice, US Department of Justice.

Uchiyama, N., Kikura-Hanajiri, R., Matsumoto, N., Huang, Z., Goda, Y., & Urade, Y. (2011). Effects of synthetic cannabinoids, cannabicyclohexanol and jwh-018, on electroencephalogram power spectra and locomotor activity in rats. *Sleep and Biological Rhythms, 9*, 342.

UNODC. (2012). *World Drug Report 2012*. Vienna: United Nations Office on Drugs and Crime.

UNODC. (2013). *World Drug Report 2013*. Vienna: United Nations Office on Drugs and Crime. http://www.unodc.org/unodc/secured/wdr/wdr2013/World_Drug_Report_2013.pdf .

UNODC. (2014). *World Drug Report 2014*. Vienna: United Nations Office on Drugs and Crime. https://www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf.

UNODC. (2015). *World Drug Report 2015*. Vienna: United Nations Office on Drugs and Crime. https://www.unodc.org/documents/wdr2015/World_Drug_Report_2015.pdf.

Vandrey, R., Dunn, K., Fry, J., & Girling, E. (2012). A survey study to characterize use of Spice products (synthetic cannabinoids). *Drug and Alcohol Dependence, 120*, 238-241.
Weisheit, R., & White, W. (2009). *Methamphetamine: Its History, Physiology, and Treatment*. Center City, MN: Hazelden.
Wilkins, C. (2014a). A critical first assessment of the new pre-market approval regime for new psychoactive substances (NPS) in New Zealand. *Addiction, 109*(10), 1580-1586.
Wilkins, C. (2014b). The interim regulated legal market for NPS ('legal high') products in New Zealand: The impact of new retail restrictions and product licensing. *Drug Testing and Analysis, 6*, 868-875.
Wilkins, C. (2014c). Recent developments with the establishment of a regulated legal market for new psychoactive substances ('legal highs') in New Zealand [Letter]. *Drug and Alcohol Review, 33*, 678-680.
Wilkins, C., Bhatta, K., & Casswell, S. (2002a). The emergence of amphetamine use in New Zealand: findings from the 1998 and 2001 national drug surveys. *New Zealand Medical Journal, 115*(1166), 256-263.
Wilkins, C., & Casswell, S. (2003). Organised crime in cannabis cultivation in New Zealand: an economic analysis. *Contemporary Drug Problems, 30*, 757-777.
Wilkins, C., Casswell, S., Bhatta, K., & Pledger, M. (2002b). *Drug Use in New Zealand: National Surveys Comparison 1998 & 2001*. Auckland: Alcohol & Public Health Research Unit.
Wilkins, C., Jawalkar, S., & Parker, K. (2013). *Recent trends in illegal drug use in New Zealand 2006-2012: Findings from the 2006, 2007, 2008, 2009, 2010, 2011 and 2012 Illicit Drug Monitoring System (IDMS)*. Auckland: SHORE and Whariki Research Centre, Massey University.
Wilkins, C., Pledger, M., Lee, A., Adams, R., & Rose, E. (2004). *A Local Pilot of the New Zealand Arrestee Drug Abuse Monitoring (NZ-ADAM) System*. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE) and Te Ropu Whariki, Massey University.
Wilkins, C., Prasad, J., Parker, K., Moewaka Barnes, H., Asiasiga, L., & Rychert, M. (2015a). *New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) 2010 - 2014* Auckland: SHORE & Whariki Research Centre, College of Health, Massey University.
Wilkins, C., Prasad, J., Wong, K., & Rychert, M. (2015b). *Recent trends in illegal drug use in New Zealand 2006-2014: Findings from the 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014 Illegal Drug Monitoring System (IDMS)*. Auckland: SHORE & Whariki Research Centre, Massey University.
Wilkins, C., & Rose, E. (2003). *A Scoping Report on NZ-ADAM*. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE), Massey University.
Wilkins, C., & Sweetsur, P. (2008a). *The economic relationship between high spending on methamphetamine and cannabis use and the dollar earnings from acquisative crime among police detainees*. Auckland: Centre for Social and Health Outcomes Research and Evaluation (SHORE), Massey University.
Wilkins, C., & Sweetsur, P. (2008b). Trends in population drug use in New Zealand: Findings from national household surveying of drug use in 1998, 2001, 2003 and 2006. *New Zealand Medical Journal, 121*, 61-71.
Wilkins, C., & Sweetsur, P. (2010). The association between spending on methamphetamine and cannabis for personal use and earnings from acquisitive crime among police

detainees in New Zealand. *Addiction, Accepted manuscript online: 21 OCT 2010*, doi: 10.1111/j.1360-0443.2010.03241.x.

Wilkins, C., & Sweetsur, P. (2011b). The association between the number of days of methamphetamine use and the level of earnings from acquisitive crime among police detainees in New Zealand. *Bulletin on Narcotics, Volume LX, 2008*, 59-77.

Wilkins, C., Sweetsur, P., & Griffiths, R. (2011a). Recent trends in pharmaceutical drug use among frequent injecting drug users, frequent methamphetamine users and frequent ecstasy users in New Zealand, 2006–2009. *Drug and Alcohol Review, 30*, 255-263.

Wilkins, C., Sweetsur, P., Moewaka Barnes, H., Griffiths, R., Asiasiga, L., & Smart, B. (2010b). *New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) 2010 Report*. Auckland: Social and Health Outcomes Research and Evaluation & Te Ropu Whariki, SHORE and Whariki Research Centre, Massey University.

Wilkins, C., Sweetsur, P., Moewaka Barnes, H., Smart, B., Asiasiga, L., & Warne, C. (2012a). *New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) - 2011 Results*. Auckland: SHORE and Whariki Research Centre, School of Public Health, Massey University.

Wilkins, C., Sweetsur, P., Smart, B., & Griffiths, R. (2011b). *Recent Trends in Illegal Drug Use in New Zealand, 2006-2010: Findings from the 2006, 2007, 2008, 2009 and 2010 Illicit Drug Monitoring System (IDMS)*: Social and Health Outcomes Research and Evaluation (SHORE), Massey University.

Wilkins, C., Sweetsur, P., Smart, B., Warne, C., & Jawalkar, S. (2012b). *Recent Trends in Illegal Drug Use in New Zealand, 2006-2011: Findings from the 2006, 2007, 2008, 2009, 2010 and 2011 Illicit Drug Monitoring System (IDMS)*. Auckland: Social and Health Outcomes Research and Evaluation (SHORE), SHORE and Whariki Research Centre, Massey University.

Winstock, A., & Barratt, M. (2013). The 12-month prevalence and nature of adverse experiences resulting in emergency medical presentations associated with the use of synthetic cannabinoid products. *Human Psychopharmacology, 28*(4), 390-393.

Winstock, A., & Barrett, M. (2013). Synthetic cannabis: A comparison of patterns of use and effect profile with natural cannabis in a large global sample. *Drug and Alcohol Dependence, 131*(1-2), 106-111.

Zimmermann, U., Winkelmann, P., Pilhatsch, M., Nees, J., Spanagel, R., & Schulz, K. (2009). Withdrawal phenomena and dependence syndrome after the consumption of “Spice Gold”. *Dtsch Arztebl Int, 106*, 464-467.