Recent Trends in Alcohol and Other Drug Use Among Police Detainees in New Zealand, 2010–2015

Chris Wilkins, Jitesh Prasad, Karl Parker, Marta Rychert and Helen Moewaka Barnes

Abstract *Background*: New Zealand has unusual patterns of recreational substance use by international standards including low levels of cocaine and heroin use, and high methamphetamine use. *Aims*: This paper examines recent trends in alcohol and other drug use among police detainees in New Zealand over the past six years. *Method*: The paper utilises data from the New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study. NZ-ADUM interviewed approximately 800 police detainees each year at four central city police watch houses (i.e. Whangarei, Auckland, Wellington, Christchurch) from 2010 to 2015. *Results*: The proportion of police detainees who had used methamphetamine in the previous year increased from 28% in 2012 to 36% in 2015. Drinking prior to arrest declined from 41% in 2013 to 28% in 2015. The use of cannabis in the past year declined slightly from 76% in 2011 to 69% in 2015. The proportion using ecstasy in the previous year steadily declined from 28% in 2011 to 19% in 2015. Only small minorities had recently used cocaine or an opioid. Use of methamphetamine and ecstasy increased in Christchurch. *Conclusion*: Growing methamphetamine use is consistent with record seizures of methamphetamine over the past 2–3 years. Increasing drug use in Christchurch may reflect factors related to the devastating earthquakes in 2011 and the subsequent city rebuild, including an influx of construction workers, more organised trafficking groups and earthquake-related stress. The decline in cannabis use may be related to the emergence of 'legal' synthetic cannabinoids. The decline in ecstasy use may be the result of recent domestic enforcement operations and the overall global shortage of MDMA. The decline in alcohol drinking may be due to the introduction of pre-charge formal warnings for minor alcohol and disorder offences, and new restrictions on alcohol premise opening hours. Acknowledgements: The New Zealand Drug Use Monitoring (NZ-ADUM) research study is funded by the New Zealand Police and is conducted by SHORE and Whariki Research Centre, College of Health at Massey University, Auckland. We would like to thank New Zealand Police staff at Whangarei, Auckland Central,

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Keywords Methamphetamine · Cannabis · Alcohol · Police detainees · New Zealand

Contents

1 Introduction

New Zealand has unusual patterns of recreational drug use compared to many other developed Western nations (Wilkins et al. 2002). The use of cocaine and heroin has historically been very low, while methamphetamine has been one of the most widely used illegal drugs since the early 2000s (Wilkins et al. 2015a, b). The ecstasy available in New Zealand is expensive by international standards and of uncertain composition, often containing a range of new psychoactive substances rather than MDMA. This unusual drug use environment is attributed to specific geographical and demographic characteristics of New Zealand including its geographic isolation from main international cocaine and heroin trafficking routes, its island geography, small population, and history of tight border controls to protect the primary agricultural sector (New Zealand Customs Service 2002). As a consequence, drug types which can be produced locally, such as cannabis and methamphetamine, are more readily available than those which must be smuggled internationally from distant producer countries, such as cocaine and heroin (Wilkins et al. 2015a, b).

Police detainees are a sentinel group for monitoring trends in substance use as they have high levels of alcohol and other drug use, high contact with criminal networks and illegal drug markets, and high levels of substance-related problems, such as problem drinking and drug dependency (Gaffney et al. 2010). They are also a vulnerable population with high incidences of mental health problems and developmental disadvantage, including parental neglect and youth delinquency (Wilkins et al. 2012). This paper examines recent trends in alcohol and other drug use among police detainees in New Zealand over the past six years.

2 Method

The paper utilises data from the New Zealand Arrestee Drug Use Monitoring (NZ-ADUM) study. NZ-ADUM has interviewed approximately 800 police detainees each year at four central city police watch houses (i.e. Whangarei, Auckland Central, Wellington Central and Christchurch Central) from March to August since 2010 (i.e. 809 = 2010, 828 = 2011, 800 = 2012, 848 = 2013, 832 = 2014, 835 = 2015). NZ-ADUM interviewers were present at these four police watch houses during the morning and evening shifts on every day of the week for the five-month study period each year. The interviewing times were selected to match the two periods of the day when the cells were at their fullest (i.e. following the night shift and following the day shift). It is not ethical, safe, or practical to interview some detainees due to their violent behaviour, intoxication, or emotional state. Consequently, detainees were excluded from the study if they were:

- under 17 years of age;
- unfit for interview due to intoxication from alcohol/drugs or medications;
- 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 behaviour;
- held in custody for more than 48 h;
- deemed unavailable by watch house staff due to ongoing legal/administrative proceedings.

Those detainees who were eligible to participate in the study were escorted to a private interview room where the NZ-ADUM interviewer introduced themselves as an independent university researcher, explained the aims of the study, and invited the detainee to participate. The interviewer explained that 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 did not want to. The ethical protocols used in NZ-ADUM have been approved by the Massey University Human Subjects Ethics Committee.

3 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. Statistical comparisons were made over the six years (i.e. 2010–2015), and between the four regional sites of the study. When a statistically significant difference was found over the six years, additional tests were conducted to compare specific years to each other, with the p-values adjusted for multiple comparisons using the simulation method in SAS. Differences between proportions (e.g. used cannabis in previous year) were tested using logistic regression. Some continuous variables were highly positively skewed (e.g. frequency of drug use and number of alcoholic drinks consumed); hence, statistical testing was run on the log-transformed values for these items to reduce the influence of outliers. All analyses were run using SAS version 9.3.

4 Demographics

The police detainees were overwhelmingly male, younger, unemployed or on a sickness benefit, and had fairly low levels of educational achievement (Table 1). Approximately 40% of the detainee sample was Maori compared to 15% of the general New Zealand population. The proportion of detainees who had completed the compulsory years of high school education increased from 47% in 2010 to 64% in 2015 ($p < 0.0001$). There were no other statistically significant changes in the demographic characteristics of the sample from 2010 to 2015. In 2015, 29% of the

Table 1 Selected demographic characteristics of police detainees, 2010–2015

Demographic	2010	2011	2012	2013	2014	2015
Male (%)	89	87	86	85	86	86
Age (years)	28	28	28	29	29	28
Maori (%)	38	40	40	41	43	42
European (%)	44	39	45	41	40	40
Unemployed/sickness benefit (%)	56	55	55	54	52	51
Completed high school (%)	47	54	58	54	57	63***
Ever mental illness (%)	32	30	34	35	36	29
Currently receiving treatment/medication for mental illness (%)	12	9	10	9	8	8

***$p < 0.0001$

detainees had suffered from a mental illness at some stage in their lives, and 8% were currently receiving treatment or medication for a mental illness at the time of their arrest.

5 Methamphetamine Use

The proportion of detainees who had used methamphetamine in the previous year increased from 28% in 2012 to 36% in 2015 ($p = 0.0047$). The mean number of days users had used methamphetamine increased from 68 days in 2010 to 89 days in 2015 ($p < 0.0001$). Important differences in methamphetamine trends were found between the study locations. The proportion of detainees in Christchurch Central who had used methamphetamine in the past year increased steadily from 20% in 2012 to 33% in 2015 ($p = 0.0036$) (Fig. 1). The mean number of days methamphetamine users in Christchurch had used methamphetamine increased from 58 days in 2012 to 94 days in 2015 ($p < 0.0001$). The proportion of detainees in Wellington Central who had used methamphetamine increased sharply from 28% in 2014 to 43% in 2015 ($p = 0.0028$).

In contrast, methamphetamine use remained largely stable in Auckland. The proportion of detainees from Auckland Central who had used methamphetamine in the previous 12 months remained unchanged from 38% in 2011 to 35% in 2015.

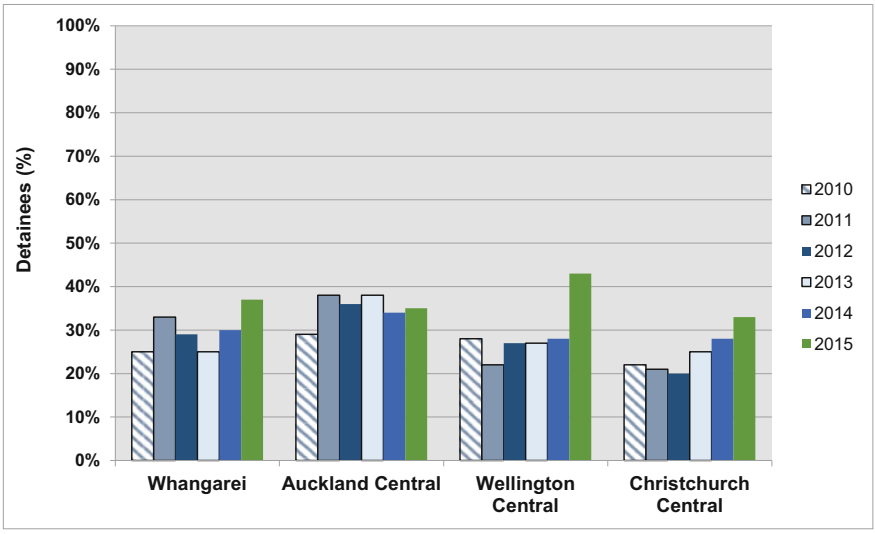

Fig. 1 Proportion of police detainees who used methamphetamine in the past 12 months by location, 2010–2015

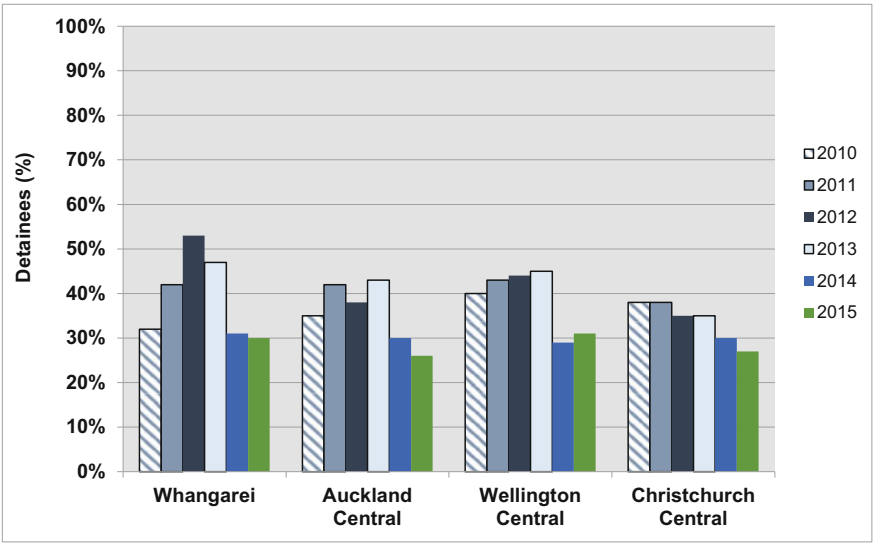

Fig. 2 Proportion of police detainees who had been drinking alcohol prior to their arrest by location, 2010–2015

6 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 ($p = 0.0070$). The mean number of standard alcoholic drinks consumed on a typical day of use decreased from 18 in 2013 to 15 in 2015 ($p = 0.0003$). The number of standard drinks consumed on a typical occasion had previously increased from 12 in 2010 to 18 in 2013 ($p < 0.0001$). The proportion of detainees who had been drinking prior to their arrest declined from 41% in 2013 to 28% in 2015 ($p < 0.0001$). 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, $p = 0.0024$) (Fig. 2).

7 Cannabis Use

The proportion of detainees who had used cannabis in the previous year decreased from 76% in 2011 to 69% in 2015 ($p = 0.0219$). 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 ($p = 0.0052$). The reduction in cannabis use was strongest in

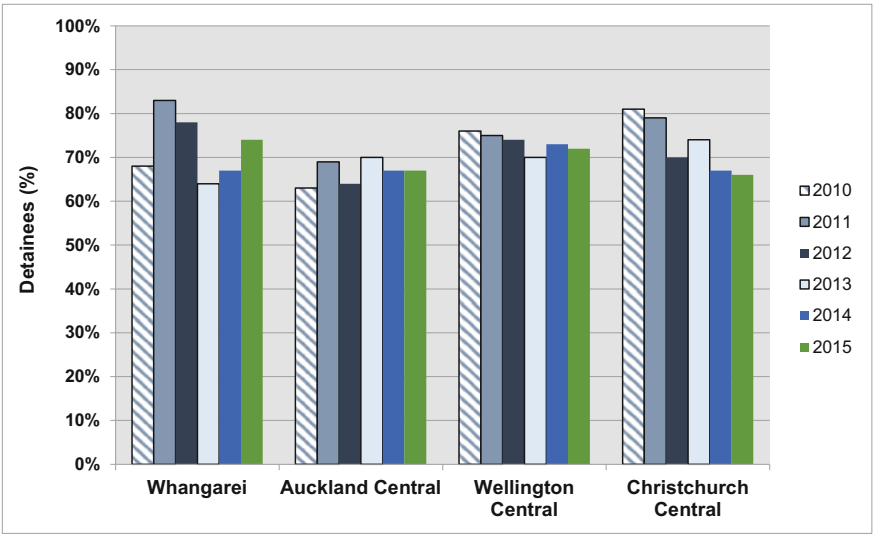

Fig. 3 Proportion of police detainees who had used cannabis in the past 12 months by location, 2010–2015

Christchurch. The proportion of detainees in Christchurch Central who had used cannabis in the past year declined from 79% in 2011 to 66% in 2015 ($p = 0.0230$) (Fig. 3). There appeared to be some rebound in cannabis use among the detainees in 2015. The proportion of detainees in Whangarei who had used cannabis in the previous month increased from 45% in 2013 to 63% in 2015 ($p = 0.0227$).

8 Ecstasy Use

The proportion of detainees who had used ecstasy in the previous year declined steadily from 28% in 2011 to 19% in 2015 ($p = 0.0003$). The proportion of Whangarei detainees who had used ecstasy in the previous year fell substantially from 36% in 2011 to 6% in 2015 ($p < 0.0001$) (Fig. 4).

In contrast to the overall picture of declining ecstasy use, the proportion of Christchurch Central detainees who had used ecstasy in the past year increased from 14% in 2014 to 24% in 2015 ($p = 0.0169$). The number of days detainees in Christchurch Central had used ecstasy in the previous year increased from five days in 2010 to 14 days in 2015 ($p = 0.0091$).

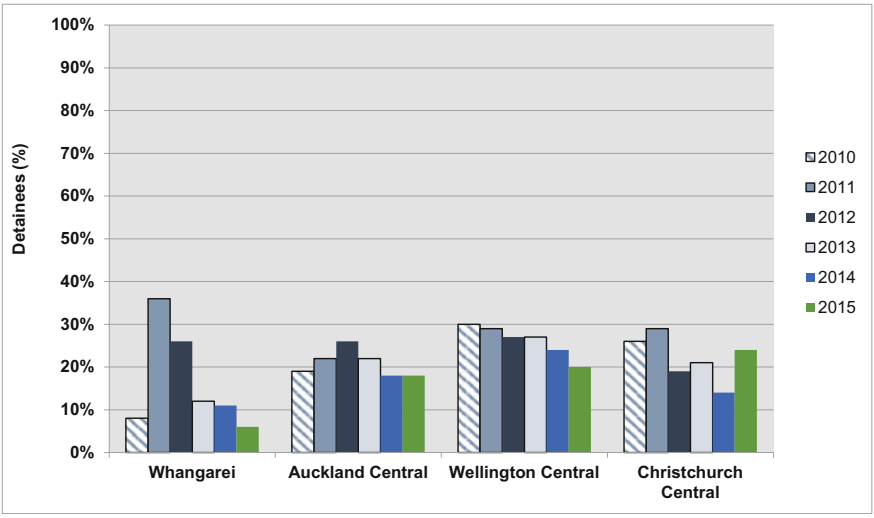

Fig. 4 Proportion of police detainees who had used ecstasy in the past 12 months by location, 2010–2015

9 Cocaine Use

The proportion of detainees who had tried cocaine at some point in their lives has been steadily increasing in recent years, up from 17% in 2010 to 24% in 2015 ($p = 0.0091$), but the proportion who report using it in the previous year has remained persistently low and largely unchanged (i.e. 4% = 2010, 4% = 2011, 5% = 2012, 5% = 2013, 6% = 2014, 5% in 2015).

10 Opioid Use

There was 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%, $p = 0.0113$). The higher prevalence of opioid use in Christchurch compared to the other study locations has been evident in every year of the study.

11 Discussion

The police detainees reported high levels of drinking and other drug use compared to the wider population, confirming the value of studying this population as a means to monitor wider trends in substance use and related harm. For example, 36% of the police detainees reported using methamphetamine in the previous year compared to 0.9% of the general New Zealand population (aged 16–64 years) (Ministry of Health 2015). The increase in methamphetamine use by the detainees in recent years is consistent with the record seizures of methamphetamine made by the New Zealand Police and New Zealand Customs Service over the past three years (i.e. 31 kg in 2013; 99 kg in 2014; 334 kg in 2015) (NDIB 2016). In June 2016, New Zealand Police and Customs made a record one-off 448-kg seizure of methamphetamine of (34% more than the weight of methamphetamine seized in the entire previous year). Record seizures of methamphetamine have also been made at the Australian 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) report that global seizures of methamphetamine doubled from 2009 to 2013, and in their most recent World Drug Report contend that methamphetamine supply is increasingly globally interconnected (UNODC 2015).

The NZ-ADUM findings also highlight the importance of regional differences in drug trends, and this local variation can be overlooked when the focus is so often on national drug prevalence measures. The use of methamphetamine among Christchurch detainees has increased steadily since 2012, and this is broadly consistent with findings from other drug monitoring sources. The Illicit Drug Monitoring System (IDMS), which interviews 300 frequent illegal drug users each year in Auckland, Wellington, and Christchurch, reported the availability of methamphetamine recovered sharply in Christchurch in 2013, following a number of years of decline, and this resurgence continued in 2014 (Wilkins et al. 2015b). One possible explanation for the surge in methamphetamine use in Christchurch is that it has been driven by the influx of construction workers to Christchurch over recent years for the city rebuild, following the devastating earthquakes there in 2010 and 2011. The reconstruction effort in Christchurch city involves thousands of construction and related workers, mostly young men, who will be earning good money and, as a population group, have higher levels of amphetamine use (see Ministry of Health 2015). New Zealand Police have also reported that local Christchurch criminal gangs have recently been absorbed into larger national gangs with a greater focus on methamphetamine trafficking (NDIB 2015), possibly in response to the rise in demand for drugs in Christchurch. The IDMS found the proportion of frequent drug users who purchased methamphetamine from a gang member increased from 36% in 2013 to 50% in 2014 (Wilkins et al. 2015b). Earthquake-related stress may also be a factor in rising drug use in Christchurch. In contrast, methamphetamine use among the detainees in Auckland Central has been stable over recent years. This is important to note as Auckland has traditionally been the largest methamphetamine market in New Zealand.

The reduction in alcohol drinking among the detainees was surprising following a number of years of increasing alcohol consumption but may reflect a number of policy and enforcement initiatives including the greater use of Pre-charge Warnings (PCW) for minor alcohol offences, and the impact of new government restrictions on alcohol premise opening hours. PCW allow offenders to be arrested and taken to a police station but instead of proceeding with an expensive and time consuming prosecution the offender is formally warned and released (O'Reilly 2010). New Zealand Police have noted over half of the PCW issued were for disorderly behaviour and breaches of liquor bans (New Zealand Police 2013). The greater use of PCW for minor alcohol offences may have meant fewer heavy drinkers were detained in the cells overnight and hence available to be interviewed for NZ-ADUM.

One explanation for the decline in the use of cannabis among the detainees is the greater availability of synthetic cannabinoids in New Zealand in recent years since 2010. Synthetic cannabinoid products are often marketed as 'legal' alternatives to cannabis and are not detectable in standard drug testing assays (Perrone et al. 2013). The latter attribute may make synthetic cannabinoids particularly attractive to police detainees who, as a group, are more likely to be subject to drug testing as part of parole and home detention conditions. In a recent analysis of drug substitution related to legal high use among police detainees, 94% of synthetic cannabinoid using detainees who said they had substituted a drug reported they had substituted synthetic cannabinoids for natural cannabis (Wilkins et al. 2016). Consistent with this explanation, there is some evidence of a return to cannabis use by detainees following the ban of all synthetic cannabinoids in 2014. Another possible explanation is the increasing effectiveness of the cannabis crop eradication operations. New Zealand Police have indicated there is now a greater focus on organised criminal groups involved in cannabis cultivation as part of these operations, and this may have negatively impacted cannabis supply (NDIB 2016).

The reduction in ecstasy use may reflect the impact of local enforcement operations against domestic New Zealand 'ecstasy' syndicates in 2011/12, and the overall global shortage of MDMA since around 2009 (EMCDDA 2016). The global shortage of MDMA created a market gap for domestic New Zealand criminal syndicates to start manufacturing fake 'ecstasy', containing blends of cathinones and piperazines (ESR 2014) on a large scale, and this significantly increased the availability of 'ecstasy' to many regional areas in New Zealand where ecstasy was usually rare. A series of enforcement operations dismantled these syndicates in 2011/12 (NDIB 2013). The recent increase in ecstasy use by detainees in Christchurch is consistent with the impact of the influx of construction workers on the city rebuild, some of whom will be from countries where ecstasy is more widely available.

The increasing lifetime experience of cocaine use with little change in current use may reflect the fact that cocaine used by detainees is largely obtained outside of New Zealand, for example during overseas holidays and work. The higher level of opioid use in Christchurch compared to the other study locations is consistent with

the long-standing situation of a large injecting drug using population in Christchurch (Newbold 2000).

There are important limitations to consider when assessing the findings from NZ-ADUM in regard to assessing wider alcohol and drug trends. As outlined early, some detainees cannot be safely interviewed due to intoxication, violent behaviour, and emotional state, and these particularly problematic detainees may have different substance use patterns. Secondly, the detainee sample has distinct demographic and socioeconomic characteristics, and this may influence the type of drug types they have access to and are likely to use. For example, it has been suggested that the high price of cocaine in New Zealand is likely to limit its use to higher socioeconomic groups. Thirdly, police detainees may be particularly attracted to new psychoactive products, such as synthetic cannabinoids, because they cannot be detected in the drug testing required in the criminal justice system. Finally, it could be argued that detainees may be reluctant to self-report drug use while in custody. However, the detainees did self-report high levels of illegal drug use, including drug types such as methamphetamine which attract high criminal penalties and stigma, so while underreporting is likely it did not prevent honest reporting in many instances. Furthermore, our analysis involved comparisons of samples of detainees between years. There is little reason to believe the incentive to under-report use would have dramatically changed over time or apply to one drug, for example in the case of declining cannabis use, but not another, as in the case of increasing methamphetamine use.

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