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What drug types drove increases in drug use and possession offences in Victoria over the past decade?

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Previous CSA research papers have identified large increases in the number and rate of drug use and possession offences across Victoria over the past decade, which were more prominent in regional Victoria than they were in rural or metropolitan areas. To date, this work has not considered the particular types of drugs that accounted for the observed increases. This study used information recorded by Victoria Police about the type of drugs involved in use and possession offences to examine the drug types associated with the observed increases and the characteristics of alleged offenders across drug types. The study found that cannabis offences continue to account the majority of use and possession offences, but that there have been significant increases in the number of cannabis, ecstasy, methamphetamine, prescription and 'other' drug offences over the past ten years. As at end of March 2016, the rates of amphetamine, cannabis, ecstasy and methamphetamine use and possession offences are higher in regional areas than they are in rural or metropolitan areas.

Keywords: drug, use, possession, drug type, offending, recorded crime, Victoria, metropolitan, regional, rural, poly-drug

Introduction

This paper is the third in a series published by the Crime Statistics Agency (CSA) exploring drug use and possession offences and offenders in Victoria over the past decade. The first found a significant increase in the number of drug use and possession offences since 2005 (Millsted and McDonald, 2015) and the second found that although increases occurred throughout Victoria, they were most notable in regional areas (Sutherland and Millsted, 2015). To date, the papers published by the CSA have not considered which drug types are driving these trends. This third paper aims to explore the observed trends according to the specific drug types associated with drug use and possession offences.

Existing data on the prevalence of illicit drug use in Victoria

Though previous CSA research papers have reported on large increases in recorded drug use and possession offences in Victoria, other data sources have produced mixed findings on the extent to which drug use is increasing. For example, while the overall number of drug-related ambulance attendances for illicit drug use has increased year-on-year since 2008 (Lloyd et al., 2015), the trend in the rate of illicit drug-related hospital admissions has been relatively flat over the past five years, and actually decreased over the two most recent years for which this data is available (Aodstats.org.au, 2015).

In relation to the use of methamphetamine specifically, Lim et al. (2015) noted that in Victoria, indicators suggest both an increase in the incidence of methamphetamine use and associated harms, and stability in the overall number of individuals who comprise Victoria's methamphetamine using population. They suggested that this divergence may be explained by more frequent use of methamphetamines and its derivatives, such as crystal

methamphetamine (also known as ice) among existing drug-using populations.

There is some data to support this argument. The most recent National Drug Strategy Household Survey (NDSHS) found that among drug users in Victoria there had been a shift in the form of amphetamines used amongst drug-users since the previous survey, from powdered forms of the drug (from 72% in 2010 to 47% in 2013), to crystal forms such as ice (from 10% to 44%) (Australian Institute of Health and Welfare, 2015). Additionally, the Victorian results of the Illicit Drug Reporting System (IDRS) found significant increases in the prevalence of both lifetime and recent methamphetamine use injecting drug users, driven by an increase in recent ice use prevalence (Cogger, Dietze and Lloyd, 2015).

Limitations of existing data sources

The existing data that is available to shed light on what types of drugs might be driving the increases in recorded drug use and possession offences observed by the CSA is collected via the NDSHS, the IDRS, a similar survey called the Ecstasy and Related Drugs Reporting System (EDRS) or data on Victorian illicit-drug related ambulance attendances. However, all of these datasets have associated limitations. The NDSHS is conducted only every two to three years, and the sample size at a state level is too small to enable detailed analysis of drug users by drug type. The IDRS and EDRS are surveys conducted amongst existing drug users to identify changes in the drug market, but do not provide information about the overall prevalence of the use of particular drugs in the general population. Ambulance data offers insights into the prevalence of critically harmful levels of use of specific drug types, but again may not provide a representative indication of the characteristics of drug users.

In particular, there is a lack of good evidence about the prevalence of crystal methamphetamine use in Victoria. In late 2014 the *Inquiry into the supply and use of methamphetamines, particularly ice, in Victoria* also noted that it was “difficult to quantify the prevalence of methamphetamine use, and particularly, crystal methamphetamine, in Victoria, owing to data not being collected in sufficient detail to explain patterns of use in particular regions” (Law Reform, Drugs and Crime Prevention Committee, 2014, p. xliii). One reason for this may be because Victoria Police do not record crystal methamphetamine use and possession as a specific category within overall methamphetamine use and possession.

The current study

Arguably, though law enforcement data has limitations, including that it is impacted by changes in recording and other operational practices, it can still contribute to our understanding of drug use in the Victorian population. In particular, it can provide demographic and geographic insights into patterns of use of particular drugs, which may not be available using existing data sources. Given there is currently no infallible data source available for identifying population prevalence of the use of specific drugs, analysis and triangulation of the all of the available data sources will yield the best evidence for policy-making and service planning in this area.

As such, the objective of this study is to contribute to existing information about prevalence of drug use through analysis of Victoria Police data on use and possession offences relating to specific drugs in Victoria over the past decade. In addition, the available data offers an opportunity to consider the proportion and characteristics of alleged drug use and possession offenders that have been recorded for offences involving multiple different drug types over time. As such, this study aims to answer the following research questions:

- What drug types drove the large increases in the number of recorded drug use and possession offences recorded by police in Victoria over the past ten years?
- Are the large increases previously identified in regional Victoria driven by a specific drug type or types?
- How do the characteristics of alleged use and possession offenders differ across drug types?

- Do alleged offenders recorded for use and possession of multiple drug types differ compared to those recorded for a single drug type in terms of their characteristics?

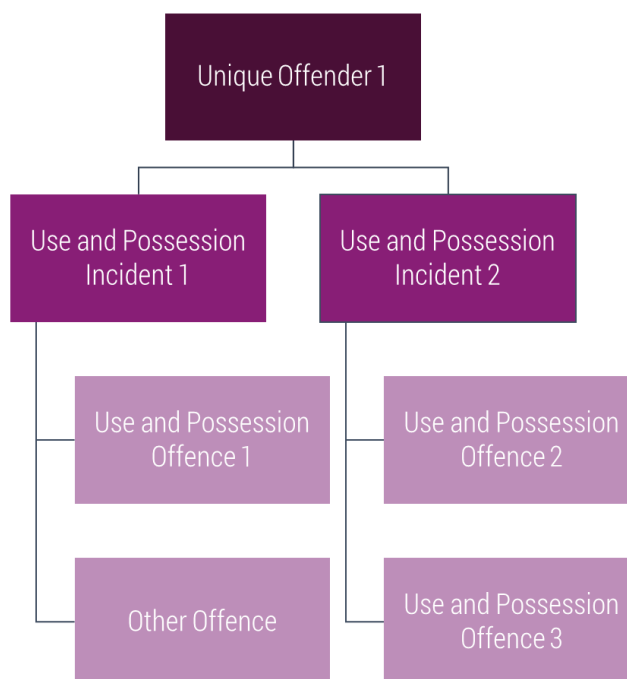
Method

Data

The data in this report is based on the most up to date quarterly release of data by the CSA. This data examines crime statistics up to the year ending 31 March 2016. This means that the 2016 year in this report refers to the year commencing on April 1 2015 and concluding on 31 March 2016, the 2015 year refers to the year commencing 1 April 2014 and concluding on 31 March 2015, and so on. In total eleven years of data were analysed for this study, based on offences recorded from 1 April 2005 to 31 March 2016.

The CSA does not receive data on court outcomes, so all references to offenders and offences in this report refer to alleged rather than proven offences and offenders. Three distinct counting units are used throughout this paper: offences, incidents, and unique offenders. Figure 1 provides an example of the relationship between these three counting units. It represents one unique offender, with two drug use and possession incidents (reported on two separate encounters with police), each of which involved at least one drug use and possession offence.

Figure 1: Illustration of counting unit relationships



Some of the findings presented in this report also present statistics on offenders who used or possessed a single drug type compared to multiple drug type offenders. For the purpose of this study, a multiple type offender is defined as an individual alleged to have committed multiple offences involving at least two different drug types. A single type offender is defined as someone alleged to have committed one or more drug offences, but where all of these offences relate to the same drug type.

Classification of drug types

There are 74 potential offence codes that police officers must select from when recording a drug use or drug possession offence. Though these are separate types of offences the analysis here groups all drug use or drug

possession offences together as 'drug use and possession offences'.

For the purposes of this report, all offence codes have also been aggregated into seven categories based on the type of drug involved in the offence. These categories are:

- Amphetamine
- Cannabis
- Ecstasy
- Heroin
- Methamphetamine
- Other drug type (includes a range of drugs e.g., cocaine, LSD, GHB)
- Prescription drugs

Where an offence code was recorded by police that does not specify a particular drug type, such as 'Possess drug of dependence (Not Named)', these offences were excluded from the study. Over the ten year analysis period, 8,741 of these offences were recorded and excluded from the findings presented in this report. This is equivalent to 5.7% of all drug use and possession offences.

While the drug data in this analysis does separate offences related to amphetamine use and possession from those related to methamphetamine use and possession, the offence codes do not enable distinction amongst the various forms of methamphetamine (such as base, speed or ice). However, a recent paper published by the CSA assessing the accuracy of police recording of drug types associated with drug offences found that approximately 77% of methamphetamine offences that proceed to forensic testing actually involve crystal methamphetamine (Sutherland and Millsted, 2016).

Classification of metropolitan, regional and rural Victoria

Victoria Police generally record the location where each offence took place. Using this information, the findings within this report include comparisons of the type of drugs involved in drug use and possession offences across metropolitan Melbourne as well as regional and rural Victoria. These geographic categories are classified using the Australian Bureau of Statistics (ABS) Significant Urban Area (SUA) geography structure, which includes both clustered urban areas (including greater Melbourne) and other areas (Australian Bureau of Statistics, 2015). For the purpose of the analysis presented here, the greater Melbourne SUA is used to define metropolitan Melbourne, the remaining SUAs are used to define regional Victoria while anywhere not in a SUA is defined as rural Victoria.

Statistical tests

This paper employs two statistical tests. Kendall's rank-order correlation coefficient is applied to monthly offence rates to identify whether any observed moments in the data represent statistically significant trends over two, five, and ten year periods. Chi-square analyses are used to examine whether any observed differences between cohorts of offenders represent statistically significant differences in the data.

Results

Drug use and possession offences by drug type

Between 1 April 2005 and 31 March 2016, 144,082 drug use and possession offences were recorded by police in Victoria that included a specified drug type. Figure 2 shows the rate of use and possession offences per 100,000 population over the past ten years. Cannabis was the drug most commonly associated with use and possession offences, accounting for 49% of all use and possession offences over the ten year period. The rate of cannabis offences per 100,000 population has also increased significantly over the past ten years from 109 offences per

100,000 in 2006 to 142 offences in 2016. Up until 2014, amphetamine accounted for the second highest rate of use and possession offences, peaking at a rate of 46 offences per 100,000 population in 2013. However, by 2016 the rate of use and possession offences that involved amphetamine was lower than the rate that involved either methamphetamine or prescription drug offences, which both experienced dramatic increases in the rate of offences. Since 2011, the rate of methamphetamine offences has increased from the lowest of all drug types with two offences per 100,000 population to 97 offences per 100,000 in 2016, second only to the rate of cannabis offences. The rate of offences relating to illicit use or possession of prescription drugs rose from seven offences per 100,000 population in 2006 and 49 offences per 100,000 in 2016.

Figure 2: Rate of drug use and possession offences per 100,000 population by drug type, 2006 – 2016

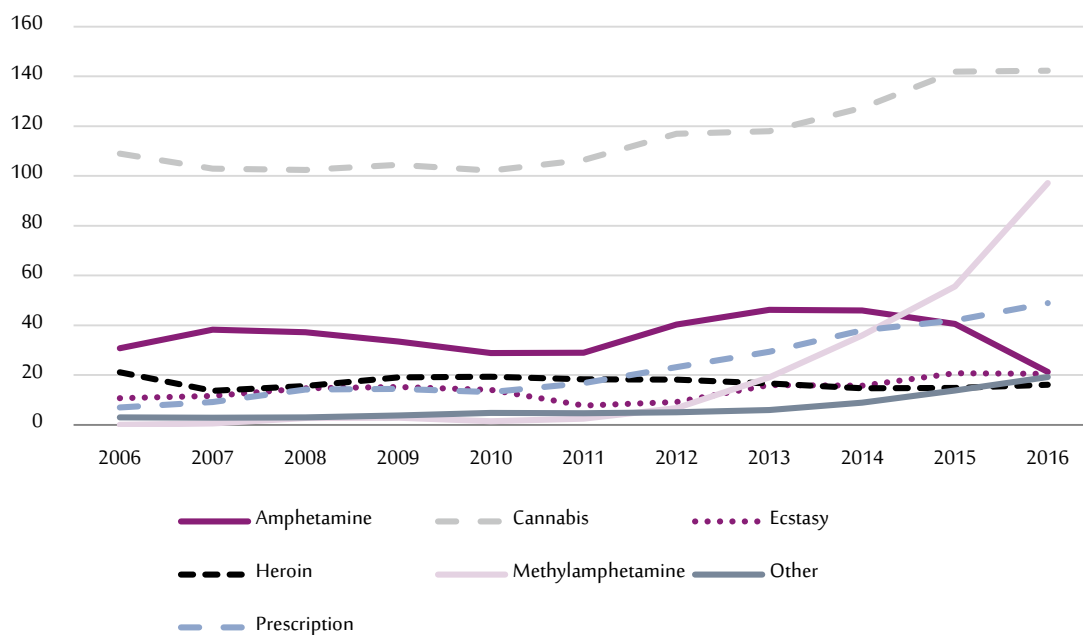


Table 1 presents the results of trend tests that were conducted to examine whether there were statistically significant increases or decreases in the number of use and possession offences relating to each of the drug types over the past two, five or ten years. These trend tests revealed that there were statistically significant increases across most drug types over the past ten years. Only the number of offences relating to heroin and amphetamines remained stable over the ten year period. The largest average annual percentage change was for methamphetamine use and possession offences, which increased an average of 114.6% per year over the past ten years (although as Figure 2 shows these increases occurred almost entirely over the past five years).

Over the past five years, there was a significant downward trend in the number of offences for amphetamine, decreasing 9.6% on average per year. The number of heroin offences remained stable over this period. Again, methamphetamine offences increased the most, with an average annual percentage increase of 103.3% over the past five years. Over the past two years, however, there were no significant trends in the number of use and possession offences associated with cannabis, ecstasy, heroin or prescription drugs. There were statistically significant increases in the number of offences related to methamphetamine and other drug types, and a significant decrease in the number of amphetamine offences.

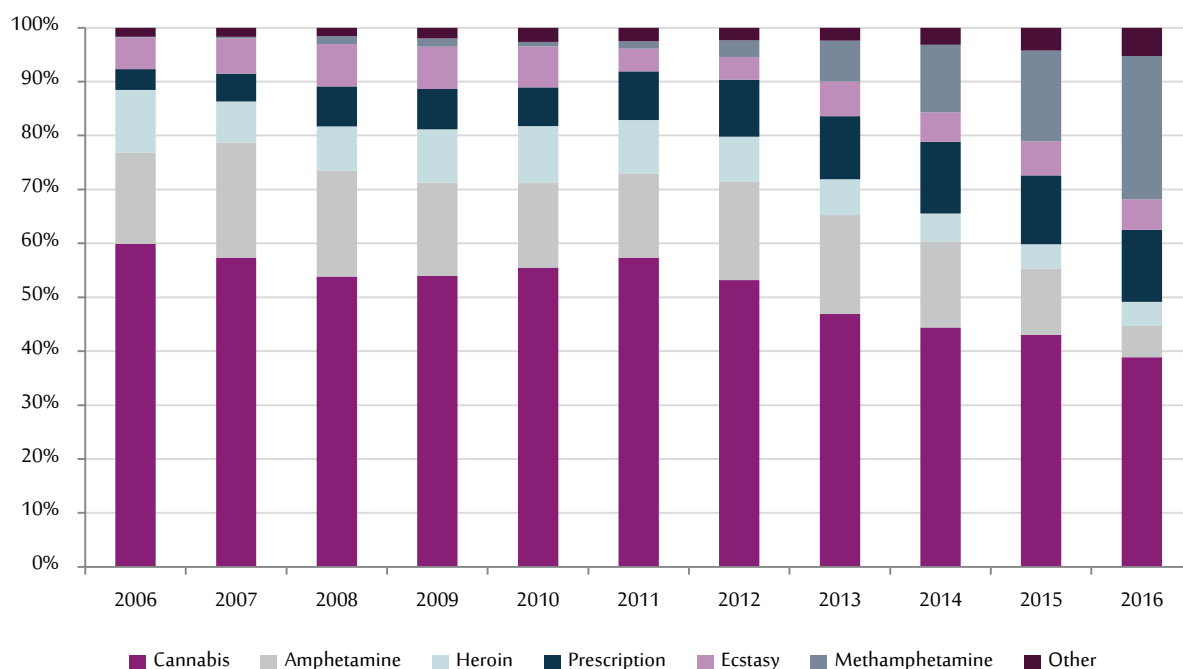
Table 1: Two, five and ten year trends in monthly offences by drug type, 2007 to 2016

Drug Type		2 year trend (2015-2016)	5 year trend (2012-2016)	10 year trend (2007-2016)
Amphetamine	Trend	Decreased	Decreased	Stable
	Percent change*	-46.4%	-9.6%	-
	Significance (p)	<.0001	<.0001	Not significant
Cannabis	Trend	Stable	Increased	Increased
	Percent change*	-	+7.1%	+5.7%
	Significance (p)	Not significant	<.0001	<.0001
Ecstasy	Trend	Stable	Increased	Increased
	Percent change*	-	+28.1%	+13.0%
	Significance (p)	Not significant	<.0001	<.0001
Heroin	Trend	Stable	Stable	Stable
	Percent change*	-	-	-
	Significance (p)	Not significant	Not significant	Not significant
Methamphetamine	Trend	Increased	Increased	Increased
	Percent change*	+78.6%	+103.3%	+114.6%
	Significance (p)	<.0001	<.0001	<.0001
Other	Trend	Increased	Increased	Increased
	Percent change*	+41.8%	+42.4%	+26.8%
	Significance (p)	0.0001	<.0001	<.0001
Prescription	Trend	Stable	Increased	Increased
	Percent change*	-	+23.1%	+23.9%
	Significance (p)	Not significant	<.0001	<.0001

*Percent change refers to percentage change over two years for the two year trend, and average annual percentage change for the five and ten year trends.

Figure 3 shows the proportion of all drug use and possession offences accounted for by each drug type, and highlights the increases in the proportion accounted for by both methamphetamine and prescription drugs. Methamphetamine comprised just 0.1% ($n=6$) of all offences in 2006, 1.3% ($n=138$) of all offences in 2011, increasing to 27% ($n=5,886$) of all offences in 2016. Prescription drug offences made up 4% ($n=354$) of offences in 2006, 9% ($n=926$) in 2011, and 13% ($n=2,967$) in 2016). Conversely, the proportions of offences related to cannabis, amphetamine and heroin have decreased in recent years.

Figure 3: Proportion of drug use and possession offences, by drug type, 2006 – 2016



Overall, over the past five years (2012 to 2016) the number of use and possession offences increased by 9,795. Methamphetamine offences comprised 5,503 of this increase, followed by cannabis offences, which comprised 2,048 of these offences and prescription drug offences, which comprised 1,665 offences.

Geographic location of offences by drug type

Table 2 presents the proportion of drug use and possession offences in metropolitan, regional and rural Victoria that related to each drug type over two five year periods (2007-11, and 2012-16). As shown, the proportion of offences accounted for by cannabis has fallen substantially across all three geographic regions, most notably in regional Victoria (down from 69.1%, to 50.2%). The proportion of offences accounted for by amphetamines and heroin also fell, with the largest drops in metropolitan Melbourne, where amphetamine offences fell from 18.7% to 13.4% of all offences and heroin offences fell from 12.0% to 7.1%. On the other hand, there were significant increases in the proportions of use and possession offences accounted for by methamphetamine, 'other', and prescription drug. These increases were apparent across all geographies. For methamphetamine, they were most apparent across regional Victoria, where the proportion of methamphetamine offences increased from 0.8% of all offences in 2007-11 to 16.1% in 2012-16. Additionally, there were also substantial increases in the proportion of methamphetamine offences in both metropolitan and rural Victoria over these two time periods (from 1.3% to 15.2% and from 0.3% to 10.6% respectively).

Table 2: Proportion of offences by drug type and geographical location, for 2007-11 and 2012-16

	2007-11		2012-16		Change in proportion	Significance
	Number	Proportion	Number	Proportion		
Metropolitan Melbourne						
Amphetamine	6,883	18.7	8,368	13.4	-5.4	<.0001 ¹
Cannabis	18,381	50.0	25,619	40.9	-9.1	
Ecstasy	2,757	7.5	3,900	6.2	-1.3	
Heroin	4,410	12.0	4,418	7.1	-4.9	
Methamphetamine	473	1.3	9,509	15.2	+13.9	
Other	887	2.4	2,607	4.2	+1.8	
Prescription	2,935	8.0	8,168	13.1	+5.1	
Total	36,726	100.0	62,589	100.0		
Regional Victoria						
Amphetamine	1,239	15.4	2,079	13.3	-2.1	<.0001 ²
Cannabis	5,560	69.1	7,831	50.2	-18.9	
Ecstasy	461	5.7	673	4.3	-1.4	
Heroin	143	1.8	229	1.5	-0.3	
Methamphetamine	64	0.8	2,513	16.1	+15.3	
Other	102	1.3	377	2.4	+1.1	
Prescription	475	5.9	1,904	12.2	+6.3	
Total	8,044	100.0	15,606	100.0		
Rural Victoria						
Amphetamine	768	15.3	817	11.9	-3.3	<.0001 ³
Cannabis	3,730	74.1	4,265	62.2	-11.9	
Ecstasy	170	3.4	256	3.7	+0.4	
Heroin	68	1.4	51	0.7	-0.6	
Methamphetamine	15	0.3	729	10.6	+10.3	
Other	51	1.0	165	2.4	+1.4	
Prescription	232	4.6	578	8.4	+3.8	
Total	5,034	100.0	6,861	100.0		

Figures 4 to 10 show the rate of drug use and possession offences per 100,000 population across metropolitan, regional and rural Victoria for each of the seven drug type categories analysed in this study. These figures show that by 2016, the only drug types that had higher rates of use and possession offences in metropolitan Melbourne compared with regional Victoria were heroin and the 'other drug types' category. Heroin-related use and possession offences continue to be most commonly recorded in Melbourne, with the 2016 rate for metropolitan areas (20.2 offences per 100,000 population, $n=898$) exceeding the rate for regional (7.6 offences per 100,000 population, $n=69$) and rural Victoria (1.4 offences per 100,000 population, $n=10$).

¹ $\chi^2=6746.7$, $p<.0001$, $df=6$, Cramer's $V=0.26$

² $\chi^2=1763.3$, $p<.0001$, $df=6$, Cramer's $V=0.27$

³ $\chi^2=685.8$, $p<.0001$, $df=6$, Cramer's $V=0.24$

The trends over time across other drug types are more varied. The rate of cannabis offences, for example, has been higher in both regional and rural Victoria compared to metropolitan Melbourne for much of the past ten years. In 2016, the rates of cannabis use and possession offences were 206.6 per 100,000 for regional ($n=1,864$), 139.8 per 100,000 for rural ($n=983$), and 129.5 per 100,000 for metropolitan areas ($n=5,758$). For possession and use offences related to amphetamines, ecstasy, methamphetamine and prescription drugs, the offence rates for regional Victoria surpassed the rates for metropolitan Melbourne at varying points over the past three years (2013 for amphetamines and prescription drug offences, 2014 for methamphetamine, and 2015 for ecstasy).

Offence rates per 100,000 population for methamphetamine offences increased across all geographies from a very low level in 2011 (2.8 for metropolitan, $n=114$; 2.5 for regional, $n=21$; and 0.4, $n=3$ for rural). In 2016, the regional rate (126.9; $n=1,145$) was higher than the metropolitan rate (98.0; $n=4,360$), which, in turn, was substantially higher than the rural rate (53.9; $n=379$). Increases for prescription drug offences also occurred across all geographies over the past five years.

Figures 4-10: Rates per 100,000 of drug use and possession offences in metropolitan, regional and rural Victoria, by drug type, 2006 – 2016

Figure 4: Amphetamines

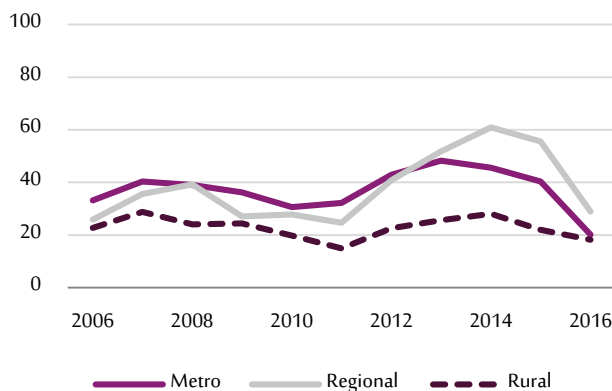


Figure 5: Cannabis

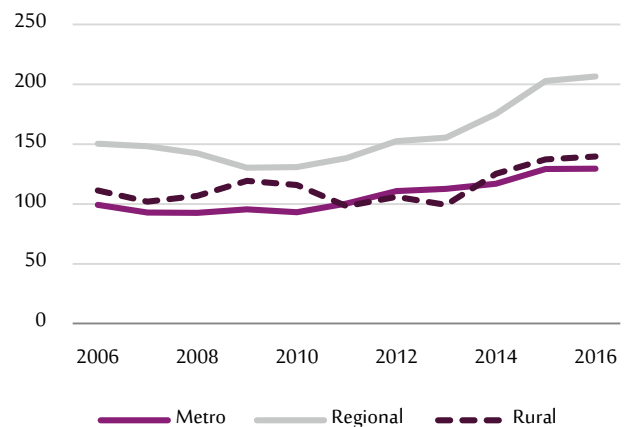


Figure 6: Ecstasy

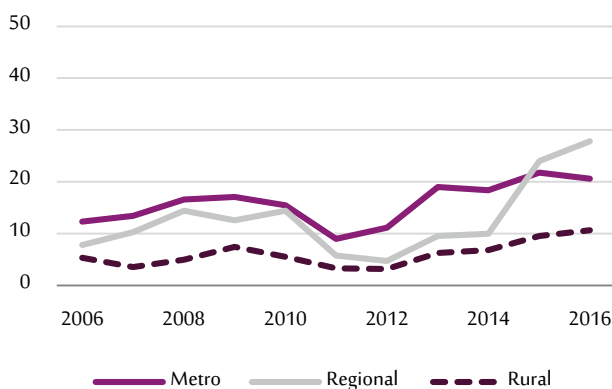


Figure 7: Heroin

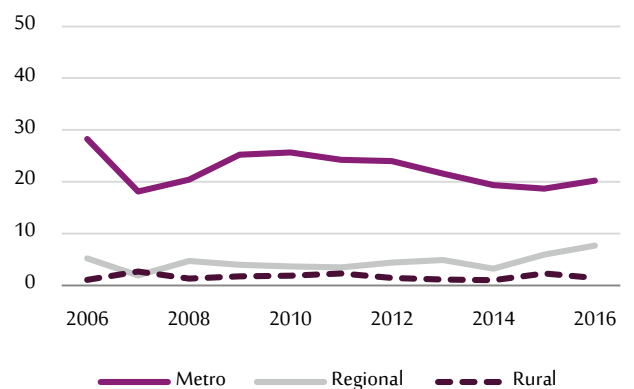


Figure 8: Methamphetamine

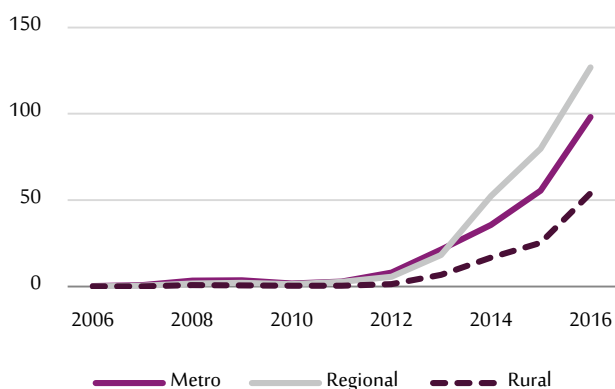


Figure 9: Other

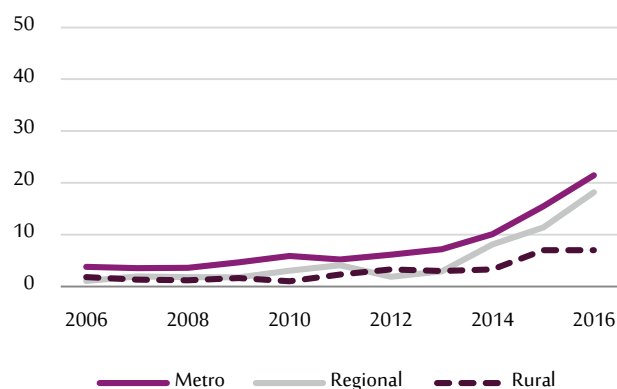
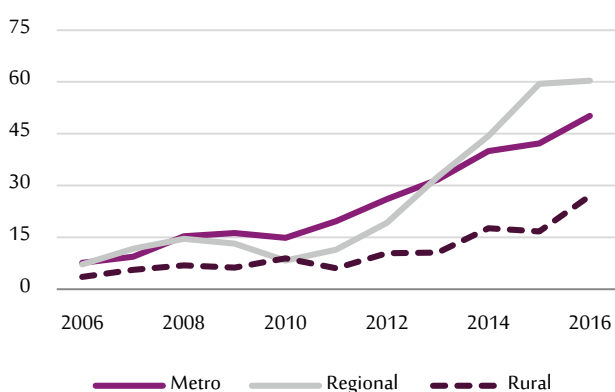


Figure 10: Prescription



Rate of alleged offenders who used/possessed each drug type

Figures 11 to 17 present both the offence and unique alleged offender rates for each drug type over the past ten years. The data on which these figures are based is provided in Appendix A. In these figures, unique offenders will be counted once for each year during for which they had a drug use or possession offence for a particular drug type.

As shown, the rate of methamphetamine, prescription and 'other' drug offences has increased to a greater degree than the rate of unique offenders, likely suggesting a somewhat increased frequency of offending amongst existing offenders for these drug types. In 2011 for example, 706 unique offenders were responsible for 926 prescription drug offences. By 2016, 1,906 unique offenders were responsible for 2,967 prescription drug offences.

Figures 11-17: Rates of offences and unique offenders, by drug type 2006 – 2016

Figure 11: Amphetamines

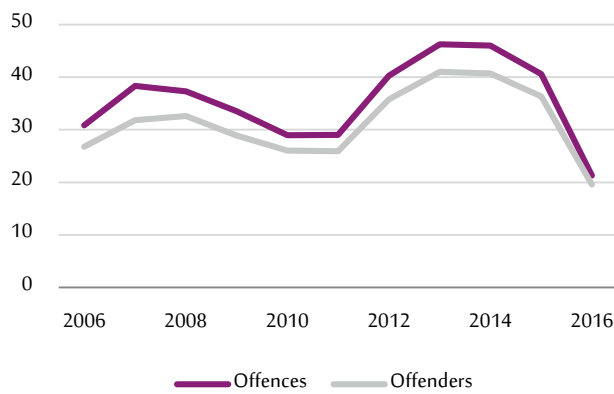


Figure 12: Cannabis



Figure 13: Ecstasy



Figure 14: Heroin

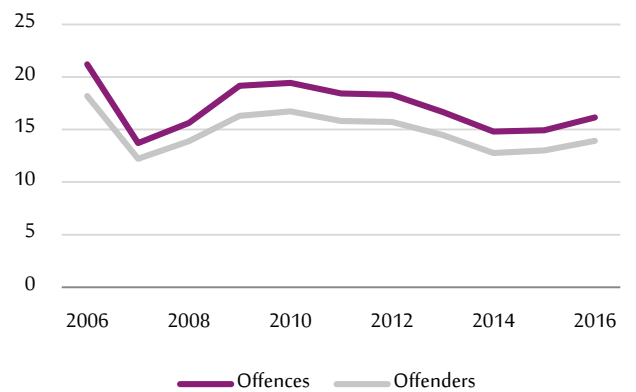


Figure 15: Methamphetamine

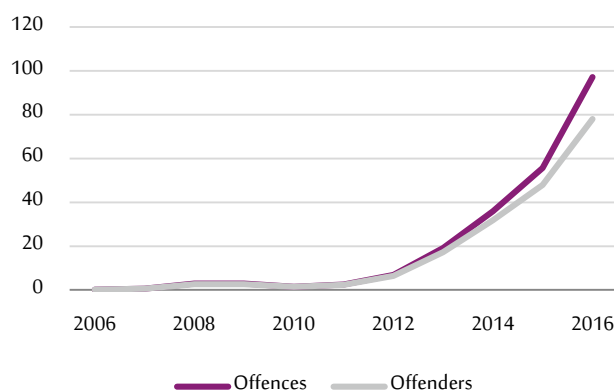


Figure 16: Other

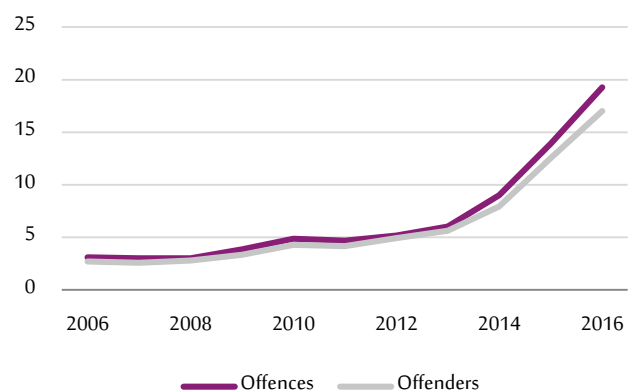
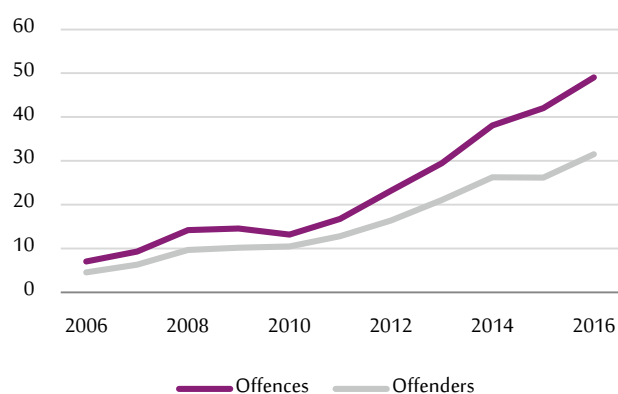


Figure 17: Prescription



Characteristics of alleged offenders across drug types

Table 3 below provides a summary of the characteristics of all alleged use and possession offenders, followed by an outline of the significant differences between offenders who used a particular drug type compared with other offenders. It should be noted that the features listed in Table 3 only list the characteristics that these offenders are more likely to have, compared to the overall sample of drug offenders. The data tables presented in Appendix B provide more detailed statistics about the demographic characteristics of alleged drug use and possession offenders for each drug type.

The age of offenders at the time of their first drug use and possession offence differed for cannabis users, who were more likely than to be either younger (between 10 and 19) or older (over 45 years of age) at the time of their first offence than other drug offenders. On the other hand, those recorded for ecstasy offences were more likely to be aged 20 to 29 when they first had a drug offence, and heroin, methamphetamine and prescription drug offenders were more likely to be 25 or older.

Nineteen percent of all alleged drug use and possession offenders were female. However, a higher proportion of female offenders were recorded for heroin (22.5%), methamphetamine (22.1%), and prescription drugs (21.8%). Conversely, for cannabis and ecstasy, the proportion of male alleged offenders was higher compared with all drug use and possession offences (82.0% for cannabis and 83.3% for ecstasy, compared to 81.0% for all drug offenders)

Employment and relationship status both tended to vary across the drug types:

- Amphetamine (23.9% and 63.3%) and methamphetamine (23.0% and 59.1%) offenders were more likely to be in a relationship and employed than for overall drug offenders (21.4% and 54.6% respectively).
- Cannabis offenders were more likely to be either single (79.1%) and a student (11.3%) or unemployed (36.9%), compared to overall drug offenders (of whom 78.6% were single, while 10.3% were students and 35.1% were unemployed).
- Ecstasy offenders were more likely to be single (81.5%) and employed (65.3%) than overall drug use and possession offenders (of whom 78.6% were single and 54.6% were employed).
- Heroin offenders (25.2% and 44.5%) were more likely to be in a relationship and unemployed than overall drug offenders (21.4% and 35.1% respectively).
- Prescription drug offenders were more likely to be in a relationship (24.0%) and employed (59.2%) or unemployed (37.0%), rather than a student.

Table 3: Notable demographic features of offenders of certain drug types

Drug type	Key demographic profile of users
Drug offenders	<p>Overall proportions of drug offenders:</p> <ul style="list-style-type: none"> Aged 10-14 (1.2%); 15-19 (19.4%); 20-24 (25.9%); 25-29 (16.9%); 30-34 (12.8%); 35-39 (9.8%); 40-44 (6.8%); 45-49 (3.9%); 50-54 (2.0%); 55 and over (1.3%). Male (81.0%); Female (19.0%). Single (78.6%); in a relationship (21.4%). Employed (54.6%); Student (10.3%); Unemployed (35.1%).
Amphetamine	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 20-24 (27.4%); 25-29 (21.1%); 30-34 (14.9%); 35-39 (11.1%). In a relationship (23.9%). Employed (63.3%).
Cannabis	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 10-14 (1.7%); 15-19 (23.5%); 45-49 (4.0%); 50-54 (2.1%); 55 and over (1.5%). Male (82.0%). Single (79.1%). Either a student (11.3%) or unemployed (36.9%).
Ecstasy	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 20-24 (37.4%); 25-29 (19.1%). Male (83.3%). Single (81.5%). Employed (65.3%).
Heroin	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 25-29 (23.5%); 30-34 (21.9%); 35-39 (15.8%); 40-44 (9.8%); 45-49 (5.2%). Female (22.5%). In a relationship (25.2%). Unemployed (44.5%).
Methamphetamine	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 25-29 (21.8%); 30-34 (17.1%); 35-39 (10.9%). Female (22.1%). In a relationship (23.0%). Employed (59.1%).
Other	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 20-24 (30.3%); 25-29 (21.7%); 30-34 (14.0%). Employed (64.5%).
Prescription	<p>More likely to be:</p> <ul style="list-style-type: none"> Aged 25-29 (22.4%); 30-34 (17.5%); 35-39 (11.5%) Female (21.8%) In a relationship (24.0%) Either employed (59.2%) or unemployed (37.0%)

Single and multiple drug type use and possession offenders

Overall, 74.1% ($n=53,448$) of drug use and possession offenders were only recorded by police as using or possessing one drug type over the past eleven years and the remaining 25.9% ($n=18,685$) were recorded for offences relating to two or more different drug types. Figure 18 shows the proportions of offenders recorded for one or more drug type offence over the past eleven years. This graph shows that cannabis offenders are far less likely to be poly-drug use and possession offenders. Around 72% ($n=35,720$) of alleged offenders recorded for a cannabis offence were only recorded for cannabis offences over the past eleven years. Alleged offenders recorded for all other drug types,

however, were far more likely to use or possess multiple drug types. Prescription drug users were the most likely to use or possess multiple drug types: only 21% ($n=1,785$) of them were only recorded for use and possession offences relating to prescription drugs and almost half (48%, $n=4,047$) were recorded for use or possession of at least two other drug types in addition to prescription drugs. Thirty percent ($n=2,942$) of alleged methamphetamine use and possession offenders were only recorded for methamphetamine offences, a further 31% ($n=3,049$) were recorded for one additional drug type and the remaining 39% ($n=3,778$) were recorded for two or more drug types.

Figure 18: Proportion of offenders with one or more drug types recorded by offender, by drug type 2006 – 2016

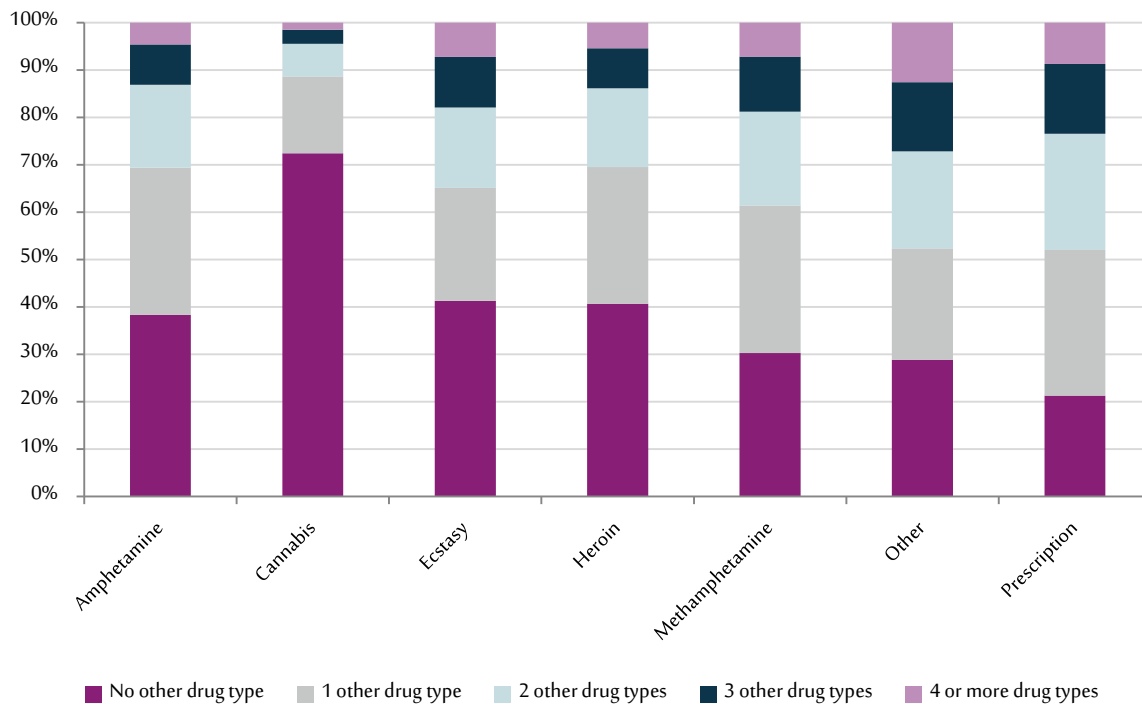


Table 4 compares the demographic characteristics of single type and multiple type use and possession offenders. No significant differences were found between the two groups of offenders in terms of sex. However, single type offenders were more likely to be under the age of 24 or over the age of 40 at the time of their first use and possession offence, while multiple type offenders were more likely to be aged between 25 and 39 at the time of their first offence. Multiple type offenders were also more likely to have a partner and be either employed or unemployed (rather than a student).

Table 4: Characteristics of offenders who used one drug type compared with those who used two drug types, 2006-2016

	Offenders recorded for 1 drug type		Offenders recorded for 2 or more drug types		Significance
	N	%	n	%	
Age group at time of first offence					<.0001 ⁴
10-14	774	1.5	115	0.6	
15-19	11,148	20.9	2,807	15.0	
20-24	13,968	26.1	4,687	25.1	
25-29	8,330	15.6	3,879	20.8	
30-34	6,311	11.8	2,945	15.8	
35-39	4,971	9.3	2,062	11.0	
40-44	3,692	6.9	1,201	6.4	
45-49	2,222	4.2	607	3.3	
50-54	1,193	2.2	252	1.4	
55 or older	839	1.6	130	0.7	
Sex					Not Significant
Male	43,234	81.1	15,118	81.0	
Female	10,103	18.9	3,557	19.0	
Relationship status					<.0001 ⁵
Single	28,938	79.4	12,036	76.8	
Partner	7,510	20.6	3,642	23.2	
Employment status					<.0001 ⁶
Employed	21,168	52.6	10,207	59.4	
Unemployed	13,847	34.4	6,284	4.1	
Student	5,217	13.0	708	36.5	

Discussion

Over the past eleven years, cannabis comprised around half of all drug use and possession offences. The number of cannabis offences has increased by 5.7% on average per year over that period. Over that same period however, the number of methamphetamine offences has increased more than the number of offences related to any other drug type, with an average annual percentage increase of 114.6%. Prescription and 'other' drug use and possession offences have also increased, by an average of 23.9% and 26.8% per year respectively.

Interestingly, while the number of methamphetamine use and possession offences has increased significantly over the past two years (by 78%), the number of other amphetamine offences has simultaneously decreased quite significantly (by almost 50%). The rate of alleged methamphetamine offences has also increased to a greater extent than the rate of unique methamphetamine offenders over the past few years. This may provide some support for Lim et al.'s (2015) hypothesis that the apparent increase in rates of methamphetamine-related harms may not

⁴ $\chi^2=924.4$, $p<.0001$, $df=9$, Cramer's $V=0.11$

⁵ $\chi^2=44.9$, $p<.0001$, $df=1$, Cramer's $V=-0.03$

⁶ $\chi^2=1030.2$, $p<.0001$, $df=2$, Cramer's $V=0.13$

necessarily represent an increase in the prevalence of crystal methamphetamine use. Instead, these authors suggest that the increased harms may be the result of a shift in the type of drugs used by existing users, from other drug types to crystal methamphetamine, as well as increased frequency of use amongst this cohort.

As always, consideration must be given to the fact that police statistics are not necessarily an accurate measure of the underlying incidence of offending. This is especially the case with drug offences, where the vast majority are detected rather than reported to police. A change in policing focus, shifts in resourcing, or the incidence of large-scale targeted drug operations can have a major impact on the number of offenders alleged to have committed a drug use or possession offence (Wardlaw and Dean, 1986; Matka, 1997). Though the results of this study suggest increases in the rate of police-recorded unique offenders across some drug types, measures of drug use across the whole population, such as the National Drug Household Survey, have found relatively stable levels of drug use over time (Australian Institute of Health and Welfare, 2015).

Nevertheless, recorded methamphetamine offences have contributed the most to the overall increase in drug use and possession offences, followed by cannabis and prescription drug offences. By 2016, regional and rural Victoria recorded higher rates of drug use and possession offences for the majority of drug types. Metropolitan Melbourne only has higher rates for heroin and 'other' drug types. Comparisons of the most recent five years (2012-16) compared with the previous five years (2007-11) revealed that proportionally, cannabis offences continue to account for far more use and possession offences in regional areas than methamphetamine offences. However, the proportion of offences accounted for by methamphetamine in regional areas has increased from 0.8% to 16.1% from the first five-year time period to the second.

Other prior Australian research suggests there are differences in policing practices and strategies in small rural communities compared to cities, which may influence the rate at which drug use and possession crime is recorded by police in regional and rural areas. Such research has suggested that in areas with small populations, the ratio of operational police per head of population is high, which in turn may lead to increased recorded crime rates per head of population in such areas (Putt, 2010). Further, some researchers have suggested that the 'visibility' of certain people and activities in rural areas may explain high rates of certain offences, and can influence both the reporting of incidents to police, and the rate at which police detect and respond to crime (Carrington et al., 1996; Putt, 2010).

This study identified that the sex and age profiles of alleged drug use and possession offenders differed across the drug types examined. For example, heroin, methamphetamine and prescription drugs all had slightly higher proportions of female offenders than the overall sample. While people recorded for at least one cannabis use and possession offenders tended to be younger (between 10 and 19) or older (over 45) at the time of their first offence, those who were recorded for ecstasy offences were more likely to be aged 20 to 29 and those recorded for heroin, methamphetamine and prescription drug offences were more likely to be aged 25 or older.

Alleged cannabis offenders were far more likely than other offenders to be single drug type offenders: 72% of them had only been recorded for cannabis use and possession offences over the past eleven years. On the other hand, only 21% of prescription drug offenders and 30% of methamphetamine offenders were classified as single type offenders (i.e. they had only been recorded for prescription drug and methamphetamine offences, respectively).

Despite the inherent limitations, police recorded data regarding offenders who commit drug use and possession offences add further evidence to the existing base. The geographic and demographic information detailed in this report, when considered alongside other available sources of information on drug use, are valuable for planning and targeting both intervention and treatment services. Law enforcement data is of particular relevance, given that individuals referred to specific drug and alcohol treatment services by the justice system make up a considerable proportion of those who receive treatment (Australian Institute of Health and Welfare, 2014).

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Appendix A: Number and rate of offences and unique offenders by drug type, 2006-2016

		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Amphetamine	Offences (n)	1,556	1,967	1,951	1,794	1,576	1,603	2,262	2,640	2,677	2,401	1,288
	Offences (rate)	30.8	38.3	37.3	33.5	28.9	29.0	40.3	46.2	46.0	40.6	21.3
	Offenders (n)	1,352	1,634	1,707	1,545	1,418	1,431	2,007	2,341	2,368	2,148	1,187
	Offenders (rate)	26.8	31.8	32.6	28.9	26.0	25.9	35.8	41.0	40.7	36.3	19.6
Cannabis	Offences (n)	5,502	5,289	5,361	5,591	5,564	5,875	6,566	6,744	7,411	8,394	8,614
	Offences (rate)	109.0	103.0	102.4	104.6	102.2	106.4	117.0	118.1	127.4	141.9	142.3
	Offenders (n)	4,839	4,755	4,773	4,970	5,087	5,294	5,816	5,997	6,571	7,301	7,438
	Offenders (rate)	95.9	92.6	91.2	92.9	93.4	95.9	103.6	105.0	113.0	123.5	122.9
Ecstasy	Offences (n)	542	601	776	814	766	431	518	920	919	1,228	1,244
	Offences (rate)	10.7	11.7	14.8	15.2	14.1	7.8	9.2	16.1	15.8	20.8	20.6
	Offenders (n)	520	556	745	778	722	418	516	881	883	1,169	1,162
	Offenders (rate)	10.3	10.8	14.2	14.5	13.3	7.6	9.2	15.4	15.2	19.8	19.2
Heroin	Offences (n)	1,070	704	818	1,024	1,058	1,017	1,027	951	861	882	977
	Offences (rate)	21.2	13.7	15.6	19.1	19.4	18.4	18.3	16.7	14.8	14.9	16.1
	Offenders (n)	918	627	727	871	911	873	882	827	742	769	842
	Offenders (rate)	18.2	12.2	13.9	16.3	16.7	15.8	15.7	14.5	12.8	13.0	13.9
Methamphetamine	Offences (n)	6	29	149	156	81	138	383	1,096	2,093	3,295	5,886
	Offences (rate)	0.1	0.6	2.8	2.9	1.5	2.5	6.8	19.2	36.0	55.7	97.2
	Offenders (n)	6	29	140	143	79	131	361	987	1,849	2,837	4,724
	Offenders (rate)	0.1	0.6	2.7	2.7	1.5	2.4	6.4	17.3	31.8	48.0	78.0
Other	Offences (n)	157	154	157	206	265	258	290	345	524	823	1,167
	Offences (rate)	3.1	3.0	3.0	3.9	4.9	4.7	5.2	6.0	9.0	13.9	19.3
	Offenders (n)	137	133	146	179	233	230	276	322	463	741	1,030
	Offenders (rate)	2.7	2.6	2.8	3.3	4.3	4.2	4.9	5.6	8.0	12.5	17.0
Prescription drugs	Offences (n)	354	476	743	779	718	926	1,302	1,684	2,217	2,484	2,967
	Offences (rate)	7.0	9.3	14.2	14.6	13.2	16.8	23.2	29.5	38.1	42.0	49.0
	Offenders (n)	231	323	506	542	571	706	921	1,204	1,528	1,549	1,906
	Offenders (rate)	4.6	6.3	9.7	10.1	10.5	12.8	16.4	21.1	26.3	26.2	31.5

Appendix B: Characteristics of offenders by drug type

Amphetamine

Characteristics	Amphetamine offender		Not an amphetamine offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ⁷
10-14	60	0.4	829	1.5	
15-19	2,038	12.8	11,917	21.2	
20-24	4,367	27.4	14,288	25.4	
25-29	3,363	21.1	8,846	15.8	
30-34	2,376	14.9	6,880	12.3	
35-39	1,773	11.1	5,260	9.4	
40-44	1,085	6.8	3,808	6.8	
45-49	534	3.4	2,295	4.1	
50-54	238	1.5	1,207	2.2	
55 and over	120	0.8	849	1.5	
Sex					Not Significant
Male	12,977	81.4	45,375	80.9	
Female	2,964	18.6	10,690	19.1	
Relationship					<.0001 ⁸
Single	9,803	76.1	31,171	79.4	
Partner	3,082	23.9	8,070	20.6	
Employment status					<.0001 ⁹
Employed	8,885	63.3	22,520	51.8	
Student	699	5.0	5,226	12.0	
Unemployed	4,437	31.7	15,694	36.1	

⁷ $\chi^2=1010.3, p<.0001, df=9, \text{Cramer's } V=0.12$

⁸ $\chi^2=65.9, p<.0001, df=1, \text{Cramer's } V=0.04$

⁹ $\chi^2=820.3, p<.0001, df=2, \text{Cramer's } V=0.12$

Cannabis

Characteristics	Cannabis offender		Not a cannabis offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ¹⁰
10-14	845	1.7	44	0.2	
15-19	11,591	23.5	2,364	10.4	
20-24	12,292	24.9	6,363	28.0	
25-29	7,370	14.9	4,839	21.3	
30-34	5,673	11.5	3,583	15.8	
35-39	4,599	9.3	2,434	10.7	
40-44	3,286	6.7	1,607	7.1	
45-49	1,992	4.0	835	3.7	
50-54	1,037	2.1	408	1.8	
55 and over	715	1.5	254	1.1	
Sex					<.0001 ¹¹
Male	40,469	82.0	17,883	78.8	
Female	8,838	18.0	4,822	21.2	
Relationship					<.0001 ¹²
Single	28,166	79.1	12,808	77.5	
Partner	7,442	20.8	3,710	22.5	
Employment status					<.0001 ¹³
Employed	20,420	51.8	10,955	60.8	
Student	4,462	11.3	1,463	8.1	
Unemployed	14,530	36.9	5,601	31.1	

¹⁰ $\chi^2=2377.1, p<.0001, df=9, \text{Cramer's } V=0.18$

¹¹ $\chi^2=111.0, p<.0001, df=1, \text{Cramer's } V=0.04$

¹² $\chi^2=16.3, p<.0001, df=1, \text{Cramer's } V=0.02$

¹³ $\chi^2=423.6, p<.0001, df=2, \text{Cramer's } V=0.09$

Ecstasy

Characteristics	Ecstasy offender		Not an ecstasy offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ¹⁴
10-14	29	0.4	860	1.3	
15-19	1,520	19.5	12,435	19.3	
20-24	2,912	37.4	15,743	24.5	
25-29	1,486	19.1	10,723	16.7	
30-34	828	10.7	8,428	13.1	
35-39	477	6.1	6,556	10.2	
40-44	287	3.7	4,606	7.2	
45-49	156	2.0	2,673	4.2	
50-54	45	0.6	1,400	2.2	
55 and over	37	0.5	932	1.5	
Sex					<.0001 ¹⁵
Male	6,475	83.3	51,887	80.8	
Female	1,295	16.7	12,365	19.2	
Relationship					<.0001 ¹⁶
Single	4,507	81.5	36,467	78.3	
Partner	1,021	18.5	10,131	21.7	
Employment status					<.0001 ¹⁷
Employed	3,915	65.3	27,460	53.4	
Student	649	10.8	5,276	10.3	
Unemployed	1,428	23.8	18,703	36.3	

¹⁴ $\chi^2=1020.1, p<.0001, df=9, \text{Cramer's } V=0.12$

¹⁵ $\chi^2=30.0, p<.0001, df=1, \text{Cramer's } V=-0.02$

¹⁶ $\chi^2=31.5, p<.0001, df=1, \text{Cramer's } V=0.02$

¹⁷ $\chi^2=382.4, p<.0001, df=2, \text{Cramer's } V=0.08$

Heroin

Characteristics	Heroin offender		Not a heroin offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ¹⁸
10-14	11	0.2	878	1.3	
15-19	291	4.5	13,664	20.8	
20-24	1,002	15.4	17,653	26.9	
25-29	1,531	23.5	10,678	16.3	
30-34	1,425	21.9	7,831	11.9	
35-39	1,029	15.8	6,004	9.2	
40-44	639	9.8	4,254	6.5	
45-49	336	5.2	2,493	3.8	
50-54	149	2.3	1,296	2.0	
55 and over	108	1.7	861	1.3	
Sex					<.0001 ¹⁹
Male	5,050	77.5	53,302	81.4	
Female	1,467	22.5	12,193	18.6	
Relationship					<.0001 ²⁰
Single	4,010	74.8	36,964	79.0	
Partner	1,349	25.2	9,803	21.0	
Employment status					<.0001 ²¹
Employed	3,287	53.3	28,088	54.8	
Student	138	2.2	5,857	11.3	
Unemployed	2,741	44.5	17,390	33.9	

¹⁸ $\chi^2=2227.8$, $p<.0001$, $df=9$, Cramer's $V=0.18$

¹⁹ $\chi^2=58.5$, $p<.0001$, $df=1$, Cramer's $V=0.02$

²⁰ $\chi^2=50.7$, $p<.0001$, $df=1$, Cramer's $V=-0.03$

²¹ $\chi^2=613.4$, $p<.0001$, $df=2$, Cramer's $V=0.10$

Methamphetamine

Characteristics	Methamphetamine offender		Not a methamphetamine offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ²²
10-14	46	0.5	843	1.4	
15-19	1,217	12.5	12,738	20.4	
20-24	2,462	25.2	16,193	26.0	
25-29	2,126	21.8	10,083	16.2	
30-34	1,674	17.1	7,582	12.2	
35-39	1,065	10.9	5,968	9.6	
40-44	640	6.6	4,253	6.8	
45-49	334	3.4	2,495	4.0	
50-54	134	1.4	1,311	2.1	
55 and over	71	0.7	898	1.4	
Sex					<.0001 ²³
Male	7,608	77.9	50,744	81.5	
Female	2,154	22.1	11,506	18.5	
Relationship					.0002 ²⁴
Single	6,096	77.0	34,878	78.9	
Partner	1,817	23.0	9,335	21.1	
Employment status					<.0001 ²⁵
Employed	5,086	59.1	26,289	53.8	
Student	408	4.7	5,517	11.3	
Unemployed	3,119	36.2	17,012	34.9	

²² $\chi^2=729.6, p<.0001, df=9, \text{Cramer's } V=0.10$

²³ $\chi^2=70.4, p<.0001, df=1, \text{Cramer's } V=0.03$

²⁴ $\chi^2=13.6, p=.0002, df=1, \text{Cramer's } V=-0.02$

²⁵ $\chi^2=345.9, p<.0001, df=2, \text{Cramer's } V=0.07$

Other

Characteristics	Other offender		Not an other offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ²⁶
10-14	16	0.4	873	1.3	
15-19	569	15.5	13,386	19.6	
20-24	1,113	30.3	17,542	25.6	
25-29	798	21.7	11,411	16.7	
30-34	516	14.0	8,740	12.8	
35-39	316	8.6	6,717	9.8	
40-44	187	5.1	4,706	6.9	
45-49	94	2.6	2,735	4.0	
50-54	42	1.1	1,403	2.1	
55 and over	26	0.7	943	1.4	
Sex					Not Significant
Male	2,993	81.5	55,359	81.0	
Female	680	18.5	12,980	19.1	
Relationship					Not Significant
Single	2,186	79.7	38,788	78.6	
Partner	557	20.3	10,595	21.5	
Employment status					<.0001 ²⁷
Employed	1,902	64.5	29,473	54.1	
Student	215	7.3	5,710	10.5	
Unemployed	831	28.2	19,300	35.4	

²⁶ $\chi^2=201.9, p<.0001, df=9, \text{Cramer's } V=0.05$

²⁷ $\chi^2=124.9, p<.0001, df=2, \text{Cramer's } V=0.05$

Prescription drugs

Characteristics	Prescription drugs offender		Not an prescription drug offender		Significance
	<i>n</i>	%	<i>n</i>	%	
Age group at first offence					<.0001 ²⁸
10-14	51	0.6	836	1.3	
15-19	1,012	12.0	12,943	20.3	
20-24	1,918	22.8	16,737	26.3	
25-29	1,884	22.4	10,325	16.2	
30-34	1,471	17.5	7,785	12.2	
35-39	972	11.5	6,061	9.5	
40-44	602	7.1	4,291	6.7	
45-49	282	3.4	2,547	4.0	
50-54	146	1.7	1,299	2.0	
55 and over	92	1.1	877	1.4	
Sex					<.0001 ²⁹
Male	6,590	78.2	51,762	81.4	
Female	1,834	21.8	11,826	18.7	
Relationship					<.0001 ³⁰
Single	5,421	76.0	35,553	79.0	
Partner	1,714	24.0	9,438	21.0	
Employment status					<.0001 ³¹
Employed	4,593	59.2	26,782	53.9	
Student	296	3.8	5,629	11.3	
Unemployed	2,869	37.0	17,262	34.8	

²⁸ $\chi^2=705.6, p<.0001, df=9, \text{Cramer's } V=0.10$

²⁹ $\chi^2=48.7, p<.0001, df=1, \text{Cramer's } V=0.02$

³⁰ $\chi^2=34.0, p<.0001, df=1, \text{Cramer's } V=-0.03$

³¹ $\chi^2=411.3, p<.0001, df=2, \text{Cramer's } V=0.08$