

Trends & issues

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Foreword | *Offenders with complex drug dependencies involving two or more drug types comprise a substantial proportion of drug court and drug diversion clients, yet evaluation studies have demonstrated that these offenders often have poorer retention rates and higher post-program reoffending rates. Poly drug use also has implications for police and law enforcement agencies, as users are potentially a more diversified group whose varied patterns of use makes them more resilient to illicit drug market fluctuations. For these reasons, understanding the nature and extent of poly drug use, especially among those who come into contact with the criminal justice system, will help agencies develop more targeted programs and policing strategies that seek to minimise the impact of drug use in their communities.*

Using data from Australia's most comprehensive survey of drug use among detainees, the 2009 collection of the Drug Use Monitoring in Australia (DUMA) program, it was shown that nearly a third of detainees reporting using two or more drugs in the 30 days prior to being detained. Cannabis was the primary drug used by 48 percent of detainees, followed by heroin (19%) and amphetamines (17%). Binary logistic models show that poly drug users are almost twice as likely as single drug users to self report the receipt of income from both drug dealing and other illegal sources, irrespective of any differences between frequency and type of drug used.

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Director

Poly drug use among police detainees

Josh Sweeney and Jason Payne

A review of the Australian criminological literature leaves little doubt as to why drug treatment has been integrated as a key component of the Australian criminal justice systems' response to drug dependency among criminal offenders. The Drug Use Monitoring in Australia (DUMA) program, for example, estimated in 2008 that 65 percent of adult offenders detained by the police had tested positive to at least one drug (Gaffney et al. 2010). An even higher proportion self-reported illegal drug use in the past 12 months (67%), while 41 percent self-reported being drug dependent. Similarly, the Drug Use Careers of Offenders (DUCO) project, in its survey of 2,135 adult male prisoners in 2001, found that 81 percent of self-identified regular property offenders, 49 percent of regular violent offenders and 87 percent of regular violent and property offenders were frequent users of at least one illegal drug prior to their incarceration. It was also found that 39 percent of prisoners causally attributed their most serious offence to the use of illegal drugs or alcohol (Makkai & Payne 2003).

In 1999, in response to significant public health concerns, the NSW Government convened a week-long Drug Summit (Swain 1999) which, among other things, reaffirmed an earlier decision made by the state to establish Australia's first Drug Treatment Court in Sydney. Located at the Parramatta District Court house, the NSW Drug Court's aim is (as specified in the *NSW Drug Court Act 1998*) to reduce the dependency of eligible offenders and to promote their successful reintegration back into the community as non-drug users. In doing so, the court specifically seeks to reduce the need of drug dependent persons to support their dependencies through criminal activities. Since then, drug courts or similar programs have been established in almost all Australian states and territories. Together, they form an integral component of the criminal justice system's response to the well-known problem of drug-related crime (Wundersitz 2007).

Despite the apparent success of drug courts, drug diversion programs and intermediate court programs (Wundersitz 2007), dealing with drug use and working with those who have complex drug dependencies remains a difficult challenge for criminal justice practitioners. One particular issue, as noted in several drug court and drug diversion evaluations, is that of poly drug use (ie the use of more than 1 drug type; Costanzo 2003; Freeman 2002).

Offenders with complex drug dependencies involving two or more drug types comprise a substantial proportion of drug court and drug diversion clients; however, evaluation studies have demonstrated that these offenders often have poorer treatment retention rates and higher post-program reoffending rates than offenders who are not poly drug users. In New South Wales, for example, two-thirds of drug court participants were reported as having

used multiple drug types (not including alcohol or tobacco) in the period just prior to their involvement in the program (Freeman 2002). This same group were later found to be two and half times more likely to reoffend than those drug court participants who were predominantly single drug users (Freeman & Donnelly 2005). Similarly, in an evaluation of the NSW Department of Corrections' Drug and Alcohol Addiction and Relapse Prevention Programs, poly drug use was found to be significantly associated with early phase non-compliance. In this study, 73 percent of poly drug users withdrew from treatment before completion (compared with 53% of single drug users) and were significantly less likely to subsequently complete relevant orders of the court (Furby & Kevin 2008).

Notwithstanding the complexities faced by treatment providers, poly drug use also has implications for police and other law enforcement agencies as they work to tackle local drug problems. In particular, poly drug users are potentially a more diversified group of drug users whose varied pattern of use makes them more resilient to illicit drug market fluctuations. Their willingness to use different drugs suggests a pattern of drug use that is more flexible to both long and short-term changes in drug availability, price and purity. Moreover, although not yet well understood, the interaction of poly drug users in local drug markets may provide invaluable information about market dynamics and the interconnectedness of market participants. For example, if it is assumed that poly drug users source multiple different drug types from the same dealer (and evidence is not available to support or contradict this contention), it is possible that those dealers would have access to trafficable quantities of multiple different drug types. In this situation, the local drug market may be more diverse than traditionally believed and law enforcement responses might need to be adjusted to account for such variable market dynamics. Further, the presence of poly drug dealers operating within a large drug market might suggest that the group of people selling drugs is, in fact, smaller than would be the case if all dealers specialised in the sale of just one drug type.

For policy and law enforcement practitioners, research into the nature and extent of poly

drug use, especially among those who come into contact with the criminal justice system is important. Knowing the number of poly drug users, the types of drugs they use and how these patterns differ over time and between jurisdictions will help agencies develop more targeted programs and policing strategies that seek to minimise the impact of drug use in their communities.

Data and methodology

This study utilises data from the 2009 collection of the AIC's Drug Use Monitoring in Australia (DUMA) program. DUMA is Australia's largest and longest running survey-based program that collects information from police detainees at the time of their arrest. It currently operates at nine sites across Australia including Brisbane and Southport in Queensland; Bankstown, Kings Cross and Parramatta in Sydney, New South Wales; Footscray in Melbourne, Victoria; Adelaide in South Australia; East Perth in Western Australia; and Darwin in the Northern Territory. The survey captures information about the use of 10 different drug types (including alcohol) at four different historical time points:

- ever (lifetime);
- in the past 12 months;
- in the past 30 days; and
- in the past 48 hours.

An important and unique feature of the DUMA program is the use of voluntary urinalysis as a tool for validating self-reports of very recent drug use (Makkai 1999). More detailed information about the DUMA data collection methodology is described elsewhere (Makkai 2001). From the nine sites that were operating throughout 2009,

the DUMA program surveyed 3,852 adult police detainees from a total possible sample of 5,709. Of those interviewed, 76 percent voluntarily provided a urine sample.

Results

The extent of poly drug use

Estimating the extent of poly drug use is complicated by the absence of a single definition that governs the phenomenon. In many cases, poly drug use is broadly defined as 'the use of more than one drug' (see AIHW 2005: xviii; EMCDDA 2002: 39), although these more generic definitions leave open to interpretation the specific details that are necessary for operationalising a measure of poly drug use in the context of research, not to mention in criminal justice practice. For example, researching poly drug use requires consideration of the types of drugs that are to be included (or excluded) when identifying poly drug use.

- Should alcohol or other legally prescribed drugs be included?
- Regarding the context of poly drug use, should the use of two or more drugs be simultaneous (on the same occasion), or can it be sequential (1 drug after another over a prolonged period) or even concurrent drug use (both drugs used in the same period but not on the same occasion)?
- Does the quantity or frequency of use matter? Is poly drug use identified only if the behaviour of use is harmful or hazardous and if so, how are these qualitative assessments made (see Curry & Theodorou 2002)?

As mentioned, the DUMA program asks detainees to indicate their use of 10 different

Table 1 Prevalence of poly drug use (%)^a

	Past year	Past 30 days	Past 48 hours
None	31	40	59
One illegal drug	25	31	29
Two illegal drugs	16	15	8
Three illegal drugs	11	7	3
Four illegal drugs	9	4	1
Five or more illegal drugs	8	3	<1
Two or more illegal drugs ^a	44	30	12
Two or more drugs (including alcohol)	63	52	26

a: Percentages may not total 100 due to rounding and the total for 'two or more drugs' may not sum due to rounding

Source: AIC DUMA computer file [2009]

drug types (including alcohol) over four different intervals. Further, where detainees report having used an illegal drug in the past 30 days, the frequency of use is also collected. Here, they are asked to indicate how many days in the last 30 they had used each drug.

Table 1 provides descriptive data for detainees who were interviewed as part of the DUMA program in 2009. It provides estimates of poly drug use (including and excluding alcohol) in the past year, past 30 days and past 48 hours. It illustrates that, not including alcohol:

- nearly half (44%) of interviewed detainees reported using two or more illegal drugs in the past 12 months;
- just under one in three (30%) had used two or more illegal drugs in the past 30 days; and
- one in 10 (12%) had used two or more illegal drugs in the 48 hours preceding their arrest.

If alcohol is also included, the number of poly drug users increases to 63 percent in the past year, 52 percent in the past 30 days and 26 percent in the past 48 hours.

These estimates are calculated as percentages of all detainees interviewed in 2009. However, they can be re-expressed as proportions of the drug-using detainee population. For criminal justice programs targeted at drug offenders, knowing how many drug users are likely to be poly drug users is, perhaps, a more operationally relevant measure as it speaks to the prevalence of poly drug use among those who are likely to be more generically known as drug users in the criminal justice system. The results indicate that, not including alcohol:

- two in three (64%) detainees who had used drugs in the past 12 months had used two or more different types;
- nearly half (49%) of those detainees who had used drugs in the past 30 days had used two or more different types; and
- one in four (29%) detainees who had used drugs in the past 48 hours had used two or more different types.

Most poly drug users reported using just two different drug types; however, a smaller minority reported using three, four or even five different types. For example, of the

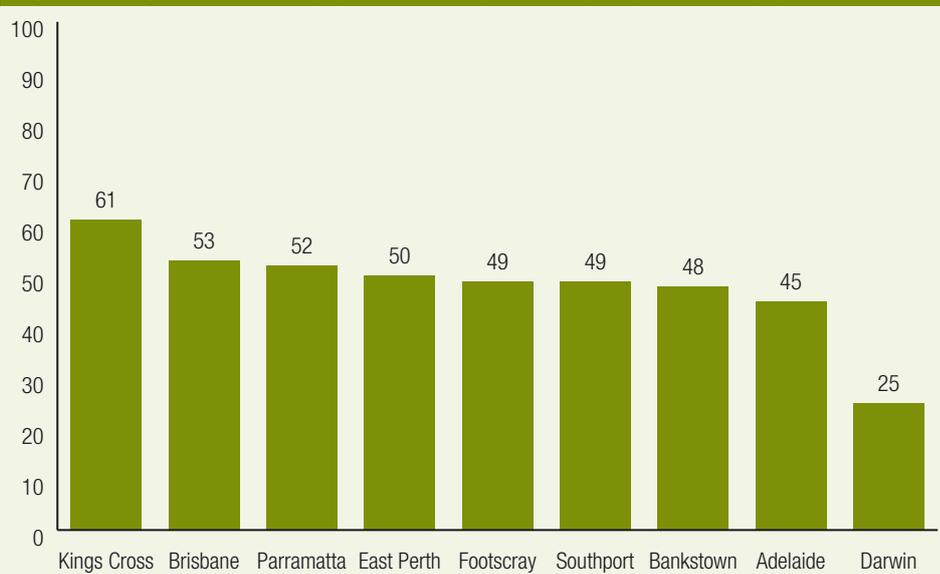
1,139 detainees who had used at least two illegal drugs in the 30 days prior to their arrest, 51 percent had used only two different drug types. Twenty-five percent had used three different drug types, while 14 percent had used four drug types and nine percent had used five or more different types.

The prevalence of poly drug use among self-reported drug users was not consistent across DUMA sites in 2009, with Kings Cross having the highest proportion of poly drug users and Darwin having the lowest (see Figure 1).

Urinalysis from these sites for 2009 further reinforces the heterogeneity of the DUMA sites, with Kings Cross for example having the highest levels of detection of cocaine (27%) and amphetamines (29%), while Darwin has the lowest at zero and six percent respectively (Sweeney & Payne forthcoming).

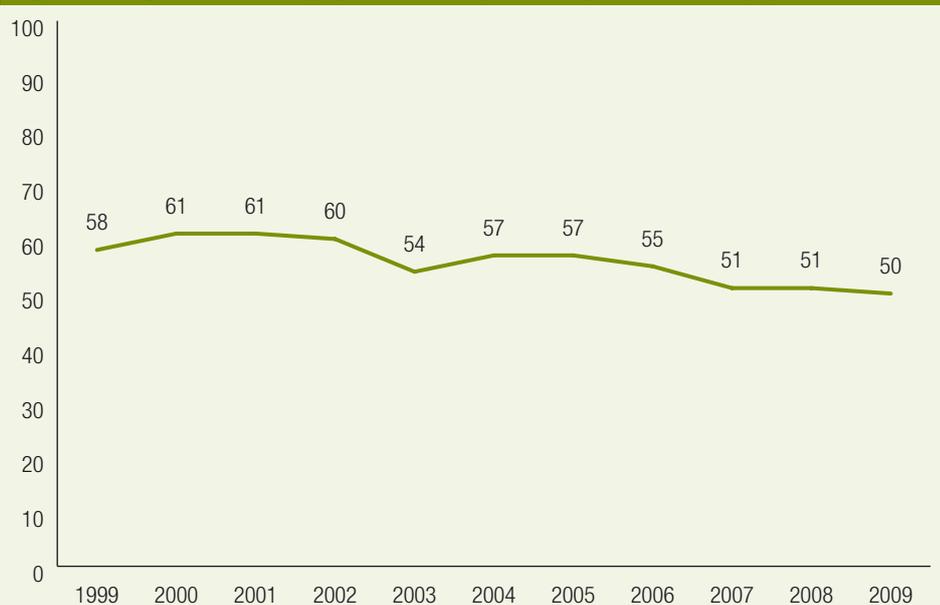
Since DUMA commenced in 1999, the percentage of recent drug users who had used two or more drugs in the past 30 days has decreased from a high of 61 percent in 2000 and 2001 to 50 percent in 2009. One reason for this may be that the detainee population over time has changed, resulting

Figure 1 Drug users who are poly users in the past 30 days, by site, 2009 (%)



Source: AIC DUMA computer file [2009]

Figure 2 Drug users who are poly users in the past 30 days, 1999–2009 (%)^a



a: Combined estimates are for DUMA's 4 original sites only—Bankstown, Parramatta, Southport and East Perth

Source: AIC DUMA computer file [2009]

in a somewhat different drug using population. For example, DUMA detainees in 2008–09 were more likely to be older and being detained for a violent offence than their counterparts in 2000–01.

For consistency, the trend results displayed in Figure 2 are combined for DUMA's four original and longest running sites—Bankstown, Parramatta, Southport and East Perth. Including other sites would inadvertently affect the trend results in years when new sites started or ended.

Poly-drug use combinations by type

The DUMA survey asks detainees to self-report use for nine different drug types. As such, there are a large number of

possible poly drug use combinations. To identify the combinations most frequently reported by detainees, it was necessary to distinguish each offender's primary and secondary drug of choice. In this study, an offender's primary drug was identified as the drug most frequently used in the past 30 days. Where two or more drugs were used at the highest frequency, the most serious drug were identified using a hierarchical classification (heroin, amphetamine, ecstasy, cannabis, other). Similarly, an offender's secondary drug of choice was identified as the drug used most frequently following the primary drug. Again, where an offender used two drugs at the same frequency, the most serious of those drugs was chosen.

Table 2 provides a breakdown of poly drug use combinations according to the detainees' primary and secondary drugs of choice. Cannabis was by far the most commonly recorded drug as the primary drug of choice among poly drug users. Nearly half (48%) of all poly drug users used cannabis more frequently than any other drug type. The next most frequently recorded primary drug was heroin (19%), followed by amphetamine (17%) and other drugs (13%). Taking into account the secondary drug of concern, the data illustrates:

- the most commonly recorded poly drug primary and secondary use combination was cannabis and amphetamine (n=347, 30%), although in the majority of cases, cannabis was used more frequently than amphetamine (n=244);
- one in 10 (n=154, 14%) poly drug users used cannabis and heroin as their primary and secondary drugs of concern;
- cannabis was recorded as either a primary or secondary drug of concern among three-quarters (72%) of poly drug users; and
- the remaining 28 percent of poly drug users most frequently used a combination of drugs that did not include cannabis. The top three non-cannabis combinations included heroin and other drugs (n=120, 11%), amphetamine and other drugs (n=68, 6%) and ecstasy and amphetamine (n=39, 3%). Other drugs include illegally obtained prescription drugs (eg benzodiazepines, other opiates) as well as hallucinogens.

The dominance of cannabis in poly drug use estimates is unsurprising as cannabis is the drug most commonly detected during urinalysis testing (Gaffney et al. 2010). If cannabis is excluded, the estimate of the past 30 day poly drug use declines by 12 percentage points to 18 percent. Therefore, almost one in five offenders in 2009 had used two or more drugs other than cannabis in the 30 days preceding their arrest.

Poly drug use combinations by frequency

Past 30 day poly drug use can also be assessed by the frequency of use. As mentioned, the DUMA survey asks detainees to nominate the number of days for which each drug was used. The responses ranged from one to 30 days for those who reported using each drug type. For the purposes of this paper, frequencies

	n	% primary drug ^a	% overall ^b
Cannabis as a primary drug			
Cannabis/heroin	74	13	6
Cannabis/speed	244	44	21
Cannabis/ecstasy	104	19	9
Cannabis/other	127	23	11
Total	549	100	48
Heroin as a primary drug			
Heroin/cannabis	80	38	7
Heroin/speed	27	13	2
Heroin/ecstasy	4	2	0
Heroin/other	100	47	9
Total	211	100	19
Speed as a primary drug			
Speed/cannabis	103	54	9
Speed/heroin	12	6	1
Speed/ecstasy	34	18	3
Speed/other	42	22	4
Total	191	100	17
Ecstasy as a primary drug			
Ecstasy/cannabis	24	55	2
Ecstasy/speed	12	27	1
Ecstasy/heroin	n/a	n/a	n/a
Ecstasy/other	8	18	1
Total	44	100	4
Other drug as primary drug^c			
Other/cannabis	68	47	6
Other/heroin	20	14	2
Other/speed	26	18	2
Other/ecstasy	21	15	2
Total	144	100	13

a: As a percentage of the number of detainees that used the drug as their primary drug

b: As a percentage of the overall number of detainees that used a combination of drugs

c: Other drug category includes illegally obtained benzodiazepines, other opiates as well as hallucinogens

Source: AIC DUMA computer file [2009]

were collapsed into four categories—less than once a week, one to three days a week, four to five days a week and six to seven days a week. Less than weekly use is indicated where a respondent reported using a drug on three or fewer days in the past 30 days; however, the actual pattern of use over that time is not discernable. For example, an offender who reports using a drug on three days in the past 30 may have either used the drug on three separate days in three separate weeks or they may have used the drug on three consecutive days in one week and then not again for the remainder of the month.

Table 3 presents the frequency of primary and secondary drug use for those 1,139 offenders who in 2009 were using two or more drugs in the 30 days preceding their arrest. The results illustrate that half (n=597, 52%) had been using their primary drug on an almost daily basis (6–7 days per week). A further 15 percent used their primary drug four to five times per week, 20 percent used two to three times per week and 12 percent used once a week or less.

Two out of three poly drug users (n=758, 67%) reported using their secondary drug at a lower frequency than their primary drug. The remaining 33 percent used both drugs at the same frequency. The key results from Table 3 can be summarised as follows:

- 268 poly drug users (24%) used both their primary and secondary drug at moderate or high levels (more than 4 times a week). This equates to seven percent of all offenders who were interviewed in 2009;
- 496 poly drug users (44%) used their primary drug at moderate to high levels and their secondary drug at comparatively low frequencies (less than 3 times a week). This equates to 13 percent of all detainees interviewed;

- 375 poly drug users (33%) used both their primary and secondary drugs at low levels. This equates to 10 percent of all detainees interviewed;
- 547 poly drug users (48%), irrespective of how frequently they used their primary drug, had used their secondary drug no more than three times in the 30 days preceding their arrest (less than once a week).

Demographic and criminal history profile of poly drug users

Comparative analysis across a range of socio-demographic and criminal history data shows a number of key differences between poly drug users and single drug users, as well as across the varying degrees of poly drug use.

First, there is no clear difference between female single drug user and poly drug user groups (see Table 4). However, it is interesting to note that female drug-using offenders have been identified as a key group who, because of a range of issues related to their family and domestic responsibilities, sometimes struggle to actively engage in community-based criminal justice programs with highly onerous reporting and supervision requirements (see Payne 2005 for discussion of this as it relates to drug courts).

There was a modest relationship between poly drug use and age, with high-level poly drug users being younger than single drug users and poly drug users of just two drug types. For example, 64 percent of poly drug users who were using four or more different drug types were under 30 years of age. This is higher than single drug users (57%) and poly drug users of just two drug types (54%).

Poly drug use was less prevalent among Indigenous detainees compared with non-Indigenous detainees, although this may reflect their location more so than their status as an Indigenous Australian. For example, in Darwin, poly drug use was low for both Indigenous and non-Indigenous users; however, in Perth (where the largest number of Indigenous detainees were surveyed in 2009), it was found that Indigenous users were less likely than non-Indigenous users to be poly drug users.

Both unemployment and self-reported gambling showed a modest linear trend with poly drug use—both being more prevalent with higher levels of poly drug use.

Unemployment for example, was reported by 75 percent of those using four or more drug types in the past 30 days. This compares with 63 percent of single drug users. Self-reported gambling was also more prevalent among poly drug users, with as many as 46 percent of those using four or more drug types reporting gambling in the 30 days prior to their arrest.

In terms of prior criminal history, poly drug users were not only more likely to have been charged with an offence in the past 12 months (other than the offences for which they were in custody at the time of interview), but were also more likely to have had a recent history of sentenced imprisonment. In all, 73 percent of those using four or more drug types had been charged in the past 12 months. This was the case for 64 percent of those using three drug types, 67 percent of those using two drug types and 57 percent of those using just one drug type. The rate of prior imprisonment among users of four or more drug types was nearly twice that of single drug users (47% vs 28%).

Linking poly drug use and crime

The findings presented so far have demonstrated that poly drug users are not only more likely to be unemployed and have gambled in the 30 days prior to their arrest, but also more likely to have had recent contact with the criminal justice system. Yet, it is unclear whether being a poly drug user is, in and of itself, a significant factor in producing adverse criminal justice outcomes or whether poly drug use is a proxy for other factors with potentially greater influence.

Table 3 Primary and secondary frequency combinations, 2009 (n)

		Secondary				Total
		Less than once a week ^a	1–3 times a week	4–5 times a week	6–7 times a week	
Primary	Less than once a week ^a	142	–	–	–	142
	1–3 times a week	150	83	–	–	233
	4–5 times a week	71	73	23	–	167
	6–7 times a week	184	168	112	133	597
	Total	547	324	135	133	1,139

a: 'Less than once a week' is 3 or fewer times in the past 30 days

–=not applicable

Source: AIC DUMA computer file [2009]

As has already been demonstrated, poly drug users are not a homogenous group of users—some, for example, are relatively infrequent users of four or more drug types; others are relatively heavy users of two drug types. Moreover, some single drug users, although not poly drug users, nevertheless report using just one drug at higher frequencies than at the rate some poly drug users use all their drugs combined. Add to this a degree of variability in the types of drugs used and it becomes increasingly difficult to identify whether being a poly drug user is an independent factor associated with less favourable outcomes in the criminal justice system.

Understanding the link between poly drug use and crime, therefore, requires multivariate analysis with the capacity to assess the independent contribution of poly drug use while simultaneously controlling for both the frequency and types of drugs used. This analysis enables the identification—irrespective of which drugs are used and how often—of whether being identified as a user of two or more drugs is itself linked to poorer outcomes for poly drug users while on criminal justice programs.

Table 5 presents the results of three separate binary logistic regression models, each separately estimating the following dependent variables:

- self-reported receipt of illegal income (other than through drug dealing) in the 30 days preceding arrest (any illegal income=1, no illegal income=0);
- self-reported receipt of income from drug dealing in the 30 days preceding arrest (money from drug dealing=1, no money from drug dealing=0); and
- self-reported attribution of current offending to drugs (attribution of current offending=1, no attribution=0).

For each model, poly drug users are divided into four separate categories depending on the number of drugs used in the 30 days prior to arrest. As is the case with modelling of this type, one of the four categories (single drug users) is excluded from the model as the reference group. In addition, it controls for the frequency of primary drug use (less than once a week, once or twice a

Table 4 Socio-demographic and crime-related indicators, by poly user type (%)^a

	Single drug user	User of two drugs	User of three drugs	User of four or more drugs
Female	17	17	14	21
Aged under 30 years*	57	54	62	64
Aboriginal/Torres Strait Islander**	24	19	17	16
Unemployed**	63	64	67	75
Gambling (past 30 days)**	33	41	45	46
Charged (past 12 mths)**	57	67	64	73
Prison on sentence (past 12 mths)**	28	35	38	47

a: Differences between drug users are reported as significant at the 0.05 level (*) and 0.01 level (**)

Source: AIC DUMA computer file [2009]

Table 5 Socio-demographic and crime-related indicators, by poly user type (%)^{ab}

	Illegal income (past 30 days)	Drug dealing income (past 30 days)	Attribute current offending to drug use
Poly user type			
Single drug user (reference)	n/a	n/a	n/a
User of two drugs	0.30	0.26	0.25
User of three drugs	0.47*	0.45	0.27
User of four or more drugs	0.67**	0.66*	-0.37
Frequency of primary drug use			
Less than once a week (reference)	n/a	n/a	n/a
One to two times per week	0.50	-0.27	0.21
Three to four times per week	1.08**	0.98**	1.02**
Five or more times per week	1.09**	1.45**	1.18**
Drug types			
Heroin	1.05**	0.81**	1.61**
Amphetamine	0.29	0.79**	0.88**
Model diagnostics			
n	2,061	2,061	1,071 ^a
Pseudo R2	0.11	0.16	0.16
Hosmer and Lemeshow	0.51	0.25	0.08
AUC	0.74	0.78	0.76

a: Sample is for Quarters 3 and 4 of 2009 only

b: Differences between drug users are reported as significant at the 0.05 level (*) and 0.01 level (**)

Source: AIC DUMA computer file [2009]

week, 3 or 4 times a week, 5 or more times a week) and the types of drugs used (heroin and amphetamine) by each detainee are included.

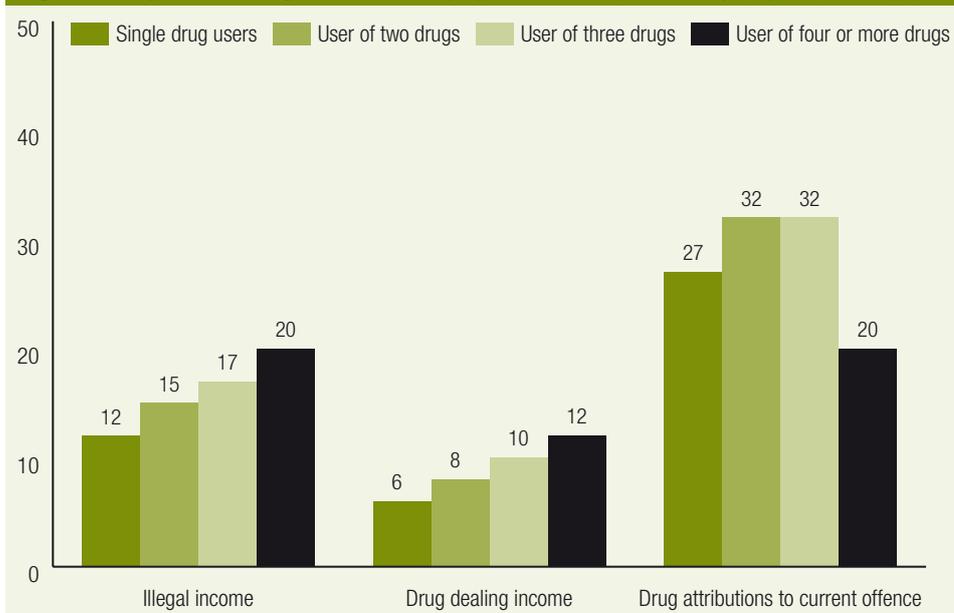
Each model provided a good fit to the data, having a non-significant Hosmer and Lemeshow test ($p=0.51$, $p=0.25$, $p=0.08$, respectively) and an acceptable Receiver Operator Curve estimate (0.74, 0.78 and 0.76 respectively). The latter is a test of the extent to which each of the three statistical models successfully discriminate their dependent variable while minimising false positive and false negative predictions.

Values between 0.70 and 0.80 are considered acceptable in social science research (Hosmer & Lemeshow 2000).

Finally, a graphical depiction of the predicted probabilities for each model is presented in Figure 3. The probabilities are shown for each of the four user groups, holding constant the frequency and types of drugs used between each group.

The results of the modelling illustrate a number of important findings. First, poly drug users of three or more drug types are statistically more likely than single drug users to self report the receipt of income

Figure 3 Proportion of drug users who are poly users in the past 30 days, by site, 2009 (%)



Source: AIC DUMA computer file [2009]

from both drug dealing and other illegal sources, irrespective of any other differences between the groups in the frequency and types of drugs used. The predicted probabilities illustrate this clearly, with self-reported receipt of illegal income and drug dealing income increasing linearly with the number of drug types used. In fact, poly drug users of four or more drugs were approximately twice as likely to be receiving illegal income (20% vs 12%) and drug dealing income (12% vs 6%) than single drug users.

Second, poly drug users were no more or less likely than single drug users to attribute their current offending to drug use. This suggests that the frequency of primary drug use and the types of drugs used were more important in distinguishing offenders who believed their current offending was drug related.

Finally, in all models, the frequency of primary drug use and the types of drugs used were also statistically significant predictors of the self-reported receipt of illegal and drug dealing income. Although these controls did not nullify the impact of poly drug use as an independent predictor, they did serve to reduce its overall power in the model. This suggests that poly drug using behaviour should not be considered in isolation and that both the frequency and types of drugs used by offenders also play

an important role in affecting their involvement in drug-related crime.

Conclusion

Poly drug use represents a difficult challenge for policymakers and practitioners in the criminal justice and law enforcement sectors. Not only are these users at greater risk of failing to comply with the conditions of court-imposed supervision and corrections orders (see Freeman & Donnelly 2005), but they are also likely to face more significant and adverse health problems than those who use just one drug type (see Kedia, Sell & Relyea 2007). Yet despite this, detailed research focused specifically on the prevalence of poly drug use (separate from drug use generally) and the links to criminal offending has been limited.

This paper examined information collected from nearly 4,000 police detainees surveyed in 2009 as part of the AIC's DUMA program. As Australia's longest running and most comprehensive survey of criminal offenders, the DUMA program provides a unique opportunity to explore poly drug use in greater detail than previously possible.

Perhaps the most important, but least surprising finding from this study is that the prevalence of poly drug use varies depending on how it is defined and calculated. Prevalence estimates are higher

when multiple drug use is calculated across a greater number of drug types (including alcohol and prescription drugs) and over a longer period of time. Although a somewhat intuitive finding, this nevertheless underscores the need for greater consistency in definitions of poly drug use, and in particular, definitions that are operationally relevant to criminal justice practitioners who work with and supervise drug dependent offenders.

Overall, using information across nine drug types (including the illegal use of prescription drugs), it is estimated that 44 percent of detainees had used two or more different drug types in the 12 months prior to their arrest; 30 percent had used two or more drug types in the past 30 days and 12 percent were recent poly drug users, having used two or more different drug types in the 48 hours before their arrest. Moreover, the rates of poly drug use appear to have declined over the past 10 years and its prevalence varies significantly between locations. This longitudinal decrease in the prevalence of poly drug use is likely to be a consequence of shifts in the demographic and offending profile of those detained and surveyed. In 2008–09 for example, DUMA detainees were generally older and more likely to be detained for violent offences than their counterparts in 2000–01.

Detailed analysis shows few demographic differences between poly drug users and single drug users, with the exception that poly drug users (in particular, those who were using 4 or more drugs in the past 30 days) had greater contact with the criminal justice system and were more likely to be unemployed and have gambled in 30 days before their arrest. Although these indicators are limited, this evidence suggests that poly drug users are faced, to a larger extent, with a range of other situational and personal factors that may further affect their ability to engage successfully in criminal justice orders, such as court-mandated treatment and education programs. For service and program providers in the criminal justice sector, it is important to recognise that poly drug users have a range of complex needs not limited to personal drug use patterns. Success in treatment and rehabilitation should, therefore, seek to address these diverse needs.

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Multivariate analysis was used to identify whether poly drug use remained a significant factor affecting criminal offending once both the frequency and type of drug had been accounted for (2 factors also frequently linked to higher levels of offending). The results confirmed that poly drug users were more likely to self-report obtaining illegal and drug dealing income in the past 30 days; a finding that suggests being engaged in multiple drug markets, having contact with multiple drug dealers and potentially liaising with multiple drug users is an important independent risk factor associated with comparatively high levels of criminal involvement. That poly drug users self-report higher levels of criminal income and drug dealing suggests that, irrespective of how frequently they use, their engagement with multiple drug markets may promote a wider association with criminal and other drug using peers, including potentially organised criminal networks. Although more research is needed to better understand these networks, this interconnectedness may nevertheless help to explain why poly drug users have greater difficulty successfully engaging in justice- and treatment-based interventions that promote a change in peer and social networks.

Finally, despite this comprehensive review of the DUMA data, there remain a number of areas requiring further investigation. In particular, there is little by way of data that helps to explain the reasons why some users use two or more drugs while others do not. Although often considered more serious than single drug use, it is still unclear whether poly drug use represents a real difference to the degree of seriousness of drug use, or whether it reflects environmental or social factors, such as poly-drug availability or the extent of use among peer groups. Answering these questions are key to better understanding poly drug use and its impact on the criminal justice system.

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