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Drug use monitoring in Australia: An expansion into the Pilbara

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Trends & issues

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Foreword | *The link between the use of alcohol, other drugs and crime continues to be a concern in communities throughout Australia. In regional Western Australia, little is known about the patterns of substance use and crime. In an attempt to better understand a regional offending population and their alcohol and drug use, the Australian Institute of Criminology's Drug Use Monitoring in Australia (DUMA) project was utilised to collect such data in the Pilbara region of Western Australia.*

In South Hedland (regional Western Australia), 51 police detainees were interviewed and compared with a sample of 209 Perth (metropolitan Western Australia) detainees. The findings indicated that while illicit drug use among those interviewed in a regional setting was significantly lower across most drug types, alcohol use was higher. Of particular concern were the levels of risky drinking reported by South Hedland detainees and their assertion that alcohol contributed to their current detention. These findings are important in providing a better picture of alcohol and drug use in a regional population and will assist in shaping prevention and response strategies.

Chris Dawson APM

Drug Use Monitoring in Australia: An expansion into the Pilbara

Dr Natalie Gately, Suzanne Ellis and Dr Robyn Morris

The relationship between alcohol, illicit drugs and offending is complex and dynamic. Substance misuse both nationally and internationally has been found to be prevalent in detained populations (Bennett & Holloway 2007; Pernanen, Cousineau, Brochu & Sun 2002; Sweeney & Payne 2012). With the cost of crime in Australia estimated to be \$36 billion per annum (AIC 2009), it is important to establish some of the links that, if addressed, may reduce the level of commissions of crime and increase the wellbeing of Australians.

The drug/crime nexus refers to the relationship between drug misuse and criminal behaviour (Bennett & Holloway 2007). Goldstein's (1985) tripartite model has been used to explain the drug/crime nexus, as well as the interaction between key players in the illicit drug market. The model incorporated three main types of crime—psychopharmacological crime, economic-compulsive crime and systemic violent crime (Goldstein 1985).

The psychopharmacological model suggests antisocial and criminal behaviour occurs as a result of intoxication; the economic-compulsive model suggests crime occurs as a result of the need to support a drug habit; and the systemic model explains crime through engagement in drug markets such as the use or supply of illicit substances (Goldstein 1985; Pernanen, Cousineau, Brochu & Sun 2002). Boyum and Kleinman (2003) supported these three main links between crime and drug use, indicating that behaviour is affected initially by intoxication—usually from drug use. Intoxication can then be linked to the type of criminal behaviour that occurs from the weakening of self-control, inhibitions and foresight. These effects spill over and impair behaviour.

Second, drug use can increase the need to obtain money to finance illicit drugs and/or to pay off drug debts, usually by theft and other immediate methods of gaining cash. Therefore, regular or dependent illicit drug users may commit crime to obtain money and property to buy illicit drugs, particularly in times of diminished ability to sustain regular employment (Boyum & Kleinman 2003). The third component relates to the involvement of the illicit drug market and the potential for violence to occur between buyers and sellers.



However, these models do not occur in isolation and can overlap: crime can occur both as a result of intoxication and from a need to support a drug habit (Collins & Lapsley 2008). When outlining strategies for dealing with the 'war on drugs', government agencies refer to and utilise this drug/crime nexus. From this, three general phases in drug policies have emerged—supply reduction, demand reduction and, more recently, harm reduction. These strategies rely on timely and empirical research such as data supplied by the Australian Institute of Criminology (AIC) Drug Use Monitoring in Australia (DUMA) project.

The DUMA program regularly collects data on the drug/crime nexus and is the only national research strategy aimed at exploring the interconnections between drugs and offending behaviour among detainees. The East Perth watch house in Western Australia was selected as an inaugural DUMA data collection site with data collected since 1999. This has provided invaluable data for police and other stakeholders in Western Australia on the detained population for more than 15 years. However, little is known about the drug/crime nexus in regional sites. In this paper, the findings are presented of a trial of the DUMA program in a new non-metropolitan site to develop a better understanding of 'drug-related' crime and its perpetrators in regional Western Australia.

Regional Western Australia

Demographics

Western Australia has a population of more than 2.2 million people. The population is spread over a vast area; however, more than 1.7 million people live in Greater Perth, with just more than 500,000 living in the rest of Western Australia (ABS 2013). People of Aboriginal and Torres Strait Islander (ATSI) descent constitute 3.1 percent of the total population (ABS 2011). However, while most non-Indigenous people live in major cities and the Perth metropolitan area, 69 percent of the Indigenous populace lives in inner and outer regional, remote or very remote areas. The Pilbara has a resident population of approximately 48,610, with ATSI people representing 16 percent

(approximately 7,830) of this population (WA Country Health Service 2012).

Given the geographic and demographic differences, it is necessary to explore whether alcohol and other drugs impact in the same way on crime in regional Western Australia as reported in the metropolitan area. Although it would be misleading to treat all rural regions as homogenous (CRC 1997), the Pilbara offers a unique insight into a remote but populated regional area.

Crime

State crime statistics indicate that from 2004 to 2005, the total number of arrests in Western Australia increased by 6.1 percent (Loh et al. 2007). In addition, 44 percent of all arrests in 2005 occurred outside the metropolitan area (Loh et al. 2007). When this is considered in relation to the population differences, these statistics are surprising, as less than one-quarter of the population lives in regional areas. The Pilbara region has a crime rate reflective of these arrest rates—the Perth region recorded only 2.7 times more offences than the Pilbara in 2011–12, despite having a population 38.4 times greater (Western Australia Police 2012). In essence, this shows the extent of the problem of crime in the Pilbara despite its remote location and substantially smaller population. It is also important to note that Indigenous arrests have continually increased at a rate disproportionate to their component of the general population. In 2005, figures in Western Australia showed that Indigenous people were arrested at a rate of 8.1 times that of non-Indigenous people (Loh et al. 2007).

The higher crime figures in the Perth metropolitan area are expected due to the demographic differences. However, it has been acknowledged that regional locations are unique and complex, with distinct patterns of drug use and offending behaviour in particular (Carcach 2000; Morgan, Fernandez & Ferrante 1999). These patterns can be attributed to differences in factors such as geographical location, demographics, economic circumstances and social or cultural dynamics. Consequently, recent population increases in regional areas arguably mean that there are more people to commit offences. In the Pilbara, there was

an increase in population of 3.1 percent, making it the third-fastest growing region in Western Australia between 2008 and 2009 (ABS 2010). The growing population could explain the higher levels of detected drug offences in the Pilbara, suggesting the need for further research in the region to investigate and understand the increase. This information can inform local stakeholders and provide strategic intelligence to the region's police. The Pilbara's detected drug crimes have had a small but steady increase in the past 10 years (Western Australia Police 2012). Reported assaults related to alcohol—both domestic and non-domestic—were also considerably higher in the Pilbara than in Western Australia as a whole (DAO 2013). The number of reported domestic assault offences that were alcohol related for the reporting periods from 2005–06 to 2010–11 accounted for just more than three-quarters (76.8%) of all reported domestic assaults in the Pilbara compared with just more than half (51.4%) for Western Australia overall.

Correspondingly, in the same period, reported non-domestic assaults linked to alcohol were just more than half (53.6%) for the Pilbara compared with just more than one-third (38.6%) for Western Australia overall (DAO 2013). The Pilbara has a higher rate of reported assaults than Western Australia as a whole. Assaults relating to alcohol have an effect on both police and health service providers due to their nature. It is therefore important to study regional alcohol use and its consequent effects on crime to inform these bodies to allow for better provision of services.

The relationship between drugs and crime has been well established; however, further investigation into a regional setting in Western Australia was required. The AIC's DUMA program provided an established methodology with consistently reliable results. Therefore, given the success of the project in producing findings related to metropolitan populations, it was deemed an appropriate method to investigate alcohol use and other patterns of drug use in a regional setting in Western Australia.

Present study

The South Hedland Police Station in the Pilbara region of northwest Western

Australia was utilised for the first regional WA data collection. The research was guided by the following aims:

- to establish the demographic characteristics and patterns of crime, drug and alcohol use in the detained population in South Hedland; and
- to identify the socioeconomic and geographical differences in drug use and crime patterns between South Hedland and metropolitan sites to inform police and health resource allocation.

Methodology

Procedure

Police detainees were administered the DUMA questionnaire in a private room in the South Hedland Police Station and East Perth watch house (Perth metropolitan) after informed consent had been gained. Detainees were not interviewed if they were deemed violent or unpredictable; declined to participate; were taken to court or detention or released before an interview could be conducted; could not understand English; had been detained for more than 48 hours; or were juvenile offenders

(under 18 years old). Detainees were offered a drink of water and a snack; no other incentives were offered. Collection procedures were followed consistently at both sites.

Survey

The data analysed in this project were obtained from the DUMA questionnaire administered in South Hedland in mid 2013 and from the fourth quarter of the 2012 collection in the East Perth watch house. Current offence, demographics, and licit and illicit drug use information were collected as standard.

Sample

Overall, 260 detainees were interviewed across both sites (51 in South Hedland and 209 in East Perth). A total of 66 detainees were eligible for interview at the South Hedland Police Station during the four-week collection period. Of those, 51 (77.2%) South Hedland adult detainees were interviewed. A total of 245 detainees were eligible for interview at the East Perth watch house during the four-week collection period. Of those, 209 (85.3%) Perth metropolitan adult detainees were interviewed.

Demographics

It was established that the South Hedland profile of detainee was likely to be male, ATSI, aged 32 years (M=31.94, SD=9.57), had completed Year 10 or less of schooling, was in a marital or de facto relationship, and lived in someone's house or apartment that had been provided by Homeswest/the housing commission. These detainees were more likely not to have dependent children and were likely to be unemployed.

In the case of the Perth metropolitan detainees, it was established that the profile of the average detainee was also likely to be male, 30 years old (M=30.3, SD=9.55), had completed year 10 or less of schooling, was single, and lived in a house or apartment that they privately owned or rented. These detainees were also more likely not to have any dependent children and were likely to be unemployed.

The two groups did not differ significantly on gender, age, level of education attained, number of dependent children or work status. However, they did differ significantly on marital status, residence and ethnicity.

Characteristics	South Hedland regional	Perth metropolitan	Test statistic ^a	DF	p-value ^b
ATSI status***	More likely to identify as ATSI² 76.5% ATSI origin	31.6% ATSI origin	$\chi^2 = 71.46$	3	$p < .001$
Marital status***	Significantly more likely to be in a marital or defacto relationship 35.3% single/never married 47% defacto/married	56.9% single/never married 35.4% defacto/married	FET value = 24.390		FET $p < .001$
Type of residence***	Significantly fewer own/rent their own homes Significantly more likely to live in 'other' locations 21.6% live in house they own or rent 49.0% live at the home of another person 23.5% live in other household locations (e.g. bush camps, caravan parks)	44.5% live in house they own or rent 41.1% live at the home of another person 3.8% live in other household locations (e.g. bush camps, caravan parks)	FET value = 31.586		FET $p < .001$
	Significantly more likely to reside in Homeswest/Housing Commission homes 64.9% live in public housing	37.0% live in public housing	$\chi^2 = 9.87$	1	$p = .002$

Source: AIC, DUMA collection 2012:2013 [computer file]

a: Pearson Chi-square test statistic value and p-value are reported for the categorical demographic variables where the underlying assumptions for this test were upheld. Where the assumptions for a Pearson Chi-square test were contravened the value for the Fisher's exact test of independence (FET) and its associated p-value are reported.

*** = $p < .001$ denotes a significant difference

** = $p < .01$

Results

Alcohol

There was no significant difference between the sites for the age of alcohol initiation. Most detainees had tried alcohol and of those who had reported 'ever trying' alcohol, most had obtained it before the legal age for alcohol consumption (South Hedland M=15.1 years; Perth metropolitan M=14.1 years). This finding is similar to research that has investigated alcohol consumption patterns among the general Australian population (AIHW 2010). Although the results were not significantly different, on average, the Perth metropolitan group had tried alcohol at a slightly younger age. However, the South Hedland regional participants reported 'risky' drinking behaviours at a slightly younger age—

consuming five (for males) and three (for females) or more drinks on the same day.

The South Hedland regional sample (66%) was significantly more likely to have consumed alcohol in the previous 48 hours than the Perth metropolitan sample (46.9%). The chi-square test of independence revealed a weak but statistically significant association between detainee location and having consumed alcohol within the past 48 hours ($\chi^2(1df; n=259)=5.90; p=0.018; \Phi=0.151$).

The mean number of days alcohol was consumed in the past 30 days was significantly higher in the South Hedland sample (M=13.48, SD=12.41) than the Perth metropolitan sample (M=8.24, SD=9.96) ($t(1:204)=-2.30, p=0.022$). Table 2 summarises the overall historical pattern

of use of alcohol by the two samples of detainees.

The type of alcohol consumed was also considered. The South Hedland sample consumed beer more than other alcoholic beverages, whereas the Perth metropolitan group commonly reported consuming spirits the last time they drank. However, more than one-fifth at both sites reported drinking more than one type of alcoholic beverage the last time they drank (South Hedland 25% and Perth metropolitan 20.1%). Further, of all the detainees, just six Perth metropolitan (no South Hedland detainees) reported drinking mid-strength beer the last time they consumed alcohol, with no detainee at either site reporting consumption of light-strength beer. The type of alcohol reportedly consumed by detainees the last time 'they drank' is summarised in Table 3 and Figure 1.

Table 2 Summary of the historic use of alcohol by detainees

	Ever Tried	Age first tried	Age of first excessive use ^a	Used in last 12 months	Days used in last 30 days (mean)	Last 48 hours
South Hedland	98%	15.1 ^b (3.09)	15.7 (2.77)	89.1%	13.5 days (12.41)	66%
Perth Metro	98%	14.1 (3.14)	15.5 (3.33)	78.6%	8.2 days (9.96)	46.9%
Ratio (SH:M)	1:1	1.07	1.01	1.13	1.65	1.41
					*	*

^a Participants were asked when they first consumed more than the recommended daily amount of alcohol (5 standard drinks for males and 3 standard drinks for females).

^b Mean ages excluding extreme cases. It is worth noting that the age distribution was fairly strongly skewed and this was attributable to three extreme cases, which when removed from the comparative age analysis, changed a significant mean age to a marginally non-significant mean age for first drinking alcohol.

* indicates a statistically significant difference

Figure 1 Alcohol consumed

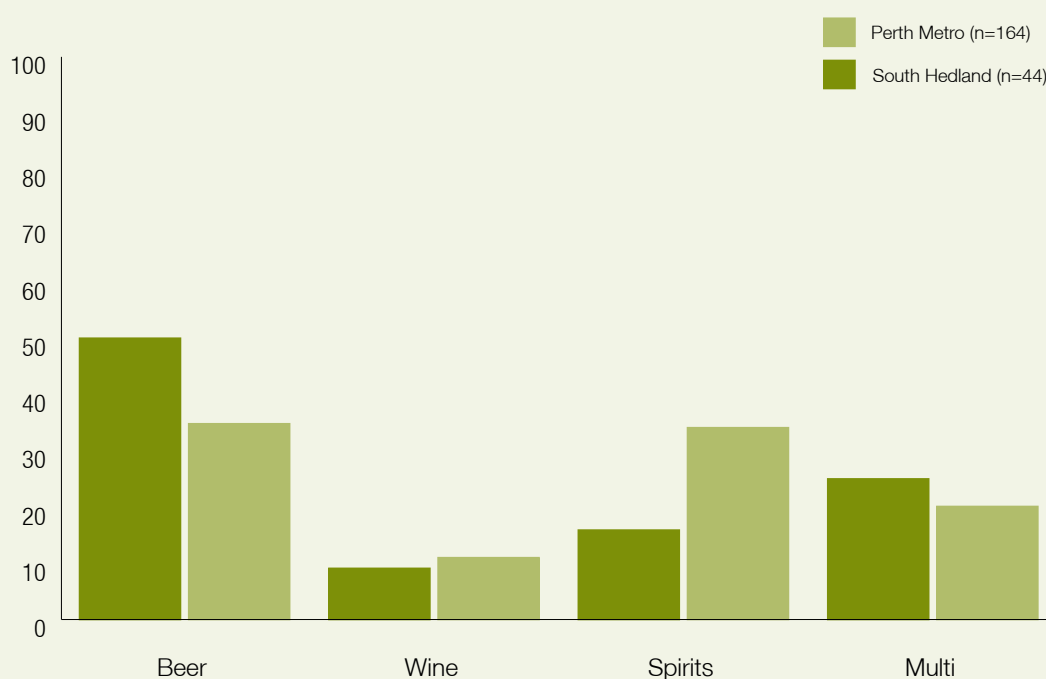


Table 3 Summary of overall alcohol and illicit drug use

	Ever Tried	Average age first trieda	Average age of first excessive useb	Used in last 12 months	Average days used in last 30 days (mean)c	Felt Dependent last 12 months	Used in last 48 hours
Cannabis							
South Hedland	52.9%*	15.4 (2.44)	15.7 (2.70)	33.3%*	4.7* days (10.31)	11.8%*	15.7%*
	n = 27	n = 26	n = 18	n = 17	n = 50	n = 51	n = 8
Perth Metro	88.5%	14.4 (3.24)	15.1 (3.18)	60.6%	9.3 days (12.43)	32.5%	34.9%
	n = 185	n = 184	n = 142	n = 126	n = 209	n = 209	n = 73
Amphetamine Type Substances (ATS/Speed)							
South Hedland	25.5%*	18.1 (4.27)	17.5 (5.32)	9.8%*	1.1* days (5.49)	2%*	3.9%*
	n = 13	n = 13	n = 6	n = 5	n = 51	n = 51	n = 2
Perth Metro	69.9%	18.2 (4.25)	19.6 (5.73)	43.5%	3.7 days (7.97)	17.2%	15.9%
	n = 146	n = 145	n = 105	n = 91	n = 208	n = 209	n = 53
Ecstasy							
South Hedland	17.5%*	19.4 (4.53)	20.3 (2.52)	2.0%*	0* days (0.00)	0%	0%
	n = 9	n = 9	n = 3	n = 1	n = 51	n = 51	n = 0
Perth Metro	53.1%	19.5 (5.10)	21.4 (7.26)	15.9%	0.05 days (0.27)	1%	1%
	n = 111	n = 109	n = 122	n = 33	n = 207	n = 207	n = 2

Heroin							
South Hedland	7.8%*	23.7 (4.16)	25.0 (-)	0%	0* days (0.00)	0%	0%
	n = 4	n = 3	n = 1	n = 0	n = 50	n = 50	n = 0
Perth Metro	22.6%	20.0 (4.57)	22.3 (6.08)	6.3%	0.64 days (4.01)	4.3%	2.4%
	n = 47	n = 46	n = 26	n = 13	n = 208	n = 208	n = 5
Cocaine							
South Hedland	17.6%*	19.7 (4.56)	21.5 (3.54)	3.9%	0.02 days (0.14)	0%	0%
	n = 9	n = 9	n = 2	n = 2	n = 51	n = 51	n = 0
Perth Metro	34%	21.9 (6.22)	23.9 (6.67)	8.1%	0.03 days (0.21)	0.5%	0%
	n = 71	n = 71	n = 11	n = 17	n = 208	n = 209	n = 0
Opiates							
South Hedland	3.9%*	21.0 (5.66)	- (-)	0%	0* days (0.00)	0%	0%
	n = 2	n = 2	n = 0	n = 0	n = 51	n = 51	n = 0
Perth Metro	21.5%	23.3 (6.06)	25.1 (6.66)	7.2%**	0.43 days (3.06)	2.9%	1.4%
	n = 45	n = 44	n = 22	n = 15	n = 209	n = 209	n = 3
Hallucinogens							
South Hedland	13.7%*	18.9 (1.57)	18 (-)	5.9%	0.02 days (0.14)	0%	0%
	n = 7	n = 7	n = 1	n = 3	n = 51	n = 51	n = 0
Perth Metro	38.8%	18.1 (3.87)	17.3 (2.34)	7.7%	0.04 days (0.26)	1%	0.5%
	n = 81	n = 78	n = 18	n = 16	n = 209	n = 209	n = 0
Illegal Benzodiazepines							
South Hedland	7.8%*	21.8 (3.86)	- (-)	3.9%	0* days (0.00)	2%	0%
	n = 4	n = 4	n = 0	n = 2	n = 51	n = 51	n = 0
Perth Metro	21.5%	22.1 (6.92)	20.9 (5.50)	10.6%	0.22 (1.19)	2.4%	3.8%
	n = 45	n = 43	n = 19	n = 22	n = 208	n = 208	n = 8
Inhalants							
South Hedland	5.9%	16.7 (3.22)	- (-)	2.0%	0.08 days (0.56)	2%	2%
	n = 3	n = 3	n = 0	n = 1	n = 51	n = 51	n = 1
Perth Metro	12.5%	16.0 (6.33)	16.4 (7.47)	2.9%	0.29 days (2.94)	1.4%	1.4%
	n = 26	n = 23	n = 15	n = 6	n = 207	n = 208	n = 3

Source: AIC, DUMA collection 2012:2013 [computer file]

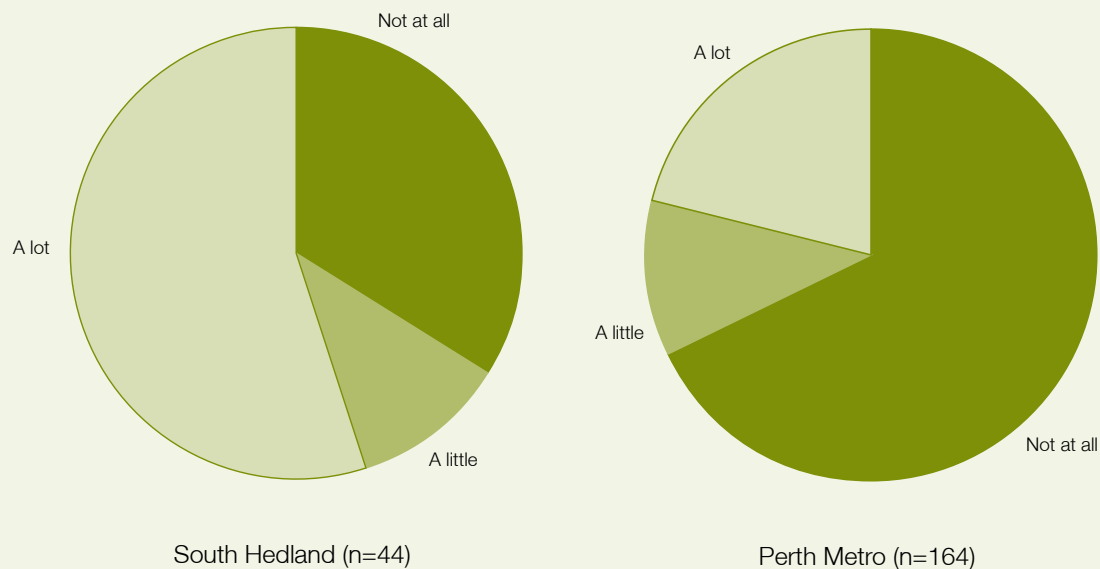
a Only asked those participants who had reported 'ever tried'

b for drugs, participants were asked when they first used the drugs three or more times a week

c Detainees not using the drug have been coded as zero days so the average days used in the last 30 days is for the full samples of regional and metropolitan participants.

* indicates a statistically significant difference

Figure 2 Contribution of alcohol to detention



Detainees were asked to indicate to what extent they believed that alcohol contributed to the main reason they were being detained. Detainees differed significantly on this question. Indeed, while 31 percent of the Perth metropolitan sample felt that alcohol had contributed 'a little' or 'a lot' to their offending, this figure rose to 66 percent for the South Hedland sample ($\chi^2(2df; n=208)=20.88; p<0.001; \Phi=0.317$), as indicated in Figure 2. This shows a moderately strong association between detainee location and how much alcohol is perceived as contributing to their current detention.

In summary, the findings indicate that the Perth metropolitan and South Hedland samples do not differ significantly in terms of the age they first tried alcohol, age of first excessive consumption or excessive use in the past year. However, they do differ significantly on—alcohol use in the past 48 hours; the frequency, quantity and type of alcohol consumed; the last place of consumption; and the level of

attribution of alcohol as a cause for their current detention.

Illicit drugs

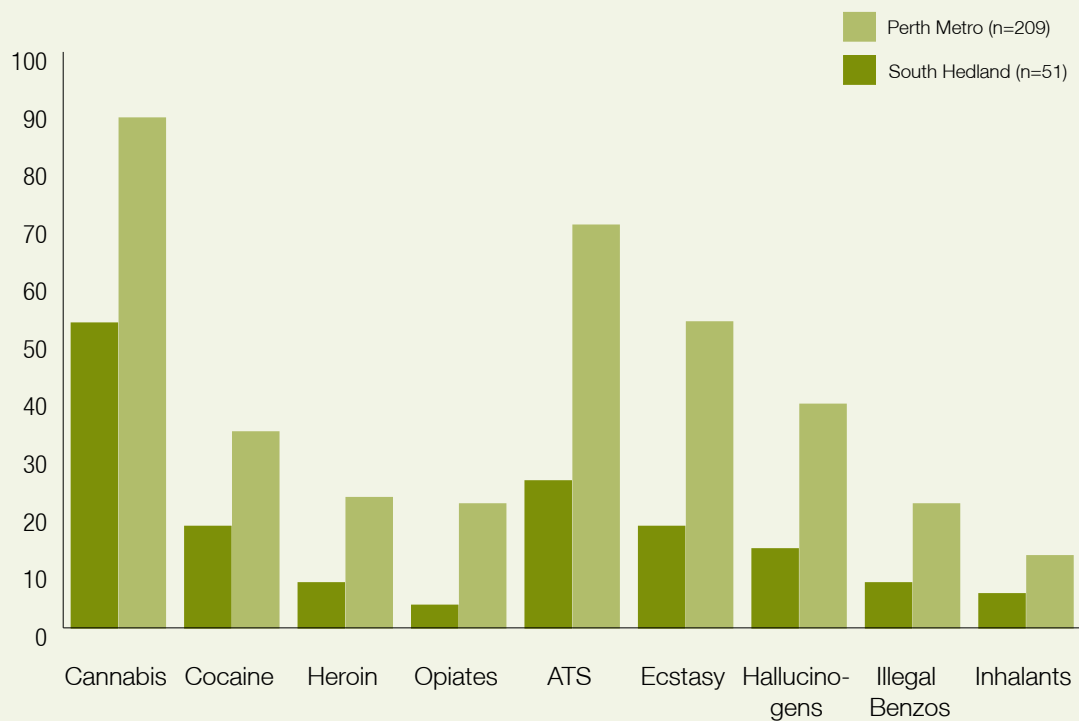
To determine the types and prevalence of illicit substance use that warranted further investigation, the detainees were initially asked if they had 'ever tried' nine different types of illicit drugs (see Figure 3). Just more than half of the 51 South Hedland regional detainees (53%) had tried cannabis, approximately one-quarter (26%) had tried amphetamine-type substances (ATS) and nearly one-fifth had tried cocaine and ecstasy (both 18%). Only small percentages of the regional detainees had ever tried the other five illicit substances (4–14%).

A series of Chi-square tests revealed that a significantly lower proportion of detainees from the regional site had ever used eight of the nine illicit substances. Inhalants were the only exception; however, only a small percentage of both samples reported they had 'ever tried' this drug (see Table 3). Overall, the results indicated that Perth

metropolitan detainees were between two and six times more likely than South Hedland regional detainees to have 'ever tried' all the illicit drug types investigated except inhalants.

It was found that the South Hedland and Perth metropolitan samples did not differ significantly in terms of the age they first tried or used frequently (three or more times a week) illicit drugs and how much they believed the drug had contributed to their current detention. However, South Hedland regional detainees were significantly less likely to have—ever tried all categories of drugs excluding inhalants, or used cannabis and ATS in the past 12 months and past 48 hours. The Perth metropolitan sample was also significantly more likely than the South Hedland regional detainees to have used more frequently within the past 30 days, and to feel dependent on cannabis and ATS. Licit prescription drugs and over-the-counter medications were also less likely to be used by South Hedland regional detainees.

Figure 3 Types of drug 'ever tried'



Offence

The findings indicate that most of the detainees in both samples were being detained for offences against justice procedures such as breaches of bail and restraining orders, and against government securities or operations (ABS 1997) (South Hedland n=27, 55.1%; Perth metropolitan n=137, 67%). To investigate the type of crime behind the breach detention, the last offence was substituted to reveal the type of crimes that the detainee had originally been charged with. This clarification indicated that nearly one-third (30%) of South Hedland detainees had been charged with committing acts to cause injury (compared with 12.6% of Perth metropolitan detainees), break and enter crimes (8% cf. 3.9%) and public order offences (18% cf. 5.3%).

Overall, it was not possible to determine whether the observed differences between

the sites are due to Indigenous/non-Indigenous differences in offending, to demographic locations or to differing breach rates/arrest patterns. This is an area that requires further investigation.

Discussion

Alcohol

Alcohol-related harm compromises individual and social health and the negative effects have been well documented (Hemel, McIlwain & Carvolth 2004). Further, the fiscal costs on Australian society across the criminal justice and health systems, and through traffic accidents and lost productivity, were estimated in 2010 to be \$14.352 billion (Manning, Smith & Mazerolle 2010). Therefore, identifying harmful alcohol consumption patterns can contribute to the development of effective public health policy and practice, especially to guide

preventative and therapeutic interventions (Berry, Pidd, Roche & Harrison 2007).

Patterns of alcohol use

In this study the South Hedland regional sample was significantly more likely than the Perth metropolitan sample to have consumed alcohol in the past 48 hours, to consume alcohol more frequently and to have consumed alcohol at higher levels. This supports the evidence that patterns of alcohol consumption differ between the South Hedland regional and Perth metropolitan samples. However, both samples reported current risky drinking behaviours. Given the sample was from a detained population, there can be little dispute that these risky drinking behaviours have contributed to use of health, emergency and police resources (Collins & Lapsley 2008).

Table 4 Breach detentions substituted with next available charge

Crime Type	South Hedland % (n=51)	Perth Metro % (n=209)
Acts intended to cause injury	30	12.6
Sexual assault etc	0	1.5
Dangerous or negligent acts	2	3.4
Abduction, harrassment	0	1
Robbery, extortion etc	0	5.3
Break and enter, burglary etc	8	3.9
Theft etc	8	10.7
Fraud, deception etc	0	2.4
Illicit drug offences	4	7.8
Weapons offences	2	0.5
Property damage etc	2	6.3
Public order offences	18	5.3
Traffic offences	6	9.7
Breaches of bail etc	20	29.6

Source: AIC, DUMA collection 2012:2013 [computer file]

The National Health and Medical Research Council (NHMRC) recommends that men and women drink no more than two standard drinks on any given day to reduce the lifetime risk of disease and injury. In addition, they recommend that men and women do not drink more than four standards drinks on a single occasion to reduce the risk of an alcohol-related accident or injury. Across both sites, but particularly at the South Hedland site, detainees were regularly drinking in excess of these amounts. Alcohol consumption has increased in the Pilbara from 2001–05 by 4.6 litres (to 21.6 L per person over 15 years of age per annum) (ABS 2009), increasing the levels of alcohol-related harm (ABS 2009; AIHW 2011). Like many of the Australian public (AIHW 2010), in this study the majority of both the South Hedland regional and Perth metropolitan samples reported they had consumed alcohol in the past 30 days. However, the rate and frequency were above the national averages, and significantly more so in the South Hedland sample. Despite the choice of alcohol by both groups of detainees, the lack of consumption of mid-strength and ‘light’ beers indicates a further need to investigate the motivations for alcohol consumption. The choice in alcohol strength

has important implications for intoxication and the likelihood of individuals committing offences while under the influence of alcohol (Goldstein 1985; Nutt, King and Phillips 2010; Pernanen, Cousineau, Brochu & Sun 2002). In addition, the lower inhibitions, weakened self-control and lack of foresight associated with intoxication (Boyum & Kleinman 2003) could explain the large number of detainees who were currently being detained for breaching their conditions. This is supported, in particular, by the South Hedland participants who attributed their current situation to their drinking.

Detainees were asked how much they thought alcohol consumption contributed to the main reason they were currently being detained. South Hedland detainees (54.5%) were 2.6 times more likely than the metropolitan sample (20.7%) to state that they thought alcohol contributed ‘a lot’ to the offence. Metropolitan detainees (68.3%) were two times more likely than South Hedland regional detainees (31.4%) to state that they did not think alcohol contributed at all to their offence. This may be partly due to the higher rates of alcohol consumption in the South Hedland region than in the metropolitan sample; however, it does offer some insight and implications for interventions and treatment.

Identifying appropriate initiatives that contribute to more responsible and healthier patterns of drinking appears to be a necessary area of investigation for future research. The majority of detainees reported drinking at a private home the last time they drank. The drinking patterns of detainees across both sites support previous findings that domestic drinking is a widespread, socially sanctioned practice, shaped through diverse social relations (Holloway, Jayne & Valentine 2008). Although alcohol-related issues within licensed venues and entertainment precincts remain an important topic, the legislation, policing and monitoring of alcohol use within the home and in public locations appear to be an ongoing, complex social and policing dilemma worthy of further consideration.

Across both sites, most detainees had tried alcohol, with most obtaining alcohol prior to the legal age for alcohol consumption. This finding is similar to research that has investigated alcohol consumption patterns among the general population (AIHW 2010). These patterns of early alcohol use reflect the widely accepted culture of drinking in Australia (AIHW 2001) and support the need for early alcohol education and harm-minimisation campaigns.

Drugs

This study also attempted to provide information on drug use for a sample of detainees from a regional remote location and to track how their use may be different compared with an urban context. While the numbers of drug users within this sample were lower than the Perth metropolitan sample, generally the drugs of concern (ie alcohol, cannabis and ATS) followed a similar pattern to the overall WA trend (AIHW 2011). Thus, while South Hedland detainees were more likely to be recording higher levels of alcohol consumption than the Perth metropolitan sample, they were less likely to be consuming illicit drugs.

With regard to Indigenous Australians, as they constitute a minority of the total Australian population, only large-scale surveys will elicit large enough samples to produce robust estimates of the prevalence of illicit drug use (Putt & Delahunty 2006). The small sample of Indigenous Australians in this research does not allow for a robust interpretation of findings in relation to illicit drug use prevalence. This is consistent with other research that has identified logistical problems when trying to gain reliable information about the use of illicit drugs in regional Indigenous communities. Generally, however, the findings support the fact that Indigenous West Australians living in remote areas were more likely than those in cities to drink at risky levels, use cannabis and meth/amphetamines, but less likely to use illicit drugs such as cocaine and ecstasy (AIHW 2014; DAO 2013).

Types of drugs being used

The drug most commonly used within the past 12 months was cannabis, with approximately one-third of the South Hedland detainees reporting cannabis use within the past 12 months. Of these, 15.7 percent also reported using within the past 48 hours. There were no reports of heroin or opiate use and only low levels of individuals reporting cocaine, ecstasy and inhalant use.

Frequency of use

The findings of this study suggest that the majority of South Hedland regional detainees in this sample were not taking

illicit drugs within the previous 30 days. In comparison with the Perth metropolitan detainees, they were significantly less likely to have used both cannabis and ATS, and although the samples sizes were too small for meaningful comparisons, it was observed that they were less likely to use heroin, opiates, ecstasy and illegal benzodiazepine.

Dependency and contribution to detention

The South Hedland (cannabis 11% and ATS 2%) detainees were significantly less likely than the Perth metropolitan detainees (cannabis 32.5% and ATS 17.2%) to report feeling dependent on illicit drugs, and generally had a low perception that drugs had contributed significantly to their current detention. Overall, South Hedland detainees were more likely than the Perth metropolitan detainees to attribute alcohol to being related to why they were currently being detained (South Hedland 66% versus Perth metropolitan 32%) rather than illicit drug use. South Hedland regional detainees were also significantly less likely than the Perth metropolitan detainees to have used prescription or over-the-counter medications in the past 30 days. Just more than one-third reported using licit drugs, in the categories of opiates, benzodiazepines and miscellaneous over-the-counter medications.

The lower levels of drug use, other than cannabis, may be due to this population preferring alcohol and cannabis or to the lack of availability of those drugs in a remote area of the Pilbara.

In terms of poly-drug use among the South Hedland detainee population, 15 detainees reported using alcohol and cannabis in the past 30 days, and three reported using alcohol, cannabis and ATS (35.3% of all detainees). The observed patterns of poly-substance use do not differ from the national profile of detainees, with statistics indicating that nearly one-third of detainees reported using two or more drugs in the 30 days before being detained (Sweeney & Payne 2011).

Conclusions regarding the nature and size of the local illicit drug market are difficult to

determine, with only 14 detainees using cannabis, three using ATS and one of those detainees refusing to answer most of the drug market grid questions. The lower levels of reported recent illicit drug use (cocaine, heroin, opiates, ecstasy, illegal benzodiazepines and inhalants) could indicate that these drug types were not a significant problem within the South Hedland detainee population for this collection period, or that they were not present in this detained sample at this time. The small numbers of participants cannot be generalised to the wider community and should not be interpreted without consideration of other research that demonstrates a trend of heavy use of cannabis and increasing levels of amphetamine use (Putt & Delahunty 2006). The lower levels of reported illicit drug use should be explored further as this collection was limited to one collection period and does not diminish the reported need for drug-specific services in the Pilbara (Walker, Stomski, Price & Jackson-Barrett 2013), nor does it minimise the challenges for police involved in reducing drug-related harm and supply to remote regions (Putt & Delahunty 2006).

Alcohol, drugs and crime

Overwhelmingly, across both sites the majority of detainees were being detained for breaching some previously imposed condition or order. Breaching bail often includes non-compliance with some type of conditional order, such as not reporting to a supervising case manager. A breakdown of the breaches and warrants indicates that the majority of all detainees were breaching bail, restraining orders and/or warrants. This issue continues to be a problem in Australia for detainees and, more specifically, ATSI defendants (Schwartz 2005). There is a need to further investigate why detainees are breaching conditions at such a high rate. Breaches of conditions clearly indicate a substantial workload for law enforcement and the wider criminal justice system. However, when the breaches were substituted with the last offence (presumably, the original offence they had breached), the South Hedland regional sample were three times more likely

to be detained for acts intended to cause injury. The other offences most commonly committed were break and enter offences and public order offences.

More than half (57%) of the South Hedland regional detainees reported having consumed alcohol in the 48 hours before their latest detention. The higher rates of acts intended to cause injury and public order offences may be aligned with the psychopharmacological model of criminal behaviour (Boyum & Kleinman 2003; Goldstein 1985). Goldstein (1985) argued that the drug has a direct effect on individuals who may become irrational, excitable or display violent behaviour due to the ingestion of the drug. Further, inhibition, cognitive-perceptual distortions and bad judgment can also result from intoxication (White & Gorman 2000). These elements of intoxication are linked with impulsivity and a lack of foresight of consequences, which can also facilitate criminal behaviour (Bennett & Holloway 2007). However, there are usually moderating and/or mediating factors that link the drug to violent behaviour. These indirect social or environmental factors are influenced by where the drug use or crime takes place (Gray, Saggars, Wilkes & Allsop 2010). For many South Hedland regional detainees, the drug use (mostly alcohol) usually took place within a public place or the home of family or friends. This suggests that the alcohol consumption is within a social context. However, as drinking in parks and public places is usually highly visible, detainees might be more at risk of being apprehended for criminal activity, whereas within a private residence, violent behaviour is less likely to be detected and reported. Health professionals in the Pilbara area have linked the abuse of substances to 'diverse social factors such as boredom, lost roles, dispossession, despair, role modelling, low socioeconomic status, family dysfunction and mental health issues' (Walker, Stomski, Price & Jackson-Barrett 2013: 2). Evidence from the United Kingdom promotes primary health care provided by local general practitioners (GPs) as effective in reducing alcohol consumption through simple advice (Gilmore & Gilmore 2013). However, it is

essential that Indigenous populations in remote locations have access to primary health care. Furthermore, these practitioners must be able to engage with Indigenous clients in culturally safe ways that remove barriers to their engagement (Gray et al. 2010).

Therefore, a holistic approach to reducing alcohol use should be considered. Initiatives in the Northern Territory on alcohol restriction have had some success in terms of reducing alcohol consumption in some areas, and reducing violence and alcohol-related harm (Hudson 2011). However, strategies simply restricting alcohol could be viewed as simplistic and ineffective if the underlying causes are not also addressed (Calladine 2009; Hudson 2011). Restrictions can also displace drinking to other areas and lead to black market sales (Hudson 2011). Alternatives to total bans could include restricting the days and hours of alcohol sales and the density of liquor outlets in an area (Gilmore & Gilmore 2013). Finally, as South Hedland is a township, and drinking is not isolated to a particular group of people, without community support there could be difficulties in enforcing restrictions on all residents of South Hedland and the surrounding areas.

Limitations

Limitations to criminological research may also be observed in the current study, such as the nature of reporting criminal activity (Kraska & Neuman 2008), although the DUMA research has indicated that in previous collections the respondents are reliable. Participants may be reluctant to answer truthfully due to embarrassment and shame, or fear of further prosecution. Information provided by detainees can also be embellished or limited due to memory deficiencies, time lapsed or even unwillingness to participate in the research (Elffers 2010).

It has been documented that Indigenous respondents may conform to the concept of 'gratuitous concurrence' where they will agree to a direct question that was not properly understood regardless of their belief in the truth or falsity of the

proposition (Bartels 2011; Roberts 2007). All consideration was taken to ensure that participants understood that— participation was voluntary, all responses were confidential, the answers would not impact on their current case, and they could withdraw at any time. Given the high number of responses in the negative, it can be surmised that the participants felt comfortable enough with the interviewer to clarify non-use of substances and/or behaviours and that any concurrence was kept to a minimum.

Conclusion

Despite these limitations, this current project provided a unique opportunity to use the previously validated DUMA methodology to investigate alcohol, drug and offending behaviour in a northwestern remote region of Western Australia.

The findings indicate that the South Hedland regional sample presents some demographic differences to the Perth metropolitan region, and displays higher levels of recent alcohol use and lower levels of illicit drug use. They are also more likely to commit crimes against the person and public order offences, both of which have been linked with substance use. The findings suggest that a holistic approach to dealing with the higher levels of substance use be continued in the area, with a focus on reducing demand through treatment and interventions, reducing the supply of alcohol through possible restrictions, and minimising the harm of high levels of alcohol use through education suitable for what is a largely Indigenous population.

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