



Australian Government

Australian Institute of Criminology

Statistical Bulletin 11

ISSN 2206-7302

April 2018

Abstract | Prescription opioid diversion and use for non-medical purposes is a growing problem linked to crime and addiction. While offenders are more likely than the general Australian population to use prescription drugs for non-medical purposes, relatively little is known about the types of prescription opioids they use and their patterns of use. Identifying the extent and nature of prescription opioid use among police detainees may assist law enforcement agencies and healthcare providers to allocate resources more effectively.

This bulletin draws on data from the Drug Use Monitoring in Australia (DUMA) program collected in January and February 2016. One-quarter of detainees reported prescription opioid use in the last 12 months and almost a fifth engaged in non-medical use of these drugs. The most commonly reported opioid was buprenorphine, and opioids were most commonly obtained from a family member or friend or purchased from a street dealer. About four in 10 users had used more than one type of prescription opioid in the past 12 months, and most had also used other illicit drugs.

Prescription opioid use among Australian police detainees

Tom Sullivan, Andrew Ticehurst and Samantha Bricknell

Prescription opioid use has risen markedly across Australia. Among the general Australian population, there has been an increase in prescription opioid dispensing and non-medical use of these drugs (AIHW 2017a; Islam et al. 2016). Hospitalisations related to prescribed opioids, and accidental opioid overdose deaths, have also increased (Blanch, Pearson & Haber 2014; Roxburgh & Burns 2017). Recent wastewater analysis described 'elevated' consumption of oxycodone and fentanyl across Australia, particularly in regional areas of Australia (ACIC 2017: 16), and the media have drawn attention to the criminal attainment and abuse of prescription opioids (see, for example, Bonini 2017).

The use of prescription opioids can play an important role in the management of acute and chronic pain, and opioid dependence. However, when individuals use medications outside guidelines for safe and effective use, adverse effects are more likely (Degenhardt et al. 2008). 'Diversion' refers to the illegitimate supply of a prescription drug from legal sources to illicit markets. It includes doctor shopping, fabricating medical history or feigning current symptoms to doctors, buying or receiving drugs from friends or family, altering medical prescriptions, or stealing from surgeries or pharmacies (ACIC 2016; Vrecko 2015). The diversion of prescription opioids is rising in Australia and overseas (Roxburgh et al. 2011).

In addition to the problem of diversion, prescription opioids can be used for non-medical purposes. Non-medical use is defined as:

...the taking of prescription drugs, whether obtained by prescription or otherwise, other than in the manner or for the reasons or time period prescribed, or by a person for whom the drug was not prescribed. (UNODC 2011: 1)

A recent Australian Institute of Health and Welfare survey found that almost five percent of Australians had used pharmaceuticals, including opioids, for non-medical purposes in the last 12 months (AIHW 2017b). The survey also found that opioid analgesics were the most common group of pharmaceuticals recently used for non-medical purposes (AIHW 2017a). However, relatively little is known about the characteristics of people who divert or use prescription opioids for non-medical purposes, the methods they use to acquire the drugs, or their patterns of use.

Aims

Forthcoming research shows that a fifth of Australian police detainees divert or engage in non-medical use of prescription drugs, including opioids (Patterson, Sullivan & Ticehurst 2018). Police detainees can provide an insight into the illicit market for prescribed opioids as they are more likely than the general population and incarcerated offenders to have had recent and close contact with illicit drugs. As such, this study aims to address the following questions:

- How prevalent is non-medical prescription opioid use among Australian police detainees?
- What are the characteristics of non-medical and prescription opioid users?
- Which prescription opioids are most commonly diverted and used for non-medical purposes?
- How frequently are detainees engaging in non-medical use of prescription opioids?
- Which methods of diversion are used?
- Are there relationships between the non-medical use of prescription opioids and the use of other illicit drugs?

Methodology

This study draws on data from the Drug Use Monitoring in Australia (DUMA) program, which collects information about social and demographic characteristics of police detainees and their criminal offending and drug use histories. Under the program, police detainees are interviewed quarterly at selected police stations and watch houses. Detainees are also asked to voluntarily provide urine samples to enable testing for selected drugs. From January to February 2016, police detainees were interviewed at the Adelaide, Brisbane, Perth and Sydney (Surry Hills) sites.

Data for this study were derived from a specially-designed addendum on prescription drug use. Detainees (n=389) were asked a series of questions about their use of prescription drugs and their involvement, as source or recipient, in the non-medical use of these drugs. Non-medical use is defined in this study as the use of a prescription opioid without a valid prescription or the diversion of it to illicit markets.

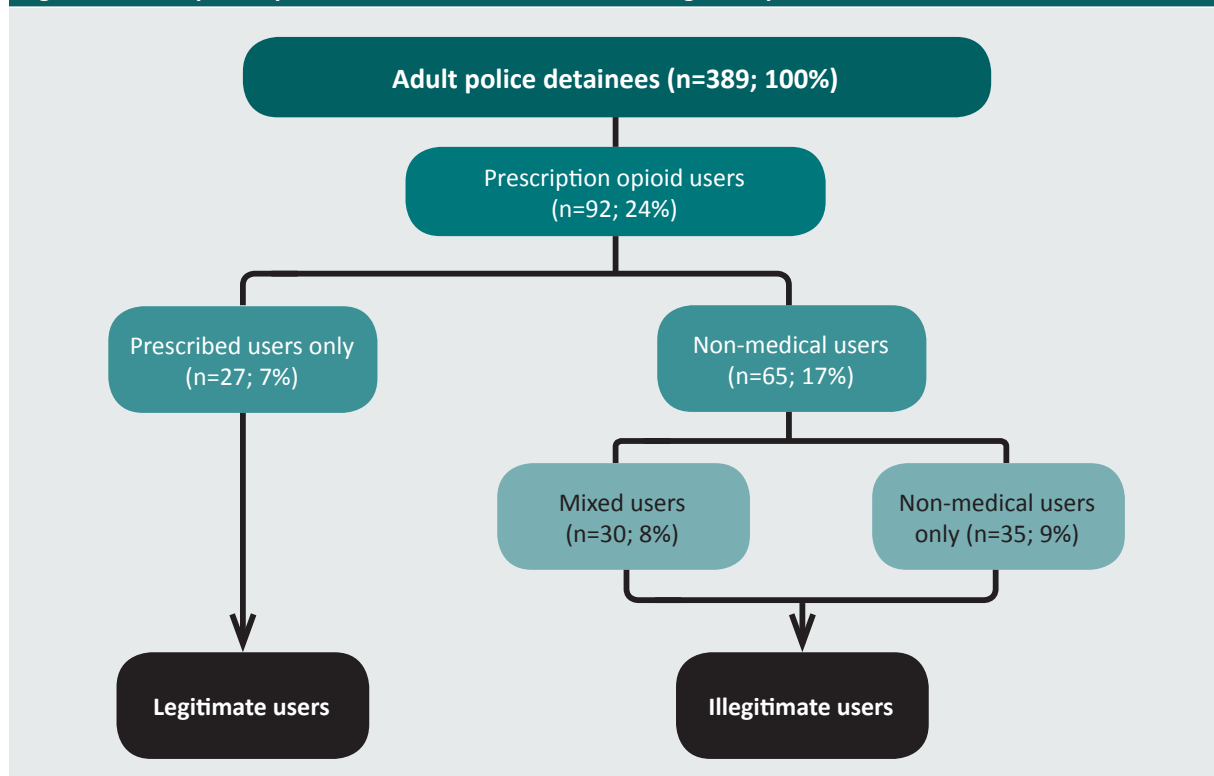
Although the addendum focused on various prescription drug types, the current study analysed prescription opioids because of an ongoing increase in opioid use and related harms in Australia and evidence of opioid diversion and non-medical use among detainees (Blanch, Pearson & Haber 2014; Patterson, Sullivan & Ticehurst 2018). The opioids analysed were buprenorphine, fentanyl, methadone, morphine and oxycodone. This paper analyses data from detainees who reported prescription opioid use, legal or illegal, in the last 12 months (n=92), hereafter referred to as ‘recent opioid users’.

Results

Prescribed, non-medical and mixed opioid use

One-quarter of detainees (24%; n=92) reported prescription opioid use in the last 12 months. This included detainees prescribed opioids (‘prescribed users only’), those who obtained or diverted at least one type of opioid illegitimately (‘non-medical users’), and those who reported both prescribed and illegitimate use of prescription opioids (‘mixed users’; see Figure 1).

Figure 1: Prescription opioid use in the last 12 months among adult police detainees, 2016



Note: All percentages were calculated from the total number of adult police detainees in the sample (n=389). Excludes 2 respondents where data were missing

Seven percent of detainees (n=27) were prescribed users only. A larger proportion engaged in non-medical use by obtaining a prescription opioid through illegitimate means or diverting it (17%; n=65). Nine percent of detainees (n=35) had exclusively used opioids non-medically, while eight percent (n=30) had engaged in a mix of medical and non-medical uses. Of the 92 prescription opioid users, 71 percent (n=65) had sourced or diverted at least some of their opioids illegitimately. At all data collection sites, the proportion of non-medical users was greater than the proportion of prescribed users.

Characteristics of prescribed and non-medical opioid users

Table 1 shows that the mean age of non-medical opioid users was 33.6 years, slightly higher than the mean age of prescribed opioid users (32.7 years) and users of other illicit drugs (31.8 years). The most common age category was 36 years or over for both non-medical users (40%; n=26) and prescribed users (41%; n=11). Of the 75 recent male opioid users, 76 percent reported non-medical use (n=57), compared with 47 percent of female opioid users (n=8). Comparable proportions of male and female detainees used other illicit drugs (male users: 83%; n=351 vs female users: 81%; n=76). The proportions of Indigenous (75%; n=15) and non-Indigenous (69%; n=50) detainees reporting recent non-medical use of opioids were similar, but less than the proportions of Indigenous and non-Indigenous detainees reporting recent use of other illicit drugs (Indigenous: 86%; n=122 vs non-Indigenous: 81%; n=305).

	Prescribed-only users		Non-medical users		Total
	n	%	n	%	n
Gender					
Male	18	24	57	76	75
Female	9	53	8	47	17
Median age	32 (mean=32.7)		32 (mean=33.6)		32 (mean=33.3)
Indigenous status					
Indigenous	5	25	15	75	20
Non-Indigenous	22	31	50	69	72

Source: AIC DUMA collection quarter 1, 2016 [computer file]

Types of prescription opioids used

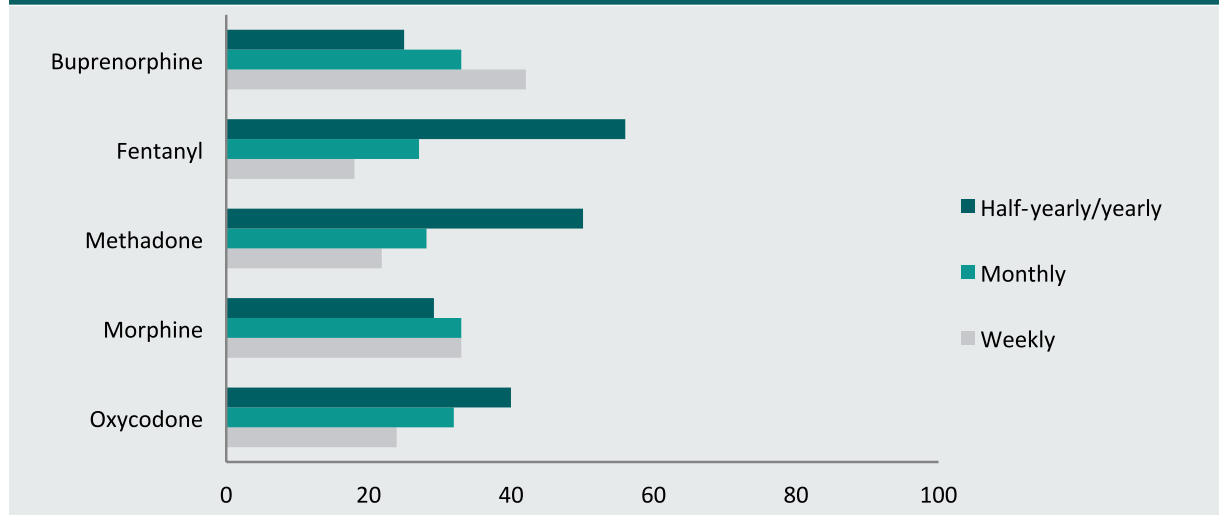
Buprenorphine was the prescription opioid most commonly used in the last 12 months (47%; n=43), followed by oxycodone (41%; n=38), morphine (36%; n=33), methadone (35%; n=32) and fentanyl (14%; n=13). Buprenorphine use was driven by non-medical use (88%; n=37). Fentanyl users had the second highest percentage of non-medical use (85%; n=11) and methadone had the lowest percentage of non-medical use (59%; n=19).

Most prescription opioid users had used only one type of opioid in the past 12 months (60%; n=55). However, 22 percent (n=20) had used two types of opioids and 19 percent (n=17) had used three or more types.

Frequency of non-medical opioid use

Forty-four percent of recent non-medical users had consumed a prescription opioid weekly (n=28). The next most common level of frequency was half-yearly or yearly (30%; n=19), followed by monthly (27%; n=17). Frequency of non-medical use varied between the drug types. Oxycodone, fentanyl and methadone were most frequently used once a year or every six months. In contrast, buprenorphine was most frequently used weekly, and morphine was most frequently used weekly or monthly (see Figure 2).

Figure 2: Frequency of non-medical opioid use by drug type (%)



Source: AIC DUMA collection quarter 1, 2016 [computer file]

Sixty-nine percent of non-medical users (n=44) had used an opioid in the 30 days prior to their detention. Non-medical users reported using opioids on an average of five days out of 30. On average, methadone was the most frequently used opioid in the previous 30-day period (mean=5 days per month), while fentanyl was the least frequently used (mean=1 day per month).

Illegitimate sources of prescription opioids

Detainees were asked to rate the ease of obtaining a prescription opioid without a prescription on a scale from one (extremely hard or impossible to get) to 10 (readily available or over-abundant). On average, detainees rated the availability of each opioid a six or seven out of 10, indicating that prescription opioids were easy to obtain without a prescription. Detainees rated methadone (mean=7.18), buprenorphine (mean=7.07) and oxycodone (mean=6.71) as the easiest to obtain, and fentanyl (mean=6.35) and morphine (mean=6.61) as the most difficult opioids to obtain. These findings may help to account for data showing that methadone was the most frequently used opioid and fentanyl was the least frequently used.

The most common method recent opioid users used to obtain these drugs was to receive them from a family member or friend without paying (45%; n=41). This was consistent for every type of opioid. Other common methods were purchasing from a street dealer (24%; n=22) and buying from a family member or friend (21%; n=19). No detainees reported purchasing a prescription opioid via the internet. Of those detainees who were mixed users, 21 percent (n=6) reported doctor shopping and 14 percent (n=4) reported lying to a doctor. Ten percent of opioid users (n=9) had sold and/or given away a drug prescribed to them by a doctor in the last 12 months.

Prescription opioids and illicit drug use

Seventy-four percent of non-medical users (n=48) reported having been dependent on illicit drugs in the last 12 months, compared with 44 percent of prescribed users (n=12) (see Table 2). The illicit drugs on which opioid users most commonly reported dependence were heroin (57%; n=26) and amphetamine (44%; n=30), both of which also had the highest dependence levels among detainees who had used other illicit drugs in the last 12 months. The opioid users most likely to report dependence on cannabis, heroin, ecstasy or methamphetamine were those who had used buprenorphine (81%; n=35) and methadone (78%; n=25); these drugs are commonly used for the management of opioid dependence (Degenhardt et al. 2008). For detainees who reported using buprenorphine, the proportion of non-medical users reporting dependence was greater than the proportion of prescribed users (87%; n=33 vs 40%; n=2). For those reporting methadone use, the proportion of non-medical users reporting dependence was similar to the proportion of prescribed users (79%; n=15 vs 77%; n=10).

Of the recent opioid users, 96 percent reported illicit drug use in the last 30 days (n=88). Most of the recent opioid users also reported consumption of an illicit drug in the last 48 hours (70%; n=64). Non-medical users were slightly more likely than prescribed users to have used an illicit drug in the last 30 days (97%; n=63 vs 93%; n=25) and 48 hours (72%; n=47 vs 63%; n=17). Prescribed methadone users (56%; n=5) and non-medical methadone users (83%; n=20) were more likely than users of any other prescription opioid to have consumed an illicit drug in the 48 hours prior to detention.

The illicit drugs that recent prescription opioid users most commonly reported using in the last 12 months were methamphetamine (75%; n=69), cannabis (74%; n=68) and heroin (50%; n=46).

	Prescribed-only users		Non-medical users	
	n	%	n	%
Drug dependency				
Yes	12	44	48	74
No	15	56	17	26
Illicit drug use in last 30 days				
Yes	25	93	63	97
No	2	7	2	3
Illicit drug use in last 48 hours				
Yes	17	63	47	72
No	10	37	18	28

Source: AIC DUMA collection quarter 1, 2016 [computer file]

Discussion

One-quarter of detainees had used prescription opioids in the last 12 months and 71 percent of these users had sourced or diverted at least some of their opioids illegitimately. This high level of non-medical use is consistent with previous analyses of detainees' use of prescription drugs in Australia (McGregor, Gately & Fleming 2011; Ng & Macgregor 2012; Patterson, Sullivan & Ticehurst 2018). Detainees who reported recent non-medical use of prescription opioids were more likely to be male and were, on average, slightly older than those reporting prescribed-use only and those reporting use of other illicit drugs. Buprenorphine was the opioid most commonly used in the last 12 months, which accords with data suggesting that between 2010–11 and 2014–15, the number and rate of dispensed prescriptions for buprenorphine rose substantially (AIHW 2017a). Research suggests the extent to which particular types of opioids are diverted and used for non-medical purposes can depend on factors such as their potency, availability, ease of injection and the degree to which adverse effects occur following injection (Degenhardt et al. 2008).

The data also showed that about four in 10 users had used more than one type of prescription opioid in the past 12 months and most reported using other illicit drugs. These indications of polydrug use among this population are consistent with earlier studies (McGregor, Gately & Fleming 2011; Sweeney & Payne 2011). Australian research shows that polydrug use is a risk factor for death and is associated with receiving income from drug dealing and other illegal sources (Kinner et al. 2015; Sweeney & Payne 2011). This study's findings of polydrug use may provide valuable further information to health professionals and law enforcement agencies confronting these problems.

For all types of opioids, the most common method of obtaining the drugs was to receive them from a family member or friend without paying. Law enforcement may have limited capabilities to target these types of illicit activities. However, drug preparations and formulations that reduce the potential for non-medical use or injection of prescription opioids may continue to be effective in deterring diversion. For example, the 2014 introduction of an abuse-deterrent sustained-release oxycodone formulation in Australia was associated with a reduction in injection of the drug and no clear switch to other drugs (Degenhardt et al. 2015).

Almost all recent opioid users reported illicit drug use in the last 30 days and more than two-thirds reported consumption of an illicit drug in the last 48 hours. About three-quarters of non-medical users reported having been dependent on illicit drugs in the last 12 months, compared with almost half of prescribed users only. This aligns with the high levels of dependency found in an earlier study of detainees who were non-medical users of prescription drugs (McGregor, Gately & Fleming 2011).

Policy related to the supply and control of opioids must strike a balance between preventing illegal diversion of the drugs and ensuring their medical availability (World Health Organisation 2000). Achieving this balance may be complicated by evidence that opioid misuse can occur among chronic pain patients with comorbid mental health and drug use problems (Degenhardt et al. 2008). This paper builds on earlier opioid use research by showing that almost all detainees who had engaged in non-medical use of prescription opioids had used illicit drugs in the last 30 days and most were dependent on these drugs. The findings reinforce the importance of regulatory responses that can (a) limit access to prescription opioids to those with a legitimate need, (b) track cases where control over this access is compromised and (c) minimise the effect of these controls on legitimate medical practice (Degenhardt et al. 2008).

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ISSN 2206-7302

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