



Changes in non-opioid substitution treatment episodes for pharmaceutical opioids and heroin from 2002 to 2011

S. Nielsen^{a,b,*}, A. Roxburgh^a, R. Bruno^{a,c}, N. Lintzeris^{b,d}, A. Jefferson^e, L. Degenhardt^a

^a National Drug and Alcohol Research Centre, University of New South Wales, Sydney, New South Wales 2052, Australia

^b Drug and Alcohol Services, South Eastern Sydney Local Health District, 591 South Dowling St, Surry Hills 2010, Australia

^c School of Medicine, University of Tasmania, Level 1, Medical Science 1, 17 Liverpool Street, Hobart 7000, Australia

^d University of Sydney, Department of Addiction Medicine, Missenden Road, Camperdown 2006, Australia

^e Tobacco, Alcohol and Other Drugs Unit, Australian Institute of Health and Welfare, 1 Thynne Street, Fern Hill Park, Bruce 2617, Australia

ARTICLE INFO

Article history:

Received 4 December 2014

Received in revised form 27 January 2015

Accepted 3 February 2015

Available online 12 February 2015

Keywords:

Treatment

Oxycodone

Codeine

Fentanyl

Prescription opioid

ABSTRACT

Background: There has been a well-documented increase in the non-medical use of pharmaceutical opioids (PO) worldwide. However, there has been little detailed examination of treatment demand, or the characteristics of those presenting for treatment, particularly for treatments other than opioid substitution.

Methods: Data from closed drug and alcohol treatment episodes from the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS, representing non-opioid substitution treatment) in Australia for 2002–2003 to 2010–2011 were examined. In the four jurisdictions where detailed data were available, episodes where heroin was the principal drug of concern were compared to episodes for the four most frequently reported pharmaceutical opioids (morphine, codeine, fentanyl and oxycodone).

Results: In 2002–2003, most (93%) opioid treatment was related to heroin with seven percent of all opioid treatment episodes reporting a PO as the principal drug of concern. In 2010–2011, 20% of all opioid treatment episodes were attributed to POs. Distinct changes over time were observed for different opioids. There was an increase in the average age at the start of treatment for heroin and oxycodone episodes, and a reduction in the proportion of females for codeine episodes, with 67% in 2002–2003 compared with 44% in 2010–2011. Codeine and oxycodone episodes had the lowest current or past injection rates.

Conclusions: Clear differences were observed over time and between different opioids. Monitoring these emerging patterns will be important to inform treatment needs, particularly in light of different patterns of poly drug use, different routes of administration and changing demographic characteristics.

© 2015 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Pharmaceutical opioid (PO) use and associated harms are an important international issue (Fischer et al., 2013c; Maxwell, 2011). Increases in mortality have been described as an ‘epidemic’ (Calcaterra et al., 2013; ONCDP, 2011). Over the past 10–15 years, substantial increases in prescribing and non-medical use of a range of opioids have been reported globally (Atluri et al., 2014; Degenhardt et al., 2007; Leong et al., 2009). In Australia, clear patterns of increased opioid prescribing (Leong et al., 2009)

and increased non-medical use of analgesics and ‘other opiates’ (including morphine and oxycodone) have been seen in the general population (Australian Institute of Health and Welfare, 2014a). Likewise, increases in morphine and oxycodone use amongst sentinel samples of people who inject drugs have been reported (Stafford and Burns, 2012).

One important indicator of harm associated with PO use is seeking treatment for drug dependence. In the US, the proportion of all treatment admissions related to prescription opioid abuse increased from 2.2% to 9.8% between 1998 and 2008, with 26.5% of admissions for medication-assisted treatment being for the treatment of prescription opioid dependence (Substance Abuse and Mental Health Services Administration, 2010). Increased treatment admissions for codeine have been reported in South Africa (Myers et al., 2003). Australia has recorded an increase in hospital presentations for PO poisoning (Roxburgh and Burns, 2013), and increases

* Corresponding author at: National Drug and Alcohol Research Centre, University of New South Wales, 22–32 King St, Randwick 2031, Australia. Tel.: +61 2 8936 1017; fax: +61 2 9385 0222.

E-mail address: suzanne.nielsen@unsw.edu.au (S. Nielsen).

in oxycodone- and fentanyl-related deaths have also been documented (Rintoul et al., 2010; Roxburgh et al., 2011, 2013).

Studies of PO users indicate that some non-treatment seeking populations of pharmaceutical opioid dependent people, such as codeine users, may differ from heroin users in important ways such as employment and education (Nielsen et al., 2011). Further, a recent case series of drug treatment entrants identified differences between codeine and strong opioid users in terms of presenting characteristics and types of treatment received (Nielsen et al., 2014). To date, limited information is available to give a broader picture of PO treatment at a jurisdictional or national level, or to examine the patterns of drug and alcohol service utilization over the time period during which increased pharmaceutical opioid use has been observed. Recent indicators from opioid substitution pharmacotherapy treatment (OST) suggest a significant minority (around one in three) of people on OST report pharmaceutical opioids as the principal drug of concern at treatment entry (Australian Institute of Health and Welfare, 2014c).

Oxycodone has been the subject of much research interest, with new formulations of oxycodone being developed to counter concerns with misuse (Coplan et al., 2013; Sees et al., 2005). Less is known about opioids such as fentanyl and codeine. Fentanyl is a potent opioid with higher efficacy at the mu opioid receptor. Increased fentanyl prescribing has been reported in Australia and the US, with associated increases in mortality, and intentional misuse and injection described in the majority of deaths (Kuhlman et al., 2003; Roxburgh et al., 2013). Recent US studies have identified that between 9 and 20% of patients prescribed fentanyl display signs of non-adherent medication use (Layton et al., 2014; Passik et al., 2014). Reports are emerging of misuse and harms associated with codeine (Dutch, 2008; Frei et al., 2010; McDonough, 2011; Myers et al., 2003; Pilgrim et al., 2013; Sproule et al., 1999), particularly in those countries where access to codeine is less restricted. Estimates on rates of misuse and harms are less readily available.

The aim of this study was to use national drug treatment statistics to examine patterns of pharmaceutical opioid related presentations to services other than opioid substitution therapy (OST), including withdrawal, counselling, case management and support, information and education, and residential rehabilitation services. The two key areas we sought to examine were: (1) numbers of drug treatment episodes where a pharmaceutical opioid was reported as the principal drug of concern compared with episodes where heroin was reported as the principal drug of concern; and (2) to examine if there were differences in demographic and substance use characteristics reported with treatment episodes for 'weaker', less restricted opioids such as codeine and strong opioids such as morphine, oxycodone and fentanyl.

2. Methods

2.1. Design and participants

All closed treatment episodes from the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS) were examined for the financial years 2002–2003 to 2010–2011. Data for the AODTS-NMDS are collected to provide national information about drug treatment, to inform policy and strategy decisions, as well as to provide individual service providers information about drug problems and treatment responses in their area. A closed treatment episode refers to a period of contact between a treatment agency and a client, which has a start and an end date. As closed treatment episodes were used, data does not include episodes where the patient did not finish treatment within that financial year. As such, 'an episode' reflects the number of defined treatment periods, rather than the number of clients. It is possible that one client may have multiple treatment episodes. Only episodes where people were seeking help for their own drug use were included (these comprise the vast majority, around 95%, of AODTS-NMDS episodes). The AODTS-NMDS represents government funded drug and alcohol service episodes. The AODTS-NMDS includes the majority of all non-OST treatment provided but does not include most opioid substitution pharmacotherapy services (e.g., most methadone and buprenorphine provided through clinics), services provided by many private treatment providers (e.g., private medical practices), services that may provide drug

treatment as a small part of a broader service (e.g., halfway houses, sobering-up shelters, correctional institutions), health promotion services (e.g., needle syringe programmes) or many acute hospital settings where drug treatment was not the primary reason for presentation. 'Principal drug of concern' refers to the main substance that the client stated led them to seek treatment from the alcohol and other drug treatment agency. The AODTS-NMDS also collects information on (up to 5) other or additional drugs of concern.

For these analyses, pharmaceutical opioid treatment episodes are defined as treatment episodes where a pharmaceutical opioid other than methadone or buprenorphine was listed as the principal drug of concern. Cases where methadone or buprenorphine were listed as the principal drug of concern were excluded due to the inability to differentiate cases where people were seeking help with methadone or buprenorphine provided for the assistance in the treatment of heroin dependence (e.g., reducing off methadone that was initially prescribed for heroin dependence may be recorded with methadone as the principal drug of concern), or for a pain indication (e.g., oral methadone tablets transdermal buprenorphine patch), or cases where illicit methadone or buprenorphine may be the principal drug of concern. These represent 11% ($n=23,630$) of opioid-related treatment episodes across all jurisdictions from 2002/3 to 2010/11. Pharmaceutical opioids individually examined included morphine, oxycodone, fentanyl and codeine. Heroin-related treatment episodes were also analyzed for comparison.

To examine correlates of pharmaceutical opioid treatment episodes, opioids were classified into three groups (heroin, codeine, and strong opioids [oxycodone, morphine, and fentanyl]). In this way it was possible to compare codeine, an opioid of weaker potency (defined as a 'weak' opioid by the World Health Organization (WHO; Zech et al., 1995) with the three most common 'strong' opioids as defined by the WHO (morphine, oxycodone and fentanyl). As not all jurisdictions reported details of specific pharmaceutical opioids, data for these analyses were from the jurisdictions that consistently coded the specific pharmaceutical opioid of concern: New South Wales, Queensland, South Australia and Tasmania over the time period examined. Data from other jurisdictions were excluded from these analyses. Treatment episode characteristics examined included: age, sex, location of treatment service, method of use, injection history and treatment type. Age is defined as age at the commencement of the treatment episode. Cell sizes of less than 5 were not reported, in order to protect confidentiality of clients. As a result, episodes where fentanyl was the principal drug of concern were not presented in some analyses. Treatment episodes in the four jurisdictions examined represent 40% of all opioid-related treatment episodes over the time period examined. The four jurisdictions represent 62% of the whole population of Australia.

2.2. Statistical analyses

Trends in numbers of closed treatment episodes relating to heroin and pharmaceutical opioids (excluding methadone or buprenorphine) were examined using regression analyses. Linear and higher-order models were considered but higher order models did not offer improved fit, hence linear models are uniformly reported. Similarly, models were tested for outliers and no standardized residuals were identified >2.1, hence all data points were universally retained. Univariate multinomial logistic regression models were applied to compare the groups in relation to categorical variables; with nonparametric tests used for continuous variables. Cases relating to heroin were used as a reference category for all analyses given their predominance in the treatment system. Data were examined for quality, with the only variables amended relating to 229 (<0.3%) cases where the age of treatment commencement was greater than age 70.

Rates of treatment episodes per 1,000,000 people were calculated using ABS population estimates of the resident population of Remoteness Areas of Australia for June 30 of each year from 2003 to 2011, according to the 2006 edition of the Australian Standard Geographical Classification (ASGC). Remoteness information included in the AODTS-NMDS is based on the location of the service delivery outlet (or location where the service is delivered) rather than on the residence of the client.

3. Results

3.1. Changes in opioid-related presentations over time

In 2002–2003, there were 123,032 closed treatment episodes for all drugs, with heroin (as the principal drug of concern) accounting for 18.4% ($n=22,642$) and PO as the principal drug of concern accounting for 1.5% ($n=1799$) of all treatment episodes. PO presentations represented 7% of all opioid-related presentations in 2002–2003. In 2010–2011, there were 144,022 closed treatment episodes for all drugs, with heroin accounting for 9.3% ($n=13,354$) and PO accounting for 2.4% ($n=3386$). PO presentations represented 20% of all opioid-related episodes in 2010–2011 (Fig. 1a). There were significant linear declines in the numbers of treatment episodes where heroin was listed as one of the drugs of

Download English Version:

<https://daneshyari.com/en/article/7505258>

Download Persian Version:

<https://daneshyari.com/article/7505258>

[Daneshyari.com](https://daneshyari.com)