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Policy analysis

Opioid analgesics and heroin: Examining drug misuse trends among a sample of drug treatment clients in Kentucky

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ABSTRACT

Background: In an effort to mitigate Kentucky's prescription drug misuse, legislative intervention efforts were introduced in 2012 and 2013 to better regulate pain clinics, prescribed use of opioid analgesics, and to expand the monitoring of opioid prescriptions. The focus of this paper is primarily on opioid analgesics and heroin and the relationship of use/misuse patterns of these drugs to state drug policy initiatives.
Methods: A secondary data analysis of drug treatment clients (N = 52,360) was conducted to project illicit drug use trends in Kentucky. This study describes temporal and geographic trends of self-reported illicit drug use among individuals in state-funded treatment in Kentucky between fiscal year 2010 and fiscal year 2013.
Results: Significant reductions in the prevalence of illicit opioid use, declined from fiscal year 2010 to fiscal year 2013 ($p < .01$, CI = −.298 to −.215). However, heroin use rates significantly increased over the years studied, suggesting there may be a transition from prescription opioids to heroin ($p < .01$, CI = .143 to .178). The analysis suggests these trends may continue.
Conclusions: Findings suggest Kentucky's legislative efforts were effective in reducing illicit prescription opioid use, but heroin use has increased. One possible explanation for this relationship is that as prescription opioids became more difficult to obtain, users turned to heroin as a substitute. The finding of rising heroin use suggests a need for further policy initiatives to reduce heroin use, but the potential effectiveness of this policy remains unclear. Understanding trends may help to guide future policy efforts and pain management treatment strategies to where they might have their greatest impact.

Introduction

The United States (U.S.) National Institute on Drug Abuse (NIDA) reported in 2011 that unintentional overdose deaths from opioid pain relievers had quadrupled since 1999, and by 2007 had outnumbered those involving heroin and cocaine combined. Nationally, the increased misuse of opioids had contributed to 21% of all poisoning deaths in 1999 and 37% in 2006 (Warner, Chen, & Makuc, 2009). Furthermore, the U.S. Department of Health and Human Services (2016) report that approximately 2 million people were dependent on prescription opioids, and more than half a million users were dependent on heroin (Volkow & McLellan, 2016). In most cases, opioids are obtained as a prescription medication for acute or chronic pain. Misuse of prescription opioids occurs when patients use the medication differently than prescribed (e.g., taking higher dosage), or when an individual is taking another person's medication (Nelson, Juurlink, & Perrone, 2015). Some studies attribute the rising heroin use rates as being linked to the high prevalence of opioid prescriptions and misuse—suggesting that heroin has become an illicit alternative drug when prescription opioids are unavailable (Kolodny et al., 2015; Cicero, Ellis, Surratt, & Kurtz, 2014).

It is important to examine how opioid prescription practices have changed over the years to better understand how it reached what some want to call 'epidemic-levels.' Nationally, the assessment and treatment of chronic non-cancer pain underwent major changes with the issuance of new practice standards of care for more assertive assessment and management to address patient suffering and the cost of untreated pain in the U.S. at between $560 and $635 (Relieving pain in America: A blueprint for transforming prevention, care, education, and research, 2011; Iyer, 2014). For example, in 1998, the Veterans Health Administration (VHA) implemented an initiative called "Pain as the 5th Vital Sign," which was strategically designed to improve the quality of patients' pain treatment (Department of Veterans Affairs, 2013). This initiative increased the odds that a patient would be prescribed an opioid

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analgesic, which had been considered a major prescription drug for the treatment of severe pain (Gibson & Farrell, 2004; Gordon et al., 2005; World Health Organization, 1996). Concurrently, pharmaceutical manufacturers promoted off-label application of opioids to ailments that were not traditionally thought of as being treated by this class of medication (Chou et al., 2015). Taken together, the high prevalence of prescribing opioid analgesics resulted in a high prevalence of opioid analgesic misuse and mortality. The resulting rise in opioid misuse led policy makers to enact legislative efforts to curb what the U.S. Department of Health and Human Services has called a 'public health epidemic.'

The Office of National Drug Control Policy's (ONDCP) recently expanded strategy focused on reducing opioid misuse (Brady, McCauley, & Back, 2015). The ONDCP initiatives have largely focused on education to patients and providers (e.g., informing the dangers of misuse), and policy reform (e.g., Prescription Drug Monitoring Programs). Apart from federal policies, state and local governments have also enacted policies to reduce opioid misuse with varied objectives and approaches (Dasgupta et al., 2014; Cicero et al., 2014).

Policies have addressed this problem in many ways by reducing supply, monitoring use and potential misuse, reversing overdoses, increasing access to treatment and prevention, and humanizing the epidemic (Koh, 2015). At the forefront of enforcement efforts are Prescription Drug Monitoring Programs (PMDPs), which electronically track prescriptions of all controlled drugs. PDMPs have been implemented and currently operate in 49 states except Missouri and Washington, DC (Koh, 2015). Although nearly all states have PDMPs, most do not have legislation that mandates utilization; thus, many states have utilization rates at or below 50%. As of July 2013, 16 states (Colorado, Delaware, Kentucky, Louisiana, Massachusetts, Minnesota, Nevada, New Mexico, New York, North Carolina, Ohio, Oklahoma, Rhode Island, Tennessee, Vermont, and West Virginia) had legislation mandating prescribers and in some cases dispensers use their respective PDMP (Prescription Monitoring Programs Center of Excellence, 2014). Still, these legislative mandates differ in the conditions under which they must be operated. For example, the Oklahoma statute (2010) requires checking PDMP only when prescribing methadone (Prescription Monitoring Programs Center of Excellence, 2014). On the contrary, Kentucky's PDMP mandates have wider conditions of application, including all scheduled drugs—perhaps because Kentucky ranks among the highest prescribers of opioid medication (Keyes, Cerdá, Brady, Havens, & Galea, 2014).

This study focuses on one state—Kentucky, which ranks high regarding misuse of controlled substances, with specific consideration given to the use of non-medical prescription opioids, illicit drug dependence, increases in meth-lab seizures, and rates of accidental drug overdoses that exceed the national average. Kentucky, like other states with large rural populations (e.g., West Virginia, Alaska, and Oklahoma) have higher concentrations of opioid morbidity and mortality (Keyes et al., 2014). Also, Paulozzi and Xi (2008) found that rural area opioid misuse has increased at a rate greater than three-fold when contrasted to metropolitan counties.

Research assessing the prevalence of drug misuse in Kentucky has found mixed results in recent studies. A 2008 report by the Substance Abuse and Mental Health Services Administration (SAMHSA) found 8.41% of Kentucky residents reported using illicit drugs in the past month with a national average of 8.02%. However, in 2014, SAMHSA found that 6.91% of Kentucky residents reported using illicit drugs in the past month, which fell below the national average of 8.90%. The same report indicated Kentucky residents reported nonmedical use of pain relievers at 4.44%, which is lower than the national average of 4.63%. However, drug-induced deaths in Kentucky (18.2 per 100,000 residents) exceeds the national average (12.8 per 100,000). Drug control experts in the state believe that fear of prosecution leads many users of prescription drugs to under-report use—particularly when the drug has been obtained through legitimate prescriptions, albeit for factitious medical conditions. Irrespective of national prevalence data, Kentucky is an appropriate case study for examining the potential influence that drug control policies have on drug misuse rates, because of its mandated PDMP system and high prevalence of prescription drug misuse.

To curb misuse of prescription opioid analgesics, Kentucky's General Assembly enacted legislation. House Bill 217 (2012), also known as "the pill mill bill," was passed with the aim of reducing the overprescribing and diversion of prescription drugs—especially prescription opioids, but it also included benzodiazepines. This legislation mandated close regulation of pain management clinics and the implementation of new prescribing standards on those prescribing and distributing prescription opioid drugs. The legislation put renewed emphasis on the prescription drug monitoring system, KASPER, which had first been established by the Kentucky General assembly in 1998 (Cabinet for Health and Family Services, 2006).

The Kentucky All Schedule Prescription Electronic Reporting Program (KASPER) (Prescription Monitoring Programs Center of Excellence, 2014) is managed by the Kentucky Cabinet for Health and Family Services (CHFS). Moreover, KASPER was further reinforced by Kentucky House Bill 217 (2013) (amended by House Bill 1), which was designed to reign in over-prescribing of prescription drugs and the diversion of prescription drugs. House Bill 217 requires state licensing boards to issue regulations that require practitioners to query the KASPER system before the initial prescribing or dispensing of any Schedule II controlled substance or a Schedule III controlled substance containing hydrocodone (H. B. 217, 2013).

For KASPER to work most effectively, legislators believed participation must be very high; thus, the KASPER was made mandatory with few exceptions. Following KASPER's mandated participation legislation in 2012, the utilization of the program increased precipitously. In fact, provider participation increased by 230%, between 2011 (811,000) to 2012 (2,691,000), and the weekday average number of patient event entries increased from 2,888 in 2011, to 18,722 in January of 2013–a 600% increase (Prescription Monitoring Programs Center of Excellence, 2014).

The mandate in HB 217 was successful in increasing Kentucky's prescribers' and pharmacists' registration in KASPER. This implementation was relatively costly, and there is a vocal opposition to the mandate with concerns about overutilization requirements and licensing board regulations regarding controlled substance prescribing standards (Prescription Monitoring Programs Center of Excellence, 2014). Even within these constraints, the KASPER system is in place today, and analysis of data suggest participation continues to improve (Wixson, Blumenschein, Goodin, Talbert, & Freeman, 2015).

The purpose of this study is to examine self-reported drug misuse trends among clients entering state-funded substance misuse treatment from 2010 to 2013. The four-year period spanned the time that key legislation was implemented (i.e., HB 1 (2012); HB 217 (2013)). This paper has three main objectives: (1) to analyze overall and year-to-year trends in self-reported opioid analgesic and heroin use over a four-year period; (2) to analyze and compare projected opioid analgesic and heroin trends to FY2018; and, (3) to discuss how recent policy initiatives in Kentucky may have influenced these drug misuse trends among substance users in state-funded treatment. This study will also investigate Tranquilizers/Benzodiazepines/Sedatives as a control variable to examine whether changes in prescription opioid misuse are not attributable