Policy analysis

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


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A B S T R A C T

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/missuse 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.

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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, pharma-
ceutical 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
(PDMPs), 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, Min-
nesota, 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 consider-
ation 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

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 fictitious
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 ($11,000) to 2012 (2,691,000), and the
weekly average number of patient entry events 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 imple-
m entation 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 Tranquil-
izers/Benzodiazepines/Sedatives as a control variable to examine
whether changes in prescription opioid misuse are not attributable
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