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Original Contributions

THE EFFECTS OF KENTUCKY'S COMPREHENSIVE OPIOID LEGISLATION ON PATIENTS PRESENTING WITH PRESCRIPTION OPIOID OR HEROIN ABUSE TO ONE URBAN EMERGENCY DEPARTMENT

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☐ **Abstract—Background: Prescription opioid abuse has increased to epidemic proportions in the United States. Kentucky, along with other states, passed comprehensive legislation to monitor and curb opioid prescribing. Objectives: This paper characterizes patients who presented to the emergency department (ED) after abusing prescription opioids and heroin prior to and after the passage of House Bill 1 (HB1) in April 2012. Methods: Based on a retrospective review of ED visits from 2009–2014 in one urban adult facility, patients were included if the chief complaint or diagnosis was directly related to prescription opioid or heroin abuse. The primary outcome is the number and type of substance abused by each ED patient. Results: From 2009–2014, 2945 patients presented to the ED after prescription opioid or heroin abuse. The number of prescription opioid patients decreased from 215 (of 276 patients) in 2009 to 203 (of 697 patients) in 2014; 77.9% of patients abused opioids in 2009, vs. 29% in 2014 (a 63% decrease). The number of heroin patients increased from 61 in 2009 to 494 in 2014; 22% of patients in 2009 abused heroin, vs. 71% in 2014 (a 221% increase). Both piecewise regression and autoregressive integrated moving average trend models showed an increased trend in patient heroin abuse beginning in 2011–2012. Conclusions: Our facility experienced a decrease in the number of patients who abused prescription opioids and an increase in the number of patients who abused heroin over the study period. The transition seemed to occur just prior to, or concurrent with, enforcement of statewide opioid legislation.** © 2017 Elsevier Inc. All rights reserved.

☐ **Keywords—opioids; heroin; substance abuse; opioid legislation; Kentucky**

INTRODUCTION

Opioid abuse and deaths in the United States have increased significantly since 2000 (1,2). In 2014, there were approximately three opioid deaths for every two deaths by motor vehicle accident (2). This increase can be attributed to several factors, such as pharmaceutical campaigns encouraging long-term use of opioids for noncancer pain, increasing awareness of pain as the "fifth vital sign," literature from the 1990s citing the safety of long-term opioid use, and increased recognition that pain is under-treated nationwide (3–6). Emergency physicians have witnessed an increased number of emergency department (ED) patients with nonmedical opioid abuse (5,7–11). To address the opioid epidemic, local governments and medical organizations such as the American College of Emergency Physicians have called for increased monitoring of prescription practices (12). Nationally, the Centers for Disease Control and Prevention issued guidelines in 2016 for the prescription of opioids (13). Each year, more states and local governments are issuing legislation regulating prescription opioids (5,14–20).

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In addition to opioid abuse, heroin abuse is rising (2,5,21). As the number of opioid prescriptions rose in the 1990s and early 2000s, heroin abuse was less prevalent (22). This trend is reversing nationwide. The rise in heroin abuse has several explanations, such as increasing opioid enforcement efforts, new abuse-deterrent formulations of opioids, patients requiring higher doses of opioids for analgesia, the rising street price of opioids, and the decreasing price of heroin (2,5,7,23–25).

Kentucky has been significantly impacted by this epidemic (6,26,27). In 2014, Kentucky ranked fourth in opioid- and heroin-related deaths, with 24.7 deaths per 100,000, as compared with the national average of 14.7 deaths (2,27). To address this crisis, the Kentucky General Assembly passed House Bill 1 (HB1) in April 2012 (Table 1) (6,28,29). This law required the Kentucky Medical Licensure Board to enact mandatory regulations by September 1, 2012 regarding the prescribing and dispensing standards for controlled substances. Enforcement in the form of emergency suspension or restriction of licensees who violated the regulations was included in HB1. To prescribe controlled substances, practitioners must register for the prescription drug-monitoring program (PDMP), Kentucky All Schedule Prescription Electronic Reporting (KASPER), and perform a KASPER query prior to prescribing scheduled drugs. The legislation also discouraged emergency medicine providers from prescribing opioids for nonacute pain (28).

The purpose of this study was to determine the effects of HB1 on patients presenting after prescription opioid and heroin abuse in one urban tertiary care facility. This is the first study that has characterized ED patients prior to and after the passage of Kentucky's comprehensive opioid-related legislation. Victor et al. suggested that the decreased prevalence of opioid abuse and increased prevalence of heroin abuse seen in Kentucky-based drug treatment clients was due to Kentucky's opioid legislation (6). However, it is unclear if this same trend is present in our ED patient population. We performed a retrospective review of ED patients who presented after prescription opioid and heroin abuse from 2009–2014. With the supply of opioid prescriptions theoretically restricted due to HB1, we hypothesized an increase in the number of ED patients presenting for heroin abuse.

Table 1. Summary of Kentucky House Bill 1 Legislation Mandates, Passed April 2012, Effective September 2012

Kentucky House Bill 1 – Summary of Legislation Mandates
Required Medical Licensure Board Regulations by September 1, 2012
• Mandatory prescribing and dispensing standards for controlled substances
• 48-h limit on licensed dispensing Schedule II or III hydrocodone substances unless dispensing as part of narcotic treatment program licensed by Cabinet
• Procedures for emergency suspension or restriction of licensee when there is substantial likelihood that their practice constitutes danger to patients or public
• CME requirements ensuring licensees obtain 7.5% of their required CME for reporting period in pain management, addiction disorders, or electronic monitoring
Requirements prior to prescribing/dispensing Schedule II or Schedule III with hydrocodone
• Obtain complete medical history and document in record
• Conduct physical examination and document in record
• Query KASPER for all available data on patient
• Make a written treatment plan setting out objectives of treatment and further diagnostic examinations required
• Discuss risks/benefits of controlled substance use, including risk of tolerance and dependence, with patient, patient's parent if minor, or patient's legal guardian or surrogate, and
• Obtain written consent for treatment
Exceptions:
• Licensee administering controlled substance necessary to treat in emergency situation:
• At the scene of an emergency
• In licensed ground or air ambulance, or
• In ED or ICU of licensed hospital
For Emergency Physicians, avoid
• Prescribing controlled substances for > 48 h
• Prescribing controlled substance for nonacute pain
KASPER requirements
• Every practitioner authorized to prescribe/dispense controlled substances shall register with Cabinet to use KASPER
• Every practitioner authorized to prescribed/dispense controlled substances shall maintain their KASPER registration continuously during their licensing
Exceptions to KASPER reporting
• Drug administered directly to a patient, unless drug is Schedule II or III with hydrocodone.
• Drug dispensed by practitioner/facility licensed by Cabinet for *no more than 48 h,* unless drug is Schedule II or III with hydrocodone.

CME = continuing medical education; KASPER = Kentucky All Schedule Prescription Electronic Reporting; ED = emergency department; ICU = intensive care unit.