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Original Research

Integration of prescription drug monitoring programs (PDMP) in pharmacy practice: Improving clinical decision-making and supporting a pharmacist's professional judgment

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Abstract

Background: Pharmacists have shared responsibility to investigate the validity of controlled substance prescriptions (CSPs) that raise concerns, or red flags, and subsequently exercise their right to refuse to dispense a CSP if its validity cannot be verified. Improving access to clinical practice tools, such as prescription drug monitoring programs (PDMPs), may increase availability of a patient's drug history, which is critical to making informed clinical decisions about dispensing CSPs.
Objectives: The purpose of this study was to examine how integration and consistent use of a PDMP in pharmacy practice impacts pharmacists' dispensing practices related to CSPs.
Methods: A cross-sectional study examined pharmacists' knowledge and use of Indiana's (US State) PDMP (INSPECT) and dispensing practices of CSPs. Three outcome measures were analyzed using multiple logistic regression so as to examine the relationship between PDMP use and pharmacists' controlled substance dispensing behaviors.
Results: Pharmacists were 6.4 times more likely to change their dispensing practice to dispense fewer CSPs if they reported that INSPECT provides increased access to patient information. Pharmacists who always use INSPECT refused an average of 25 CSPs annually compared to an average of 7 refusals for pharmacists not using INSPECT. Pharmacists using INSEPCT consistently (at every visit) were 3.3 times more likely to refuse to dispense more CSPs than pharmacists who report never using INSPECT.
Conclusions: Integration of PDMPs in pharmacy practice may improve a pharmacist's ability to make informed clinical decisions and exercise sound professional judgment. Providing clinical practice tools to both prescribers and pharmacists is important to preventing drug diversion and prescription drug abuse. Future research should focus on understanding the barriers and challenges to successful integration of PDMPs in pharmacy practice.

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Introduction

In 2015, the US Center for Disease Control and Prevention (CDC) reported that drug deaths related to prescription opioids have remained stable since 2012. This may suggest that the US is gaining some ground in regards to fighting the epidemic of nonmedical use of prescription drugs. However, there remains a significant amount of work to be done to improve the prevention and treatment of substance abuse.[1] In 2007, the CDC reported that someone dies from an unintentional prescription drug overdose in the US every 19 min, which resulted in 27,000 deaths in 2007, alone.[2] If the number of deaths related to prescription drug abuse is not alarming enough, the CDC reports that for every unintentional overdose, "9 persons are admitted for substance abuse treatment, 35 visit emergency departments, 161 report drug abuse or dependence, and 461 report nonmedical uses of opioid analgesics".[2] Prescription drug abuse is by no means a new problem. However, the continued growth and the current scale of the problem raise serious concern.[3] The distribution of opioid drugs has increased by over 7-fold between 1997 and 2007.[2] Unfortunately, with this increase in distribution of opioid drugs comes an increased risk of drug diversion. Drug diversion occurs when prescription drugs are used for recreational purposes, and thus are "diverted" from their original purpose.[4,5] Although, drug diversion can occur at various stages of the prescribing and dispensing process, the pharmacist may be the "last line of defense".[4,5]

Federal regulation 21 C.F.R. § 1306 requires that prescriptions for controlled substances be issued for legitimate medical purposes by individual practitioners acting in the usual course of their professional practice.[4,5] That same law imposes responsibility on pharmacists who fill the prescriptions. If pharmacists knowingly fill improper or invalid prescriptions, they, as well as the prescribers, can be held accountable.[5,6] Similarly, state law requires pharmacists performing their duties to exercise professional judgment that is in the best interest of their patients' health. Before honoring prescriptions, pharmacists are required to take reasonable steps to determine whether a prescription has been issued in compliance with state law.[4] According to federal regulation 21 C.F.R. § 1306, a pharmacist may refuse to fill a prescription if professional judgment suggests filling it would be contrary to law, be against the best interest of the patient, aid or abet an addiction or habit, or be contrary to the health and safety of the patient.[4] Unfortunately, making a clinical decision to refuse to dispense a controlled substance may prove difficult for many pharmacists due to a variety of factors that block or inhibit their ability to make an evidence-based clinical decision such as lack of patient information or lack of evidence-based resources.[7]

In recent decades, prescription drug monitoring programs (PDMPs) have become more prominent across the US. A PDMP is a statewide electronic database that collects detailed data on controlled substance prescriptions (CSPs) in a state.[8,9] As of 2013, 49 states had enacted legislation to develop PDMPs, and 48 states have implemented these programs.[8] PDMPs can help identify major sources of prescription drug diversion such as prescription fraud, forgeries, doctor shopping and improper prescribing and dispensing practices.[10] PDMPs have proven to be invaluable tools in fighting the growing prescription drug abuse epidemic in the US by reducing drug diversion of controlled substances and improving clinical decision-making through increased access to detailed patient drug histories for both prescribers and dispensers.[10]

In 2004, the State of Indiana expanded previous legislation and secured grant funding to establish the Indiana Scheduled Prescription Electronic Collection and Tracking Program (INSPECT), Indiana's PDMP aims to provide an additional clinical resource that improves providers' clinical-decisions by expanding access to their patients' prescription drug histories. An INSPECT report summarizes all CSPs a patient has been prescribed and includes information regarding the practitioner(s) who prescribed the controlled substance as well as the pharmacy and pharmacist who dispensed the CSP.[11] Although, a growing body of evidence suggests that incorporation of PDMPs are effective in increasing clinical-decision making by providing greater access to patient drug information, nearly 30% of providers in Indiana report not using INSPECT, according