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A qualitative analysis of prescribers' and dispensers' views on improving prescription drug monitoring programs

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ABSTRACT

Background: Prescription drug abuse is epidemic in the United States (US). To help address the problem, most states operate prescription drug monitoring programs (PDMPs). PDMPs are designed to monitor and help control the distribution of controlled therapeutic medications and to assist prescribers and dispensers in making informed clinical decisions. To this end, PDMPs rely on timely and accurate data submission, as well as review of the data. Consequently, provider acceptance of these systems is essential to maximize their effectiveness.

Objectives: This article explores licensed prescribers' and dispensers' opinions regarding prescription drug monitoring.

Methods: The study surveyed licensed prescribers and dispensers about their experiences and views on drug monitoring, prescribing and dispensing practices, and on prescription drug abuse in general. Two open-ended questions were posed as part of a larger, end-user survey. The analysis culled thematically-coded excerpts to these two questions.

Results: Respondents offered a range of comments that unearthed important disagreements among prescribers and dispensers over the administration and ethics pertaining to PDMPs. At the same time, some respondents suggested means to enhance PDMPs functionality.

Conclusion: Attending to and rectifying providers' views, while considering their improvement suggestions may boost PDMPs effectiveness by maximizing buy-in and utilization. The potential speaks to advancing a tool that intends to help address alarming rates of prescription drug abuse.

1. Introduction

In the United States (US), enough prescription-grade pain medications are prescribed annually to provide every adult a month's supply on a 4 h treatment cycle.[1] In fact, the US consumes 80% of the global supply of opioids and 99% of the pain reliever, hydrocodone – the single most prescribed medication.[2] It is estimated the cost of prescribed opioid abuse alone exceeds $50 billion dollars annually.[3] This situation has led to an epidemic in prescription drug misuse and abuse, i.e. taking a medication more frequently or for reasons other than as prescribed, resulting in problematic outcomes such as increased rates of opioid overdose.[4–10] Further complicating the prescription drug epidemic is the relationship between prescribed medications, especially for pain treatment, with illicit drug use/abuse.[11,12] In addition, illicit use of medications has been linked to other problematic health outcomes, e.g. HIV though injection drug use practices.[13] The problems associated with the abuse of therapeutic medication are significant concerns for licensure and monitoring bodies, criminal justice agents, healthcare and public health professionals, as well as patients and their loved ones.

To help counter prescription drug abuse, at present all US states but Missouri, operate a prescription drug monitoring program (PDMP).[14] PDMPs make prescription-level data, including patient, prescriber, and dispenser information available electronically to prescribers, dispensers, and, as allowed by individual state law,

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other professional roles, e.g. criminal justice agents.[15,16] Their mission is to raise awareness and inform patients' prescription fill patterns as well as providers' prescribing and dispensing practices.[17]

Studies demonstrate PDMPs vary in their effectiveness.[7,18–23] For example, in 2011 Paulozzi and colleagues reported on drug overdose mortality rates comparing PDMP states, of varying degrees of functionality, to states with no PDMP (fewer states operated a monitoring program at the time of their analysis).[20] They found no relationship between states with and without a PDMP and overdose mortality; but they did document a positive correlation between states operating a PDMP and opioid consumption—those states with PDMPs consumed more opioids than their non-PDMP counterparts.[20] On the other hand, Reifler and colleagues argued PDMPs are effective in addressing prescription drug abuse in their comparison of treatment admissions for opioid use and surveillance reports of "intentional exposure" in PDMP and non-PDMP states; however, when reviewing their findings, the impact was quite small, and in the case of treatment admissions, did not achieve the conventional standard of significance ($p < 0.05$).[21] Consideration regarding PDMPs' impact also needs to include their integration into healthcare practice, recent implementation, as well as the variability in administration.[22]

Green and colleagues called for caution when inferring PDMP's impact given a number operate outside the healthcare system and are peripheral to provider practice.[23] In fact, a third of PDMPs function within state criminal justice or commerce agencies.[17] Green et al. argue PDMP data have played a limited role in clinical practice, effectively mitigating their impact.[23] This assertion highlights the importance of healthcare providers buy-in and utilization of PDMPs to counter abuse and its concerning outcomes. The role of licensed healthcare providers is central if PDMPs are to influence treatment planning and prescribing practices, the direction many are said to be evolving.[24]

Unfortunately, we know little about how healthcare providers perceive or use PDMPs. Policy-makers need a better understanding of healthcare providers' attitudes and use of PDMPs to increase provider buy-in, an essential ingredient in the effectiveness of PDMPs.[25,26] Without provider buy-in, the long-term impact of PDMPs will be truncated because prescribers and dispensers serve as the primary gatekeepers to therapeutic medications.[27] Furthermore, licensed prescribers and dispensers determine the quantity and quality of PDMP data, as well as how these data are used to inform routine clinical practices. This paper fills a gap in knowledge by exploring provider views regarding PDMPs and monitoring practice, as well as practical suggestions on how to improve PDMPs.

2. Methods

2.1. Study design

The Indiana Professional Licensing Agency (IPLA), who administers the Indiana Scheduled Prescription Electronic Collection and Tracking Program (INSPECT[e])—the state's PDMP—contracted with the Center for Health Policy (CHP) at Indiana University-Purdue University Indianapolis (IUPUI) to assess licensed providers' knowledge, attitudes, use, and the impact of the state's PDMP on prescribing and dispensing practices. CHP developed the *2013 IPLA INSPECT Knowledge and Use Survey* in association with IPLA and the Indiana Prescription Drug Abuse Prevention Task Force. The questionnaire asked about demographic and practice characteristics, awareness of the state's PDMP, frequency of PDMP usage, changes in prescribing and dispensing practices based on perceived monitoring, opinions on access to PDMP data, as well as knowledge regarding the risks and benefits of opioid treatment.[f] This evaluation was conducted via a web-based survey.

Eligibility criteria required respondents to hold a valid license to prescribe and/or dispense controlled medications in the state. Eligible providers included Medical Doctors (MD), Doctors of Osteopathy (DO), Doctors of Podiatric Medicine (DPM), Physician Assistants (PA), Nurse Practitioners (NP), Dentists, and Pharmacists, yet excluded Doctors of Veterinary Medicine. Recruitment involved a series of electronic invitations; each invitation included a link to the survey. All invitations informed invitees of the confidential nature of their responses as well as human subject's approval from the Indiana University Institutional Review Board.

As part of the larger INSPECT program evaluation, the survey posed two open-ended questions. The questions were: "What patient information/educational content, if any, would help you better care for your patients and community;" and, "Please include any other comments or additional information you would like to share (regarding topics covered, e.g. the state's PDMP and prescription drug misuse/abuse)." The responses to these questions are the focus of the present analysis.

2.2. Data analysis: the coding scheme

The respondents' comments, along with their area of professional licensure, were downloaded into Microsoft Excel and coded thematically. The coding scheme evolved iteratively over several readings. In total, the coding scheme included 26 codes (see Table 1). Four themes framed the coding scheme with each umbrella theme refined by a series of sub-themes. In some instances, the sub-themes were also refined to delineate threads found in the narratives. The scheme evolved during consultations between the coder and the study's principal investigator. Once the coding scheme was finalized, the coder re-read and coded all responses. Up to four codes were applied to each comment. Relevant codes were determined via a chronological read of the comment.

The findings uncovered an internal debate among licensed providers regarding PDMPs. Some providers noted administrative and ethical concerns with PDMPs, especially as they encroach on medical practice and the provider-patient relationship. Other respondents conceived a role for PDMPs and external oversight as they viewed abused medications as primarily pipelined via providers' practices. In addition, a number of respondents offered a host of suggestions on how to improve PDMPs. In total, these narrative threads offer policymakers and PDMP administrators' important insights on means to boost utilization, thus improve PDMP's impact.

3. Results

3.1. Participant characteristics

A total of 5994 healthcare providers completed the survey.[g] Table 2 presents the samples' demographic characteristics (see[28]

[e] At the time of the study, IPLA required pharmacists and dispensing providers to report data within 7 business days. Prescribers were encouraged, but not required, to review INSPECT prior to writing or refilling a prescription for a Schedule II–V medication.

[f] For a descriptive report of the study's findings, see Kooreman, Carnes, and Wright (reference [28]).

[g] 38,333 providers met eligibility criteria and were invited to participate, for a 15.6% response rate.

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