

# A Multistep Approach to Address Clinician Knowledge, Attitudes, and Behavior Around Opioid Prescribing

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## ABSTRACT

**Introduction:** The Wisconsin Prescription Drug Monitoring Program (PDMP) was implemented in 2013 to reduce the misuse, abuse, and diversion of controlled substance prescriptions.

**Objective:** To evaluate provider knowledge, attitudes, and behaviors regarding the Wisconsin PDMP before and after study interventions.

**Methods:** An initial survey of clinicians, a focus group, pre- and posttests for an educational session, and a 3-month follow-up survey were utilized.

**Results:** Initial survey participants described PDMP use. Focus group themes included system, hospital, clinician, and patient factors. Educational session pre- and posttests showed an increase in provider knowledge. Follow-up surveys demonstrated practice change among providers.

**Conclusion:** This study can be useful for health care organizations, state PDMPs, and prevention organizations in tailoring messaging to clinicians around safe prescribing and PDMP use.

## INTRODUCTION

Wisconsin is in the midst of an unintentional drug poisoning epidemic resulting in opioid-related injury and death. Over the last decade, the number of unintentional drug poisoning deaths in Wisconsin has increased by over 65% from 439 deaths in 2006

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to 727 in 2015. Excess unintentional drug poisoning cases from 1999 levels account for more than 500 deaths per year in Wisconsin. Starting in 2011, unintentional poisoning injury deaths exceeded those of deaths due to motor vehicle crashes and became the second leading cause of unintentional injury death, behind falls, in Wisconsin.<sup>1</sup>

Recently, the Heroin, Opioid Prevention and Education (HOPE) Agenda legislation was introduced in Wisconsin. This legislation aims to combat the state's heroin and opioid epidemic through bipartisan legislative support, which currently includes several bills that have been introduced and passed. One of the most salient policies introduced is a requirement that, as of April 1, 2017, clinicians must check the Wisconsin Prescription Drug Monitoring Program (PDMP) before prescribing controlled substances, except in certain instances.<sup>2</sup>

Ours is a novel study that utilizes mixed methods to gather information on clinician use of the Wisconsin PDMP and chronic pain treatment and management through the use of an opioid prescribing pathway and scripting language. We administered our initial survey, focus group, and educational module prior to the April 1 HOPE Agenda legislation mandate.

## METHODS

### Initial Survey

Southeastern Wisconsin emergency medicine (EM) providers were invited to participate in this anonymous online survey. The survey questions were formulated to gauge clinician readiness to use, understanding of, and attitudes regarding the Wisconsin PDMP.<sup>3</sup> Information obtained from survey responses was used in order to evaluate current PDMP use in clinical practice and to tailor an

educational module to better address the concerns and issues most relevant to this population of providers. Descriptive statistics were performed for all variables.

### **Focus Group**

Emergency medicine physicians, advance practice providers, medical residents, and students were invited to participate in a focus group to gather in-depth, qualitative information on clinician attitudes about chronic pain management in their work setting and the use of the Wisconsin PDMP as a provider. Information from the focus group was used to inform our educational module's content. The focus group was conducted in October 2016 and was audio recorded and transcribed to allow for thematic analysis, using a grounded theory approach.

### **Training and Education Module for Local Providers**

The educational module, which is approximately 1 hour long, was created by the study team for EM providers and was later tailored so that it could be administered to clinicians in other specialty groups, including Hematology/Oncology and Physical Medicine and Rehabilitation. The presentation included information on the scope of the opioid abuse and misuse epidemic, recently passed legislation and policies that will directly affect opioid prescribing, and registration, access, utilization/best practices, and applications of the Wisconsin PDMP. Assessment (pretest) and evaluation (posttest) surveys were administered to participants during each session. Descriptive statistics were performed for all variables.

### **Follow-up Survey**

To evaluate longer-term effects of the educational module, training session participants were invited to participate in a 3-month follow-up survey. The intent of the survey was to gather information about self-reported changes in prescribing practices (including the use of non-opioid alternatives), changes in understanding of

**Table 1.** Focus Groups Themes, Subthemes, and Evidence

Theme	Subthemes and Evidence
System	<p>There is a lack of guidance around the HOPE legislation PDMP mandate.</p> <p>Prescribers feel a push to decrease the prescribing of pain medications but a lack of alternatives for certain prescriptions. ("...we write prescriptions for Lidoderm patches, and the...attending gets a phone call saying the patient can't afford it, or it's not on the formulary, and there isn't an alternative...")</p> <p>Systems are not aligned in a manner that consistently allows providers to see what medications are prescribed by providers in different settings.</p> <p>Formalized community resources, such as pain contracts and pain management plans, may improve provider effectiveness in working with chronic pain patients.</p>
PDMP in the Hospital	<p>Time is a barrier to PDMP usage, especially in a busy emergency department setting. ("...if there was an automatic login through EPIC...that would save 5 or 10 minutes.")</p> <p>The need to remember the many login steps to access the PDMP is burdensome.</p> <p>The use of a chronic pain prescribing pathway, which includes information on how to integrate the PDMP into practice, is helpful, as is information on processes for managing challenging patient situations.</p>
Providers	<p>Using the PDMP is a routine. ("I personally try to PDMP everyone before I write a script of narcotics unless it is an obviously acute situation..." "I use it on average once a shift...")</p> <p>Providers rely on their own perceptions about a patient as a cue to access the PDMP. ("...we take a lot of our own biases into these situations...")</p> <p>Communication with providers' peers is helpful in treating pain patients, especially when a firm pain management plan is in place.</p> <p>Working with other providers can make the prescribing process more difficult. ("...you see that other people are not necessarily making the best decision for that patient, and then you have to deal with it.")</p> <p>User error (eg, using the wrong password and being locked out of the PDMP) is a barrier to PDMP use.</p>
Patients	<p>Patients have their own expectations regarding prescribing. ("...it becomes very hard to manage their expectations in trying to get their pain to zero, and they may appear comfortable, they're saying their pain is a 10 out of 10.")</p> <p>Patient cues cause providers to check the PDMP before prescribing, in addition to patients reporting a lost or stolen prescription or failing to follow up with specialists.</p> <p>When patients are altered or are not aware of what is going on, providers use the PDMP to not only look at what medications have been prescribed, but also to determine and communicate with the providers who have worked with that patient.</p>

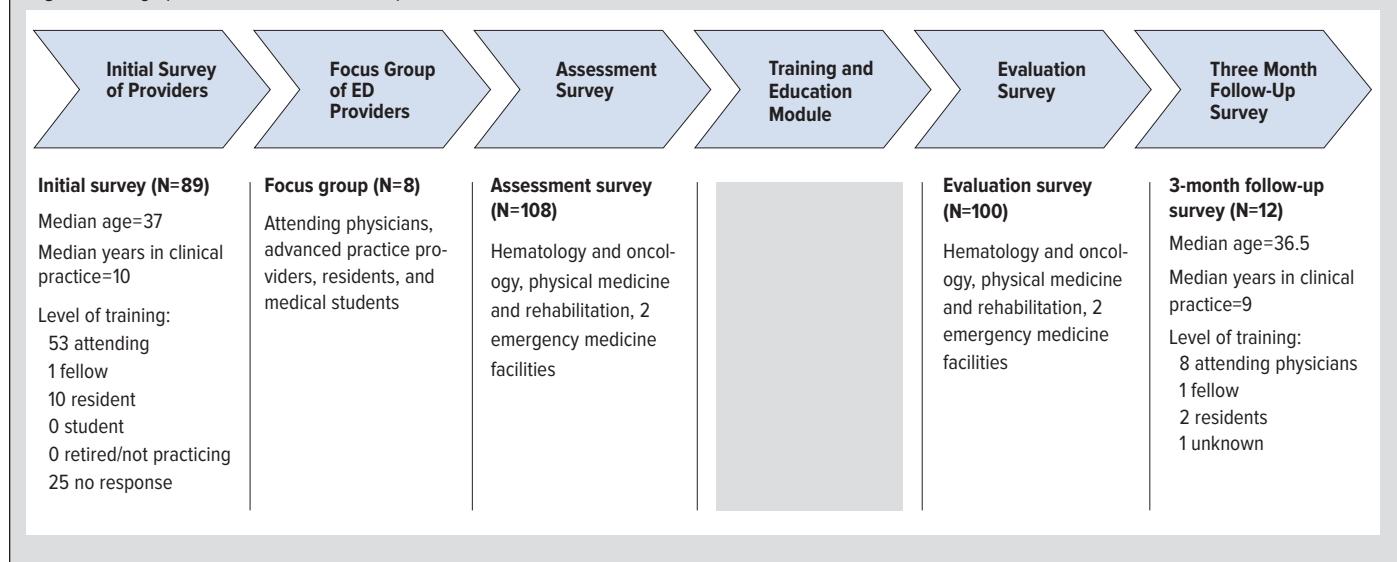
Abbreviations: HOPE, Heroin, Opioid Prevention and Education; PDMP, Prescription Drug Monitoring Program.

**Table 2.** Comparison of Assessment, Evaluation, and Follow-up Surveys with Pretest, Posttest, and Follow-up Scores

Indicator	Pretest Mean	Posttest Mean	Follow-up Survey Mean
I have a good understanding of opioid abuse and misuse	3.96	4.50*	4.25*
I know how to access the Prescription Drug Monitoring Program (PDMP).	3.26	4.53*	4.75
I am comfortable using the PDMP.	2.95	4.08*	4.67*
I understand the new PDMP mandate that will be enforced beginning on April 1, 2017.	3.17	4.61*	4.75
Physician utilization of the PDMP is important for patient care.	4.31	4.51*	4.83*
Physician utilization of the PDMP is important for public health.	4.36	4.55*	4.75
PDMPs are a necessary tool in effective patient care.	4.17	4.47*	4.58

\*Significant results at  $P < 0.05$ .

**Figure.** Demographic Characteristics of Participants in Data Collection Efforts



the PDMP and in understanding of the opioid prescribing pathway, and to gauge behavior change related to use of the PDMP that may have resulted from the educational session. Descriptive statistics were performed for all variables, as well as 1-sample *t*-tests for changes in mean scores.

## RESULTS

### Initial Provider Survey

The Figure provides demographic and other information regarding survey participants. Ninety-six percent of respondents reported that they had heard of the PDMP; 78% were registered to use it. Among those not yet registered, a majority indicated that they did not know how to register (63%).

Fifty-five percent of those respondents who said they had registered for the PDMP indicated that it was either very easy, easy, or somewhat easy to use. A majority indicated that they use the PDMP at least 2 to 4 times per week, with almost 15% of respondents indicating that they use it more than 10 times per week.

The most indicated reasons for using the PDMP were identifying prescription drug abuse (100%) and confirming a patient's story (94%). The majority (98%) of survey respondents found the PDMP extremely to moderately useful for patient management.

### Focus Group

The Figure presents a breakdown of focus group participants. The themes generated from the focus group are situated in a Social-Ecological framework, which allows for an understanding of the interplay among various environmental, systemic, and individual-level factors. Detail regarding themes and corresponding sub-themes is included in Table 1. The system-level, hospital-level, and provider-level themes all contribute to patient care, while patients themselves influence provider use of the PDMP.

### Training and Education Module for Local Providers

The Figure provides information regarding module participants, including specialty area. Pretest score means were compared with posttest score means for significant changes ( $P < 0.05$ ) using 1-sample *t* tests. Analyses were conducted using STATA software, Version 13.1. Results are shown in Table 2.

### Follow-Up Survey

Information regarding follow-up survey participants and the response rates are included in the Figure. Means were calculated for each variable and were compared with means from the educational session presentation post-test means for significant changes ( $P < 0.05$ ) using 1-sample *t* tests. Analyses were conducted using STATA software, Version 13.1. Results are shown in Table 2.

Of the 12 survey respondents, 6 (50%) indicated that their knowledge in safe prescribing practices and the use of nonopioid alternatives for pain increased as a result of the educational session, and 50% agreed that their skills in safe prescribing practices and the use of nonopioid alternatives for pain increased as a result of the educational session. Seventy-five percent of respondents reported that they either "completely agree" or "agree" with the statement, "As part of my clinical practice, I check the PDMP more consistently than I did prior [to the educational session]." Thirty-three percent of respondents agreed that they feel more comfortable when treating pain as a result of the educational session.

## DISCUSSION

The opioid epidemic is a vexing public health issue. Clinicians are an important cohort to include in prevention strategies, as they have the unique responsibility of managing chronic and acute pain among their patients in a way that is both responsible in terms of

prescribing, yet effective in terms of pain management. This study used mixed research methods to understand a number of provider-level factors relating to chronic pain prescribing practices, attitudes about, and knowledge regarding a state-level intervention to reduce the availability of opioids in the general population (the PDMP), and to create and evaluate an educational intervention that aimed to educate clinicians about these concepts.

One limitation of this study is that the surveys rely on self-reporting, so there may be issues relating to response or recall bias. One way this limitation could be addressed would be to access and analyze actual prescribing behavior and PDMP use from the PDMP itself. Also, our study may be susceptible to selection bias, as those clinicians who are keenly interested in the opioid epidemic or the Wisconsin PDMP may have been more likely to respond to our surveys or to attend our focus group or educational sessions, thereby ensuring that our sample is not truly representative of the population we intend to study. As this was a mainly descriptive study, we did not attempt to address this bias in our recruitment or analysis.

## CONCLUSIONS

This study can be useful for health care organizations, state PDMPs, and prevention organizations in tailoring messaging to clinicians around safe prescribing and PDMP use, and in addressing barriers to safe prescribing and PDMP use in practice. It is an important first step in the understanding of a number of concepts around prescribing practice and PDMP use and provides a basis for further evaluation and research in this area.

**Funding/Support:** Material development was funded by the Cooperative Agreement 5 NU17CE002741-02, Centers for Disease Control and Prevention (CDC). Its contents do not necessarily represent the official views of the CDC or the US Department of Health and Human Services.

**Financial Disclosures:** None declared.

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