

PRIMARY CARE & HEALTH SERVICES SECTION

Brief Research Report

Clinicians' Use of Prescription Drug Monitoring Programs in Clinical Practice and Decision-Making

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Abstract

Objectives. Little is known about clinicians' use of prescription drug monitoring program (PDMP) profiles in decision-making. The objective of this qualitative study was to understand how clinicians use, interpret, and integrate PDMP profiles with other information in making clinical decisions.

Design. Qualitative interviews of clinician PDMP users.

Setting. Oregon registrants in the state's PDMP.

Subjects. Thirty-three clinicians practicing in primary care, emergency medicine, pain management, psychiatry, dentistry, and surgery.

Methods. We conducted semistructured telephone interviews with PDMP users. A multidisciplinary team used a grounded theory approach to identify patterns of PDMP use and how PDMP profiles influence clinical decisions.

Results. PDMP use varied from consistent monitoring to checking the PDMP only on suspicion of misuse, with inconsistent use reported particularly among short-term prescribers. Primary care clinicians reported less routine use with existing pain patients than with new patients. In response to worrisome PDMP profiles with new patients, participants reported declining to prescribe, except in the case of acute, verifiable conditions. Long-term prescribers reported sometimes continuing prescriptions for existing patients depending on perceived patient intent, honesty, and opioid misuse risk. Some long-term prescribers reported discharging patients from their practices due to worrisome PDMP profiles; others expressed strong ethical grounds for retaining patients but discontinuing controlled substances.

Conclusion. Greater consistency is needed in use of PDMP in monitoring existing patients and in conformity to guidelines against discharging patients from practice. Research is needed to determine optimal approaches to interpreting PDMP profiles in relation to clinical judgment, patient screeners, and other information.

Key Words. Prescription Opioids; PDMP; Clinical Decisions; Discontinue; Discharge

Introduction

In response to rising rates of opioid overdose mortality [1] and growing concern over prescription drug abuse and diversion, 49 of 50 states have implemented prescription drug monitoring programs (PDMPs) [2]. Most PDMPs became operational within the past 15 years. PDMPs for controlled substances can help identify patients with problematic prescription patterns and aid in decision-making related to prescribing. In most states, however, PDMPs are not yet accessed by prescribers routinely and consistently [3–6]. To address this gap, many states have mandated use of the PDMP, though conditions under which use is required vary greatly. Five states mandate PDMP use at prescription opioid initiation and at three-month intervals for ongoing monitoring of patients with long-term opioid use [7]. Other states have less stringent mandates, such as less frequent monitoring intervals, limiting mandates to certain types of prescribers or prescriptions, or mandating PDMP use only if inappropriate prescription use is suspected [7]. Oregon, the setting for our study, is one of 20 states that do not mandate use of the PDMP under any circumstances. The 2016 Centers for Disease Control (CDC) opioid prescribing guideline for chronic pain provides explicit recommendations regarding PDMP usage [8]. It may contribute to accelerating PDMP mandates and usage, as well as the cultural shift in managing chronic pain that is particularly evident over the past year—toward more cautious opioid prescribing.

Clinicians and patients report frustrating and often antagonistic interactions related to use of opioids for chronic noncancer pain [9,10]. Previous studies examined the influence of clinician and patient factors (e.g., patient characteristics and behavioral expression of pain, clinician beliefs about pain and abuse potential) on opioid-prescribing decisions [11–18]. However, few have examined the influence of patient PDMP profiles on prescribing. Recent research conducted in the emergency department setting provides mixed evidence of the influence of PDMP on prescribing decisions, with some finding reductions in prescribing intent [19,20] and others showing little change [21,22]. A lack of guidance on interpreting and responding to PDMP profiles may be a factor [23]. Research gaps exist in a number of key areas related to PDMP profiles, including how clinicians interpret and integrate PDMP profiles with other information and what prescribing decisions and other clinical actions clinicians take in response to worrisome PDMP profiles.

To explore in greater depth clinicians' use of PDMP and the influence of PDMP use on clinical decision-making, we conducted semistructured telephone interviews with clinicians who completed our earlier survey [6].

Methods

Oregon State Public Health Division and Oregon Health and Science University Institutional Review Boards

approved this study. We also obtained a Certificate of Confidentiality from the National Institutes of Health to protect participant confidentiality.

Sample

Sampling was based on respondents to a survey in 2013, when 36% of controlled substance prescribers were registered to use the PDMP [24]. Registered users of the PDMP who completed an Oregon clinician survey were eligible for participation in this study (N=619). Of the 619 survey respondents, 212 provided follow-up contact information. Among this group, we purposively selected a diverse sample of 60 clinicians that varied on specialty (i.e., primary care, emergency medicine, surgery, dentistry, pain medicine) and experiences reported when communicating with patients about the PDMP (e.g., patients not responding with anger/denial, requesting help with addiction, patients not returning). Interviewees included prescribers from specialties typically responsible for short-term or acute prescriptions only, here designated "short-term prescribers" for convenience (emergency medicine, dental, and surgical), and prescribers from specialties that may also be responsible for long-term prescriptions, designated "long-term prescribers" (family medicine, pain medicine, and addictions/psychiatry specialty). Interviews were conducted in 2014.

Data Collection

Experienced qualitative researchers conducted interviews by telephone. Interviews followed a semistructured guide, with questions focused on use of the PDMP and influence of PDMP on clinical decisions. Data collection and analysis were iterative, allowing our team to monitor when saturation was reached and to refine the interview guide to elicit more specific examples of patient encounters involving the PDMP (Attachment A includes the interview guide). Clinicians received \$150 as incentive for participating. Interviews were digitally recorded, professionally transcribed, reviewed for accuracy, de-identified, and uploaded into ATLAS.ti software (version 7.1.3) for analysis.

Analysis

A multidisciplinary team composed of a primary care physician, clinical pharmacist, addiction therapist, communication scientist with expertise in qualitative methods, and two qualitative research analysts reviewed transcripts. We used a grounded theory approach [25] for qualitative analysis, an inductive method of using empirical data to generate findings and develop theory. We engaged in two immersion-crystallization analysis cycles [26]. First, team members analyzed a subset of transcripts as a group to gain insight into participants' experiences and use of the PDMP (the immersion process). We identified important segments of text and key findings (crystallization process) that we developed into a code list. Next, three team members analyzed the

remaining interviews independently using the code list, meeting regularly with a fourth team member (the team’s qualitative expert) to confirm intent and refine codes as new insights emerged and reviewing with the full multidisciplinary team periodically to clarify findings.

Results

Thirty-three Oregon clinicians who were registered users of the PDMP participated in telephone interviews (55% of the 60 clinicians contacted). Participants included 13 short-term prescribers (six emergency clinicians, five dentists, two surgeons) and 20 long-term prescribers (16 primary care clinicians; four clinicians with practices in pain, addiction, or psychiatry). Of the 33 respondents, 14 were female and 19 male. Participants were regular users of the PDMP, with 26 of 33 reporting accessing the PDMP 10 or more times a month. Interviews identified patterns of decisions related to accessing the PDMP, responding to worrisome PDMP profiles, and discharging patients from practice (Table 1).

Decisions to Access the PDMP

Decisions to access the PDMP varied from clinicians who checked the PDMP routinely to those who relied on red flags to trigger PDMP use. Long-term prescribers reported routine use of the PDMP, though primary care clinicians described accessing the PDMP more routinely and consistently for new patients than for existing patients. For existing patients, some primary care clinicians reported checking on a fixed or patient-tailored schedule (e.g., check at every visit, at time of prescription refill, annually), and others checked only when a red flag emerged. For example:

Any existing patient, it really will sort of depend on the situation. If I see them frequently wanting medications, maybe after the first or second time, I’ll be checking them. It really depends on what they’re asking for. It really depends on the feel that I’m getting from the patient. I don’t have a really good—I don’t have a thing I do for every patient. (Participant 3, primary care clinician)

Short-term prescribers (emergency clinicians, dentists, surgeons) reported less consistent use of the PDMP, relying more on clinical experience and red flags to trigger checking.

It’s instinct. It’s, you know, there’s specific complaints that patients will come in with, back pain or tooth ache or shoulder pain—usually nontraumatic type stuff. . . . There’s also interactions with patients that you’re dealing with and you’re kind of going, okay, the information just isn’t making sense. . . . or that they’ve got multiple drug allergies. (Participant 4, emergency clinician)

Clinical Decision-Making in Response to PDMP Findings

Clinicians across specialties reported declining to prescribe opioids to new patients with worrisome PDMP profiles, except in the case of acute, verifiable conditions (e.g., broken bone, herniated disc). For example:

I have a 100 percent policy of no. . . . There’s not a lot to argue. They will say, “Yeah, but I’m in pain.” And it’s like, “Okay, but I will call and make an appointment with your provider” or “If you don’t have one, I will call somebody” or “Here’s a pain

Table 1 Summary of key findings

Finding	Key points
Accessing the PDMP is influenced by specialty type.	<ul style="list-style-type: none"> • Short-term prescribers (emergency clinicians, dentists, surgeons) reported inconsistent use of the PDMP, often relying on red flags to trigger checking. • Long-term prescribers (primary care clinicians; pain, addiction, psychiatry specialists) reported routine use of the PDMP. • Primary care clinicians reported less routine use in monitoring existing pain patients than new patients.
Prescribing decisions after a worrisome PDMP profile are influenced by continuity relationship.	<ul style="list-style-type: none"> • With new patients, clinicians reported declining to prescribe in the face of a worrisome profile, except in the case of acute, verifiable conditions. • With existing patients, long-term prescribers reported sometimes continuing prescriptions, depending on the circumstances. Influential factors included perceived patient intent or honesty, or patient risk level on an opioid screener.
Among long-term prescribers, discharge decisions varied.	<ul style="list-style-type: none"> • Some long-term prescribers reported at times discharging patients from their practices due to worrisome PDMP profiles; others discontinued opioids but were retained in care.

management clinic we can set you up with."
(Participant 5, emergency clinician)

For existing patients, long-term prescribers' decisions following a worrisome PDMP profile depended on perception of whether a patient had made an inadvertent error. For instance:

If they've gone to other prescribers, I've found it's most commonly dentists, and they don't think of it as the same thing. They go to a dentist and get a root canal or whatever and they'll get 10 Vicodin or 20 Vicodin, then it shows up as a [medication agreement] violation. They say, "Ah I didn't even think—I went to the dentist." So I am aware of the kind of mistakes that people make. But when somebody has been to an emergency room three times in the last month and hasn't told me and got prescriptions every time, I simply say, "That's a violation, and I can no longer prescribe for you."
(Participant 9, primary care clinician)

Other factors influencing prescribing decisions included perceived patient dishonesty, previous worrisome profiles, and high scores on an initial opioid risk screening. If continuing a prescription, long-term prescribers reported intensified monitoring (e.g., increased frequency of urine screens, PDMP checks, or pill counts), shorter refill/visit schedules, warning of prescription discontinuation for repeated violations, or referral to a behavioral specialist, as the excerpt below illustrates:

It depends on the patient's history and the risk of addiction and abuse. So we do a risk evaluation when the patient is first in. So they're either a mild, moderate, or high-risk patient. If they're a high-risk patient and something happens, then it's a lot more severe what I do. If they're a really moderate or low-risk patient, then chances are I might not be as controlling. I might just say, "Okay you did this—now we're reiterating this is our policy. You can't do this again," and just warn the patient. Then I'll watch the drug monitoring program a lot closer and maybe do urine drug screens more frequently.
(Participant 10, primary care clinician)

Discharging Patients from Practice

Long-term prescribers varied with regard to their beliefs about whether to discharge patients with a worrisome PDMP profile or retain them in care and discontinue controlled substances. Some described a sense of responsibility to continue patient care and help patients reduce opioid use:

I think as clinicians, a lot of times we hide behind the Hippocratic Oath or we hide behind this side that we don't want to hurt anybody. Well, we already got all those patients on these medications. It's best that you work with them and turn the ship is the way I look at it. We can slowly decrease the

amount and work with that patient and in addiction therapy or pain therapy, come up with some other modalities to treat their pain. I think cutting a person off, taking them from 20 mg of oxycodone three times a day, and then the next minute telling them they can't have any more and then blaming them for being an addict or blaming them for wanting to have more medication all the time—to me it's just unbelievably irresponsible.
(Participant 3, primary care clinician)

Long-term prescribers who reported sometimes discharging patients from practice for a worrisome PDMP profile described the influence of a variety of factors, including perceived patient honesty, provider-patient relationship, and multiple medication agreement violations, as in the below quotes:

Usually the people I choose to just discharge from my clinic are the ones who have been getting narcotics multiple other places and haven't been honest with me.
(Participant 11, primary care clinician)
Well, it depends on the relationship I've had with them, too. I mean, generally I won't just do it the first time. I usually have the conversation one or two times about it. [For example,] One [patient] got something from a dentist and I had him come in and sign another [medication agreement] saying I'm absolutely the only one that you're going to get prescriptions from, and I said if you get anything from a dentist, you're going to be fired... A couple of months later he got something from another dentist, so I fired him.
(Participant 12, primary care clinician)

Discussion

PDMP use varied from consistent monitoring to checking the PDMP only on suspicion of misuse, with inconsistent use reported particularly among short-term prescribers and with existing patients of long-term prescribers. As clinicians' instincts and ability to detect misuse are imperfect, our findings raise concern that clinicians may overestimate their ability to detect aberrant drug use [27,28]. Beyond PDMP use at prescription initiation, guidelines from the American Pain Society and the American Academy of Pain Medicine recommend individual risk stratification with patients receiving long-term opioids to determine frequency of monitoring with a variety of tools (e.g., monitoring stable low-risk patients at least every three to six months) [29]. The 2016 CDC guideline for prescribing opioids for chronic pain recommends periodic PDMP review, ranging from every prescription to every three months [8]. While mandates may increase routine PDMP use, reasonably flexible monitoring expectations for long-term prescribers and efficient integration into clinical workflow for all prescribers may be essential [23,30,31]. Prescriber opposition to mandates might be reduced if PDMPs continue to make steps toward real-time data collection, interstate data-sharing, and integration into electronic health records.

The idea of a patient-tailored approach aligns with our finding that, following a worrisome PDMP profile, long-term prescribers' prescribing decisions were informed by patient-provider relationships. While some reported using relatively objective measures such as patient risk level on an opioid abuse screener, clinicians reported the influence of perceived patient intent and honesty on decisions. Variability in clinician interpretation of apparent dishonesty may be influenced by clinical context, prior negative experiences with patients, clinician-patient relationship, and clinician burn-out. Further study is needed to examine clinician interpretation of apparent patient dishonesty and to determine the appropriate level of influence of this factor in formulating prescribing decisions. Additionally, further research should examine the additive benefit of patient risk screeners to enhance clinical judgment about prescribing decisions following a worrisome PDMP profile.

Consistent with earlier studies, we found that long-term prescribers varied with regard to whether or not they reported discharging patients from practice in response to a worrisome PDMP profile [6,32], with some clinicians expressing strong ethical grounds for retaining patients. Patient discharge as an approach is not a guideline-based behavior; instead, clinical guidelines support re-evaluation and formulation of a differential diagnosis in response to possible aberrant behavior, including judgment about "its seriousness, its cause or causes, the likelihood that behaviors of this type will recur, and the clinical context" [33]. The 2016 CDC guidelines state that clinicians should not discharge patients from care based on PDMP information [8]. Our study's finding highlights the importance of such explicit guidelines related to interpreting and responding to PDMP profiles, which clinicians may view as objective evidence of patient dishonesty [34]. In addition, guidelines recommend that clinicians taper patients who engage in repeated aberrant drug-related behaviors rather than discontinue abruptly, as may occur in patient discharge (the exception being cases in which a significant safety concern indicates a need for immediate discontinuation of opioids). With existing patients in particular, a worrisome PDMP profile may be an opportunity for engaging patients in opioid safety education or opioid use disorder treatment as indicated.

This study relied on clinician self-report, which is both a strength and weakness of the study. What clinicians say they do may not reflect actual behavior. To study actual behaviors with regard to PDMP decisions, future research is needed to directly observe clinician behavior. Clinician interviews do, however, provide information on clinician rationale and thinking related to PDMP use, which may not be apparent from observation or record review. Clinicians in our sample were active PDMP users. Clinicians with less regular use of the PDMP may make decisions differently. The patterns of PDMP use in this sample must be confirmed by larger studies to determine whether the patterns are generalizable. Interview response rates were modest, but comparable with or

superior to those of other studies using clinician telephone interviews [35]. Low response rates can introduce potential bias as respondents may differ from nonrespondents in their prescribing practices and PDMP use. Potential biases of the researchers are a limitation that we mitigated by involving a multidisciplinary team in data analysis.

This study identified how clinicians think about and approach PDMP use and demonstrated variation in how clinicians report accessing and using PDMP data. Consistent PDMP usage has the potential to mitigate patient risk and reduce diversion. One factor that can shape PDMP use is practice-level policy implementation. Policy for when to access the PDMP (such as recent state-level mandates) and guidelines on how to use PDMP information in clinical decision-making (such as the CDC guideline's recommendations related to discharge and communicating results with patients) may be important influences on clinical practice. In order to support PDMP usage guidelines, future quantitative research should examine relationships between clinician responses to PDMP profiles and outcomes such as therapeutic alliance, patient engagement and retention in care, and access to appropriate care. Such research could be used to develop more explicit guidelines on using the PDMP in a patient-centered manner. Guidelines related to PDMP use should be situated within the context of clinician education on chronic pain and substance use disorder, as increased education in these areas is essential to appropriate clinical response.

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