

Physicians and PDMPs: Improving the Use of Prescription Drug Monitoring Programs

Prescription drug abuse and misuse is a critical public health issue impacting families and communities across the country. According to the most recent data, an estimated 2.4 million Americans used prescription drugs non-medically for the first time within the previous year, and approximately 1 million emergency department visits were attributed to prescription drug abuse annually.¹ Efforts to meaningfully address this complex problem will require a multi-faceted, sustained approach involving a broad range of stakeholders.

A variety of tools are available to address misuse, abuse and diversion. One of the most valuable tools has been prescription drug monitoring programs (PDMPs). PDMPs are state-run electronic databases that provide critical information to public health authorities, law enforcement and prescribers regarding an individual's history of controlled substance prescriptions. This information can be used to identify drug-seeking behaviors and avoid inappropriate prescribing.

“I believe we must use the modern tools in front of us to work on this epidemic ... In this age of ‘big data,’ we cannot let this incredible information that is at our finger tips not be used in a way that will improve the care that we provide ... but, we have a long way to go.”

-- Monica Bharel, MD, MPH Commissioner, Massachusetts Department of Health

While states continue to assess how to enhance the use and effectiveness of PDMPs, fostering use of PDMPs among physicians is a key challenge. According to a 2015 study published in *Health Affairs*, a survey of primary care physicians from Johns Hopkins University found that one in four primary care physicians in states with a PDMP were unaware they had one.² Fortunately, however, among those who were aware, more than half of them viewed the PDMP as contributing to reduced abuse and diversion of prescription medicines.³ That said, the survey reinforced that there are barriers to greater use of PDMPs among physicians and other health care providers, including the length of time it takes to retrieve information from the databases and the lack of a user-friendly format for the presentation of patient information.

A number of measures are being considered by states to address these barriers and enhance the use and effectiveness of PDMPs, ranging from increased focus on improving the timeliness and reliability of the data, to mandated use by health care providers. Ultimately, to realize the full potential of PDMPs in addressing abuse and diversion, it is critical to engage the end-user: the physician and prescriber community. Therefore, The Network for Excellence in Health Innovation (NEHI), with support from Pharmaceutical Researchers and Manufacturers of America (PhRMA), undertook a project to better understand the perspective of physicians and other prescribers in using PDMP systems.

To realize the full potential of PDMPs, it is critical to engage the end-user: the physician and prescriber community

On June 2, 2015, NEHI hosted an expert forum, with physician leaders and pharmacy experts to better understand the challenges and opportunities related to the use of PDMPs (see Appendix A for full list of participants). This issue brief outlines key themes and policy recommendations for consideration at the state and congressional level that emerged from that discussion.

Improving Physician Use of PDMPs

The panel of physician and pharmacy experts convened by NEHI recognized PDMPs as an invaluable tool for preventing the misuse, abuse and diversion of controlled substances, while acknowledging the many barriers faced by physicians in successfully incorporating PDMP data into daily clinical practice. Panelists identified four major areas of opportunity for strengthening PDMP use by physicians:

- Improve Access and Usability of the PDMP
- Enhance Integrity of PDMP Data
- Provide Proactive Alerts and Dashboards
- Complement PDMP Systems with Other Clinical Data

Summary of Recommendations

Below is a summary of the consensus recommendations made by the NEHI panel of experts at the forum on July 3, 2015. They are presented by topic area, rather than rank order. Some of these recommendations could be easily implemented in the short term while other recommendations are reflective of longer term goals requiring coordination across states and stakeholder groups.



IMPROVE ACCESS AND USABILITY OF PDMPs

Streamline the Registration Process: Enable faster, easier PDMP registration

Explore Mandates: Involve prescribers in potential mandate development and implement mandates following user improvements

Reduce Click-throughs: Reduce number of screens required to access data

Enable Delegate Access and Batch Queries: Enable other appropriate licensed professionals to access PDMP data and query data in batches

Educate and Train Prescribers and Their Staff: Provide education and training on the use and value of PDMPs

Integrate PDMP Use into Care Coordination Initiatives: Leverage incentives for Accountable Care models and patient-centered medical homes for greater PDMP use

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IMPROVE INTEGRITY OF PDMP DATA

Improve Data Frequency and Timeliness: Improve timeliness of prescribing and dispensing data reported in PDMPs

Expand PDMP Data to Include Data from Border and Other States: Expand PDMP data access to as many states as possible, particularly adjacent states



PROVIDE PROACTIVE ALERTS AND DASHBOARDS

Provide Unsolicited Report and Alerts: Provide automated reports and alerts based on relevant trigger

Develop Dashboards to Support Clinical Decision Making: Flag patients with highest risk and display data so prescribers can see data at-a-glance



COMPLEMENT PDMP SYSTEMS WITH OTHER CLINICAL DATA

Enhance PDMP Data with Other Clinical Data: Provide access, where available, to other relevant clinical data

Integrate PDMPs with Electronic Health Records: Evolve toward the longer-term integration of PDMPs with EHRs

Advance Guideline-Based Treatment: Work with medical societies and other experts in developing and disseminating guidelines for pain management and treatment

Background

With the exception of Missouri, every state now operates a PDMP which monitors the dispensing of FDA-approved controlled substances, such as opioids, central nervous system depressants and stimulants.⁴ Pharmacies forward data to their state's PDMP on the controlled substance prescriptions they fill, including data that identifies the patient to whom the drugs are dispensed. The PDMPs make this information available to prescribing physicians through searchable online databases. For most prescribers throughout the U.S. the state PDMP is the most comprehensive, if not the only resource that provides detailed information on a patient's prescribing history with controlled substances.

Impact and Promise of PDMPs

Evidence from national studies suggest that when PDMP data is readily accessible to physicians it contributes to reductions in medically inappropriate prescribing and patient doctor-shopping:⁵

- A national evaluation comparing states with and without PDMPs found that the presence of a state PDMP reduced supply and abuse of prescription medicines.⁶
- A national analysis found state PDMPs were associated with lower rates of use of schedule II opioids, but suggested that a need for improved use of the information contained in these databases to bolster effectiveness.⁷
- A national study found an association between PDMPs and mitigated opioid abuse and misuse trends over time.⁸
- The Brandeis University PDMP Center of Excellence, which monitors PDMP implementation throughout the country, has found numerous state-based surveys linking utilization of these programs to reduced doctor shopping.⁹

Several physicians during the NEHI panel described PDMP data as “a game-changer” noting that PDMPs provide uniquely valuable information to prescribers. State-level research shows physician prescribing decisions are influenced by patient information contained in PDMPs:

- Among physician respondents to a survey in California, 74% indicated they had changed prescribing practices as a result of viewing patient information contained in the PDMP.¹⁰
- A study of medical providers in an Ohio emergency department found that 41% of those given PDMP data altered their prescribing for patients receiving multiple simultaneous narcotics prescriptions. Among these providers, 61% reported prescribing less or no medication relative to what the physician had originally planned prior to seeing PDMP information.¹¹
- The Oklahoma PDMP's survey of prescribers found 63% of respondents reported PDMP data helped them identify patients potentially abusing prescription medicines and 64% reported the data helped them identify doctor shoppers. The survey found as a result of data contained in the PDMP, 21% of prescribers referred patients to treatment, 21% referred to a mental health professional, 64% to a pain management specialist. Additionally, 71% reported changing the type of medication prescribed or refusing to prescribe medication.¹²

Findings

Improve Access and Usability

In order to meet immediate, critical demands to foster appropriate use of controlled substances, physician leaders and PDMP experts convened by NEHI pointed to pragmatic approaches to improving the usability of PDMPs by focusing on addressing such problems as burdensome registration processes, high number of “click-throughs” required to access needed information, the time burden associated in consulting the PDMP and the need for broader PDMP awareness and education.

Specific recommendations that were cited by panelists to enhance the accessibility and usability of PDMPs include:

Streamline the Registration Process

Panelists stated that streamlining the registration process and making it as easy as possible for prescribers to register to use the PDMP is critical to success. As Dr. Naum Shaparin from Montifiore Medical Center cited, “In New York, registration used to be a huge process, where it had to be notarized,” and noted that the old process discouraged many physicians from registering. Many states have now moved away from requiring notarization.

To speed PDMP registration, some states automatically enroll prescribers at licensing and licensing renewal. In Ohio, for example, the registration process is performed online, whereby prescribers are asked a series of challenge questions based on public records that quickly validate their identity and credentials. As Jennifer Hayhurst from the Ohio State Medical Society stated, “the Ohio registration process now takes only 10 minutes to verify a few things and then you’re in the database.” As a first step to encouraging PDMP access, forum participants suggested that states should work with licensing boards and prescribers to develop easy, valid and fast registration processes.

Explore Mandates

To drive enrollment and usage of PDMP systems, some states have moved in the direction of mandates. State mandates typically fall into two categories: 1) mandating prescribers to register and enroll in the PDMP system and 2) mandating prescribers to use the system under certain circumstances. There are 20 states that have adopted legislation to mandate registration of prescribers.¹³ In addition, 22 states have adopted legislation requiring prescribers use the PDMP systems under specific circumstances.¹⁴ States vary in their approach to mandated use with some states, like Nevada, requiring usage only when the prescriber “has a reasonable belief that the patient may be seeking the controlled substance.” More recent legislation, however, from states like Kentucky, Tennessee and New York requires prescribers to access the state PDMP data in specific circumstances, such as when first prescribing opioids and/or when prescribing or dispensing all controlled substances in Schedules II-IV.¹⁵

Participants suggested that if states are considering mandates, mandates should follow significant user improvements to the accessibility and usability of the data in PDMP systems. Moreover, as more states consider adopting mandates, prescribers stated that they would like to be actively involved in establishing appropriate requirements, obligations and exemptions to the mandate.

Reduce Click-throughs

One of the most frequently cited frustrations by forum participants during the panel discussion was the integration of PDMP systems in the complex and time-pressured workflow of daily medical practice. Panelists noted the numbers of windows prescribers have to click through in order to get to valuable information from the PDMP is particularly time consuming and challenging.

As keynote speaker Dr. Bharel stated, “it shouldn’t take 11 clicks to use the system.” Some physicians stated that checking the PDMP system can take anywhere from five to seven minutes per patient. Even at two minutes per patient, with 30 patients a day, checking a PDMP system can add over an hour of extra time per day, just in looking up data.

Participants agreed that, whenever feasible, PDMP displays should be redesigned to reduce the number of screens physicians and their teams must navigate. This would be a highly valuable improvement for many physician practices, particularly those under immense time pressures, like emergency physicians.

Enable Delegate Access and Batch Queries

Forum participants also cited the substantial increase in administrative requirements that physicians face and the time burden associated with consulting PDMPs as a barrier to using the systems. Participants suggested a number of options for addressing these burdens including reimbursing for time spent to review PDMP data and allowing physicians to delegate access to the PDMP while ensuring patient privacy is maintained. Physicians cited the ability for other licensed professionals as well as non-prescribing employees to access PDMP data as delegates as an important factor in increasing PDMP system usage.

Another feature participants highlighted as useful in identifying at-risk patients is a batch look-up feature. Batch look-up enables physicians and/or appropriate delegates to quickly query a PDMP system and pull up a single list of all patients in a practice and identify those who might be at risk. Batch look-up is a simple feature that helps prescribers and delegates find PDMP data for a number of patients in a consolidated way.

Educate and Train Prescribers and Their Staff in PDMP Use

In order for PDMP systems to be effective, prescribers must first understand how to access and use them as well as how to assess the information provided. States have taken different approaches to prescriber education, including tutorials, videos, webinars, presentations, prescriber toolkits and continuing medical education.¹⁶

To drive education, some states have worked with state medical societies and pharmacy groups to develop broader awareness campaigns, targeting active prescribers. Forum participants supported education and training programs that demonstrate the value of PDMP systems, educate prescribers on how to access and interpret PDMP data and help them identify resources for patients in need.

Integrate PDMP Use into Care Coordination Initiatives

Forum participants also discussed how states may explore encouraging physician use of PDMPs by taking advantage of current trends in health care delivery reform that promote overall care coordination. Payment models such as the Accountable Care Organization (ACO) model put providers at some level of financial risk for the overall medical costs of the patients attributed to them.

The ACO model and similar models frequently require physician practices in the organization to achieve accreditation as patient-centered medical homes. Medical home accreditation standards typically require an enhanced level of patient medication management by the physician practice. Panelists highlighted the potential for states to explore encouraging the use of PDMPs by linking to medication management practices through medical homes or other delivery reforms operationalized through state Medicaid programs. This strategy would not only align financial incentives with use of PDMPs and better prescribing practices but also encourage better coordinated care for the most vulnerable of patients. Forum participants felt that PDMP use in the context of a patient-centered medical home would provide the greatest opportunity to identify those in need of substance abuse treatment and refer them to appropriate care.

Enhance Integrity of PDMP Data

In addition to improving the accessibility and usability of PDMP systems, prescribers at the NEHI forum agreed that PDMP data should be as timely, accurate and inclusive as possible. Specifically, forum participants would like states to move toward daily reporting of prescribing and dispensing data, and the inclusion of PDMP data from bordering states, where patients may also be accessing controlled substances.

Improve Data Frequency and Timeliness

As one of the primary goals of PDMP systems is to give prescribers access to current prescribing information, forum participants felt strongly that PDMP data should be as up to date as possible. Participants cited patient safety concerns and risks when working with PDMP data that is more than a few days old. States vary greatly in the timeliness of PDMP data reporting with anywhere from monthly to real-time data feeds. Most states today report new data every one to two weeks. Forum participants agreed that PDMP systems should provide daily or 24-hour reporting of prescribing and dispensing data, so that prescribers can be armed with the timeliest information to make appropriate and immediate clinical decisions. A number of states are moving toward this goal. Today, 18 states provide 24-hour data reporting.¹⁷ Oklahoma is the only state to provide real-time data reporting, which it implemented in 2012. Recognizing that real-time reporting can be challenging and costly to implement, forum participants agreed that 24-hour reporting is timely enough to provide the most relevant and useful data at the point of care.

Expand PDMP Data to Include Data from Border and Other States

Doctor shopping, diversion and the abuse of controlled substances do not observe state boundaries, and the PDMP data should reflect this reality.

Forum participants felt strongly that PDMP data should be as inclusive as possible, but at a minimum should include data from bordering states. At the forum, Dr. Bob Twillman from the American Academy of Pain Management described working with only one state's PDMP data as "acting half-blind," namely that without cross-state prescribing and dispensing data, physicians are making critical prescribing decisions based on incomplete information.

Danna Droz, JD, RPh, of the National Association of Boards of Pharmacy (NABP) explained as part of this discussion that NABP has developed a technology platform to facilitate the secure transfer of PDMP data from state to state called NABP PMP Interconnect. More than 30 states in the country are connected through this platform and are sharing PDMP data.¹⁸ In states that are connected, users can easily select within the PDMP from which states they want to pull data and the system will aggregate the data.

Panelists agreed technologies such as NABP PMP Interconnect are critical to gaining a more comprehensive picture of a patient’s prescription history, often spanning across state lines, in a timely and efficient manner.

“It’s not...checking one PDMP that’s the problem, it’s checking two or three or four [systems]. Checking one system is time consuming enough. But, guaranteed, if someone is a drug seeker or an over-utilizer and they’ve come to Kansas or Missouri for their prescriptions...you’re going to have to track them down and figure out where they’ve been.”

- Amy Mullins, MD, CPE, FAAFP, Medical Director for Quality Improvement, American Academy of Family Physicians

Provide Proactive Alerts and Dashboards

At the most basic level, PDMP systems provide prescribers with a running list of controlled substance prescriptions dispensed to a patient. While many physicians today profess to be wary of data overload, forum participants were very supportive of state PDMPs that proactively send alerts and data packaged in an easy to read reports to physicians based on thoughtful, evidence-based criteria and triggers.

Participants proved even more supportive of reports or tools that translate a patient’s recent history with controlled substances into indices or “dashboards” that can be pushed out to prescribers to support rapid clinical decisions at the point of care.

Forum participants cited the following specific recommendations:

Provide Unsolicited Reports and Alerts

Unsolicited reports, namely automated reports that are sent from the PDMP system directly to prescribers can achieve several goals from proactively informing prescribers of patients who may be abusing or diverting controlled substances to informing prescribers about the value of PDMP data, by providing prescribers with new information about their patients.¹⁹

Forum participants were supportive of automated unsolicited reports, which proactively identify high-risk patients using PDMP data. For example, the Ohio PDMP system automatically pushes email alerts to prescribers every two weeks identifying patients who have been prescribed high morphine equivalent doses of controlled substances. A number of states, including Wyoming and Nevada have seen a major uptick in PDMP awareness and usage after providing unsolicited reports to prescribers.²⁰ As states consider implementing unsolicited reports, forum participants feel it is important to work with medical societies and pharmacy boards to develop the algorithms and triggers for identifying high-risk patients, as well as the best channels for delivering those reports and alerts to prescribers.

Develop Dashboards to Support Clinical Decision Making

In addition to proactively providing reports and alerts to prescribers, some states are incorporating clinical decision support tools, such as dashboard-style presentations of data, into their PDMPs.

Dashboard readouts can be used not only to alert prescribers to how many prescriptions a patient has secured recently but also indicate the overall dosage level the patient may have ingested. One example is the NARxCHECK tool developed in collaboration with the National Association of Boards of Pharmacy (NABP). NARxCHECK uses PDMP data to provide physicians with a specific risk score for every patient and flag patients at greatest risk.²¹ NARxCHECK and other tools provide indices on the morphine equivalent doses for different pain medications, and can be configured to allow calculation of the cumulative morphine equivalent dose a patient may be metabolizing from all medications he or she may be taking.

Some states use these clinical tools to develop user-friendly dashboards within the PDMP system, so that prescribers can quickly, at-a-glance, see which of their patients have the highest risk scores. Some dashboards even color code patients using red, yellow, green highlighting or flags based on their risk scores to enhance the presentation and usability of the data. Forum participants agreed that PDMP systems with user-friendly clinical tools and dashboards that quickly and visually display information would help them interpret the data and make more informed prescribing decisions faster and more efficiently.

“Dream not of less clicks to pull [data], but dream of data being pushed to you. That’s really where we ought to be going if we’re going to be protecting patients. The PDMP data alone is...not all the information I want. I want clinical data as well.”

- Stephen Anderson, MD, FACEP, American College of Emergency Physicians

Complement PDMP Systems with Other Clinical Data

Forum participants expressed a desire to see concise, “actionable” presentation of PDMP data with other relevant clinical data to help enhance physicians understanding of a patients risks. In addition, to help make appropriate prescribing decisions, physicians expressed a strong interest in advancing guideline-based treatment and educating physicians about those guidelines.

Enhance PDMP Data with Other Clinical Data

While PDMP data itself is extremely valuable to prescribers, forum participants expressed a strong interest in having access to additional clinical data when making prescribing decisions, such as whether the patient had concented to any pain management agreement. When asked specifically, what additional information would be useful to physicians, Dr. Amy Mullins from the American Academy of Family Physicians suggested the following: “knowing if your patients are seeing more than one physician, how many times they have been seen in the Emergency Department, how many pharmacies they use and if they are taking multiple narcotics.”

Integrate PDMPs with Electronic Health Records

While it is critical to ensure that data contained in PDMPs is easily accessible by physicians and other licensed professionals, physicians feel strongly that integrating PDMP data into electronic health records (EHRs) needs to be an important longer-term priority. Forum participants all called for directly integration of PDMP data into patient EHRs or otherwise making PDMPs interoperable with EHR systems.

Participants also acknowledged, however, that integrating PDMP data into EHRs may not be achievable in most states anytime soon, since physician practices and EHR vendors continue to struggle with issues related to EHR interoperability and access.

In the meantime, however, some states are working closely with local medical societies, public health departments and other groups to connect PDMP and clinical data. One such example is the Washington Emergency Department Information Exchange (EDIE). While only available for use in the emergency department, the Washington state EDIE provides one click access to a one page summary with a combination of PDMP and EHR data including all medications prescribed, emergency department visits and case management plans (including pain agreements). Dr. Stephen Anderson from the American College of Emergency Physicians described the Washington state EDIE as “not just a game changer, but a paradigm changer.”

Improving Access to Guideline-Based Treatment

In addition to having access to other clinical data, forum participants expressed strong support for ensuring prescribers are trained to treat pain appropriately. Participants felt that the PDMP data alone was helpful, but noted that not all physicians knew how to interpret the data. Dr. Amy Mullins from the American Academy of Family Physicians pointed out during the panel the need for education on pain management education as part of the primary care curriculum.

Bob Twillman of the American Academy of Pain Management noted, “There is the danger of just reducing prescribing versus reducing prescribing selectively for people who don’t need it and not for those who do.”

Some medical societies are focused on developing and advancing guidelines and guideline-based treatment. Jennifer Hayhurst from the Ohio Medical Society described the types of guidelines they have developed as part of a three-year Governor’s Task Force in Ohio, “Emergency Department guidelines were developed first, then chronic pain guidelines on how to identify and treat chronic pain and now we are working on acute pain guidelines.” Panelists discussed the need to develop any guidelines in conjunction with medical societies and other experts.

Conclusion

The nation’s physician community is on the front lines of identifying and addressing patients at risk for misuse and abuse of prescription drugs. NEHI’s forum of experts, including physicians from around the country, reinforced the important role that PDMPs play in reducing such risks, and the importance of optimizing these databases for physician use. For many physician practices, the state PDMP is one of the few readily available sources of information on a patient’s recent history with controlled substances, and the information is essential to making clinically appropriate prescribing decisions. However, as was indicated by the NEHI forum, many challenges exist for health care providers in successfully using these programs and incorporating into clinical practice. Forum participants engaged in a robust discussion aiming to identify opportunities for improving the utility and effectiveness of PDMPs which focused on four key areas: improving access and usability, enhancing the integrity of the data contained in these programs, providing proactive alerts and dashboards and complementing PDMP systems with other clinical treatment guidelines. Ultimately, strengthening PDMP programs is critically important to prevent abuse and diversion, ensure appropriate prescribing and address this growing public health problem.

Appendix A: NEHI Event: Physicians & PDMPs: Improving Use of Prescription Drug Monitoring Programs

On June 2, 2015, NEHI hosted an expert forum to explore the use of PDMPs by physicians and other health care professionals.

Featured speakers

Keynote

- **Monica Bharel, MD, MPH** Commissioner, Massachusetts Department of Health

Panelists:

- **Stephen Anderson, MD, FACEP**, American College of Emergency Physicians
- **Danna Droz, JD, RPh**, Prescription Monitoring Program Liaison, National Association of Boards of Pharmacy
- **Jennifer Hayhurst**, Director of Regulatory Affairs, Ohio State Medical Society
- **Stephen Mullenix, BS Pharm., RPh**, Senior Vice President Public Policy & Industry Relations, National Council for Prescription Drug Programs
- **Amy Mullins, MD, CPE, FAAFP**, Medical Director for Quality Improvement, American Academy of Family Physicians
- **Naum Shaparin, MD**, Director, Multidisciplinary Pain Program, Montefiore Medical Center
- **Bob Twillman, PhD**, Executive Director, American Academy of Pain Management

Full video of the event can be found on [NEHI's website](#).

Endnotes

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NEHI is a national health policy institute focused on enabling innovation to improve health care quality and lower health care costs. In partnership with members from all across the health care system, NEHI conducts evidence-based research and stimulates policy change to improve the quality and the value of health care. Together with this unparalleled network of committed health care leaders, NEHI brings an objective, collaborative and fresh voice to health policy.

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