





PRESCRIPTION DRUG MONITORING PROGRAMS: A GUIDE FOR HEALTHCARE PROVIDERS

Since the 1990s, a dramatic increase in prescriptions for controlled medications—particularly for opioid pain relievers such as oxycodone and hydrocodone—has been paralleled by an increase in their misuse¹ and by an escalation of overdose deaths related to opioid pain relievers.² The number of state-run prescription drug monitoring programs (PDMPs) has also increased during this timeframe. Currently, 49 states, the District of Columbia, and 1 U.S. territory (Guam) have operational PDMPs.

The first state PDMPs provided law enforcement and other public agencies with surveillance data to identify providers inappropriately prescribing controlled medications. The objective was to minimize harmful and illegal use and diversion of prescription medications, without interfering with their appropriate medical use. Advances in technology have enabled PDMPs to take on another important role—that of an adjunct source of information that prescribers and pharmacists can use to improve the care and safety of individual patients. Helping healthcare providers make the most informed prescribing and dispensing decisions, as part of an initiative to address opioid-related overdoses and deaths, is a federal government priority.³

This *In Brief* is targeted to healthcare providers who prescribe and/or dispense controlled medications, including substance use treatment providers, primary care providers, nurse practitioners, physician assistants, pain specialists, psychiatrists, and pharmacists. The document explains the emergence and purpose of PDMPs and describes how PDMP use can enhance clinical decision making and improve individual patient safety while also helping curb the public health crises of prescription drug misuse and unintentional overdose deaths. Additional sources of information are found in the Resources section at the end of this document.

The Evolution of PDMPs

PDMPs are state-operated databases that collect information on dispensed medications. The first PDMP was established in 1939 in California, and by 1990 another eight state programs had been established.⁴ PDMPs would periodically send reports to law enforcement, regulatory, or licensing agencies as part of efforts to control diversion of medication by prescribers, pharmacies, and organized criminals. Such diversion can occur through medication or prescription theft or illicit selling, prescription forgery or counterfeiting, nonmedical prescribing, and other means, including diversion schemes associated with sleep clinics (sedative-hypnotics and barbiturates), weight clinics (stimulants), and pain clinics (opioid medications).⁴

The first PDMPs, which were paper based, did not provide reports to healthcare providers for use during individual patient care; however, today's electronic databases have a variety of features that make them practical for such care. Depending on the particular state law, the types of professionals who may register to access PDMP records include prescribers (e.g., primary care doctors, nurse practitioners, physician assistants), dispensers (e.g., pharmacists), medical examiners, practitioner licensure board members, third-party payers, public health and safety agency representatives, and law enforcement and drug court personnel.⁵ The majority of PDMPs permit providers to delegate access to a mid-level practitioner, such as a registered nurse or a pharmacy technician.⁵ In more than half of states, prescribers and pharmacists are required to register with their respective PDMP; in some of these states, registrants are also required to access the PDMP for a patient's prescription history before prescribing or dispensing controlled substances.⁵

The Nation's Prescription Drug Problem

Misuse

- A 2015 survey indicated that an estimated 3.8 million people had used prescription pain relievers in the past month for nonmedical purposes.⁶
- In 2010, there were 33,701 reported admissions to substance use treatment facilities for combined benzodiazepine and opioid pain reliever use, an increase of 569.7 percent from the 5,032 admissions in the year 2000.⁷
- The number of people who reported receiving treatment for the nonmedical use of prescription pain relievers has more than doubled since 2002, reaching 822,000 in 2015.8

Emergency Department Visits

- From 2004 to 2011, the rate of emergency department visits involving misuse of all classes of pharmaceuticals increased 114 percent. More than 1.4 million such visits were made in 2011.9
- Over the same 2004–2011 period, the rate of emergency department visits involving opioid pain relievers increased 153 percent and involved more than 420,000 visits.⁹

Deaths

- From 1999 to 2014, the rate of drug poisoning deaths involving opioid analgesics (powerful prescription pain relievers) more than quadrupled, with 18,893 such deaths in 2014.¹⁰
- Since 2000, the United States has experienced a 200 percent increase in the rate of overdose deaths involving opioids (opioid pain relievers and heroin).¹¹
- In 2014, drug overdose involving some type of opioid took the lives of 28,647 people; prescription opioids were involved in at least half of these deaths.^{11,12}
- Methadone prescribed for pain puts users at particularly high risk for overdose death. Methadone is involved in about one-third of deaths related to opioid pain relievers, even though only 2 percent of pain reliever prescriptions are for this medication.¹³ (Methadone used in medication-assisted treatment is not considered part of the escalating problem of prescription drug misuse; nationwide, only a small percentage of opioidrelated deaths involve patients receiving treatment in opioid treatment programs [OTPs]).¹⁴

Overview of Current PDMPs

PDMP databases in most states are housed within a licensing or public health agency; in a few states, they are located within a law enforcement agency. Most states track prescriptions for Schedule II–V controlled medications, and some also track unscheduled medications with misuse potential (e.g., ephedrine, which can be used in the manufacture of methamphetamine). PDMP funding varies by state but includes federal, state, or private sources and revenue generated through licensing fees or other mechanisms.⁴

Most PDMPs update their data on a daily or weekly basis, enabling prescribers and dispensers to assess a patient's recent patterns of use or misuse. Systems are evolving toward even more frequent updating; in 2012, Oklahoma became the first state to institute real-time reporting, with prescription data available within 5 minutes after medication is dispensed. Real-time reporting can offer some advantages; in particular, emergency department care providers can find near real-time prescription histories for patients presenting for acute care.

Some state PDMPs provide batch reporting; this is a utility that enables prescribers to obtain summary histories for a group of patients, such as those scheduled for upcoming appointments. The practitioner can review the summaries to determine whether a full report should be ordered for any particular patient.⁴

A majority of state PDMPs are authorized to send unsolicited reports to providers, licensing boards, or law enforcement agencies when a prescriber's or prescription recipient's activity exceeds thresholds established by the PDMP.^{5,16} Unsolicited reports can alert healthcare providers to intervene with patients whose prescription-related behavior may suggest substance misuse, whereas unsolicited reports to investigative agencies or licensure boards can support investigations into potential drug diversion or problematic prescribing.¹⁶

More than half of the states⁵ are building out systems to allow for data sharing across systems, agencies, and states. Benefits of this system integration include the following: providers can obtain patient prescription history within the electronic health record system instead of logging into two separate systems; state Medicaid agencies can

share information with federal health service providers (e.g., U.S. Department of Veterans Affairs, Indian Health Service); and adjacent states are able to share information to address illicit cross-border prescription filling or to provide for better coordination of the care that a patient is receiving in different states.

How PDMP Data Are Collected

Pharmacies must submit required data to their state's PDMP for each prescription they dispense for specified controlled substances. Pharmacies in the U.S. Department of Veterans Affairs and in the Indian Health Service are also authorized to submit data to PDMPs, and such pharmacies in many states do so. 17,18 Depending on a state's legislative requirements, the following entities/ individuals may also be required to submit prescription data when dispensing controlled substances: emergency departments, wholesale distributors, licensed hospital pharmacies, physicians, veterinarians, dentists, and medical and behavioral health service providers.

Information collected typically includes date dispensed, patient, prescriber, pharmacy, medication, and quantity. This information is submitted to databases in electronic form. The intervals at which pharmacies are required to submit data vary by state.

How Prescribers and Pharmacists Use PDMP Data

PDMP reports can be used by a healthcare practitioner with other support tools (e.g., documentation templates, patient data reports and summaries, computerized

Privacy and Security

Ensuring the privacy and security of health information is critical for several reasons, including prevention of identity theft and medical fraud. One example of a safeguard is that many PDMPs are prohibited from providing identifying information about individual patients or practitioners in reports to law enforcement agencies, except in specified situations such as in response to a subpoena or for an active case investigation. 4,19 Such prohibitions are also intended to protect confidentiality and avoid potential targeting of providers engaged in legitimate prescribing and dispensing activities.

alerts and reminders) when screening a new patient or monitoring a current patient. The practitioner can review the patient's prescription record from the PDMP to confirm or augment information provided by the patient's own reports and the medical exam. Providers can promote patients' acceptance of this tool by proactively informing them that PDMP data are routinely checked for all patients to enhance care and that confidentiality and privacy are protected by law and regulation.

For example, when treating for chronic pain, a practitioner can check the state PDMP for data on the patient's history of prescriptions for controlled substances. This information can be used to determine whether the patient is already receiving opioid medications or other medications that, when combined with an opioid prescription, might put him or her at risk for overdose. The Centers for Disease Control and Prevention (CDC) advises: "Clinicians should review PDMP data when starting opioid therapy for chronic pain and periodically during opioid therapy for chronic pain, ranging from every prescription to every 3 months." 20

Whether updated in real time or at some other regular interval, a PDMP provides longitudinal information from which a healthcare practitioner can identify patterns of inappropriate prescription medication use or risky substance use behavior. PDMP data may suggest that a patient has an uneventful prescription history, giving confidence to the practitioner that the patient has a legitimate need for any scheduled prescription medications under consideration. The data can also reveal whether the patient has been prescribed medication that may create a risk for interaction with medication the practitioner is considering prescribing. For example, the data can suggest the total level of morphine equivalent to which a patient already has access and whether the patient has access to other medication(s) that may, in combination, put the patient at risk for overdose. Another potential use of the data is to determine whether a patient has failed to fill a prescription for medication previously prescribed by that practitioner; in such situations, the practitioner can initiate a conversation about why the patient is not taking the medication as indicated.

A practitioner can also use PDMP data to monitor patients with suspected or known substance use disorders by checking patient records for medically unwarranted concurrent use of prescription medication (e.g., high doses

Exceptions to PDMP Data Reporting Requirements

Typically, prescriptions for intravenous medications and those filled by hospice palliative care are not submitted to PDMPs. In addition, federal confidentiality rules (42 CFR Part 2, Confidentiality of Alcohol and Drug Abuse Patient Records) exempt medications dispensed at OTPs—that is, when a medication for the treatment of a substance use disorder (e.g., methadone, buprenorphine) is dispensed at an OTP, patient-identifying information is not submitted to the PDMP. There are some exceptions specified in the federal regulations. OTP-based prescribers may access PDMP information to help manage the care of their patients, and the Substance Abuse and Mental Health Services Administration (SAMHSA) encourages them to do so.²¹ It is especially important that OTP-based physicians and physicians who are qualified to prescribe buprenorphine for opioid use disorder (i.e., physicians who have received a waiver under the Drug Addiction Treatment Act of 2000) access the PDMP, because these physicians are the only practitioners who have full knowledge of their patients' controlled medication histories.

of several prescriptions, including long- and short-acting opioids as well as benzodiazepines) and use of multiple prescribers or pharmacies. Other indicators of potentially problematic prescription use that a practitioner can look for when reviewing PDMP data include early refills and dose escalation.

Behavior that suggests substance misuse, a substance use disorder, or diversion is known as *aberrant drug-related behavior*.* PDMP data can alert a practitioner to aberrant behavior such as *doctor shopping* (obtaining overlapping prescriptions from different doctors for intended nonmedical use) or *pharmacy shopping* (visiting multiple pharmacies to fill prescriptions); these are called "multiple provider episodes."

PDMP data are best used in conjunction with other sources of information, including clinical assessment, before making any determinations about aberrant behavior,²² because no validated and standardized criteria for the

threshold of questionable activity have been established.⁴ A patient who has obtained prescriptions from multiple providers is not necessarily a "doctor shopper"; the patient could have legitimately received prescriptions from different specialists for diverse conditions (e.g., a terminal disease or disorder, chronic pain, postsurgical pain). There are also plausible reasons why a patient might fill prescriptions at multiple pharmacies (e.g., because different pharmacies may be closer to work or home, because a particular pharmacy offered a coupon). For these reasons, a proposed operational definition of *shopping behavior* for medications at high risk for misuse or diversion is having "overlapping prescriptions written by different prescribers *and filled at three or more pharmacies*" (emphasis added).²³

When PDMP data, combined with other information, indicate that a patient may be engaging in aberrant behavior, the practitioner can use this information in the medical setting with the patient as a basis for an immediate conversation or intervention. To ensure that the patient does not misuse prescribed medication, the practitioner can monitor PDMP data in conjunction with urine drug testing and use of a treatment agreement (a contract between patient and practitioner on what each of them will do). Before prescribing an opioid for pain, the practitioner can assess PDMP data to ensure that a patient is not obtaining, through other prescribers, medication with sedative effects (e.g., other opioids, benzodiazepines), which could heighten risk of overdose when used simultaneously with the opioid. PDMPs provide another valuable function in that providers can use them to periodically review their own prescribing record, to confirm that their Drug Enforcement Administration (DEA)-controlled substance number has not been used illegally by another person.^{4,24}

Not only prescribers but also pharmacists are enhancing patient care through their use of PDMPs. For example, pharmacists can identify interaction risks from multiple prescriptions. Pharmacists can also initiate conversations with patients whose prescription use patterns indicate possible substance misuse, and they can refer such patients for screening and counseling and link them with informational resources on substance use disorders and

^{*}Treatment Improvement Protocol (TIP) 54, Managing Chronic Pain in Adults With or in Recovery From Substance Use Disorders, provides a description of aberrant drug-related behaviors on pages 54 and 56.

substance use disorder treatment. Alternatively, they can contact the patient's prescriber, who may be best positioned to provide resources or referrals. Pharmacists can also use PDMP data to flag suspicious prescribing patterns that may indicate aberrant, illicit, or unsafe prescribing by medical professionals.

PDMP Effectiveness

Provider surveys, case studies, state evaluations, and other reports offer growing evidence that individual state databases are reducing diversion while also improving individual clinical decision making and prescribing practices and lowering rates of admissions for substance use treatment.²⁵ For example, after New York and Tennessee required prescribers to consult their state's database before prescribing pain medications, the percentage of patients with multiple provider episodes (receiving prescriptions from five or more prescribers or filling prescriptions at five or more pharmacies in a 3-month period) dropped 75 percent and 36 percent, respectively.²⁶

Evidence from states with mandates also suggests that PDMP utilization supports appropriate prescribing and dispensing. In the 1-year period beginning 2 months after Kentucky's mandate on enrollment and use of its PDMP went into effect (in July 2012), overall dispensing of controlled substances in the state declined 8.5 percent. In approximately the same period, prescriptions for buprenorphine (a medication used in treatment of opioid use disorder) increased nearly 90 percent. According to the PDMP Center for Excellence, these two data points indicate that the PDMP mandate suppresses inappropriate prescribing but does not impinge on legitimate prescribing.²⁶

PDMP utilization may also be a factor in reducing mortality associated with opioid use. A 2016 study of 34 states (32 with PDMPs) found that the rate of opioid-related deaths declined in states in the year after PDMP implementation. States whose PDMPs had more robust features (e.g., more frequently updated data) experienced greater reductions in deaths compared with states whose PDMPs did not have those features.²⁷

Ohio's experience indicates that PDMPs can be a significant tool in a broader program to encourage and enforce safe prescribing practices. In 2011, the state adopted rules that mandate prescriber and dispenser

use of the PDMP under certain conditions. At the same time, the state instituted other measures designed to curb misuse of prescription drugs, including crackdowns on *pill mills* (physicians, clinics, or pharmacies that prescribe or dispense controlled medications inappropriately or for nonmedical reasons), licensing restrictions on pain management clinics to prevent overprescription of opioid pain medications, and the institution of a drug take-back program. In the first quarter of 2014 alone, the PDMP received requests for 2 million reports.²⁶

A concern that has been raised about PDMPs is that they could suppress the availability of opioid medication for legitimate cases of pain. A 2016 study found that across 24 states implementing PDMPs, a sustained 30 percent reduction in the rate of prescribing Schedule II opioids occurred; however, there was no significant impact on the overall prescribing of pain medication (the study did not evaluate whether patients' pain was effectively managed).²⁸

One small study (N=179) of patients presenting with nonacute pain conditions in an emergency department found that in 41 percent of the cases, clinicians altered their prescribing plan after consulting the state's PDMP; changes went in both directions, with the planned opioid prescribing reduced in 61 percent of the cases and increased in 39 percent.²⁹

Other initial studies indicate that PDMPs do not have a suppressive effect, although they may affect the types of opioids that are prescribed. A 2009 study found that, between 1997 and 2003, compared with states without PDMPs, states with PDMPs had a smaller number of shipments per capita (from suppliers to distributors such as pharmacies) for oxycodone (a medication highly associated with drug diversion) and reduced admissions for the treatment of prescription opioid misuse. At the same time, overall opioid shipments increased, indicating no chilling effect on the prescribing of opioids overall.³⁰ According to a study on Project Lazarus—a program in Wilkes County, NC, that combines PDMP surveillance data with public health education, prevention, and treatment efforts—overdose deaths in the county declined 69 percent from 2009 to 2011, even though the number of opioid prescriptions remained nearly level and was higher than the state average.³¹ In a pilot study of the Indiana PDMP in 2012, physicians reported that the clinical care

they provided was enhanced by use of PDMPs; depending on their patients' clinical needs, physicians both reduced (by 58 percent) and increased (by 7 percent) the number of prescriptions written or number of pills dispensed.³²

Another concern is the perception that increased prescription monitoring through PDMPs may be a factor that causes people who are dependent on prescription opioids to switch to heroin use, contributing to heroinrelated overdose deaths (the rate of heroin-related deaths almost tripled from 2010 through 2013³³). However, according to an analysis of 2002-2011 data from the National Survey on Drug Use and Health, of people who initiate nonmedical use of pain relievers, only 3.6 percent transition to heroin use within 5 years of initiation.³⁴ According to the report Trends in Heroin Use in the United States: 2002 to 2013, "The concern that efforts to prevent the illegal use of prescription opioids are causing people to turn to heroin is not supported by the trend data. . . . Although research indicates that people who previously misused prescription pain relievers were more likely to initiate heroin use than people who had not misused prescription pain relievers, most people who misuse prescription pain relievers do not progress to heroin use."35

Furthermore, according to a 2016 review article,³⁶ implementation of most policy decisions aimed at reducing rates of nonmedical use of opioid medications occurred *after* heroin use rates had begun trending upward. The authors point to heroin's increased accessibility, reduced price, and high purity as factors that may have contributed to increases in the drug's use. In addition, the review highlighted studies of Florida and Staten Island, NY, that found that policy-induced reductions in the rates of opioid prescribing were associated with reductions in overall opioid-related deaths (that is, deaths related to either heroin or opioid medication use). Based on the overall findings of the review, the authors recommended enhanced use of PDMPs as part of a comprehensive strategy to reduce initiation of nonmedical opioid use.

PDMPs as a Public Health Surveillance Tool

Projects are in development to enhance use of state PDMPs for public health surveillance. Several states have provided PDMP information (typically with patientand prescriber-specific identification details hidden or removed) to researchers for the purpose of identifying trends in prescribing patterns.⁴ This type of aggregate information can be combined with health outcomes data—such as those compiled by emergency departments, medical examiners, poison control centers, and substance use treatment centers—to provide community-level risk data for use in planning community-level interventions.²² Several federal agencies have coordinated with the PDMP Center of Excellence to establish the Prescription Behavior Surveillance System (PBSS). This is an early warning surveillance and evaluation tool that can analyze de-identified, population-based, longitudinal data from multiple states.³⁷ PBSS data are being used to measure trends in controlled substance prescribing and to support educational initiatives for safe and appropriate prescribing. For example, one PBSS-based report, published in 2015, analyzed data from eight states representing one-fourth of the U.S. population.³⁸ Among other trends, the analysis revealed the common practice of coprescribing opioids and benzodiazepines. This happens despite the fact that patients who concurrently use both types of medication face increased risk for potentially fatal overdose.²

How Prescribers and Pharmacists Can Access PDMPs

A healthcare provider must enroll in a PDMP to become an authorized user before obtaining access to its data. Typically, the enrollment procedure involves certifying credentials, authenticating providers through proper identification, and establishing secure system access through passwords and/or biomarkers. These procedures are intended to restrict entry to users with legitimate purposes for accessing the data. Several states have developed streamlined registration systems that make enrollment easier, while still maintaining confidentiality and security.⁴

Related Recommendations for Healthcare Providers

PDMP use complements other measures that providers can take to prevent misuse and diversion of prescription medications and to help ensure the safety of patients using them. Some of these measures are described below.

Increase knowledge about substance use disorders and their prevention and treatment. Many prescribers have had little or no education on substance use disorder issues, either in professional school or through recurrent training. ^{39,40} Furthermore, many prescribers are not educated or trained in prescribing practices that minimize risk with commonly misused medications. ^{39,41} Less than half of the states have statutes or regulations that require or recommend education for prescribers of prescription pain medication. ⁴² SAMHSA and other sources offer online learning opportunities on substance use disorders and related topics (see "Continuing education opportunities" in the Resources section of this document).

Increase knowledge about safe opioid prescribing. According to the Food and Drug Administration (FDA),⁴³ obtaining training on opioid pharmacotherapy is one of three key actions prescribers can take to help curb the opioid public health crisis in the United States. The other two are reviewing and knowing the most current opioid drug labels and helping educate patients on using prescription opioids safely and effectively. Valuable information on this topic is available from CDC and other sources (see "Opioid prescribing resources" and "Continuing education opportunities").

Write prescriptions for controlled substances electronically. Electronic Prescriptions for Controlled Substances, a DEA initiative, permits electronic prescribing so long as both the prescriber and the dispenser use secure electronic health IT that meets DEA criteria. 44 Objectives of all electronic prescribing are to reduce opportunities for fraudulent prescriptions and better identify cases of misuse, improve efficiency and streamline prescriber workflow, inform clinical decision making, and improve patient safety by reducing adverse events. (See "Opioid prescribing resources.")

Become informed about risk-reduction strategies for opioid overdose. Providers can incorporate overdose prevention messages in their communications with patients who have prescriptions for controlled medication and with these patients' caregivers. These messages can cover opioid risk and safety, potential side effects, signs of overdose, rescue breathing techniques, administration of naloxone (see next paragraph), and guidance on when to

call 911. Providers can also consider developing a program policy for responding to onsite overdose.

Become informed about the use of naloxone for treatment of opioid overdose. Available by prescription, naloxone is an opioid antagonist that is used to counter the effects of opioid overdose. The medication successfully reversed more than 26,000 overdoses between 1996 and 2014. 45 Wider distribution of naloxone, and more training in its use, could save many lives. 46 The product is available in auto-injector and nasal spray formulations, which facilitate immediate administration by laypeople on the scene of an overdose, before emergency response professionals arrive. 47 U.S. Department of Health and Human Services agencies, including SAMHSA, are working to expand distribution of naloxone to law enforcement agencies, emergency responders, prescribers, patients with opioid prescriptions, and individuals who have experienced an opioid overdose and their family members. 48 Providers can consider having naloxone available in the office setting and prescribing naloxone to patients at risk for opioid overdose, including those being treated for pain. Through standing orders, collaborative practice agreements, and pharmacists' prescriptive authority, states are making it substantially easier to gain access to naloxone.⁴⁹

The local department of public health can provide information about programs in the community that offer training on naloxone use. SAMHSA's *Opioid Overdose Prevention Toolkit* provides information for first responders, treatment and service providers, and people recovering from opioid overdose.

Recognize signals that a patient may be misusing prescription medications. Signs of prescription opioid misuse, for example, include presenting with vague complaints of pain, physical signs of acute intoxication, symptoms of withdrawal, low blood pressure, slowed heart rate, and respiratory depression. Patterns of behavior that may indicate prescription medication misuse include escalated use (e.g., running out of medication early, claiming to have lost a prescription and needing a refill), frequent emergency department visits in pursuit of prescriptions, or visits to clinics after hours or at busy times. Other warning signs are if the patient charms or pressures the practitioner into prescribing an opioid medication, particularly for a specific controlled

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substance (that may have higher street value than generic equivalents); feigns illness but avoids a physical exam or diagnostic tests; uses other techniques to procure a prescription;⁵¹ or has a history of medication overdose.

Identify patients with risky substance use behaviors and refer them to treatment. Before prescribing, providers should determine whether a patient has a history of substance misuse or whether he or she has risk factors associated with substance misuse. Providers should also try to provide support for people with suspicious patterns of prescription medication use, rather than terminating them as patients; these individuals may have substance use disorders requiring treatment. In addition, PDMP information that suggests a suspicious pattern of substance use should be cross-checked to ensure that it does not contain errors. Ways to encourage patients to adhere to safe prescription use include the following:

- Employ treatment agreements.
- Regulate visit intervals.
- Control the medication supply.
- Conduct urine drug testing.
- To the degree possible, include the patient's support network in monitoring efforts and coordinate care with other providers.

Using a universal precautions approach, providers are encouraged to employ the safe prescribing practices listed above with all patients for whom they have prescribed controlled medication, not just those at obvious risk.⁵²

When treating patients with suspicious patterns of prescription medication use, providers can make clear that they will continue to provide care but will not enable medication misuse. SAMHSA's TIP 54 provides guidance on managing opioid use disorder risk in patients treated with opioids.⁵²

Educate patients not to share medication prescribed to them. In the majority of instances in which people ages 12 or older obtain prescription pain relievers for misuse (defined as "use in any way not directed by a doctor, including use without a prescription of one's own; use in greater amounts, more often, or longer than told to take a drug; or use in any other way not directed by a doctor" of they obtain it for free, buy it, or take it without asking from a friend or family member. Usually, that friend or family

member obtained the medication by prescription from one doctor (that is, through legitimate means). Patients receiving prescriptions should be counseled not to share their medications, because a medication appropriate for one individual may be inappropriate for another. Also, illicit use of prescription drugs can be as dangerous as use of illegal drugs, potentially leading to opioid use disorder, overdose, and/or death.

Promote proper storage and disposal of prescription medications. Providers can advise patients to secure prescriptions with addiction potential in a locked box or cabinet. Providers can also encourage patients to follow disposal instructions on the drug label or patient information that accompanies a particular medication. FDA, in cooperation with the Office of National Drug Control Policy, has developed guidelines for medication disposal, which differ based on medication type. Many communities offer "take-back days" that allow the public to bring unused medication to a central location for proper disposal. On an ongoing basis, consumers may also bring or mail back unused prescription medication to locations authorized by DEA. Consumers can contact their local household trash and recycling service for information on their community's take-back programs. (See "Medication disposal resources" for links to the FDA guidelines and DEA's disposal information.)

Conclusion

PDMPs are an increasingly valuable and easy-to-use resource for healthcare providers who prescribe and dispense controlled medication. Regulation and oversight of these databases ensure that the benefits for clinical care do not jeopardize patient privacy and security. Providers are encouraged to register to use their state's PDMP and to routinely query the database in regard to their patients' prescription histories. This practice can help curtail prescription medication misuse and diversion, reduce risk of substance use disorders, and prevent opioid overdoses and deaths.

Resources

PDMP resources

National Alliance for Model State Drug Laws

www.namsdl.org/prescription-monitoring-programs.cfm

National Association of State Controlled Substances Authorities

www.nascsa.org/rxMonitoring.htm

Prescription Drug Monitoring Program Training and Technical Assistance Center (the PDMP TTAC and the PDMP Center of Excellence have merged into a single program)

www.pdmpassist.org

Opioid prescribing resources

Attention Prescribers: FDA Seeks Your Help in Curtailing the U.S. Opioid Epidemic www.fda.gov/downloads/Drugs/DrugSafety /InformationbyDrugClass/UCM330618.pdf

CDC Guideline for Prescribing Opioids for Chronic Pain www.cdc.gov/drugoverdose/prescribing/guideline.html

National Pain Strategy

https://iprcc.nih.gov/docs/HHSNational Pain Strategy.pdf

Electronic Prescriptions for Controlled Substances (EPCS) www.deadiversion.usdoj.gov/ecomm/e_rx

The Extended-Release and Long-Acting Opioid Analgesics Risk Evaluation and Mitigation Strategy (provided by pharmaceutical companies as required by FDA, this website links to resources and accredited continuing education for healthcare providers)

www.er-la-opioidrems.com

Keeping Patients Safe: A Case Study on Using Prescription Monitoring Program Data in an Outpatient Addictions Treatment Setting

www.pdmpassist.org/pdf/COE_documents/Add_to_TTAC /methadone treatment nff %203 2 11.pdf

VA/DoD Clinical Practice Guidelines, Management of Substance Use Disorders
www.healthquality.va.gov/guidelines/MH/sud

Medication disposal resources

Drug Disposal Information www.deadiversion.usdoj.gov/drug_disposal

How To Dispose of Unused Medicines
www.fda.gov/ForConsumers/ConsumerUpdates
/ucm101653.htm

Continuing education opportunities

HealtheKnowledge

www.healtheknowledge.org

Opioid and Pain Management Continuing Education www.drugabuse.gov/opioid-pain-management-cmesces

OpioidPrescribing.org: Safe and Effective Opioid Prescribing for Chronic Pain

www.opioidprescribing.com

Providers' Clinical Support System for Medication Assisted Treatment

http://pcssmat.org

Providers' Clinical Support System for Opioid Therapies

http://pcss-o.org

SAMHSA's Knowledge Application Program

E-Learning Website (includes courses on prescription medication misuse, abuse, dependence, and addiction) https://kap-elearning.samhsa.gov

Relevant publications from SAMHSA

(available through http://store.samhsa.gov)

Opioid Overdose Prevention Toolkit

Substance Abuse Treatment Advisory: OxyContin®: Prescription Drug Abuse—2008 Revision

Substance Abuse Treatment Advisory: Prescription Medications: Misuse, Abuse, Dependence, and Addiction

Treatment Improvement Protocol (TIP) 54: Managing Chronic Pain in Adults With or in Recovery From Substance Use Disorders

Treatment referral resources

SAMHSA's National Helpline

(24 hours a day, 365 days a year; English and Español) 1-800-662-HELP (1-800-662-4357)

SAMHSA's Behavioral Health Treatment Services Locator

https://findtreatment.samhsa.gov

American Society of Addiction Medicine, Membership Directory

https://asam.ps.membersuite.com/directory/ SearchDirectory_Criteria.aspx

Notes

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- ² Centers for Disease Control and Prevention. (2016). CDC guideline for prescribing opioids for chronic pain—United States, 2016. MMWR Recommendations and Reports, 65(1), 1–50.
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- ⁴ Clark, T., Eadie, J., Kreiner, P., & Strickler, G. (2012). Prescription drug monitoring programs: An assessment of the evidence for best practices. Waltham, MA: Brandeis University, Heller School for Social Policy and Management, Prescription Drug Monitoring Program Center of Excellence.
- ⁵ Prescription Drug Monitoring Program Training and Technical Assistance Center. (n.d.). TTAC National Surveys: Analysis of data 2012 and 2014. Retrieved December 2, 2016, from http://pdmpassist.org/pdf/TTAC_2012_2014_Surveys_C.pdf
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