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Spotlight on Health

Quest Diagnostics™

Prescription Drug Monitoring

Prescription drug monitoring is a critical tool in the fight against the opioid epidemic. While state-based prescription drug monitoring programs (PDMPs) let us know what drugs patients are prescribed, we must also know what drugs are actually in a patient's system, prescribed or not.

In this newsletter, we will discuss the origins of the opioid epidemic and the benefits of comprehensively monitoring prescription drug use with urine testing.

The Opioid Epidemic

It is important to remember that opioids are not necessarily "bad" drugs. For many decades, opioids such as oxycodone, meperidine, and codeine were the only medications available to alleviate severe pain. Opioids also can produce a feeling of euphoria. This is one of the reasons for the high potential for patients to develop substance use disorders (SUD) (See SAMHSA.gov/disorders/substance-use).

Prescriptions for opioids began to increase in the 1990s. Reasons for the increase during this period included a newly developed formulation of oxycodone, OxyContin® (oxycodone hydrochloride). The drug was marketed as nonaddictive.[1] In addition, opioids were increasingly used for chronic, noncancer pain.[1] The number of opioid prescriptions increased from approximately 3 million a year in 1990 to 8 million a year in 1996, and to 11 million in 1999.[1] From 2006 to 2008, the number of opioid prescriptions increased 4.1% annually.[2] After OxyContin® was found to be addictive, the number of opioid prescriptions written yearly began to decrease (an annual decrease of 5% per year from 2014 to 2016).[2]

Despite decreasing opioid prescriptions, the number of deaths involving prescription opioids increased from approximately 22,600 in 2015 to more than 32,000 in 2016 (equivalent to about 89 deaths per day).[3]

The discrepancy in trends between the number of opioid prescriptions written and prescription drug deaths is because of opioid misuse. Dangerous combinations of prescription drugs, such as opioids and benzodiazepines, have also contributed to the increase in deaths (Sidebar). In addition, as prescription opioids became less available, many people with SUD began using heroin. Recently, more and more people with SUD have begun using fentanyl because it is cheap and potent. Heroin is also being cut with fentanyl, which increases the risk for drug overdose.

Prescription Drug Monitoring Programs

To combat opioid misuse, almost all states have implemented PDMPs. These programs require physicians and pharmacies to report prescribing information of Schedule II to IV or V drugs.[6] PDMPs allow healthcare providers to find out if a patient has already received a prescription for a controlled drug. These programs have helped to decrease the number of Schedule II opioid prescriptions by 30%.[7]

Combining Drugs—A Dangerous Proposition

Opioids and benzodiazepines taken together have a synergistic effect that can dangerously depress respiration. A 2017 study found that overdose deaths caused by a combination of opioids and benzodiazepines increased 1.7-fold since 2002-2003.[4] Deaths due to combinations of prescription opioids with heroin and alcohol also markedly increased.[4]
The Centers for Disease Control and Prevention (CDC) has recommended that physicians should avoid prescribing opioids and benzodiazepines concurrently whenever possible.[5]

Do You Know What Drugs Your Patients are Taking?

Despite their value, PDMPs cannot comprehensively capture opioid misuse. One reason is the lending or borrowing of prescription medications, known as medication sharing.[8] Analysis of over 230,000 urine drug testing results from Quest Diagnostics has shown that medication sharing is not uncommon[9]:

- Opioids and benzodiazepines were found in over 25% of urine specimens.
- In 52% of specimens, 1 drug class was prescribed and the other was nonprescribed.
- Almost 1 in 5 specimens that were positive for prescribed opioids were positive for nonprescribed benzodiazepines.
- Over 15% of specimens with prescribed benzodiazepines also were positive for nonprescribed opioids.

Urine Drug Testing Is Important and Can Save Lives

Urine drug testing provides an objective assessment of drug use. Testing can be divided into presumptive and definitive tests. Presumptive drug tests are used to detect possible use of many drug classes including opioids. However, they do not determine which opioid a patient is taking. Nor do presumptive tests detect synthetic opioids. Definitive drug tests use more complex methods (eg, mass spectrometry), and identify specific drugs and metabolites in the test specimen. They can be used to confirm presumptive test results.

Ongoing drug testing can help monitor a patient for adherence to a medication regimen. Patients may be taking nonprescribed drugs, skipping doses, or not taking their medications at all. If a test is negative for a prescribed drug, there is a risk of diversion (illegally giving drugs to others). Unexpected results can also be because a patient has a fast or slow metabolizer opioid genotype.[10]

The Centers for Disease Control and Prevention (CDC) recommends that urine drug testing be performed before starting opioid drug therapy.[5] Follow-up testing, at least annually, for prescribed and nonprescribed medications, and illicit drugs should also be considered.[5]

How the Laboratory Can Help

Quest Diagnostics offers urine drug tests for prescription and illicit opioids and other drugs that can affect pain management strategies (QuestDrugMonitoring.com/). These test options include presumptive immunoassay screens, and definitive mass spectrometry assays for confirmation and analysis.

Quest Diagnostics' medMATCH® reports match assay results to prescription information and provide a patient-specific interpretation.

Quest Diagnostics also offers pharmacogenomic testing to determine if a patient is a fast or slow opioid metabolizer.

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