

Spotlight on Health

The Opioid Epidemic

The United States is experiencing an opioid epidemic, ie, a widespread use and abuse of opioids. This epidemic led to over 28,000 deaths from overdose in 2014.¹ Consequently, the decision to start opioid therapy can be a difficult one for healthcare providers, especially for patients with chronic pain (lasting >3 months).

To help address this dilemma, the Centers for Disease Control and Prevention (CDC) has published some recommendations.² These include the use of state prescription drug monitoring programs (electronic databases) and urine drug testing. These key tools are discussed in this month's Spotlight on Health. The tools help healthcare providers safely manage their patient's pain and may help win the battle against the opioid epidemic.

Prescription Drug Monitoring Programs

To help healthcare providers protect patients from opioid overdose, nearly all states have implemented prescription drug monitoring programs. These programs compile electronic records of prescriptions for schedule II to IV drugs (15 states) or schedule II to V drugs (36 states).⁴ They allow healthcare providers to find out if a patient has already received a prescription for one of these drugs.

Use of these programs has decreased the number of prescriptions for schedule II opioids by 30%.⁵ As a result, fewer opioid drugs are available for misuse, abuse, and overdose.

Urine Drug Testing

Urine drug testing helps to protect the patient and the community. CDC guidelines recommend testing patients before they start opioid treatment and at least yearly during therapy.² Drug testing helps the doctor assess whether a patient is using unreported drugs that may place him or her at risk of overdose. These drugs could include commonly prescribed opioids, heroin, or benzodiazepines. Testing may also show if the patient is taking the prescribed medication(s). If a test is negative for a prescribed drug, there is a risk of diversion (illegally giving drugs to others).

Unexpected test results may indicate misuse by the patient or individual variation in drug metabolism. Specifically, unexpected positive results can be caused by:

- Use of a nonprescribed drug
- Residual drug (marijuana may test positive up to 1 month after cessation of use)
- Cross-reaction with poppy seeds (positive morphine and codeine results)

Unexpected negative results can be caused by:

- Patient taking less than the prescribed dose
- Patient skipping doses
- Patient not taking medication at all
- Faster than normal drug metabolism
- Specimen diluted, treated with chemicals, or from another person



Opioid Use Disorder

Recent data has shown that >40% of patients receiving opioids for chronic pain may develop opioid use disorder.³ These patients use opioid drugs in larger amounts and/or over a longer period than was intended.

Full criteria for the disorder are provided by the [American Psychiatric Association](#). Some symptoms include:

- Craving opioids
- Spending a lot of time obtaining and using opioids, and recovering from the effects
- Neglecting responsibilities at home, school, or work because of opioid use
- Continued use of opioids despite knowing it is causing harm

Options for treatment are provided by the Substance Abuse and Mental Health Services Administration ([SAMSHA](#)). [Naloxone](#) may be prescribed for patients at risk of opioid overdose.

Unexpected test results can often be explained by talking with the patient and/or the laboratory. The patient can provide his or her history of drug use, diet, and adherence to the instructions for taking the drug. A “pill count” while talking with the patient during an office visit may also help. The laboratory staff can discuss technology-related issues. For example:

- Immunoassays are presumptive tests that can detect many drug classes including opioids. However, they do not determine which opioid the patient is taking, nor do they detect synthetic opioids.
- Mass spectrometry (LC-MS/MS) assays are definitive tests used to confirm presumptive immunoassay results and identify specific drugs and their metabolites. LC-MS/MS assays also quantify the amount of drug present in the sample. However, these amounts do not reflect the drug dosage because of variations in the amount of time between the last drug dose and the specimen collection, patient hydration, and/or individual drug metabolic rate.
- Unexpected negative results may be caused by specimen quality issues. The laboratory can test the pH, test for oxidants, and measure creatinine concentration to detect altered or diluted specimens. The laboratory can suggest techniques to be used at time of specimen collection as well. These techniques can help ensure a proper, unaltered specimen collection.

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 (see [Prescription Drug Monitoring: Available tests](#)). These test options include presumptive immunoassay screens and definitive LC-MS/MS assays for confirmation and analysis.

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

Additional Information

- [2016 Quest Diagnostics Health Trends™, A Report on Prescription Drug Misuse in America.](#)
- [CDC checklist for prescribing opioids for chronic pain](#)
- [Urine Drug Testing for Monitoring Opioid Therapy: Washington State Agency Medical Directors' Group Interagency Guideline on Prescribing Opioids for Pain, Appendix D](#)
- Genotype testing
 - [CYP3A4 and CYP3A5 genotypes](#)
 - [CYP2D6 and CYP2C19 genotypes](#)

Factors Contributing to the Opioid Epidemic²

- Prescribing high doses of opioids
- Overlapping opioid and benzodiazepine prescriptions
- Use of extended-release/long-acting opioids for acute pain

References

1. Centers for Disease Control and Prevention, National Center for Health Statistics. Number and age-adjusted rates of drug-poisoning deaths involving opioid analgesics and heroin: United States, 2000–2014. National Vital Statistics System, Mortality File. [Internet]. Atlanta, GA. 2015. Available at: cdc.gov/nchs/data/health_policy/AADR_drug_poisoning_involving_OA_Heroin_US_2000-2014.pdf. Accessed June 16, 2016.
2. Dowell D, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain — United States, 2016. *MMWR Recomm Rep*. 2016;65:1-49.
3. Boscarino JA, Hoffman SN, Han JJ. Opioid-use disorder among patients on long-term opioid therapy: impact of final DSM-5 diagnostic criteria on prevalence and correlates. *Subst Abuse Rehabil*. 2015;6:83-91.
4. Prescription Drug Monitoring Program Training and Technical Assistance Center. Prescription drug monitoring frequently asked questions (FAQ). pdmpassist.org/content/prescription-drug-monitoring-frequently-asked-questions-faq. Accessed July 12, 2016.
5. Bao Y, Pan Y, Taylor A, et al. Prescription drug monitoring programs are associated with sustained reductions in opioid prescribing by physicians. *Health Aff (Millwood)*. 2016;35:1045-1051.