



Decline in Prescription Drug Misuse More than Twice as High in States with Broad Drug Abuse Prevention Programs, New Quest Diagnostics Health Trends Study Finds

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Three-year analysis of more than 1.4 million test results also shows majority of Americans continue to put health at risk through dangerous drug combinations and skipping doses

MADISON, N.J., July 16, 2014 /PRNewswire/ -- Five states that have implemented multi-faceted prescription drug abuse prevention programs in recent years showed the highest rate of decline in prescription drug misuse rates nationwide, according to a new study issued today by Quest Diagnostics (NYSE: DGX), the world's leading provider of diagnostic information services. The findings suggest that broad, collaborative measures that include prescription drug databases and physician and patient education may be effective at curbing the nation's epidemic of prescription drug abuse.



Florida, Georgia, Kentucky, New York and Tennessee showed the highest rates of decline in misuse rates over the last three years, according to the study of more than 1.4 million drug test results between 2011 and 2013. The average decline for these states was 10.7%, nearly 2.5 times higher than the average decline of 4.4% for all other states combined, in the 46-state study.

The Quest Diagnostics Health Trends™ study also found that 55% of Americans potentially put their health at risk by misusing their medications in 2013, a decrease of 8 percentage points compared to misuse rates of 63% in 2011. All age groups and both genders were at risk of misuse, based on test results.

The full study is now available at

www.QuestDiagnostics.com/HealthTrends

The study's findings support previous research that suggests broad abuse approaches may be effective. A July 2014 study from the Centers for Disease Control and Prevention (CDC) noted a 23% decrease in drug overdose deaths in Florida between 2010 and 2012, with similar improvements in New York and Tennessee. According to the Kentucky Office of Drug Control Policy, between August 2011 and July 2013 there was a 10% decrease in opioid doses dispensed following implementation of the state's comprehensive drug abuse legislation (HB 1) that integrated efforts of providers, public health officials and law enforcement.

"Prescription drug misuse remains at alarming levels, with more than one in two patients putting their health at risk through inappropriate and potentially dangerous misuse of drug therapies," said F. Leland McClure, Ph.D., a study investigator and director, pain management, mass spectrometry operations, Quest Diagnostics. "But the multi-year analysis yielded some positive findings, including significant decreases in certain states with comprehensive prescription drug abuse programs. These findings indicate that, armed with the right strategies and tools, policymakers and health professionals are making headway against the prescription drug epidemic."

"Healthcare practitioners need to know that their patients are not following their instructions," said Michael R. Clark, M.D., MPH, MBA, associate professor and director, Chronic Pain Treatment Program, Department of Psychiatry and Behavioral Sciences, The Johns Hopkins Hospital. "While inconsistency rates have decreased over time, patients are still substituting, supplementing, and diverting their prescribed controlled substances. In fact, over recent years, patients are supplementing their prescribed medications with increasing amounts of non-prescribed substances."

The majority of patients tested misused their medications

The Quest Diagnostics study is based on an analysis of 1,409,037 de-identified urine lab-test results of patients, of both genders and all ages in 46 states and the District of Columbia performed by the company's clinical laboratories between 2011 and 2013. The testing was performed in connection with the company's prescription drug monitoring services. These services aid clinicians in monitoring patients for appropriate use of up to 26 commonly abused prescription medications, such as opioids and sedatives, and illicit drugs, such as marijuana and cocaine.

The tests report if a patient's results are consistent or inconsistent with appropriate physician-prescribed medication use. Consistent results indicate that only the drug or drugs prescribed for the patient were detected. Inconsistent results suggest a patient has misused one or more drugs. Forms of misuse include combining a prescribed drug with other non-prescribed drugs, which can lead to dangerous drug combinations; not taking a prescribed drug, which contributes to healthcare waste and failed treatment; and using other drugs, which indicates illicit drug use without a clinician's oversight.

Key findings from the study:

- **All patients are at risk of prescription misuse.** The high rate of prescription medication misuse (55% inconsistent) was observed across all age groups and in both genders, as well as across different types of health plans (Medicaid, Medicare and private payer). The 8 percentage point decrease in the inconsistency rate from 2011 to 2013 suggests that physicians may be doing a better job communicating about the importance of adherence to a prescription drug regimen, that patients are exercising better prescription drug compliance, a broader representation of patients tested for drug use, or a combination of the three.

- Adolescents experienced the greatest gains in appropriate drug use. Inconsistency rates for patients ages 10-17 decreased from 70% in 2011 to 57% in 2013, an improvement of 13 percentage points. Patients ages 64 years and older had the lowest rate of inappropriate drug use, at 44%, according to test results.
- Morphine screening is an unreliable surrogate for the detection of heroin abuse in drug testing. One in 15 patients, or 6.6%, positive for the heroin metabolite 6-monoacetylmorphine tested negative for morphine. In the U.S., the number of heroin users increased nearly 80% between 2007 and 2012, according to the Substance Abuse and Mental Health Services Administration.

"Given the growing trend of heroin abuse, clinicians should reconsider long-standing conventional wisdom that morphine testing can reliably reveal heroin abuse," said Dr. McClure.

- A small percentage of patients tamper with their test specimens to mask drug misuse from their physicians. The specimens of nearly 22,000 patients in the study, or 1.6% of those analyzed, showed evidence of specimen tampering. Patients who tested positive for misusing more than one drug were four times more likely to show evidence of specimen tampering than other patient populations.

"Prescription drug medications such as opioids and amphetamines can be enormously effective therapies, and for many people a source of better health outcomes, such as reduced pain," said Harvey W. Kaufman, M.D., a study investigator and senior medical director, Quest Diagnostics. "We need to find a balance between ensuring patients get the medications they need and preventing them from developing addiction and other health problems. Greater public education of the dangers of inappropriate prescription drug use is critical in this effort."

States take lead in addressing prescription drug abuse

Forty-nine states operate or have pending legislation authorizing prescription drug monitoring programs (PDMP). These programs feature electronic databases that collect prescribing and dispensing information on prescription medications of state citizens and may dispense it to individuals authorized under state law, such as physicians and law enforcement, for the purposes of their profession.

While other studies have shown PDMPs can help reduce drug abuse, the five states with the highest decline in misuse rates in the Quest Diagnostics Health Trends analysis share certain common characteristics. In addition to PDMPs, these include broadly implemented physician education programs and public awareness campaigns.

"Certain states have taken to heart the need to address prescription drug abuse, with proactive measures that involve physician and patient education as well as PDMPs and appropriate testing," said Dr. Kaufman. "The latest Quest Diagnostics Health Trends study gives early evidence that these efforts may be working."

Quest Diagnostics is a leader in prescription and workplace drug monitoring by diagnostic testing. The company's Drug Testing Index™ is widely considered a benchmark in national trends of drug use by American workers. The company extended its drug monitoring services with the addition of a new portfolio of prescription drug monitoring services for clinicians in 2010.

Study Strengths and Limitations

The study's strengths are its size and national scope; use of an objective laboratory method, versus surveys or polls, which may be subject to user misrepresentation or error; confirmation of all positive drug screens by mass spectrometry, the most advanced drug testing method; and for consistency rate analysis the inclusion of patients under care by clinicians in a primary care or pain-management setting, but exclusion of those in drug rehabilitation or addiction treatment settings, where unusually high rates of drug misuse may be expected.

Study limitations include geographic disparities; inability to confirm drug misuse through access to medical records or clinical evaluation; and technical factors and patient variations, such as drug metabolism and hydration state, that may affect the reliability of a minority of results. Quest Diagnostics does not provide services to all clinicians in the U.S., so results are not broadly representative of all patients taking prescription medications in the U.S. It is also possible some clinicians tested patients due to appropriate suspicions of drug misuse, and that some clinicians omitted to specify all drugs prescribed for the patient on a test order, skewing some results.

The company's Quest Diagnostics Health Trends studies are performed in compliance with applicable privacy regulations, the company's strict privacy policies and as approved by the Western Institutional Review Board.

About the Prescription Drug Misuse in America Report

Findings from the Prescription Drug Misuse in America report is based on an analysis of 1,409,037 de-identified urine lab test results of patients of all ages and of both genders in 46 states and the District of Columbia performed by the company's clinical laboratories in 2011, 2012, and 2013. The testing was performed in connection with the company's prescription drug monitoring services. These services aid clinicians in monitoring patients for appropriate use of up to 26 commonly abused prescription medications, such as opioids and sedatives, and illicit drugs, such as marijuana and cocaine. For more information on the company's prescription drug monitoring services for clinicians, visit www.QuestDiagnostics.com/prescriptiondrugmonitoring.

About Quest Diagnostics Health Trends Reports

The Prescription Drug Misuse in America report is one in a series of regular Health Trends reports that examine major public health issues. Quest Diagnostics Health Trends Reports identify trends in disease and wellness based on analysis of de-identified test results from Quest Diagnostics, which maintains the largest private clinical laboratory database in the United States. Quest Diagnostics Health Trends Reports are published in peer reviewed medical journals and by the company as a public service. Previous reports have focused on allergies and asthma, chronic kidney disease, diabetes, heart disease, H1N1 (2009) Influenza, rotavirus and workplace wellness. Visit QuestDiagnostics.com/HealthTrends.

About Quest Diagnostics

Quest Diagnostics is the world's leading provider of diagnostic information services that patients and doctors need to make better healthcare

decisions. The company offers the broadest access to diagnostic testing services through its network of laboratories and patient service centers, and provides interpretive consultation through its extensive medical and scientific staff. Quest Diagnostics is a pioneer in developing innovative diagnostic tests and advanced healthcare information technology solutions that help improve patient care. Additional company information is available at QuestDiagnostics.com. Follow us at Facebook.com/QuestDiagnostics and Twitter.com/Quest DX.

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