



Quest Diagnostics

# Health Trends<sup>®</sup>

Drug Misuse in America 2022

**A Decade Lost to the Drug Crisis**



Ten years ago, drug overdoses claimed nearly 42,000 lives annually in the United States<sup>1</sup>; by the end of 2021, that number climbed to nearly 108,000.<sup>2</sup> The drug crisis shows no signs of abating, fueled by increased access to illicit drugs as well as barriers to healthcare access exacerbated by the COVID-19 pandemic.

Since 1980, **1.3 million Americans** have died from drug overdoses<sup>1</sup>

**More than 200 Americans** die each day from opioid drug overdoses<sup>1</sup>

**Nearly 1,150 adolescents** aged 14-18 died of drug overdoses in 2021<sup>3</sup>

In this [Quest Diagnostics Health Trends®](#) report, we provide insights into the drug crisis based on more than 20 million deidentified clinical laboratory tests for drugs performed by Quest Diagnostics between 2012\* and 2021. Clinical drug testing (also referred to as drug monitoring or toxicology testing) helps physicians and patients monitor for safe and appropriate use of controlled prescription drugs, such as opioids and benzodiazepines, and unsafe use of nonprescribed drugs, such as illicit fentanyl and cocaine. Controlled drugs, both prescription and illicit, carry risk of dependency, adverse drug interactions, and overdose. Polysubstance use, sometimes referred to as drug mixing, when 2 or more drugs are used at a time, may increase these risks.

Clinical drug tests provide insights -to identify risks that may otherwise be missed, from emerging substance use disorders to dangerous drug mixing (a major source of overdose-related deaths).

**In its 2022 clinical practice guideline for prescribing opioids for pain, the Centers for Disease Control and Prevention (CDC) recommends that clinicians use “unexpected” test results to:**

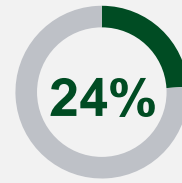
- 1 Improve patient safety, such as by changing pain management strategy
- 2 Inform decisions to reduce or continue opioid dosage
- 3 Reevaluate treatment more frequently
- 4 Offer naloxone
- 5 Offer or refer patients for substance use disorder treatment<sup>5</sup>

*“Unexpected” or “unexplained” test results are those that do not align with an individual’s treatment plan and have not been discussed with the clinician.*

<sup>2</sup> Quest Diagnostics Health Trends® Drug Misuse in America 2022: A Decade Lost to the Drug Crisis

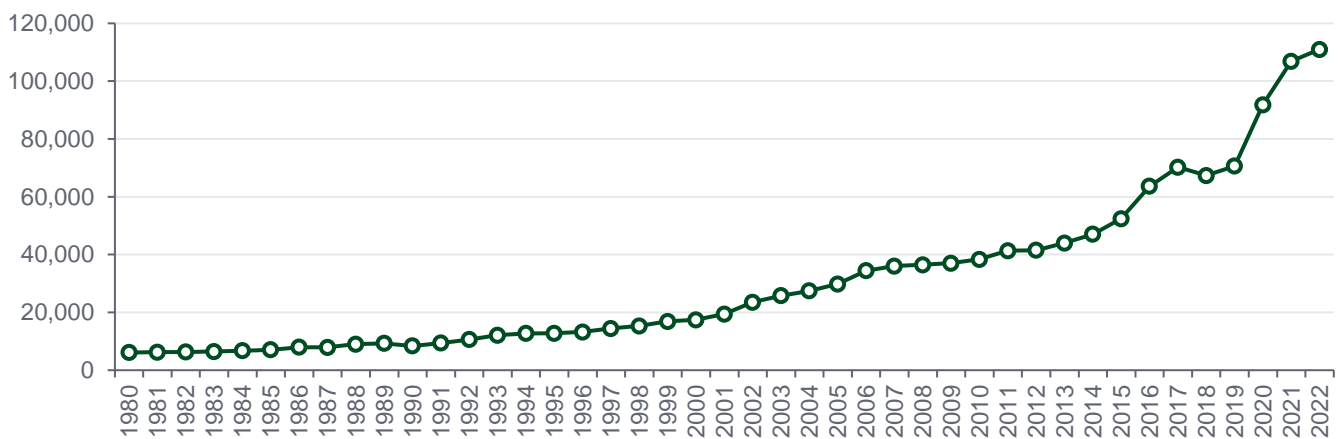
The national dialogue on the drug crisis largely focuses on reducing harm for patients with a known substance use disorder or overdose risk. As the findings in our report reveal, another facet of the drug crisis deserves greater attention: the unsafe use of prescribed controlled medications.

For some individuals, misinformed use of a prescribed controlled medication is the first step toward dependency or other drug-related harms. While illicit fentanyl drives most of today's overdose deaths, our research shows that prescription drug misuse has continued at an alarming rate, putting the health of many patients at risk.



Nearly 1 in 4 opioid overdose deaths in 2020 was due to prescription opioids, a 16% increase from 2019.<sup>2</sup>

**Misuse of prescription opioids surged in the 2000s<sup>1</sup>**



<sup>1</sup> Reference: Drug Overdose Deaths in the U.S. Top 100,000 Annually. Press release. National Center for Health Statistics, Centers for Disease Control and Prevention. Reviewed November 17, 2021. Accessed April 24, 2022. [cdc.gov/nchs/pressroom/nchs\\_press\\_releases/2021/20211117.htm](https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2021/20211117.htm)

## A decade later, half of patients still misuse their prescription drugs

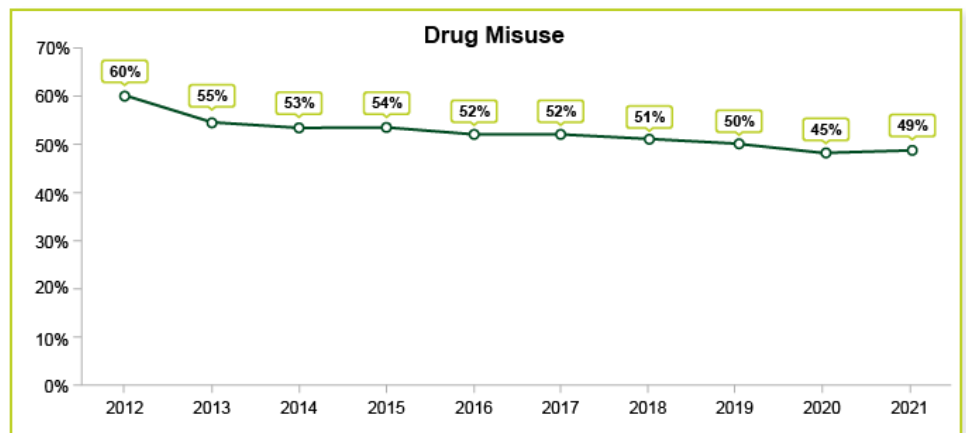


In 2012, a little more than half (60%) of patients tested by Quest Diagnostics showed signs of drug misuse.\* Ten years later, the rate remains exceedingly high, with roughly 1 in 2 patients (49%) in 2021 showing signs of misuse, based on test results. A test result suggests misuse when a) additional drugs are found with the prescribed medication(s) (indicated by the healthcare provider on the test request form) b) different drugs are found than the prescribed medication or c) no drugs are found (which may be due to diversion).

Our data show the misuse of prescription drugs continues to be a widespread problem.

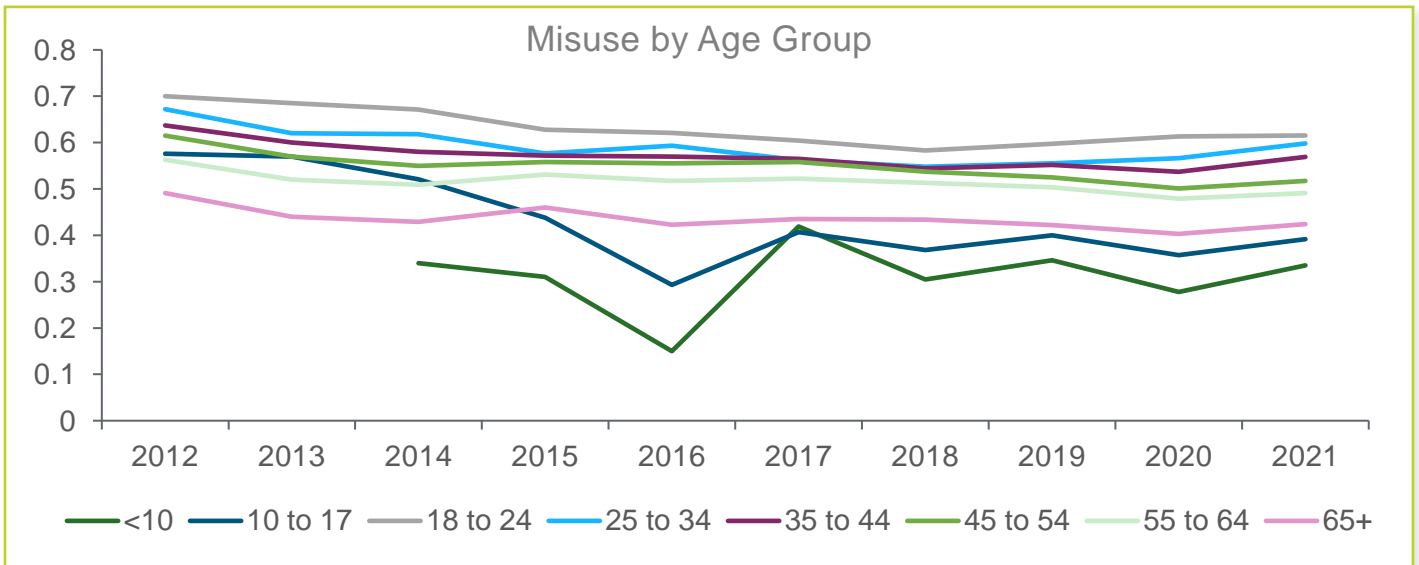
While people of all ages misused medications and illicit drugs at high rates, younger individuals (aged 18 to 34) were more likely to show signs of misuse over the past decade.<sup>2</sup>

**49% of clinical drug tests showed misuse in 2021, compared to 60% in 2012, a relative decline of 18%**



<sup>2</sup>Quest Diagnostics first full year of clinical drug monitoring testing was 2011. In that year, 63% of specimens tested showed signs of drug misuse.

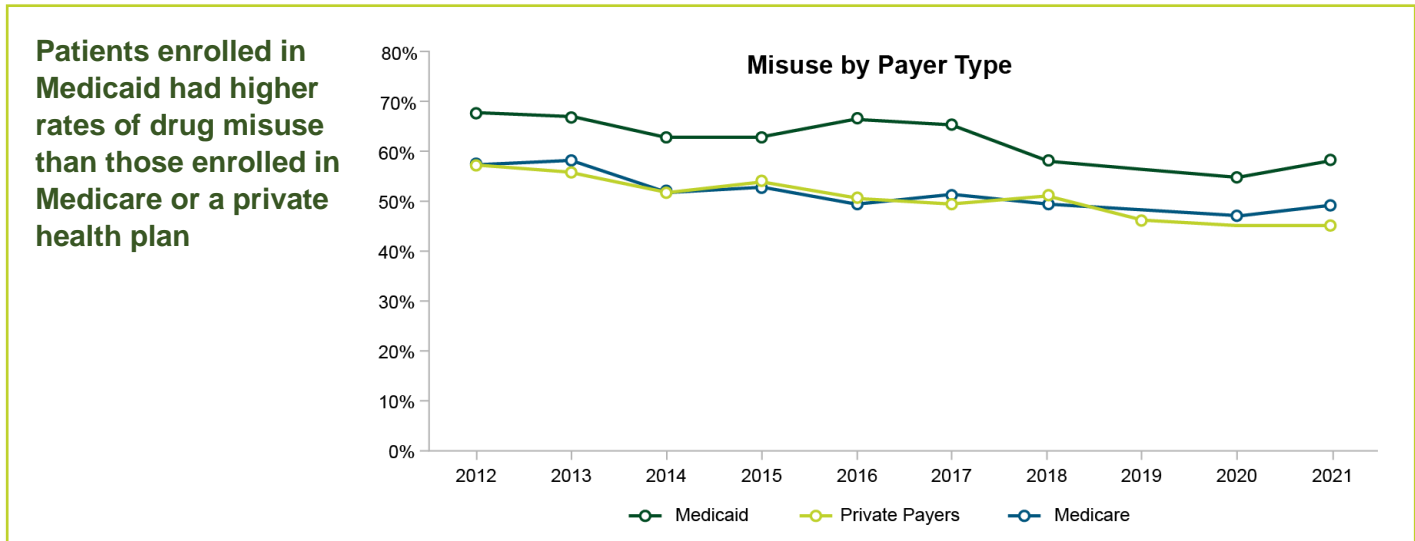
**Individuals of all ages showed high rates of drug misuse, particularly those aged 18 to 34**



Patients covered by Medicaid consistently had higher rates of misuse than patients with commercial insurance or enrolled in Medicare. Other research suggests that individuals in Medicaid are comparatively more likely to have risk factors for substance use disorders, such as mental illness and economic disadvantage.<sup>2,3</sup> According to the Centers for Medicaid and Medicare, there is “strong evidence that treatment and management of substance use disorders provides substantial cost savings.” For instance, methadone treatment has been found to generate \$4 to \$5 in returns on healthcare expenditures for every \$1 invested.<sup>4</sup>



Substance use disorder (SUD) creates “substantial costs for hospitals and payers (\$13.2 billion annually), yet few hospital patients receive SUD treatment services.”<sup>5</sup>



5 Quest Diagnostics Health Trends® Drug Misuse in America 2022: A Decade Lost to the Drug Crisis

Differences by sex were also observed. Female patients were more prone to use pain- and anxiety-reducing prescription medications, such as opioids and benzodiazepines, while male patients engaged illicit drugs, such as cocaine, at higher rates. Other research suggests female patients are more likely to have anxiety disorders and to be prescribed opioids and benzodiazepines than male patients.<sup>6</sup>

## Overall misuse has declined, but drug mixing on the rise

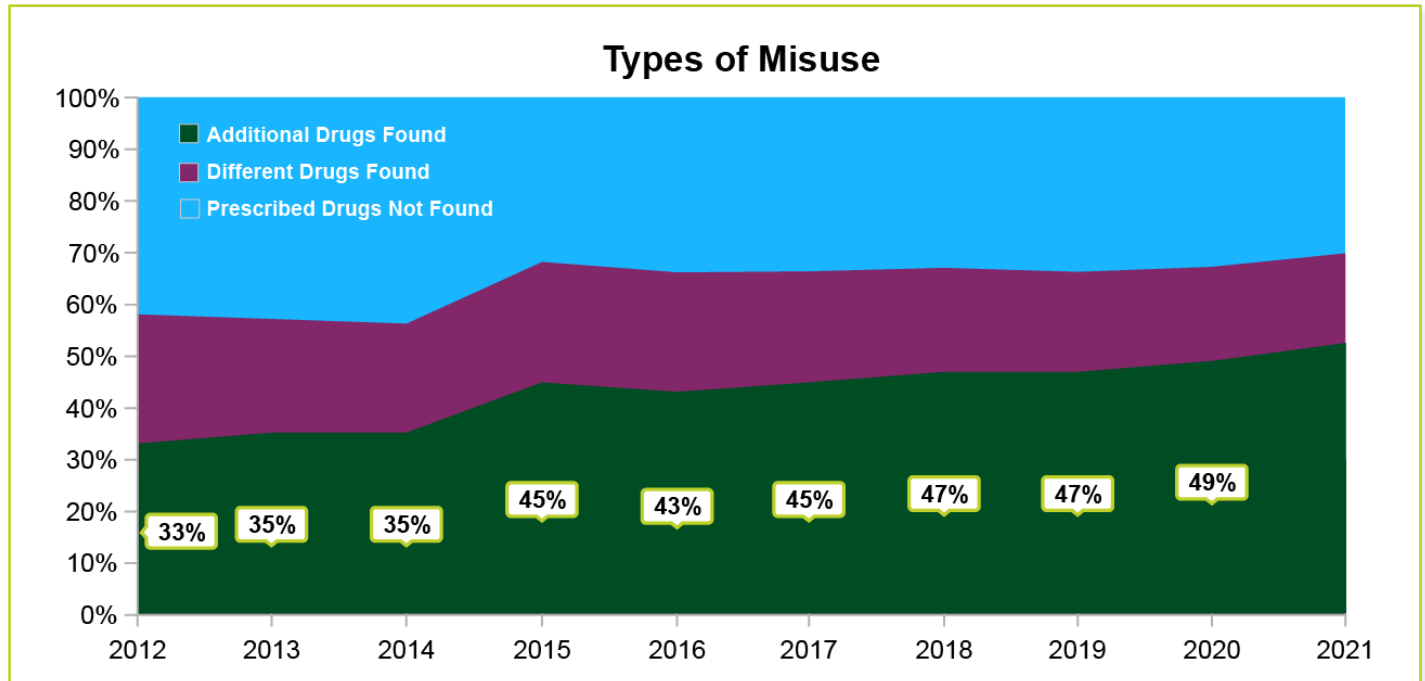


Illicit users of prescription medications have higher rates of other drug and alcohol use.<sup>7</sup> While drug misuse has declined overall over the past decade, polysubstance use or drug mixing has increased. In 2012, about 1 in 3 (33%) drug tests showed evidence of drug mixing. In 2021, the rate was more than 1 in 2 (52%), a relative increase of 58%.

<sup>6</sup> Quest Diagnostics Health Trends® Drug Misuse in America 2022: A Decade Lost to the Drug Crisis

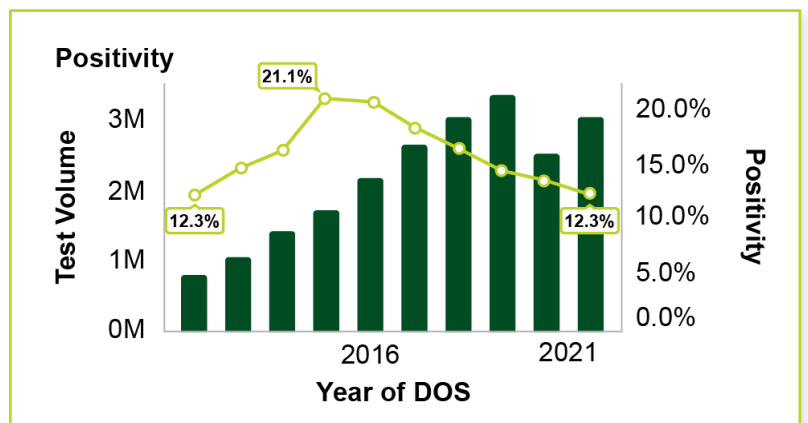


## Patients are mixing drugs more often than they did 10 years ago



These data are concerning given other data suggesting an increase in the mixing of synthetic fentanyl with other drugs, often without the user's knowledge.<sup>8</sup> Fentanyl is a highly potent synthetic opioid that can depress respiration when combined with other drugs, leading to overdose and death. In 2020, we reported a surge in drug combining involving nonprescribed fentanyl and amphetamines, opiates (which also includes opioids), and other drugs during the early months of the pandemic.<sup>9</sup>

Prescribed and nonprescribed use of benzodiazepines was 12.3% in 2021, the same rate 10 years ago. Use had surged as high as 21.1% in 2014.





## Amphetamine use surged 5-fold over the past 10 years

Amphetamines are stimulants that may be used in prescription form to treat certain attention deficit disorders or in illicit form (such as “meth” or methamphetamine). These stimulants are addictive and can cause serious health problems, from stroke and heart attack to lung damage.<sup>10</sup>

Our data reveal that amphetamine use increased 5-fold over the past decade. In 2021, 9.2% of patients tested were positive for amphetamines compared to 1.8% in 2012.

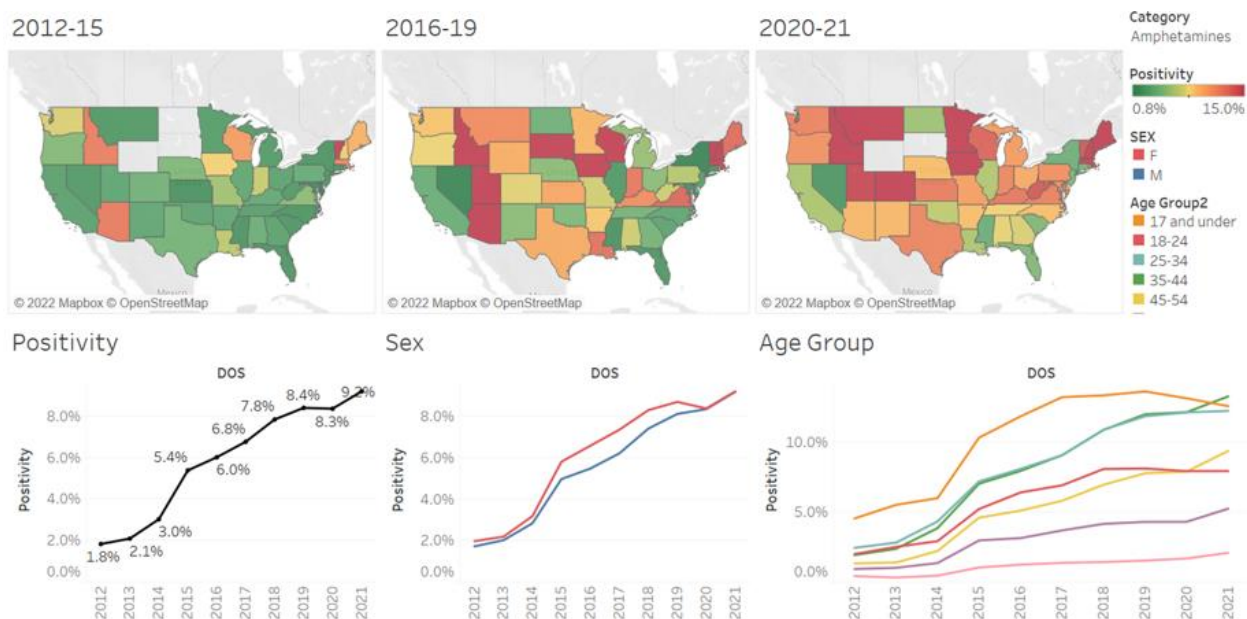
Although sharp increases were observed in all age ranges, the pattern of use shifted in recent years from children to adults. In 2017 and 2018, the rate of increase plateaued in those aged 10 to 24. After that, amphetamine use was increasingly observed in patients aged 25 to 44.

Use of amphetamines also spread nationally, with use identified in most states in 2021 compared to only a handful of states in 2015, based on test results.



Our analysis of amphetamines drug use is limited because it aggregates test results both identifying misuse and appropriate use of prescribed amphetamines. However, our data underscore the increased use of amphetamines, prescribed or not, in the United States, supporting other research. Indeed, insufficient supply of an amphetamine-based medication for attention deficit disorders was reported as recently as October 2022.<sup>11</sup>

### Amphetamine use grew 5-fold over the past decade



### Nearly 1 in 4 patients tested are positive for opiate



Based on our Health Trends data, 18.1% of patients tested in 2022 showed signs of use of opiates, a relative decline of 22% compared to 23.2% in 2012, its apex.

Our analysis is limited because it aggregates test results identifying misuse and appropriate use of prescribed opiates. However, the findings suggest that opiates are still used by a large number of patients—nearly 1 in 5 tested—underscoring the persistence of opiate use, prescribed or not, by patients under the care of a physician.

These data suggest comparatively high rates of prescription opiate use is likely to continue until more effective methods of pain relief are available.



More than 20% of adults suffer from chronic pain.<sup>12</sup>

## Conclusion



The crisis of prescription and illicit drug use is unlikely to end soon. As our Health Trends data show, half of patients tested continued to show signs of drug misuse in 2021, roughly the same proportion as a decade ago. Potentially dangerous drug combining actually rose during this time. Amphetamine use surged dramatically, while rates of opiate use are about the same as a decade ago. And as test results revealed, drug misuse continues to be pervasive, found in all age groups.

What should be made of these insights? Much of today's national discourse on the drug crisis focuses on reducing harm in individuals who have already developed a dependency and are at heightened risk of drug combining and overdose, particularly from illicit fentanyl. Policies to encourage early detection and reduce harm in individuals with an established dependency are urgently needed. Yet, in some ways, these measures address the problem too late, after a use disorder has already led to serious harm or tragedy.

Greater attention on preventing drug misuse and substance use disorder at the earliest stages of risk is needed. Widely accepted models of preventive care for chronic diseases, such as cancer and heart disease, provide a reference. These models index heavily on screening to identify risk in the earliest, most treatable stages to spur preemptive action. Clinical drug tests act as screening tests, providing objective insight into potential risk to inform clinical decisions and preempt the worst outcomes from drug misuse.

But screening for drug misuse is only one part of the solution.

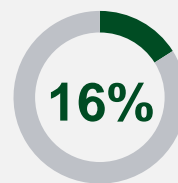
Policies must also address the underlying dynamics that drive some individuals to misuse. Mental health conditions, including anxiety and depression, are highly implicated in risk of substance use disorders.<sup>15</sup> So too are social disparities of health, including poverty. Lack of access to healthcare, including mental healthcare, further limits opportunities for intervention.

Physicians and policy makers should also implement measures to reduce stigma and prevent bias, including with respect to interventions such as naloxone, as well as lab testing.<sup>16</sup> Eliminating bias is especially critical given increasing opioid misuse in Black and brown communities.<sup>17</sup> Standardization of care may help reduce physician bias in patient monitoring, clinical drug testing, and treatment decisions.

**“Before starting opioids and periodically (at least annually) during opioid therapy, clinicians should consider the benefits and risks of toxicology testing to assess for prescribed opioids and other prescription and nonprescription controlled substances that increase risk for overdose when combined with opioids, including nonprescribed and illicit opioids and benzodiazepines. Clinicians, practices, and health systems should aim to minimize bias in testing and should not apply this recommendation differentially on the basis of assumptions about patients.”<sup>18</sup>**

*CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022*

Finally, policy makers and providers must be clear-eyed in their quest to limit prescribing of opioids, benzodiazepines, and other controlled medications. For many patients, these drugs provide powerful relief unavailable through other treatments. Harnessing the power of controlled medications to improve health, rather than harm it, will be essential to reducing drug misuse in the future.



13,503 overdose deaths involved prescription opioids in 2021<sup>13</sup>, only a **16% decline from the 16,007 deaths from prescription opioids in 2012.**<sup>14</sup>

### Steps to address the drug misuse crisis

1

Reduce access to illicit drugs and limit use to controlled prescription medications based on careful review of potential benefits and harms

2

Adopt preventive models of care to identify risk of, and preempt, drug misuse in early stages

3

Provide community support to address socioeconomic disparities and increase access to physical and mental healthcare



4

Expand treatment options, including harm reduction programs, and access to support services

5

Educate the public on the dangers of misuse of controlled prescription drugs and illicit drugs

6

Reduce stigma and bias to ensure equity and quality

## About presumptive and definitive clinical drug testing

Presumptive tests are low-cost but less sensitive screening tests. Screening tests, especially point-of-care devices (urine cups), can lead to false-positive and false-negative results or fail to differentiate specific drugs (ie, a prescribed opioid versus illicit fentanyl). Definitive tests are more expensive, but highly accurate laboratory tests that can confirm a screening result, differentiate types of drugs, and provide other clinically useful information. According to the CDC, “if unexpected results from toxicology screening are not explained, **a confirmatory test on the same sample using a method selective enough to differentiate specific opioids and metabolites might be warranted.**”<sup>19</sup>

## About this Report

The clinical drug test services of Quest Diagnostics monitor for commonly prescribed drugs, including opioids and other pain medications; central nervous system depressant medications; and certain illicit drugs, such as marijuana (which is illegal federally and in some states), cocaine, and heroin. Drug test results provide objective information that can assist healthcare providers in assessing the patient’s use of prescribed medications, other controlled prescription medications, and illicit drugs. In this report, Quest Diagnostics medical and scientific experts analyzed a national sample of greater than 20 million deidentified patient test results performed over the past decade. The study included patient test results by health plan type, gender, and a wide age spectrum from 50 states and the District of Columbia. The analysis was of results of patient testing performed by Quest Diagnostics as ordered by healthcare providers monitoring patient prescription drug use in a range of practice settings. To learn more about different types of drug tests, visit [Clinical.QuestDiagnostics.com/WhyClinicalDrugTesting](https://Clinical.QuestDiagnostics.com/WhyClinicalDrugTesting)



## About Quest Diagnostics

Quest Diagnostics Health Trends® is a series of scientific reports that provide insights into health issues, based on patient laboratory data, to empower better patient care, population health management and public health policy. The reports are based on the Quest Diagnostics database of more than 60 billion deidentified HIPAA-compliant laboratory test results, believed to be the largest of its kind in healthcare. Health Trends research has yielded novel insights into allergies and asthma, cancer, COVID-19, diabetes, heart disease, hepatitis, influenza, Lyme disease, prescription drug misuse and workplace wellness. Quest Diagnostics also produces the Drug Testing Index (DTI)™, a series of reports on national workplace drug positivity trends based on the company's employer workplace drug testing data.

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For more information about Quest Diagnostics Drug Monitoring visit:

[Clinical.QuestDiagnostics.com/WhyClinicalDrugTesting](https://Clinical.QuestDiagnostics.com/WhyClinicalDrugTesting)

- <sup>1</sup> Multiple Cause of Death 1999-2020. CDC Wonder. Centers for Disease Control and Prevention, National Center on Health Statistics. Published December 2021. Accessed April 29, 2022. <https://wonder.cdc.gov/mcd.html>.
- <sup>2</sup> Saunders H, Rudowitz R. Demographics and Health Insurance Coverage of Nonelderly Adults With Mental Illness and Substance Use Disorders in 2020 | KFF. Kaiser Family Foundation. Published June 6, 2022. Accessed November 7, 2022. <https://www.kff.org/medicaid/issue-brief/demographics-and-health-insurance-coverage-of-nonelderly-adults-with-mental-illness-and-substance-use-disorders-in-2020/>.
- <sup>3</sup> Pear VA, Ponicki WR, Gaidus A, et al. Urban-rural variation in the socioeconomic determinants of opioid overdose. *Drug Alcohol Depend.* 2019 Feb 1;195:66-73. doi: 10.1016/j.drugalcdep.2018.11.024..
- <sup>4</sup> Substance Use Disorders. Medicaid.gov. Centers for Medicare & Medicaid Services. Accessed November 29, 2022. <https://www.medicaid.gov/medicaid/benefits/behavioral-health-services/substance-use-disorders/index.html>.
- <sup>5</sup> Peterson C, Li M, Xu L, Mikosz CA, Luo F. Assessment of Annual Cost of Substance Use Disorder in US Hospitals. *JAMA Netw Open.* 2021;4(3):e210242. doi:10.1001/jamanetworkopen.2021.0242
- <sup>6</sup> McHugh RK, Geyer RB, Chase AR, Griffin ML, Bogunovic O, Weiss RD. Sex differences in benzodiazepine misuse among adults with substance use disorders. *Addict Behav.* 2021 Jan;112:106608. doi: 10.1016/j.addbeh.2020.106608.
- <sup>7</sup> McCabe SE, Cranford JA, Boyd CJ. The relationship between past-year drinking behaviors and nonmedical use of prescription drugs: prevalence of co-occurrence in a national sample. *Drug Alcohol Depend.* 2006 Oct 1;84(3):281-8. doi: 10.1016/j.drugalcdep.2006.03.006.
- <sup>8</sup> Fentanyl DrugFacts. National Institute on Drug Abuse. National Institutes of Health. Published June 2021. Accessed November 29, 2022. <https://nida.nih.gov/publications/drugfacts/fentanyl>.
- <sup>9</sup> Niles JK, Gudín J, Radcliff J, Kaufman HW. The Opioid Epidemic Within the COVID-19 Pandemic: Drug Testing in 2020. *Popul Health Manag.* Feb 2021;S-43-S-51. doi: 10.1089/pop.2020.0230
- <sup>10</sup> COVID-19 and People at Increased Risk. Centers for Disease Control and Prevention. U.S. Department of Health & Human Services. Published July 13, 2021. Accessed November 29, 2022. <https://www.cdc.gov/drugoverdose/resources/covid-drugs-QA.html>.
- <sup>11</sup> FDA Announces Shortage of Adderall. US Food and Drug Administration. Published October 12, 2021. Accessed November 29, 2022. <https://www.fda.gov/drugs/drug-safety-and-availability/fda-announces-shortage-adderall>.
- <sup>12</sup> Dahlhamer J, Lucas J, Zelaya, C, et al. Prevalence of Chronic Pain and High-Impact Chronic Pain Among Adults — United States, 2016. *MMWR Morb Mortal Wkly Rep.* 2018;67:1001–1006. doi: 10.15585/mmwr.mm6736a2
- <sup>13</sup> U.S. Overdose Deaths In 2021 Increased Half as Much as in 2020 – But Are Still Up 15%. Centers for Disease Control and Prevention. US Department of Health & Human Services. Published May 11, 2022. Accessed November 29, 2022. [https://www.cdc.gov/nchs/pressroom/nchs\\_press\\_releases/2022/202205.htm](https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2022/202205.htm).
- <sup>14</sup> Trends in Drug-poisoning Deaths Involving Opioid Analgesics and Heroin: United States, 1999–2012. Centers for Disease Control and Prevention. US Department of Health & Human Services. Published November 16, 2015. Accessed November 29, 2022. [https://www.cdc.gov/nchs/data/hestat/drug\\_poisoning/drug\\_poisoning.htm](https://www.cdc.gov/nchs/data/hestat/drug_poisoning/drug_poisoning.htm).
- <sup>15</sup> Mental Health. National Institute on Drug Abuse. National Institutes of Health. Accessed November 7, 2022. <https://nida.nih.gov/research-topics/mental-health>.
- <sup>16</sup> Krus NE, McLean K, Perry P, Nackley MK. First Responders' Views of Naloxone: Does Stigma Matter? *Subst Use Misuse.* 2022;57(10):1534-1544. doi: 10.1080/10826084.2022.2092150.
- <sup>17</sup> MR Larochelle, Slavova S, Root ED, et al. Disparities in opioid overdose death trends by race/ethnicity, 2018-2019, from the HEALing Communities Study. *Am J Public Health.* 2021;111:1851-1854. doi: 10.2105/AJPH.2021.306431.
- <sup>18</sup> Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022. *MMWR Morb Mortal Wkly Rep.* 2022;71(No. RR-3):1–95. doi: 10.15585/mmwr.rr7103a1
- <sup>19</sup> Dowell D, Ragan KR, Jones CM, Baldwin GT, Chou R. CDC Clinical Practice Guideline for Prescribing Opioids for Pain — United States, 2022. *MMWR Morb Mortal Wkly Rep.* 2022;71(No. RR-3):1–95. doi: 10.15585/mmwr.rr7103a1