



2024 Insights Report

Revealing Drug Trends through Hair Testing



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Introduction

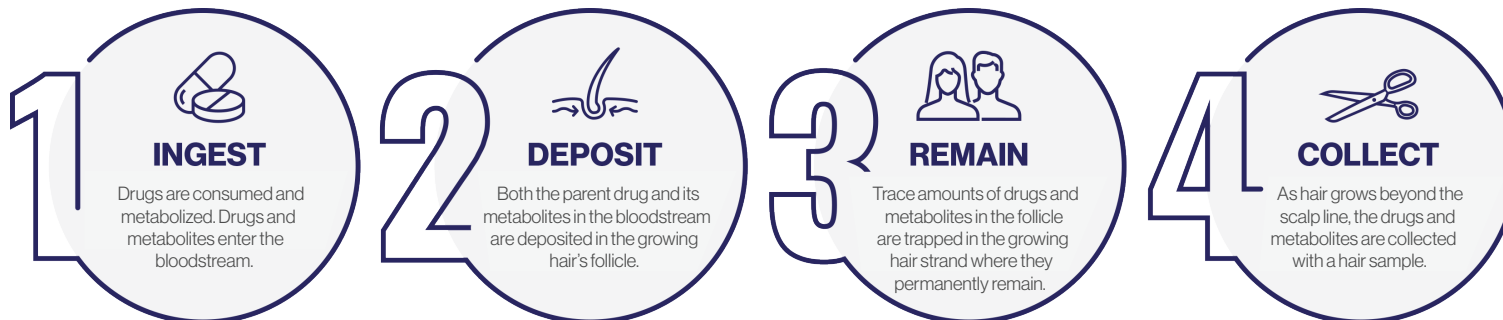
In our inaugural report, Psychemedics unveils a comprehensive analysis of trends in workplace drug use. As the pioneer and industry leader in hair testing, Psychemedics continues to be at the forefront of hair testing, providing employers and partners with unparalleled insights into employee drug use. This report aims to highlight the efficacy and advantages of hair testing.

In 2023, Psychemedics collected hundreds of thousands of hair samples from individuals across various industries and regions. These samples were meticulously analyzed using advanced analytical techniques to detect a wide range of drugs and their metabolites. The data collected from these samples forms the basis of our analysis in this report, providing valuable insights into current trends in workplace drug use.

By analyzing this extensive dataset, Psychemedics has identified key trends and patterns in workplace drug use, including the prevalence of certain drugs, changes over time, and regional variations. This report provides a detailed analysis of these trends, offering employers information about hair drug screening and workplace safety.

Psychemedics remains committed to advancing the field of drug testing and providing innovative solutions to help create safer and more productive workplaces. Hair testing offers a unique and effective approach to drug screening, and we are proud to continue leading the way in this important area.

Methodology



Psychemedics employs a cutting-edge hair testing method that detects use over a longer period compared to traditional methods like urine or oral fluid testing. This methodology allows us to provide a more comprehensive view of an individual's drug history, offering employers a reliable tool for screening employees.

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Psychemedics' hair testing methodology is grounded in the science of drug incorporation into hair and the analytical techniques used to detect these substances. Here's an in-depth look at the science and methodology behind hair drug testing:

1. INGEST. The process of drug testing via hair analysis begins with the ingestion of drugs by an individual. When drugs are consumed, they get metabolized, and both drugs and metabolites are present in the bloodstream.

2. DEPOSIT. As drugs and their metabolites circulate in the bloodstream, they are deposited into the growing hair follicle. The drugs and metabolites are incorporated into the hair shaft during the hair's growth phase, known as the anagen phase.

3. REMAIN. Once deposited in the hair follicle, the drugs and metabolites become trapped in the hair shaft's cortex as the hair continues to grow, creating a historical record of drug use. Unlike other traditional methods, such as urine testing, which only detects recent use, hair testing can detect drug use over a longer period, typically 90 days or more.

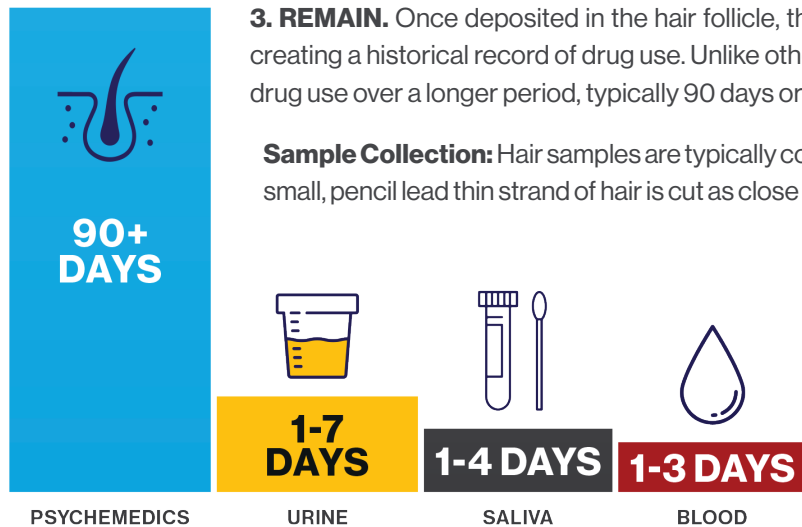
Sample Collection: Hair samples are typically collected from the scalp or other places on the body (e.g. arm or leg hair) using non-invasive methods. A small, pencil lead thin strand of hair is cut as close to the scalp as possible and is typically collected from several different locations to ensure accuracy.

4. COLLECT. To conduct a hair drug test, a sample of hair is collected from the individual. The hair is typically taken from the scalp or other parts of the body like the arm or leg, using non-invasive methods. The sample is cut close to the scalp to ensure it contains the most recent growth, which provides the most recent drug exposure information. The collected hair sample is then sent to a laboratory for analysis.











Laboratory Analysis: Once the sample arrives at the laboratory, a portion of it is analyzed using our FDA cleared immunoassay screens to quickly identify negative samples. Psychemedics is one of the only labs to have FDA clearances for all five drug classes for both head and body hair. Presumptive positive samples from the screen then undergo a

series of extended washes to remove external contamination. The drugs and metabolites are then extracted from the washed hair and purified through a series of laboratory processes before being analyzed by mass spectrometry. Mass spectrometry is a highly sensitive and specific technique that can detect and quantify a wide range of drugs and metabolites in the hair sample.

Interpretation of Results: The hair drug test results are interpreted based on the presence and concentration of drugs and their metabolites in the hair sample. The concentration of drugs detected can provide information about the frequency and amount of drug use.



Key Findings

-  **Positive Rate for Drugs Tested:** The overall positive rate for drugs tested in 2023 was 9.5%, indicating a significant presence of drug use in the workforce.
-  **Industry Variations:** Healthcare and manufacturing sectors had the highest positive rates for drug use in the workforce in 2023, at 13.4% and 13.5% respectively, highlighting the need for targeted interventions and monitoring in these industries.
-  **Trends Over 5 Years:** Over the past five years, our analysis has revealed a notable 23% increase in positive drug test rates across various industries. Psychemedics has also observed a doubling of positive rates for amphetamines and cocaine over the same 5-year period, highlighting the persistent issue of illicit substance abuse in the workplace.
-  **Marijuana:** Marijuana was one of the most commonly detected substances, with a positive rate of 4.2% in 2023, suggesting its widespread use among employees. This increase aligns with our suspicion that marijuana usage may be on the rise following the passage of the farm bill, which legalized hemp and hemp-derived products, leading to greater acceptance and availability of cannabis products.
-  **Cocaine:** Cocaine also had a significant presence, with a positive rate of 2.8% in 2023, indicating ongoing use despite efforts to curb its use.
-  **Opiates:** Opiates had a positive rate of 1.9% in 2023, highlighting the continued challenge of opioid abuse in the workforce.
-  **Rising Trend in Fentanyl:** The data indicates a concerning trend of increasing fentanyl presence. Fentanyl's potency and high risk of overdose make it a significant contributor to the opioid epidemic and highlights the need for targeted interventions to address its use in the workforce.
-  **Regional Variations:** While the overall positive rate was 9.5%, there were variations by region, with some areas showing higher rates of drug use than others.
-  **Implications for Workplace Safety:** The presence of drug use in the workforce has implications for workplace safety, productivity, and employee well-being, highlighting the importance of effective drug testing and intervention programs.
-  **Need for Comprehensive Strategies:** The data underscores the need for comprehensive strategies to address drug use in the workforce, including prevention, education, testing, and support services for employees.

Current Drug Trends

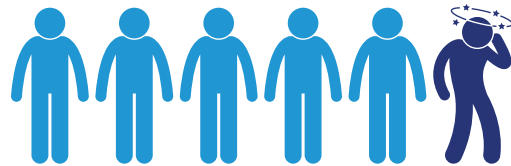
The landscape of substance use disorders in the United States is evolving, with new challenges emerging alongside promising trends. The latest data from the National Survey on Drug Use and Health reveals a complex picture of substance abuse, highlighting the need for continued efforts to address these issues effectively.

Prevalence of Substance Use Disorders

The prevalence of substance use disorders in the United States is a significant public health concern, impacting a substantial portion of the population. According to the National Survey on Drug Use and Health, over 1 in 6 Americans, including both adults and teens, suffered from a substance use disorder in 2022.¹ This alarming statistic translates to approximately 30 million individuals grappling with an alcohol use disorder and another 27 million affected by a drug use disorder.

Of particular concern within these numbers is the rise in opioid use disorders, which have reached epidemic proportions. Approximately 6 million individuals are estimated to be struggling with opioid use disorders, highlighting the urgent need for targeted interventions and comprehensive strategies to address this specific aspect of substance abuse.

The prevalence of substance use disorders not only impacts individuals and their families but also poses significant challenges to healthcare systems and society. It underscores the importance of continued efforts to raise awareness, improve access to treatment, and develop innovative approaches to prevention and intervention.



1/6 of Americans Suffered From Substance Use Disorder in 2022

¹Foster, Robin. "More than 1 in 6 U.S. Adults, Teens Have Substance Use Disorder." More Than 1 in 6 U.S. Adults, Teens Have Substance Use Disorder, HealthDay, 23 Nov. 2023, www.usnews.com/news/health-news/articles/2023-11-14/more-than-1-in-6-u-s-adults-teens-have-substance-use-disorder.

Mental Health and Substance Use

The relationship between mental health and substance use is complex and multifaceted. According to the National Survey on Drug Use and Health, nearly a quarter of adults in the United States experience a mental health issue. This high prevalence underscores the significant impact of mental health conditions on society.

Of particular concern is the co-occurrence of mental illness and substance use disorders. The survey found that 1 in 12 adults reported experiencing both a mental illness and a substance use disorder. This dual diagnosis presents unique challenges in treatment and management, as individuals with co-occurring disorders often face more severe symptoms and a higher risk of relapse.

The complex interplay between mental health and substance use disorders highlights the need for integrated approaches to treatment. Addressing both conditions simultaneously can lead to improved outcomes and better overall health for individuals struggling with these challenges. It also emphasizes the importance of destigmatizing mental illness and substance abuse, as well as increasing access to comprehensive care and support services.

Ripple Effects of the Pandemic

The COVID-19 pandemic has had profound effects on mental health and substance use disorders, exacerbating existing challenges and creating new ones. While substance use disorders were already a concern before the pandemic, the unique circumstances of the pandemic have intensified these issues.

One of the primary ripple effects of the pandemic has been social isolation. Lockdowns, quarantines, and social distancing measures have limited social interactions, leading to feelings of loneliness, depression, and anxiety. For individuals already struggling with substance use disorders, social isolation can further exacerbate their condition, increasing the risk of relapse.

Additionally, the economic uncertainty brought about by the pandemic has had a significant impact. Job losses, financial strain, and uncertainty about the future have created stressors that can contribute to substance abuse. Individuals may turn to substances as a way to cope with these stressors, leading to an increase in substance use disorders.

Experts have also noted that the disruption to healthcare systems and treatment services caused by the pandemic has made it more challenging for individuals to access the care they need. This disruption has further compounded the challenges faced by those with substance use disorders, making it harder for them to receive the support and treatment necessary for recovery.

Overall, the pandemic has highlighted the need for comprehensive strategies to address substance abuse and mental health disorders. By understanding the ripple effects of the pandemic and implementing targeted interventions, policymakers, healthcare providers, and communities can work together to mitigate the impact of substance use disorders and promote mental health and well-being.

Progress and Challenges

Despite the challenges posed by substance use disorders, there have been notable signs of progress in recent years. For example, there has been a decrease in alcohol use among adolescents, indicating that prevention efforts targeted at young people may be having a positive impact. Similarly, tobacco use has declined across most age groups, suggesting that anti-smoking campaigns and regulations on tobacco products may be effective in reducing tobacco consumption.

Another positive trend is that most adults in recovery from substance use or mental health challenges perceive themselves as being in recovery. This indicates that individuals who receive treatment and support for substance use disorders and mental health conditions are able to achieve and maintain recovery, highlighting the effectiveness of interventions such as counseling, medication-assisted treatment, and peer support groups.

However, despite these signs of progress, significant challenges remain in addressing substance use disorders. One of the key challenges is the stigma associated with substance abuse and mental illness, which can prevent individuals from seeking help and accessing treatment. Additionally, access to quality treatment and support services remains limited for many individuals, particularly in underserved communities.

Addressing these challenges will require continued investment in prevention, treatment, and recovery support services, as well as efforts to reduce stigma and improve access to care. By building on the progress that has been made and addressing the remaining challenges, policymakers, healthcare providers, and communities can work together to reduce the impact of substance use disorders and improve outcomes for individuals and families affected by these conditions.

Global Rise of Ketamine

Ketamine, originally developed as an anesthetic, has gained popularity as a recreational drug in recent years. Its dissociative effects and relative accessibility have contributed to its emergence as a significant substance of abuse worldwide.

› **Increasing Prevalence:** Reports indicate a rise in ketamine abuse globally, with a notable increase in the number of ketamine-related emergency department visits and admissions for ketamine-related issues. This trend underscores the need for targeted interventions to address ketamine abuse and its associated health risks.

› **Health Risks:** Ketamine abuse can lead to a range of health risks, including cognitive impairment, bladder and kidney problems, and respiratory issues. Chronic use can also result in psychological dependence and addiction, further highlighting the importance of prevention and treatment efforts.

› **Treatment Challenges:** The treatment of ketamine abuse poses unique challenges, as there are currently no specific pharmacological treatments approved for ketamine addiction. Behavioral therapies and support services play a crucial role in addressing ketamine abuse and supporting individuals in recovery.

› **Regulatory Responses:** Regulatory responses to ketamine abuse vary across countries, with some implementing stricter controls, including border crossing seizures, on its availability and use. These efforts aim to reduce the accessibility of ketamine and prevent its misuse.

› **Public Health Approach:** Addressing the global rise of ketamine abuse requires a public health approach that includes prevention, treatment, and harm reduction strategies. Educating the public about the risks of ketamine abuse and providing support services for those affected are crucial components of this approach.

The global rise of ketamine abuse highlights the need for concerted efforts to address this emerging public health issue. By implementing evidence-based strategies and collaborating across borders, policymakers, healthcare providers, and communities can work together to reduce the impact of ketamine abuse and promote healthier communities worldwide.

Addressing the Epidemic

Addressing the substance use epidemic in the United States requires a multifaceted approach that involves various stakeholders, including policymakers, healthcare providers, law enforcement agencies, and community organizations. Federal government has recognized the urgency of this issue and has taken steps to address it.

One of the key strategies proposed by the current administration is to allocate billions of dollars to strengthen substance use disorder services. This funding would support the expansion of access to treatment, including medication-assisted treatment (MAT), counseling, and support services. It would also help address the underlying social determinants of substance abuse, such as poverty, homelessness, and lack of access to healthcare.

Another important aspect of this plan is to address drug trafficking, which plays a significant role in fueling the substance use epidemic. By targeting drug trafficking organizations and implementing strategies to reduce the availability of illicit drugs, the administration aims to reduce the supply of drugs and prevent new cases of substance use disorders.

Despite these efforts, challenges remain in addressing the substance use epidemic. Millions of individuals still do not receive the treatment they need due to barriers such as lack of access to care, stigma, and insufficient resources. Addressing these challenges will require continued investment in substance use disorder services, as well as efforts to increase awareness, reduce stigma, and improve access to care for all individuals in need.

Overall, addressing the substance use epidemic requires a comprehensive approach that addresses both the supply and demand sides of the issue. By investing in treatment and prevention efforts, as well as targeting drug trafficking, policymakers, and communities can work together to combat the epidemic and support individuals in need.

The current drug trends underscore the need for comprehensive strategies to address substance abuse effectively. By understanding these trends and their underlying causes, policymakers, healthcare providers, and communities can work together to reduce the impact of substance use disorders and promote overall health and well-being.

Legislation Landscape

The legalization landscape of drug testing, particularly regarding marijuana, has undergone significant changes in recent years. With an increasing number of states legalizing marijuana for medicinal and/or recreational use, employers face new challenges in maintaining a drug-free workplace while respecting employees' rights.

One of the key challenges for employers is ensuring that their drug testing policies are compliant with state laws regarding marijuana use. While some states provide protections for employees who use marijuana legally, others allow employers to enforce zero-tolerance policies regardless of legality. This legal complexity underscores the importance of using a reliable drug testing method that accurately detects marijuana use, such as hair testing.

Hair testing offers several advantages in the context of the legalization landscape. Unlike urine testing, which can only detect recent marijuana use, hair testing can detect marijuana use over a longer period, providing a more comprehensive view of an individual's drug use history. This longer detection window is particularly valuable in states where marijuana is legal, as it allows employers to identify employees who may be using marijuana in violation of workplace policies.

Additionally, hair testing is not influenced by state legalization laws, making it a reliable method for detecting marijuana use regardless of the legal status of marijuana in a particular state. This consistency is crucial for employers operating in multiple states with varying marijuana laws, as it ensures uniformity in drug testing policies across all locations.

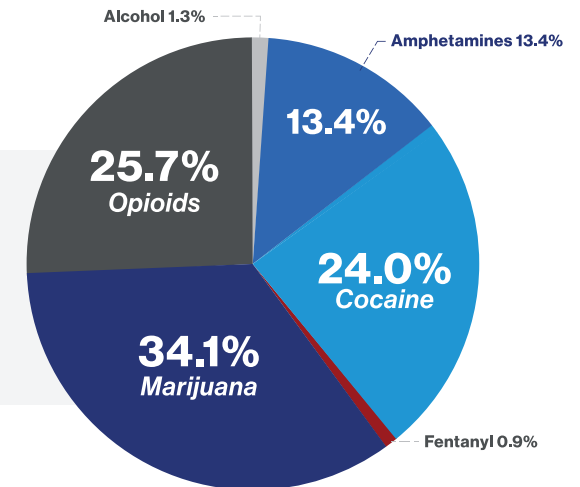
Overall, the legalization landscape of drug testing highlights the importance of using a reliable and accurate drug testing method like hair testing. By leveraging the benefits of hair testing, employers can maintain a drug-free workplace while navigating the complex legal landscape surrounding marijuana use.

2023 Positive Rate for Drugs Tested

Overall Positive Rate:
9.5%

Distribution of Positives by Drug Class

This chart represents the composition of the overall positive rate in each drug class for which was tested.



Marijuana. Also known as cannabis, is a psychoactive drug derived from the cannabis plant. It contains various psychoactive compounds, with delta-9-tetrahydrocannabinol (THC) being the most well-known and studied. Marijuana is typically consumed by smoking, vaporizing, or ingesting it.

Cocaine. A powerful stimulant drug derived from the coca plant. It is commonly found in the form of white powder, which is usually snorted, rubbed into the gums, or dissolved and injected. Cocaine is known for its short-lived but intense euphoric effects.

Opiates. A class of drugs derived from the opium poppy plant or synthetically produced. They include drugs such as morphine, heroin, and codeine. Opiates are known for their pain-relieving properties and are often used medically for pain management.

Amphetamines. Stimulant drugs that increase activity in the central nervous system. They are commonly used to treat conditions like attention deficit hyperactivity disorder (ADHD) and narcolepsy. Amphetamines can also be abused for their euphoric effects and to increase alertness and energy.

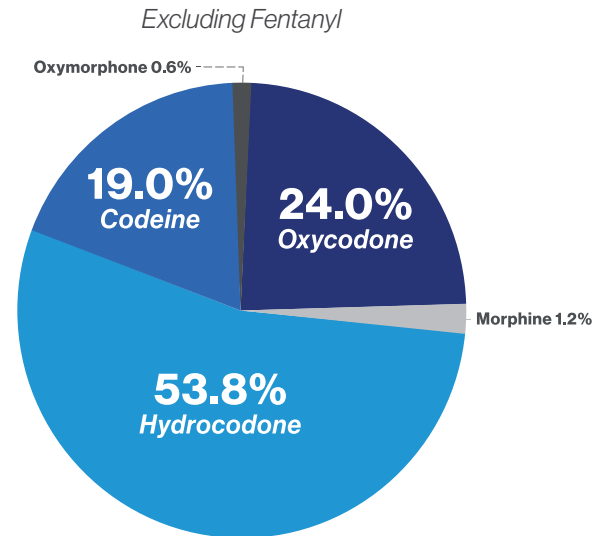
Phencyclidine (PCP). A dissociative drug originally developed as an anesthetic. It is now rarely used medically but is abused for its hallucinogenic effects. PCP can induce hallucinations, distorted perceptions of reality, and feelings of detachment from oneself and one's surroundings.

Fentanyl. A powerful synthetic opioid similar to but more potent than morphine. It is used medically for pain relief, especially for severe pain such as that experienced by cancer patients. Fentanyl is also used illicitly and is a major contributor to the opioid epidemic due to its potency and high risk of overdose.

Benzodiazepines. A class of psychoactive drugs used to treat anxiety, insomnia, and seizures. They work by enhancing the effects of the neurotransmitter gamma-aminobutyric acid (GABA) in the brain, leading to sedative and calming effects. Benzodiazepines are prescribed medically but can also be abused for their sedative effects.

Nicotine. A stimulant drug found in tobacco products. It is commonly consumed by smoking cigarettes or vaping. Nicotine is known for its stimulating effects, which can increase alertness, improve mood, and reduce appetite. It is highly addictive, and long-term use can lead to dependence.

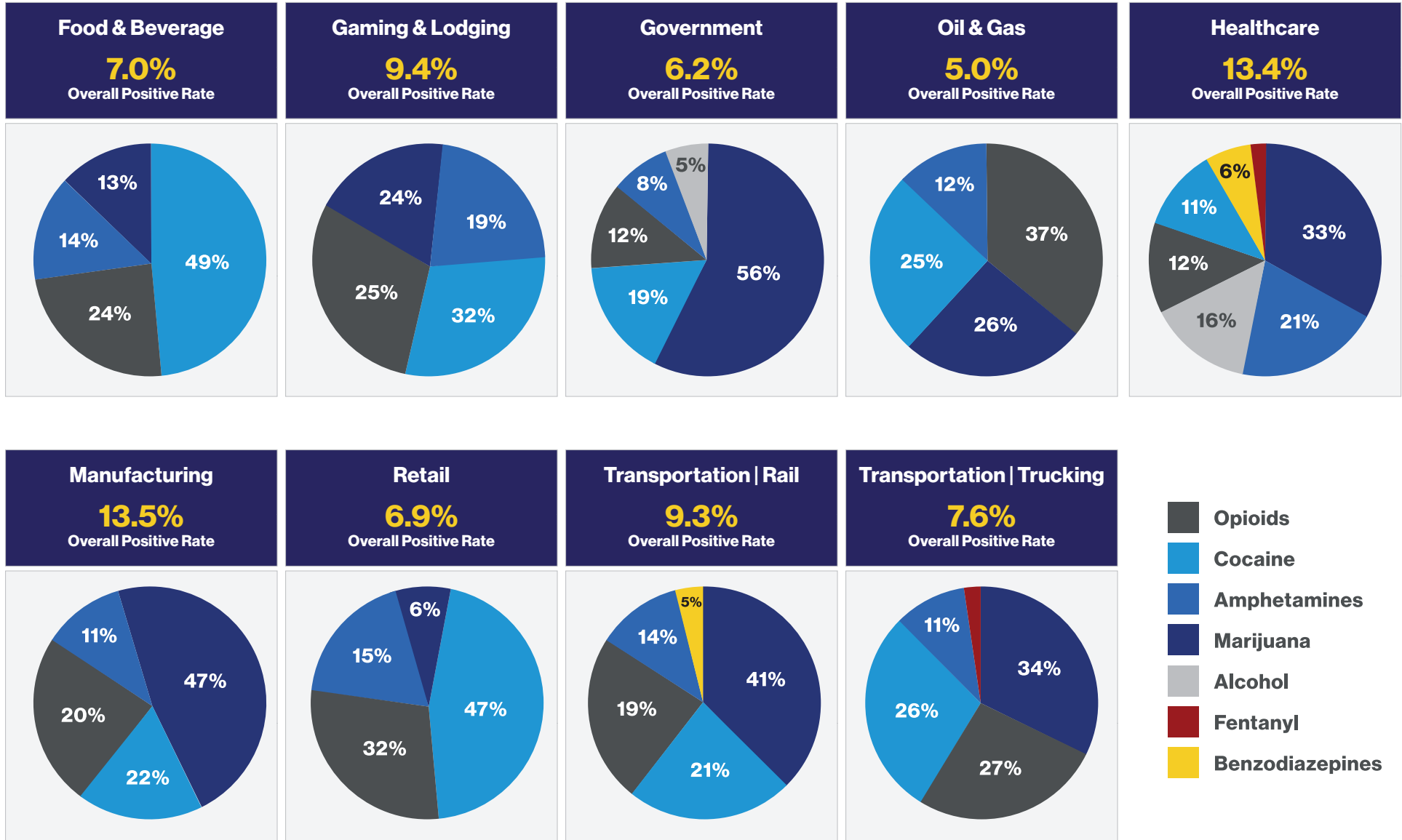
Analytes Present and Detected For Opioids Screen



2023 Workforce Positive Rates by Industry

Market Segment	Rate
Food & Beverage	7.0%
Gaming & Lodging	9.4%
Government	6.2%
Healthcare	13.4%
Manufacturing	13.5%
Oil & Gas	5.0%
Retail	6.9%
Transportation Rail	9.3%
Transportation Trucking	7.6%

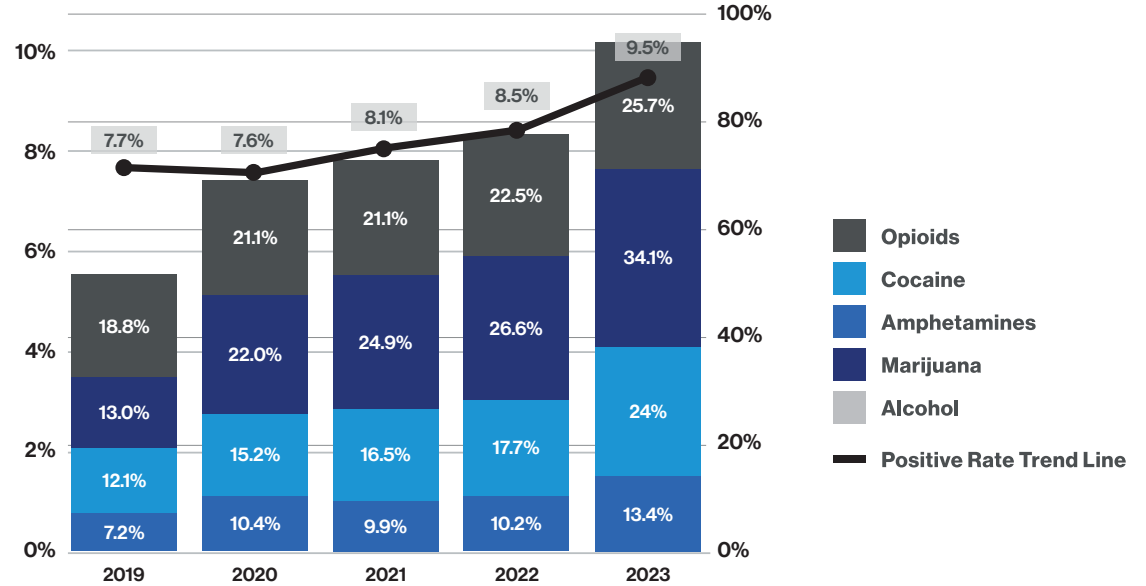
2023 Industry Drug Trends



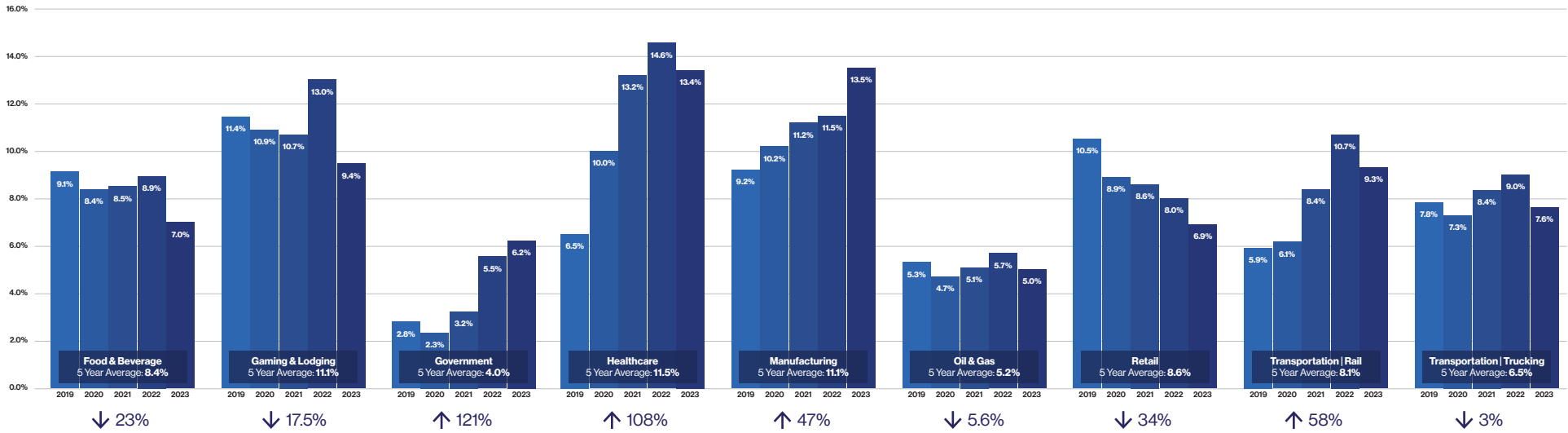
5-Year Lookback: Trends & Patterns

The "y" axis on these charts represents % Positive Results (Total Number of Positives / Total Processed Volume). The trend line spanning all bars in the chart to the right represents overall percentage of positive results year-over-year.

5-Year Lookback | By Drug Type



5-Year Lookback | By Industry



Hair Testing: Benefits and Advantages

Hair testing for drug use offers several key benefits and advantages over other testing methods such as urine or blood tests. In this section, we will delve into the details of these benefits and explain why hair testing is considered a superior method for detecting drug use in the workplace.



Longer Detection Window: One of the most significant advantages of hair testing is its longer detection window compared to other methods. While urine tests can typically detect drug use within the past few days, hair testing can detect drug use over a much longer period, typically 90 days or even longer depending on the length of the hair sample. This longer detection window provides a more comprehensive view of an individual's drug use history, making it more difficult for individuals to conceal recent drug use.



Accuracy: Hair testing is known for its high level of accuracy. The process of drug incorporation into the hair is well understood, and the testing methods are highly sensitive and specific. The accuracy of hair testing makes it a reliable tool for employers seeking to maintain a drug-free workplace.



Non-Invasive: Unlike blood tests, which require a needle stick, or urine tests, which require the collection of a urine sample, hair testing is non-invasive and easy to administer. A small sample of hair, typically taken from the scalp, is all that is needed for the test. This makes hair testing a more comfortable and convenient option for both employers and employees.



Deterrent Effect: The knowledge that hair testing can detect drug use over a long period can act as a deterrent for individuals considering using drugs. Knowing that drug use could be detected months after the fact may discourage individuals from engaging in drug use in the first place, leading to a safer and more productive workplace.



Difficult to Cheat: Hair testing is difficult to cheat. While it is possible to adulterate urine samples or use masking agents to try to hide drug use, these methods are much less effective against hair testing. The structure of hair makes it difficult to tamper with, and attempts to do so are usually easily detected by the testing lab.



Comprehensive Testing: Hair testing can detect a wide range of drugs, including marijuana, cocaine, amphetamines, opiates, and more. This comprehensive testing capability makes hair testing a versatile tool for employers looking to screen for multiple drugs simultaneously.



Cost-Effective: While hair testing may initially seem more expensive than other testing methods, such as urine testing, it can actually be more cost-effective in the long run. Because hair testing has a longer detection window, employers may be able to conduct fewer tests over time, saving money on testing costs.

Hair testing offers a range of benefits and advantages that make it a superior method for detecting drug use in the workplace. Its longer detection window, high level of accuracy, non-invasiveness, and deterrent effect make it an attractive option for employers seeking to maintain a safe and drug-free workplace.

Why Psychemedics?



Full FDA Clearance

Full FDA Clearance: We are one of the only labs to have FDA clearances for all five drug classes for both head and body hair.



Accurate & Reliable Results

In side-by-side evaluations, **5-10 times** as many drug users were accurately identified with the Psychemedics hair test vs urinalysis.



Environmental Contamination

We have the most extensive/effective wash procedure to remove external contaminants from the hair.



Cheat Proof

Our test cannot be circumvented by common tactics that might compromise other tests.



Rapid Results

Our hair drug testing offers the fastest turnaround time in the industry. Over 93% of results are returned in one day.



Smallest Hair Sample Required

Psychemedics needs the least hair in the industry, with other labs needing 2-3 times more for collection.

Conclusion

As the pioneer in hair testing, Psychemedics is proud to present our inaugural report, offering a comprehensive analysis of workplace drug use trends. Our commitment to advancing drug testing methodologies has enabled us to provide employers and partners with invaluable insights into employee drug use, highlighting the efficacy and advantages of hair testing as the superior method of employment drug screening.

Through the meticulous analysis of over hundreds of thousands of hair samples in 2023, Psychemedics has identified key trends and patterns in workplace drug use, including the prevalence of certain drugs and changes over time. This report provides a detailed analysis of these trends, offering employers valuable information about hair drug screening and workplace safety.

The legalization landscape of drug testing, particularly regarding marijuana, has evolved significantly in recent years, presenting new challenges for employers. However, hair testing offers a reliable and accurate method for detecting marijuana use, regardless of the legal status of marijuana in a particular state.

Hair testing also offers several key benefits over other testing methods, including a longer detection window, high accuracy, non-invasiveness, and a deterrent effect. These benefits make hair testing a superior option for employers seeking to maintain a drug-free workplace.

The insights provided in this report underscore the need for comprehensive strategies to address substance abuse effectively. By leveraging the benefits of hair testing and understanding the latest trends in workplace drug use, policymakers, healthcare providers, and communities can work together to reduce the impact of substance use disorders and promote overall health and well-being in the workplace.

About Psychemedics

Psychemedics Corporation (NASDAQ: PMD) is the leading global provider of innovative hair testing for drugs of abuse. With over 30 years of experience, Psychemedics has pioneered the science of hair testing and provides clients with the most accurate and reliable hair drug test results in the industry. The company's patented technology is used by thousands of companies worldwide to screen applicants and employees for drug use, helping to create safer and more productive workplaces.

psychemedics.com

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