



2024

# Drug Trends & Emerging Threats Report



# National Test Systems

## Eric Malis - Chief Product Officer

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- Co-Founder of National Test Systems
- Over 20 Years of Industry Experience
- Creator of ongoing Educational Webinar Series
- Goal: To make your daily Drug Testing duties a little easier

### About NTS

National Test Systems is a leading provider of rapid point-of-care diagnostic drug screening supplies and services to over 1,500 facilities throughout the United States. We consistently strive to deliver the highest quality products and services to ensure our clients worry less about managing their testing programs. We are always at the forefront of the latest changes in the industry to help you make the best choices for your needs.



# Our Focus

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01

## Analyzing DEA Report

Let's dissect the 2024 DEA National Drug Threat Assessment report and uncover rising and declining trends with common drugs of abuse.

02

## Insight on Impact

Throughout this presentation, we will aim to provide you with insightful information to bring light on the impact these substances are having both from a social and from a point of care testing standpoint.

03

## Best Testing Options

Our goal at National Test Systems is to drive success with knowledge. Our comprehensive understanding of point of care testing helps us provide you with the best testing methods available.

# Fentanyl

01

## The Cartels

The Sinaloa and Jalisco cartels have cemented their role in supplying fentanyl to the United States as the number of fatal overdoses involving illicit opioids has risen.

02

## Fentanyl Seizures Continue to Rise

DEA continues to seize record amounts of illicit fentanyl every year, from 6,875 kilograms of powder fentanyl in 2021 to nearly twice that amount – 13,176 kilograms in 2023; and close to 79 million pills containing fentanyl in 2023, more than triple the 23.6 million pills seized in 2021

03

## Rainbow Fentanyl

Multicolored pills known as “rainbow fentanyl” first appeared in 2022, pressed and marked the same way as the cartels’ typical fake trademarked pills, but made in pastel colors instead of the usual light blue.

04

## Cartels’ “Stop Fentanyl” Order

In early 2023, the Sinaloa and Jalisco cartels allegedly ordered their subordinates to stop the production and trafficking of fentanyl. In October 2023, Los Chapitos orchestrated a public show of enforcing the so- called ban.

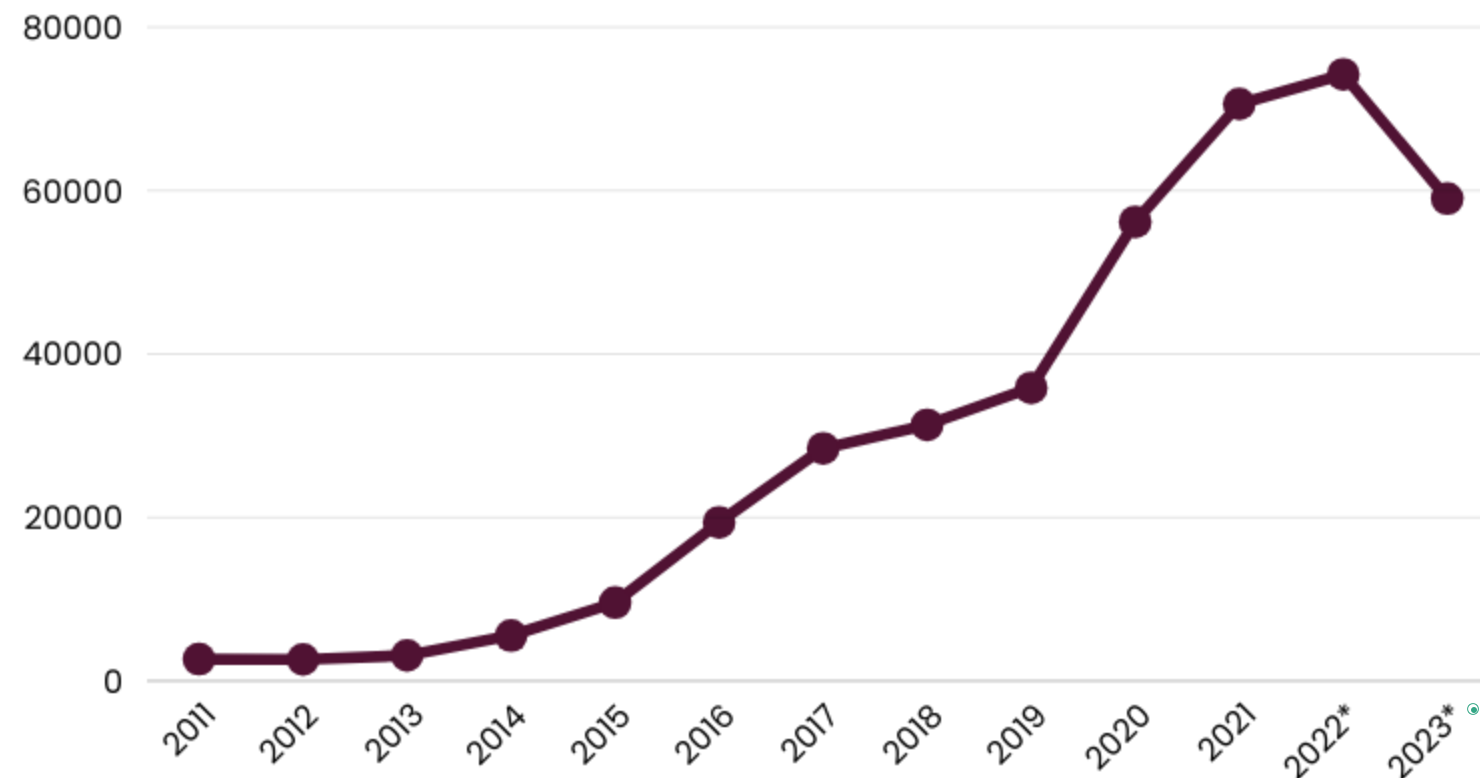


# Fentanyl

## Synthetic Opioid

About 50 to 100 times stronger than morphine fentanyl was developed for treating severe pain, especially in cancer patients and is used medically as an anesthetic and painkiller. Its illicit use has contributed significantly to the opioid epidemic, often causing accidental overdoses when mixed unknowingly with other drugs. Fentanyl works by binding to opioid receptors in the brain, increasing dopamine levels and creating feelings of euphoria and relaxation.

Synthetic Opioid (Other than Methadone) Poisoning Deaths: 2011 - 2023\*



\*provisional data | ● continues to receive 2023 data

Source: National Center for Health Statistics, Centers for Disease Control and Prevention

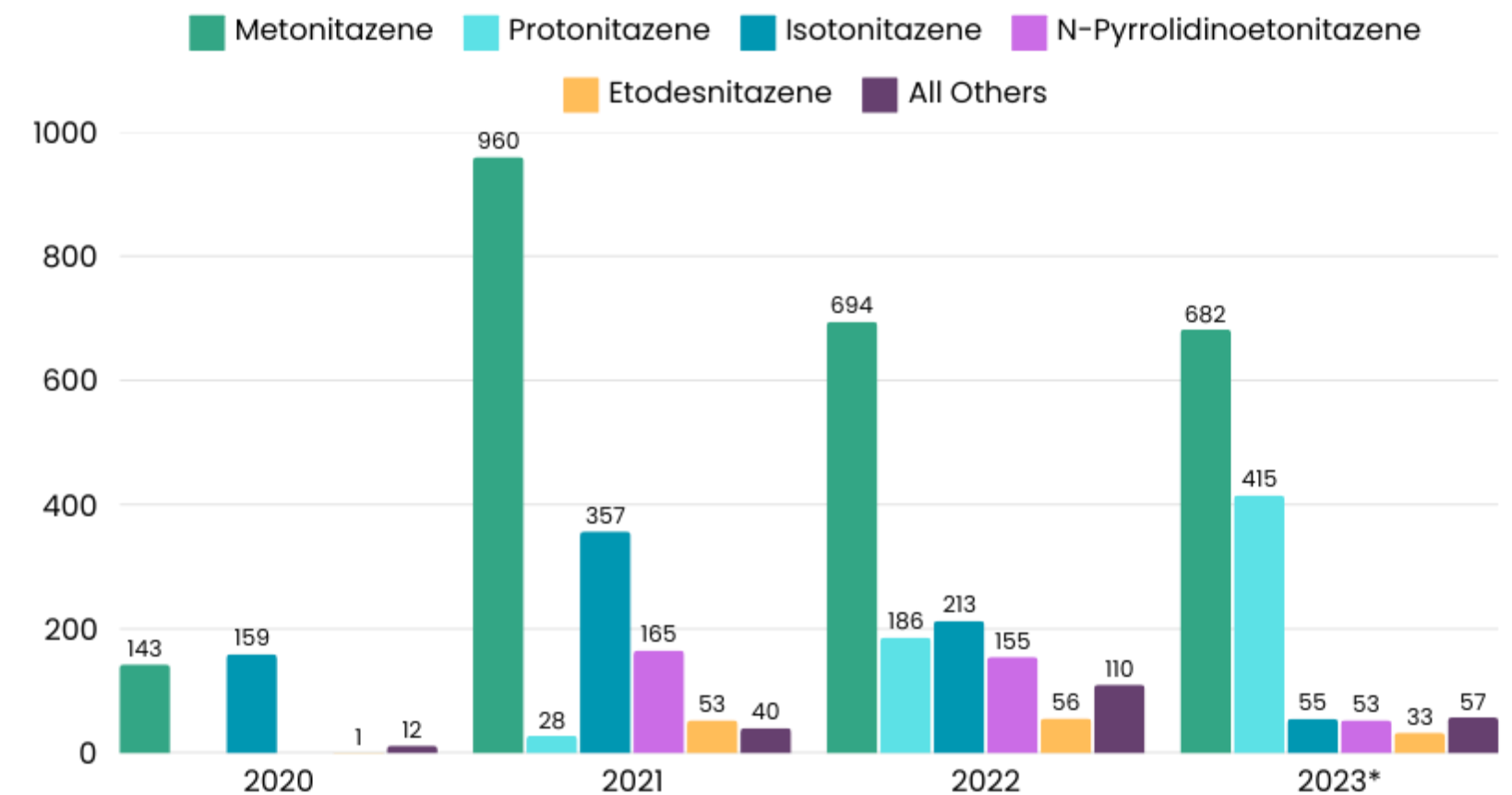




# Nitazenes

## Powerful Synthetic Opioids

First developed in the 1950s as potential pain relief medications but were soon abandoned due to their high potency and risk of abuse. More recently, nitazenes have resurfaced on the illicit drug market, contributing to the ongoing opioid crisis. The rise in use, driven by their extreme potency, being greater than fentanyl, leading to significant public health concerns regarding overdose and addiction. Efforts to combat their misuse are now focused on improved detection methods, public awareness, and regulatory measures.



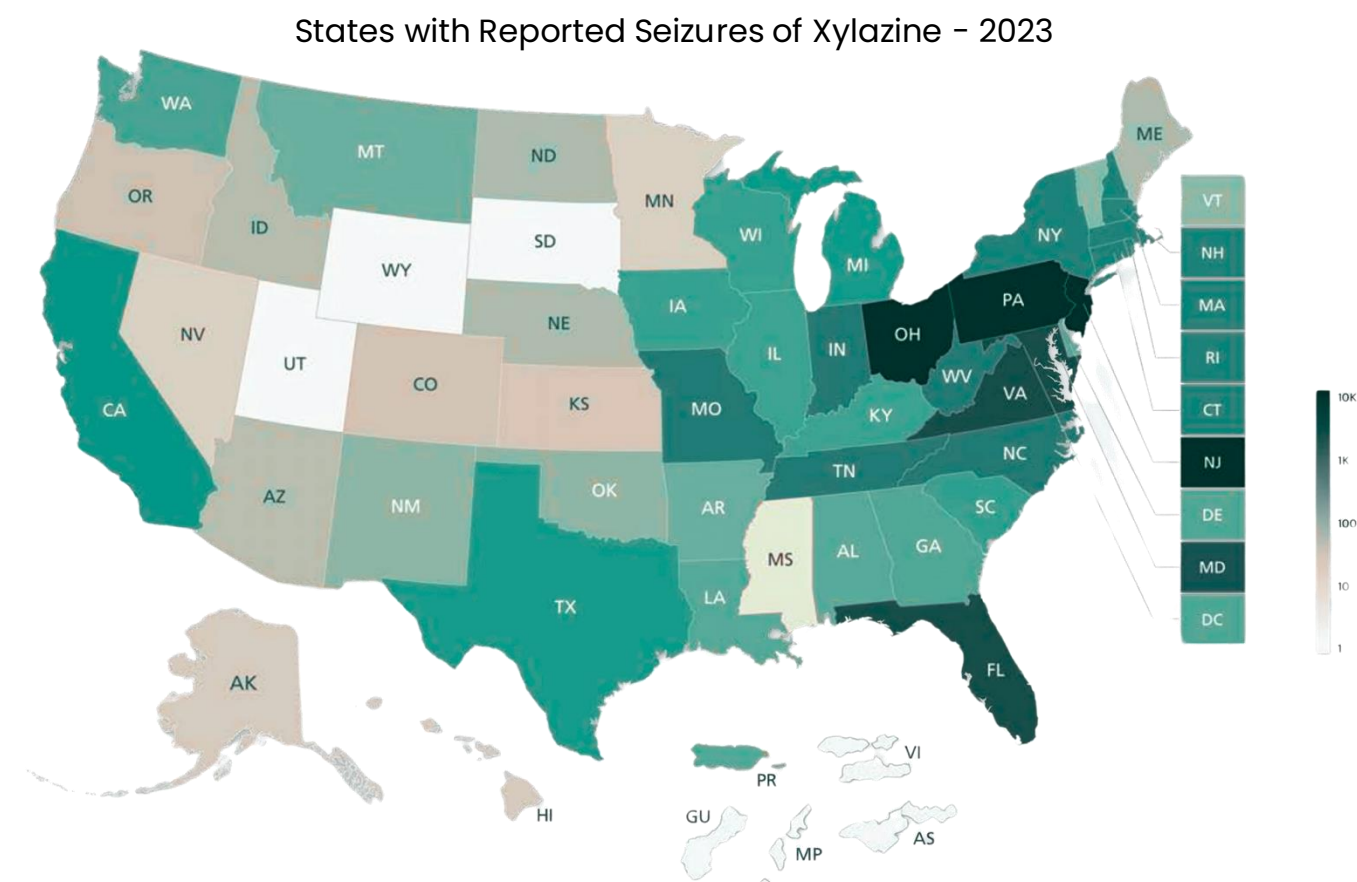
\*2023 data is preliminary and subject to change 25 NITAZENES

Source: National Forensic Laboratory Information System, report retrieved January 5, 2024

# Xylazine

## Alpha-2 Adrenergic Agonist

Xylazine, often called "tranq," is a veterinary sedative not approved for human use and is typically used in veterinary medicine as a sedative, analgesic, and muscle relaxant for animals. It has been increasingly found in illicit drug supplies, frequently mixed with opioids like fentanyl. Its impact has been devastating, contributing to a surge in overdose deaths across the U.S. Unlike opioids, xylazine is not reversible with naloxone, complicating emergency response efforts.





Source: DEA National Forensic Laboratory Information System



# Xylazine

## DEA Analysis of Xylazine Content in Fentanyl Samples: 2021 - 2023

Form	Year	# of Fentanyl Samples Containing Xylazine	% of Total Fentanyl Samples Containing Xylazine
 Pill	2021	162	4.4
	2022	452	7.7
	2023	332	5.2
 Powder	2021	1,241	19.0
	2022	1,847	24.3
	2023	2,067	27.3

Source: DEA Special Testing and Research Laboratory, query date April 26, 2024







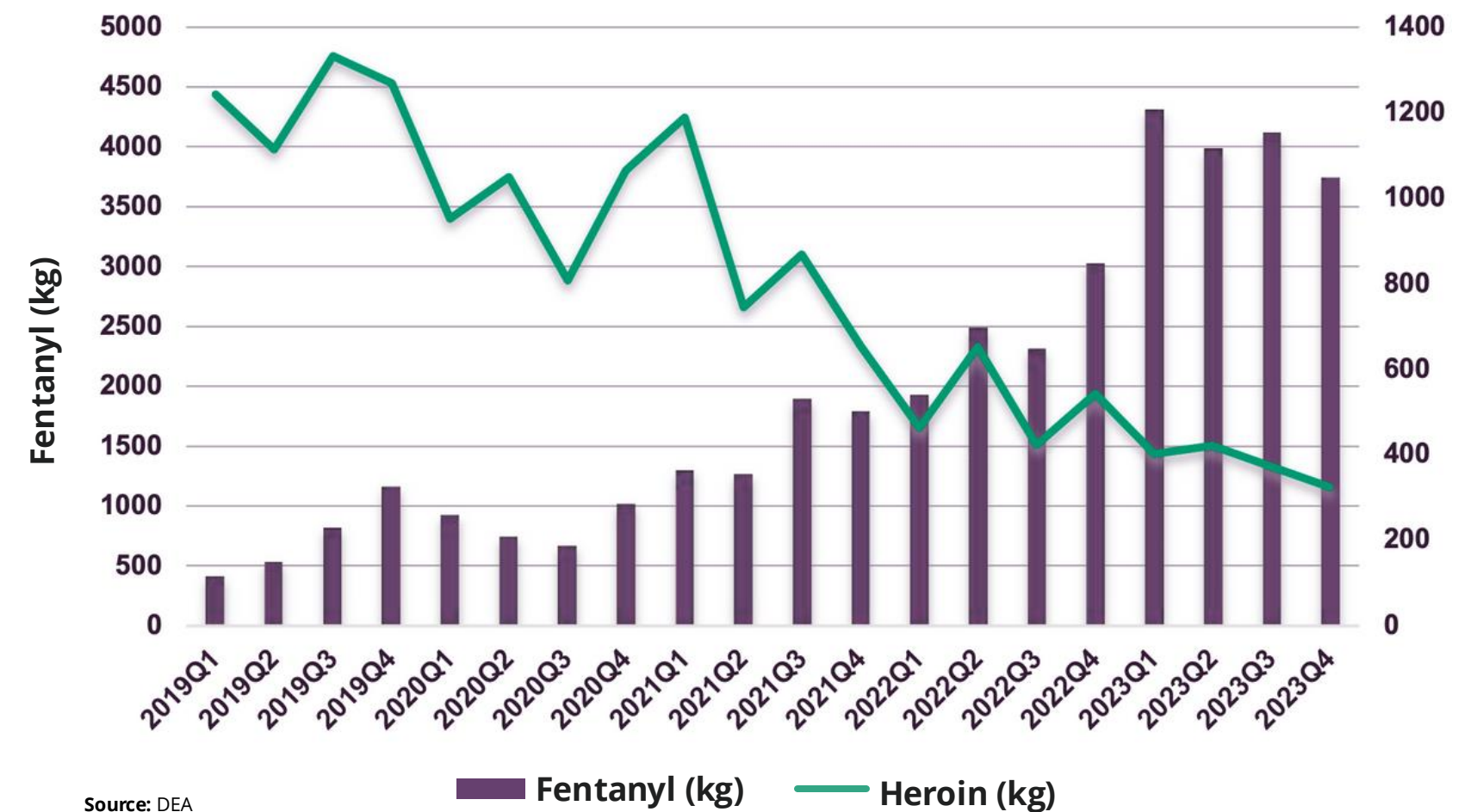
# Heroin

## Decline in Seizures

Heroin seizures in the United States began declining steadily in direct contrast to a rapid acceleration in fentanyl seizures over the same time period. Heroin seizures decreased by almost 70 percent between 2019 and 2023, and fentanyl seizures increased by a staggering 451 percent over the same time period

**More than three-fourths of the heroin-related deaths in the United States also involve fentanyl.**

**The Mexican cartels profit more from trafficking fentanyl than heroin.**

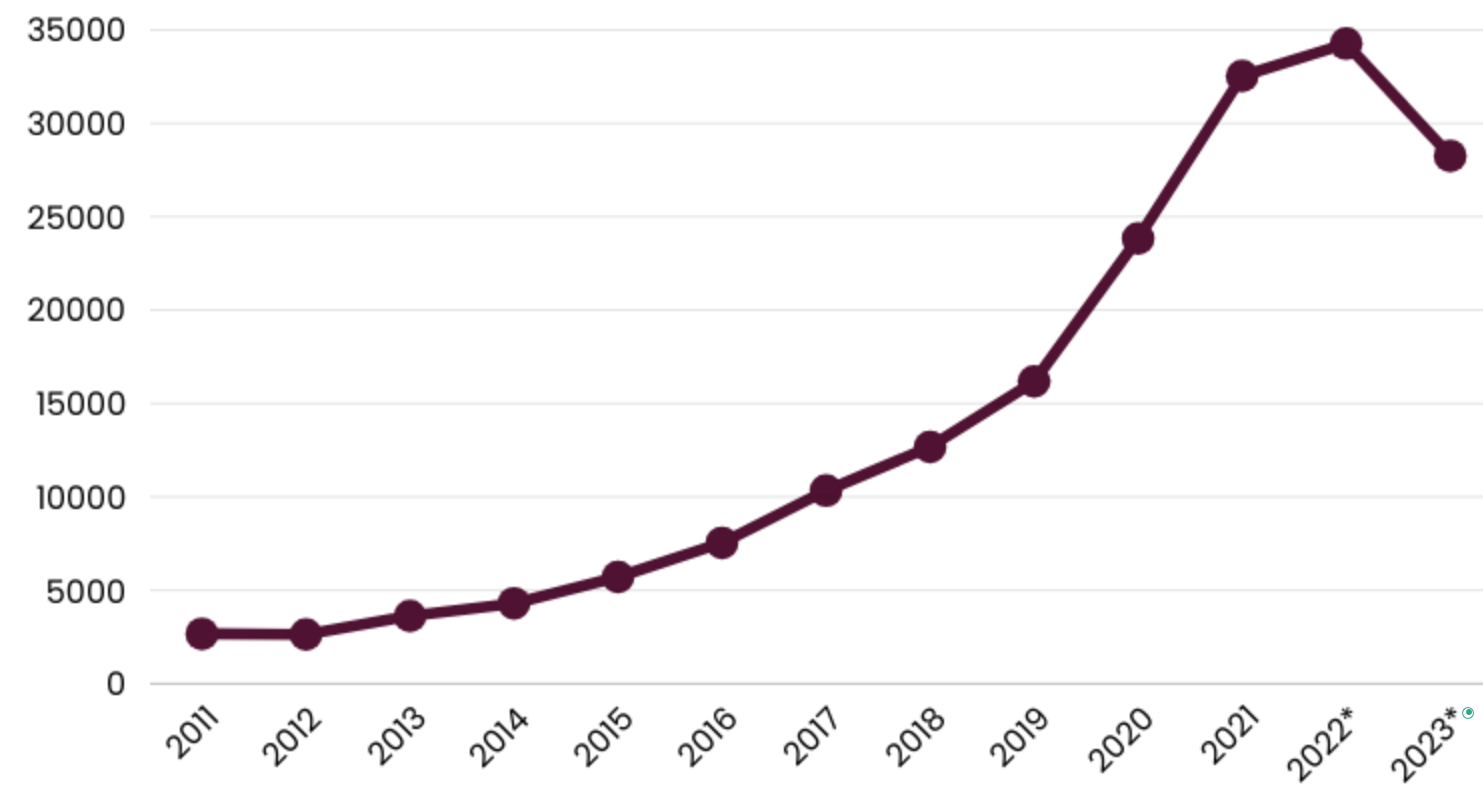


Source: DEA

# Methamphetamine

## Overview

Psychostimulants, primarily methamphetamine, account for 31% of U.S. drug-related deaths. In the first half of 2023, over 17,000 deaths were reported, potentially surpassing the 2022 record of 34,265 fatalities.



\*provisional data | ● continues to receive 2023 data

Source: National Center for Health Statistics, Centers for Disease Control and Prevention



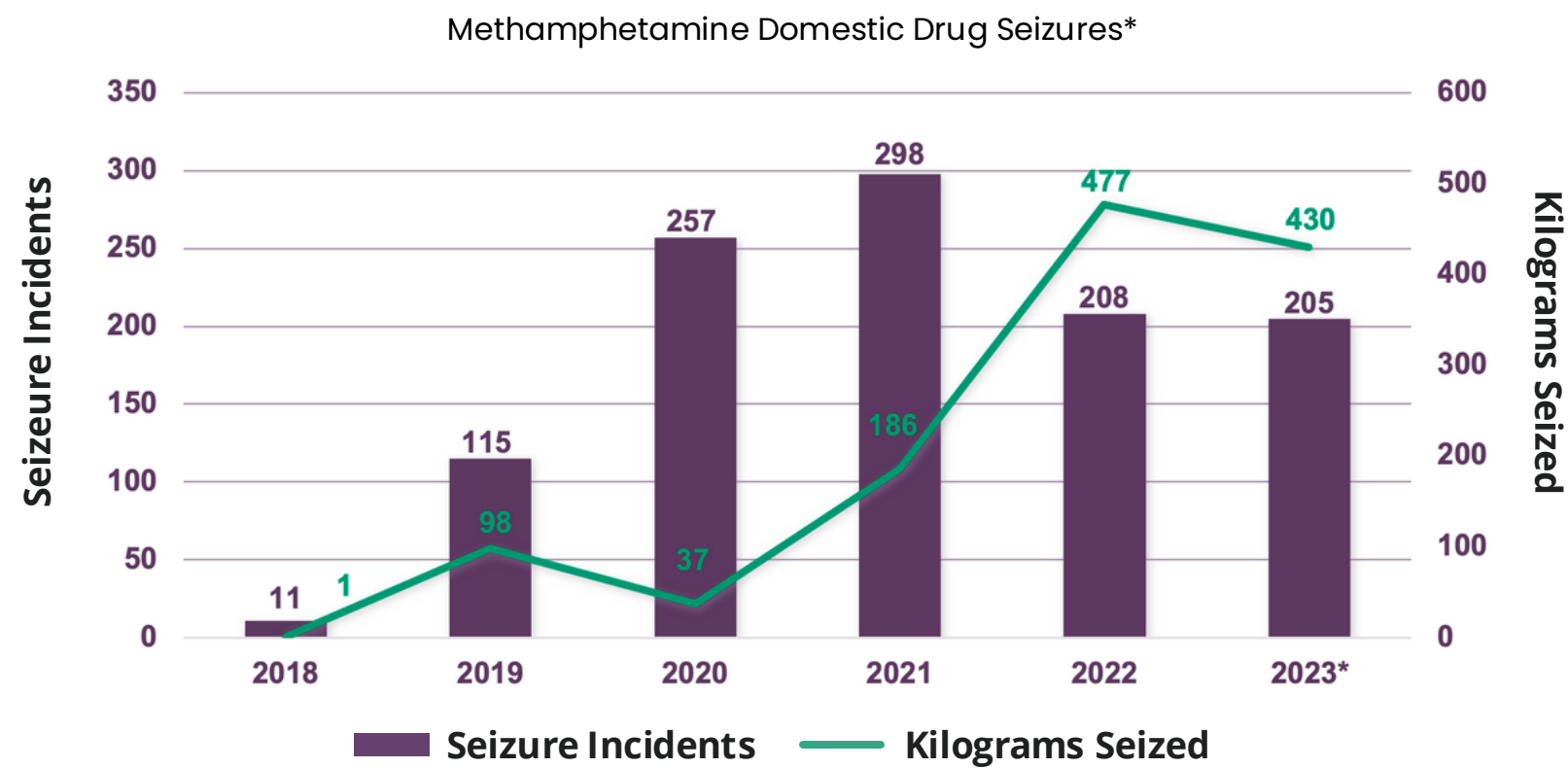
# Methamphetamine

## Alpha-2 Adrenergic Agonist

Over the past two years, methamphetamine pill seizures have increased in quantity per shipment, while the overall number of seizures has decreased. This trend, as reported by EPIC, indicates that methamphetamine tablets are no longer a novelty but have become an established and widely accepted form of the drug in trafficking networks.

**Mexican cartels are exploiting the prescription stimulant market by manufacturing methamphetamine in pill form.**

**The number of methamphetamine-related drug overdoses in which fentanyl was also a factor is a growing concern.**



Source: DEA





# Cocaine

## Overview

Cocaine is a powerful stimulant drug derived from coca plant leaves. It is commonly abused for its euphoric and energizing effects but carries a high risk of addiction and serious health complications. In the United States, cocaine use has remained a persistent issue, with recent trends showing an increase in overdose deaths linked to cocaine, often due to its combination with synthetic opioids like fentanyl

01

### Fatalities Involving Cocaine Increase While Seizures Decline

Cocaine-related overdose deaths are rising, with 15,025 fatalities reported in the first half of 2023, many linked to fentanyl-laced cocaine. Users, often unaware of fentanyl contamination, face heightened risks of fatal poisoning due to their lack of opioid tolerance. In some areas, two-thirds of cocaine-related deaths involve opioids, primarily fentanyl. This trend is compounded by deliberate mixing of stimulants and opioids. Meanwhile, cocaine seizures are declining, highlighting the complex and dangerous nature of the current drug landscape.

02

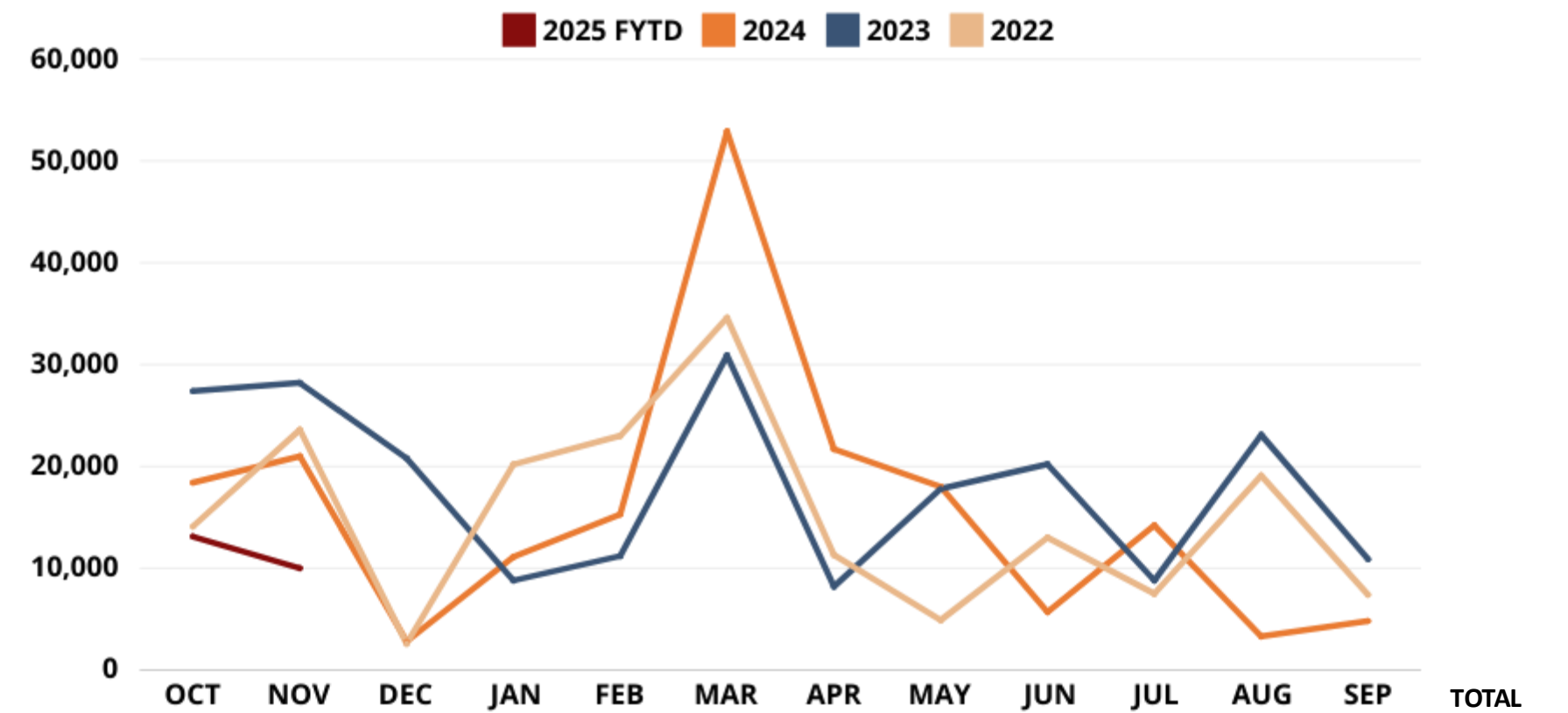
### Cultivation in Mexico

Mexican cartels are attempting to grow coca and produce cocaine within Mexico to increase profits and reduce reliance on South American suppliers. While progress has been made, production remains small-scale with lower purity due to challenges like unsuitable conditions and limited expertise. Mexican coca yields less cocaine compared to South American varieties, but the cartels are steadily improving their methods.



# Cocaine

Fiscal Year Drug Seizure Weight (lbs) by Month



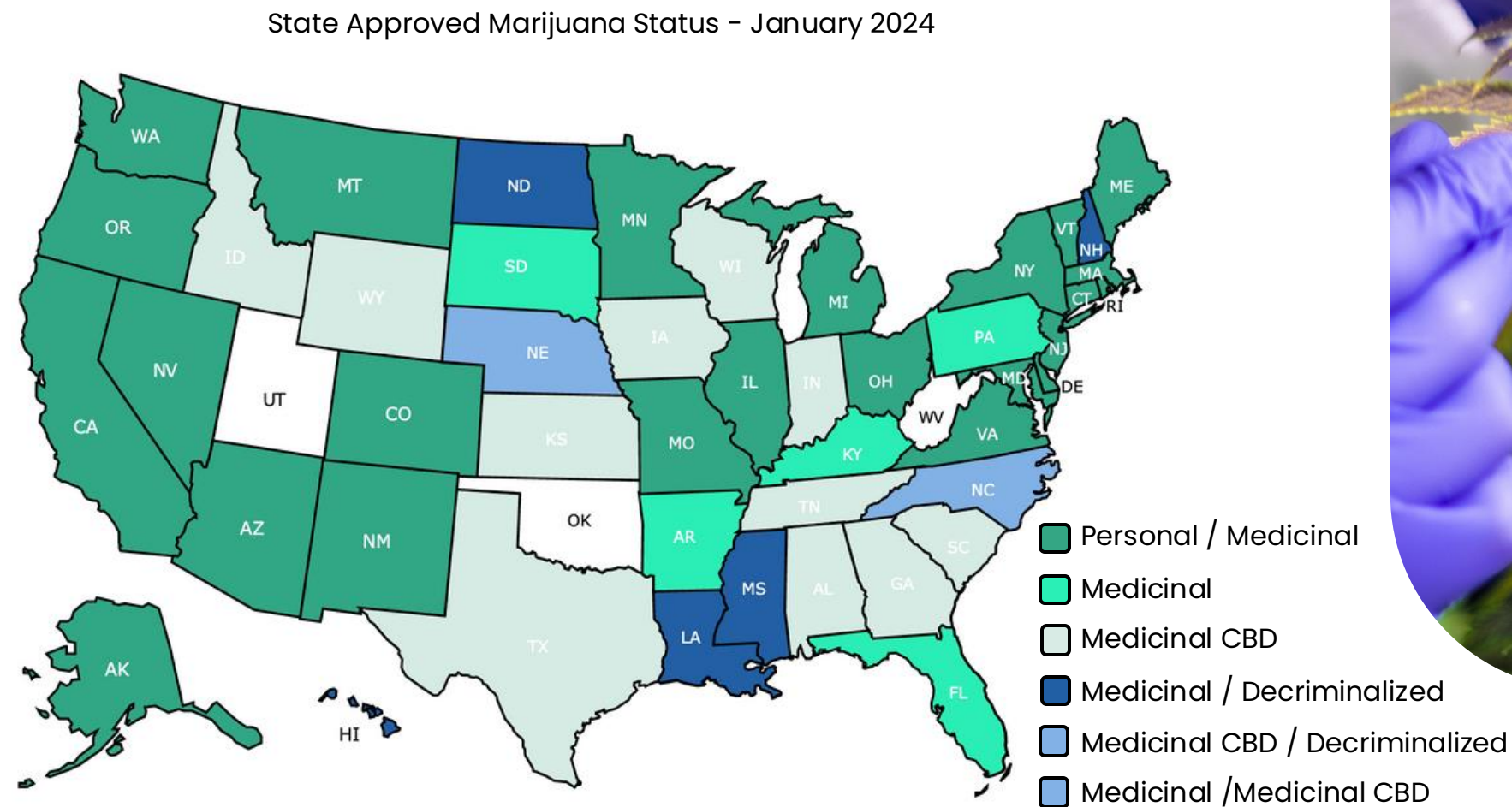
Year	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
2025 FYTD	13.1K	10K											23,097
2024	18.4K	21K	2.8K	11.1K	15.3K	52.9K	21.7K	18K	5.7K	14.2K	3.3K	4.8K	189,311
2023	27.4K	28.2K	20.8K	8.8K	11.2K	30.9K	8.2K	17.8K	20.2K	8.8K	23.1K	10.9K	216,380
2022	14.1K	23.6K	2.6K	20.2K	23K	34.6K	11.3K	4.9K	13K	7.5K	19.1K	7.4K	181,294

Source: U.S. Customs & Border Protection

# Marijuana

## Overview

Marijuana laws in the United States vary widely between federal and state levels. Federally, marijuana remains classified as a Schedule I controlled substance, making it illegal. However, many states have legalized marijuana for medical or recreational use, creating a patchwork of regulations. This disparity leads to challenges in enforcement and workplace policies.



Source: DEA





# Controlled Prescription Drugs CPDs

## Overview

Controlled prescription drugs (CPDs) are the fourth leading cause of fatal drug poisonings in the U.S. Commonly misused CPDs include amphetamines (Adderall), narcotic pain relievers (OxyContin, Percocet), and sedatives (Xanax). Many are obtained illegally through fraud, sharing, or online purchases. The DEA urges the public to safely dispose of unused medications to prevent misuse and opioid addiction.

01

### Fraud related to electronic prescriptions is increasing.

Between 2021 and 2023, DEA investigators noted a rise in fraudulent electronic prescriptions (e-scripts), often involving stolen registration numbers or identities. The growth of telehealth and e-script portals during the COVID-19 pandemic created more opportunities for misuse through identity theft and fraud by patients or staff.

02

### Stimulant prescription drug shortages began in 2022.

In 2022, a shortage of immediate-release amphetamine products, like Adderall, occurred due to manufacturers not producing the full DEA quota, leaving a gap of one billion doses. This happened amid a 58% increase in stimulant prescriptions over the past decade, driven primarily by rising adult ADHD diagnoses, while use among children and adolescents remained stable or declined.



# Top 10 Misused CPDs

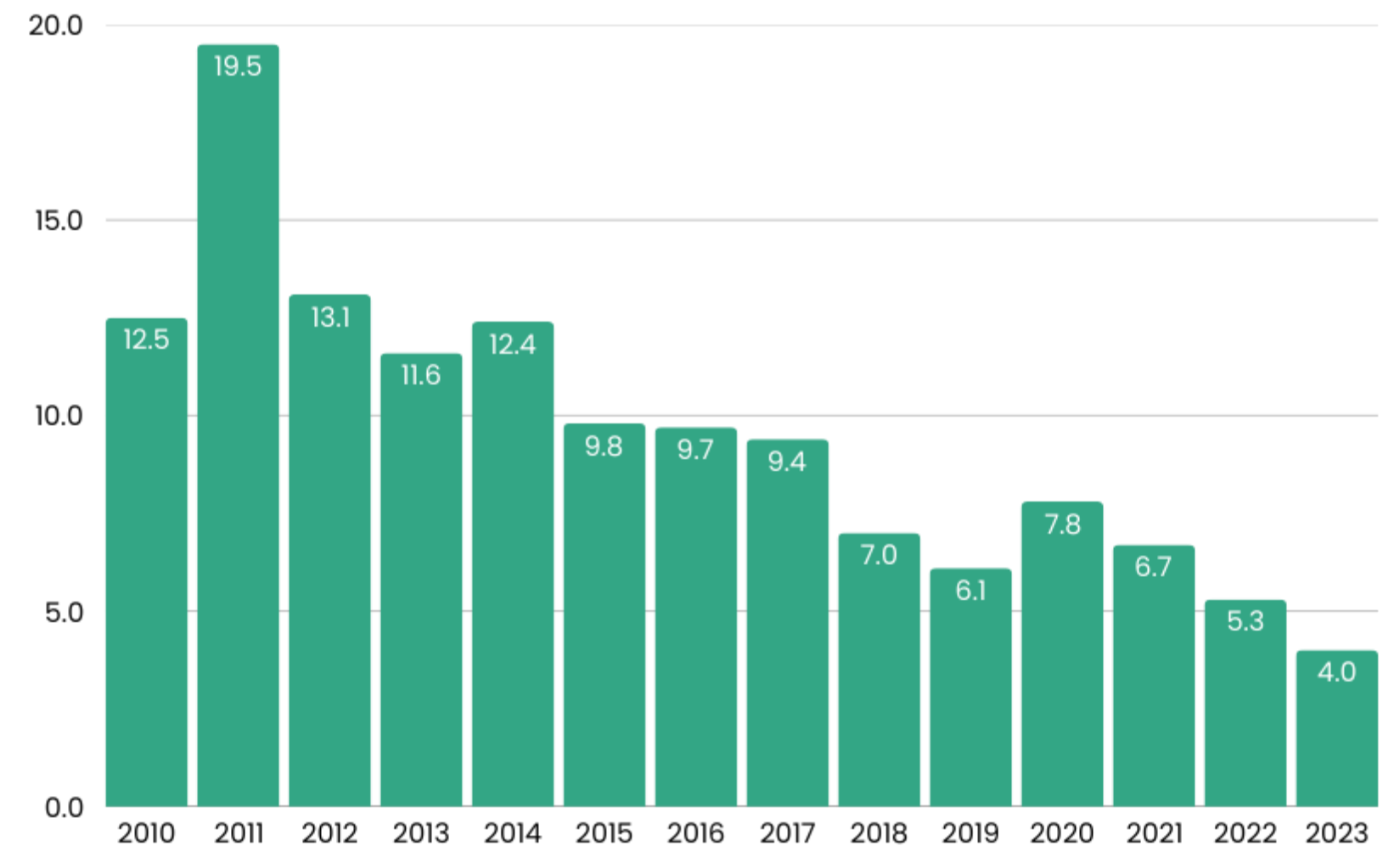
Drug Type	Common Name	Category
<b>Amphetamine</b>	Adderall, Vyvanse, Ritalin, Concerta, Dexedrine	Stimulant
<b>Hydrocodone</b>	Vicodin, Lortab	Pain Reliever
<b>Alprazolam</b>	Xanax	Tranquilizer
<b>Oxycodone</b>	Percodan, OxyContin, Percocet, Endocet, Roxicodone, Roxicet	Pain Reliever
<b>Codeine</b>	Morphine methyl ester, methyl morphine	Pain Reliever
<b>Tramadol</b>	Tramadol	Pain Reliever
<b>Buprenorphine</b>	Buprenex, Temgesic, Subutex, Suboxone	Pain Reliever
<b>Clonazepam</b>	Klonopin, Clonopin	Tranquilizer
<b>Lorazepam</b>	Ativan	Tranquilizer
<b>Diazepam</b>	Valium, Diastat	Tranquilizer





# Controlled Prescription Drugs (CPD)

Unaccounted-for Opioid Narcotics: 2010 - Sept. 2023 in Millions



Source: DEA Office of Diversion Control Theft and Loss Reporting System

# New Psychoactive Substances

01

## Phenethylamines

Phenethylamines, including MDMA (ecstasy/molly), N-bomb, and Smiles, are hallucinogenic stimulants found in various forms like powders, liquids, edibles, and blotter papers. Even small doses can cause seizures, cardiac arrest, or death. While DEA labs have processed around 39,000 cases in five years, submissions have declined by 20% annually over the past two years.

02

## Synthetic Cannabinoids

Synthetic cannabinoids are lab-made drugs that mimic cannabis but often produce unpredictable and dangerous effects, including severe agitation, hallucinations, and psychotic episodes. Commonly sold online and in stores under names like Joker and Scooby Snax, they are laced on plant material for smoking or consumed as liquids. While DEA lab submissions are decreasing, synthetic cannabinoids are linked to poisoning deaths, especially during warmer months when health risks like dehydration increase.

03

## Synthetic Cathinones

Synthetic cathinones, known as bath salts, are potent stimulants mimicking methamphetamine, cocaine, and MDMA, causing severe effects like paranoia, hallucinations, seizures, and violent outbursts. Often sold as ecstasy, they are more powerful than the natural cathinone found in khat. Synthetic cathinones may be sold in unmarked baggies, capsules, or powders. DEA lab submissions have declined over the past five years.



# Available Testing Options

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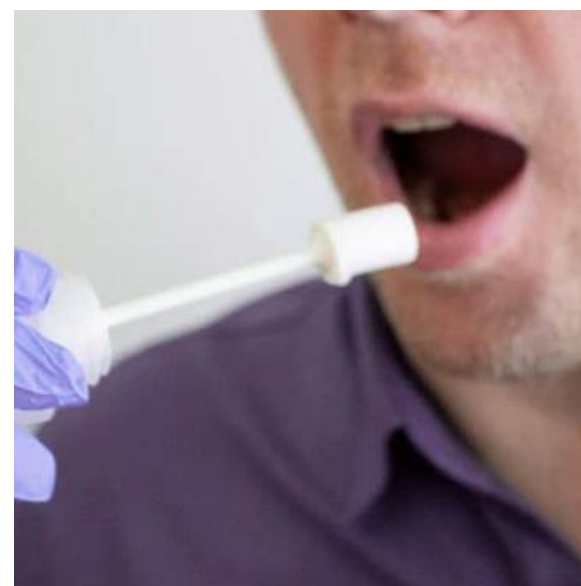


## Urine Testing

Urine drug testing is the most common method used to detect recent drug use, typically within the past 1-7 days for most substances. It is cost-effective and capable of screening for a broad range of drugs.

With established testing protocols and laboratory analysis, urine testing is reliable and suitable for workplace, legal, and clinical settings.

**CLIA-Waived Fentanyl Now available.**



## Oral Fluid Testing

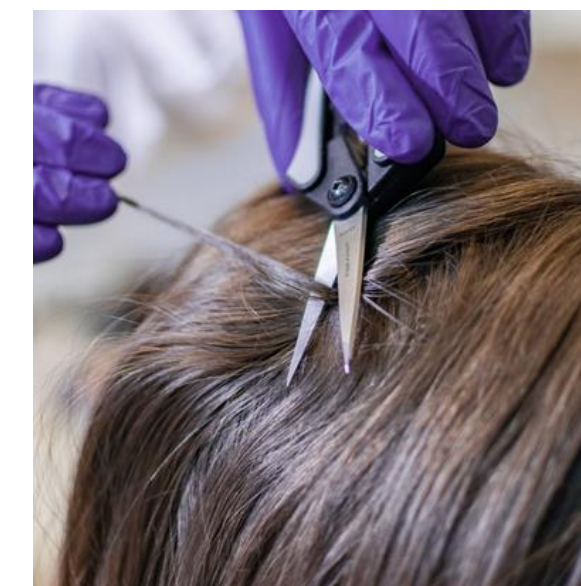
Oral fluid drug testing is a quick, non-invasive method that detects recent drug use, typically within the past 24-48 hours. It is easy to administer, making it ideal for on-site testing in workplaces, law enforcement, or treatment settings. With a reduced risk of adulteration and the ability to detect a broad range of substances.

**Test for Fentanyl  
(FUO & EUO)**



## Sweat Patch

Sweat patch drug testing offers a non-invasive, tamper-resistant method for monitoring drug use over extended periods, typically up to 7 days. It provides continuous detection of drug metabolites, making it ideal for probation, workplace compliance, or treatment programs. Easy to apply and difficult to adulterate.



## Hair Testing

Hair drug testing provides a long detection window, typically up to 90 days, making it ideal for identifying long-term drug use patterns. Non-invasive and difficult to tamper with, it requires only a small hair sample and can detect a wide range of substances.

# Thank You

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Thank you for attending our webinar! At National Test Systems, we deeply value your time and commitment to staying informed. We are dedicated to continually learning and sharing the latest insights to provide you with the leading advantage in point-of-care testing. Your trust and partnership inspire us to keep striving for excellence. We look forward to supporting your success!

01

## Take the Survey

We appreciate you so much, and your feedback is extremely important to us. Let us know how we did and how we can improve so we can provide you with the best content.

02

## Schedule One-On-One Training

Need a tailored one-on-one training experience? Chief Product Officer, Eric Malis, will guide you step-by-step through an individualized custom-tailored online training session. Whether you need your whole team on the same page or simply have a few questions, we're here to help.





## Contact Us

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