

Trends, Analysis & Threats

Overdose Response Strategy Webinar Series



Funded by the Office of National Drug Control Policy and
the Centers for Disease Control and Prevention

This webinar series is supported in-part by the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$11,000,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement by, CDC/HHS, the U.S. Government, or the CDC Foundation.

Agenda

Opening Remarks

Christopher Jakim, HIDTA National Coordinator, Overdose Response Strategy

National Overdose Data Highlight

Steve Barnes, Technical Advisor, Overdose Response Strategy

Speaker Briefings

- **Levi Bolin**, Director, Clinical Affairs, Millennium Health
- **Ed Sisco**, Research Chemist, National Institute of Standards and Technology (NIST)

Q&A and Closing Remarks



Accessing ORS TAT Materials

After today's webinar, remember to access all follow-up and recorded materials for our ORS TAT Webinars on the 'Resources' tab of the ORS website.

<https://orsprogram.org/tat-webinars/>

*We will still be sending follow-up emails to our mailing list and will include the materials link to our website within that communication.



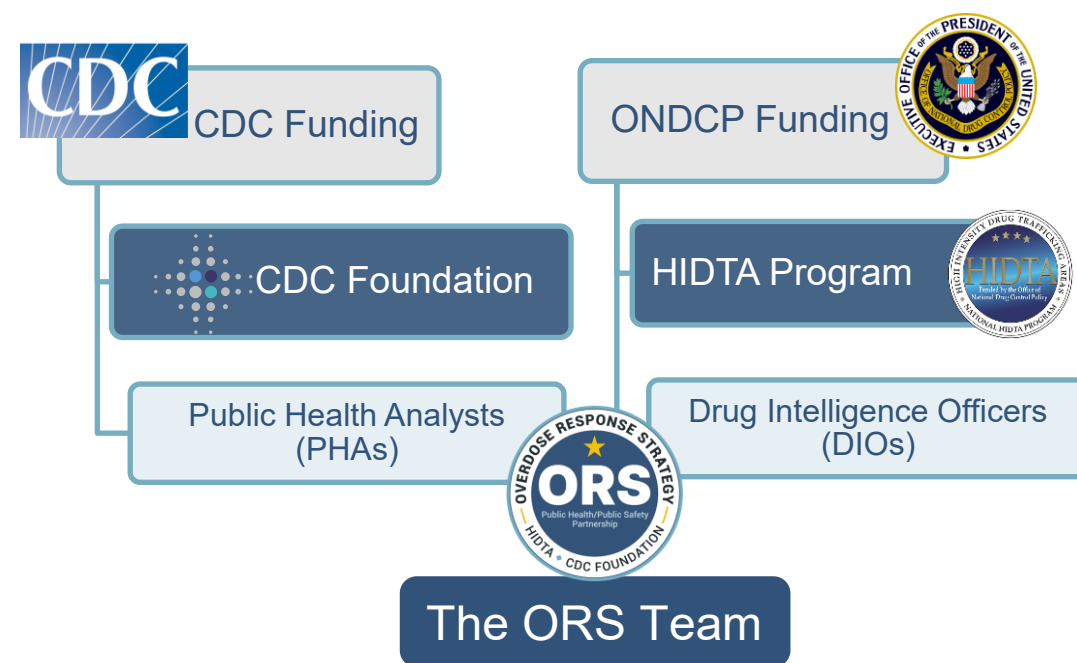
Overdose Response Strategy

The ORS is a nationally coordinated, cross-sector collaboration between public health and public safety.

The mission of the ORS is to **help communities reduce fatal and non-fatal drug overdoses** by connecting public health and public safety agencies, sharing information and supporting evidence-based interventions.

Connect

1. Go to www.orsprogram.org
2. Visit “**ORS Interactive Teams Map**” for team contact info



The ORS is implemented by 61 teams of DIOs and PHAs covering all 50 states, D.C., Puerto Rico, and the U.S. Virgin Islands.



Trends, Analysis & Threats Webinar: Acknowledgement of Data Sensitivity and Use

The information presented and discussed at ORS Trends, Analysis & Threats (TAT) meetings is shared voluntarily by data owners, often in advance of public release and is often preliminary and incomplete. The Overdose Response Strategy (ORS) does not own or manage any of the data presented.

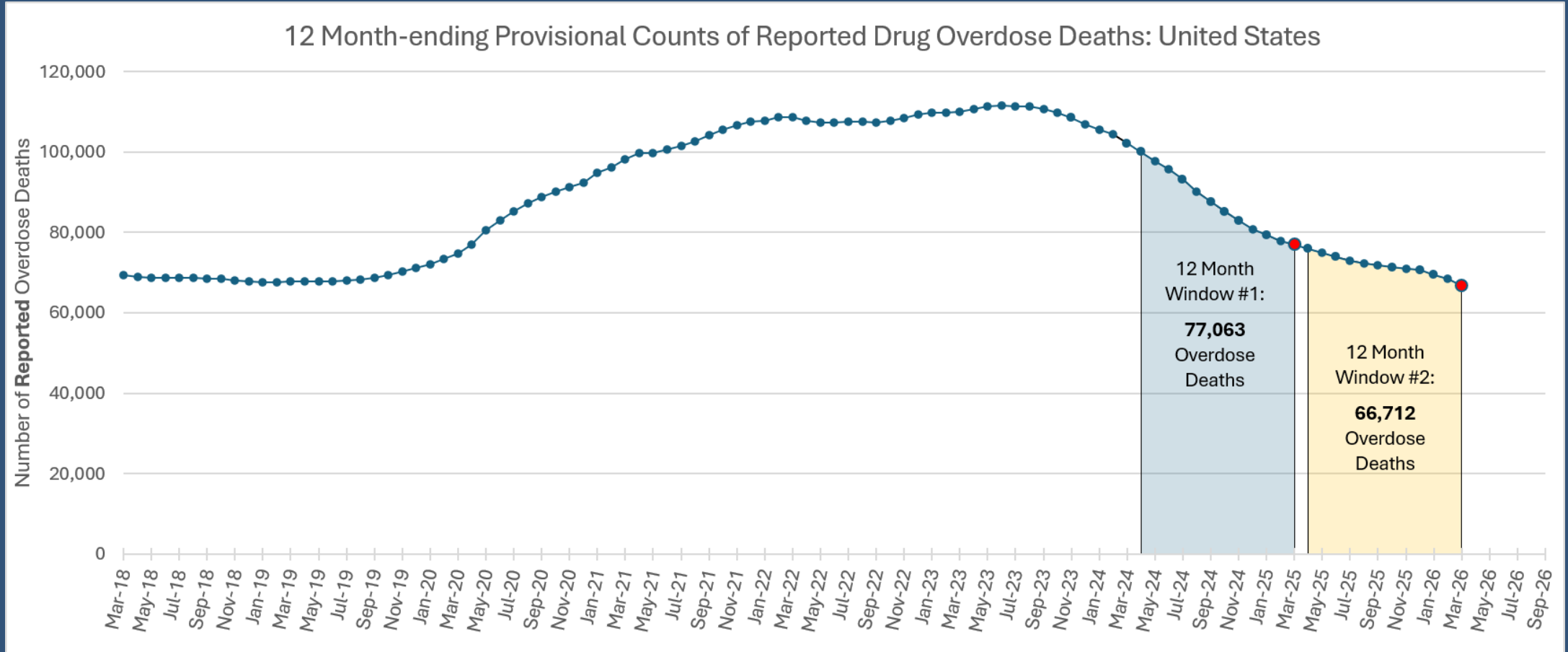


> National Overdose Data Snapshot

Steve Barnes, *Technical Advisor, Overdose Response Strategy*



National Picture - Overdose Mortality



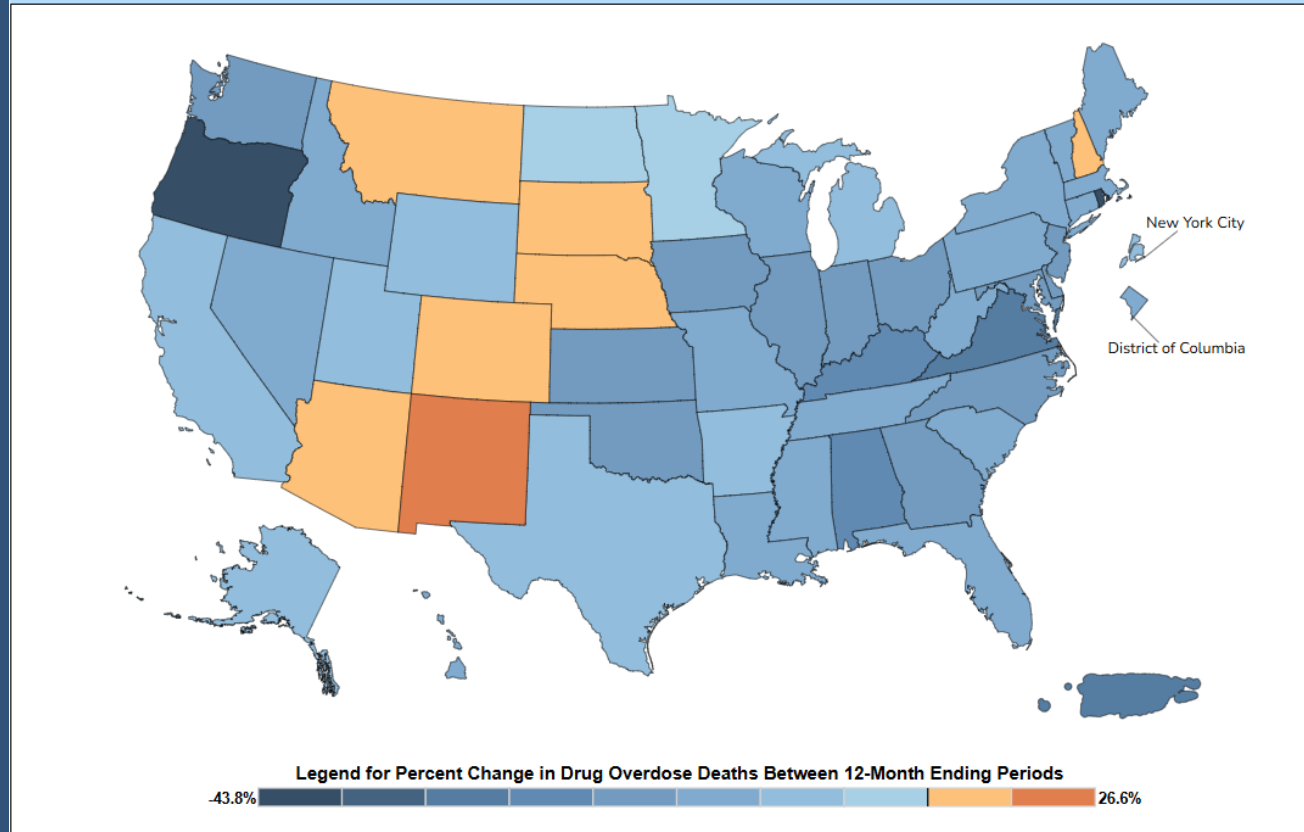
Based on data available for analysis on: **August 4, 2026**

National Center for Health Statistics, Provisional Drug Overdose Death Counts



National Picture - Overdose Mortality

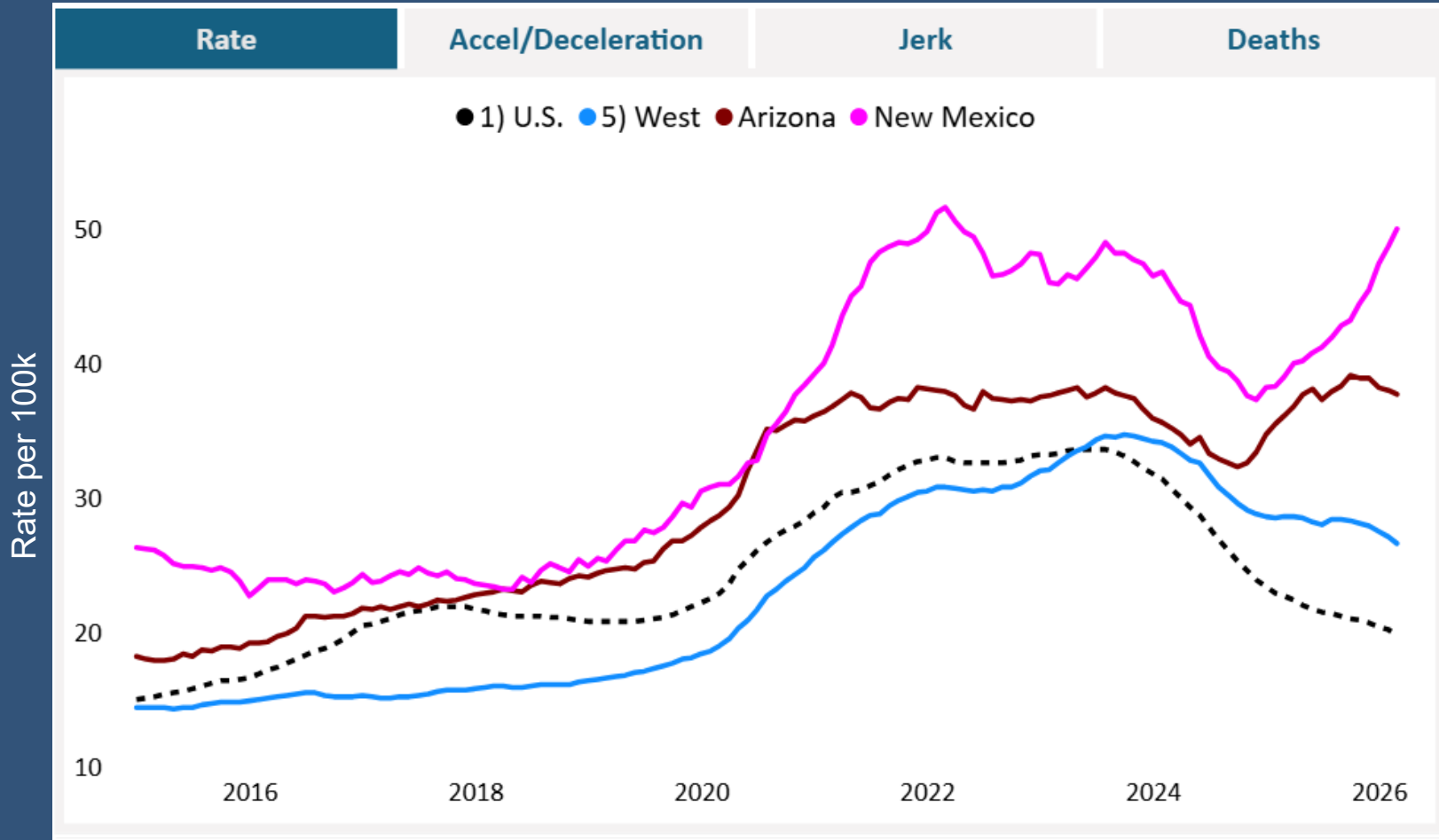
Figure 1b. Percent Change in Reported 12 Month-ending Count of Drug Overdose Deaths, by Jurisdiction: March 2025 to March 2026



Based on data available for analysis on: **August 4, 2026**

National Center for Health Statistics, Provisional Drug Overdose Death Counts

Northwestern University “OD Pulse” Dashboard



National summaries provide useful context but obscure important regional variation

Public dashboards, like OD Pulse, are useful tools for understanding trends by region and state

Source (visualization): Northwestern University “The OD Pulse” Dashboard, (accessed 01 SEPT 2026)

Data: Provisional drug overdose death counts. National Center for Health Statistics. Based on data available for analysis on: **August 5th, 2026**



CDC Overdose Prevention Data Channel



Overdose Prevention

EXPLORE THIS TOPIC ▾

SEARCH

Overdose Prevention Data Channel

 For Everyone
AUG. 31, 2026

ABOUT

CDC's Overdose Prevention Data Channel brings together key information from three CDC data systems to show what is happening with drug overdoses in the United States - the National Vital Statistics System (NVSS), the Nonfatal Drug Overdose Surveillance and Epidemiology System (DOSE), and the State Unintentional Drug Overdose Reporting System (SUDORS). It highlights the most important trends and findings, including both fatal and nonfatal overdoses, in one place. This helps better understand and respond to what's happening in your area.



Centers for Disease Control and Prevention. *Overdose Prevention Data Channel*. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 31 AUG 2026.



CDC Overdose Prevention Data Channel

Drug overdose trends at-a-glance

Understanding drug overdose data from across CDC sources can help provide a clear image of what is happening nationally and in your community. Below the fatal data come from NVSS [\[A\]](#) [\[B\]](#) and the nonfatal data come from DOSE-SYS [\[C\]](#) [\[D\]](#) [\[E\]](#)

Select state

United States

Select time period

Apr. 2025 to Mar. 2026

General Trends, Apr. 2025 to Mar. 2026

Predicted provisional drug overdose death count in the United States

67,798

decreasing 12.3%↓ from the previous year.

[Learn more about drug overdose deaths from NVSS](#)

Suspected nonfatal drug overdose emergency department (ED) visit proportions in 47 jurisdictions

54.7 per 10,000 ED visits

decreasing 2.6%↓ from the previous year.

[Learn more about nonfatal overdose ED visits from DOSE-SYS](#)

Opportunities for intervention

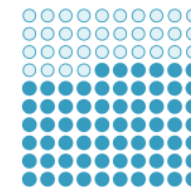
We can help prevent future overdoses by identifying points of intervention. A point of intervention is any time when a person shows signs that they may need help or when they have contact with health care or other services where support, treatment, or other resources can be provided.

Understanding these opportunities helps communities identify when and how they can prevent future overdoses and save lives.

Select time period

2025 (Preliminary)

Potential opportunities for intervention in 41 jurisdictions



66 out of 100

fatal drug overdoses during 2025 had at least one potential opportunity for intervention.

[Learn more about opportunities for intervention from SUDORS](#)

Data Table



[Download Data \(CSV\)](#)

Centers for Disease Control and Prevention. *Overdose Prevention Data Channel*. Atlanta, GA: U.S. Department of Health and Human Services, CDC; 31 AUG 2026.





An Update on Current Drug Use Trends: Insights from Clinical Urine Drug Testing Data

B. Levi Bolin, PhD
Director, Clinical Affairs
levi.bolin@millenniumhealth.com

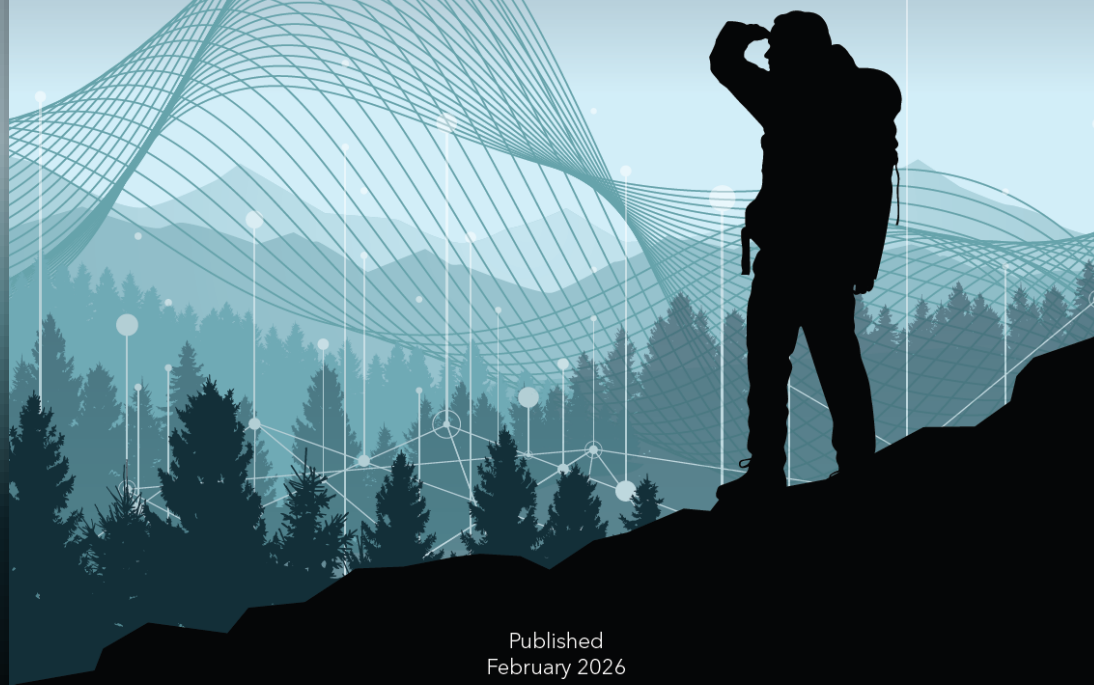


Signals Report®

LAY OF THE LAND

Encouraging Signs and Persistent
Challenges Dot the Terrain of
America's Evolving Drug Use Epidemic

Volume 8



Published
February 2026



Figure 4: National Fentanyl Detection and Associated Polysubstance Use

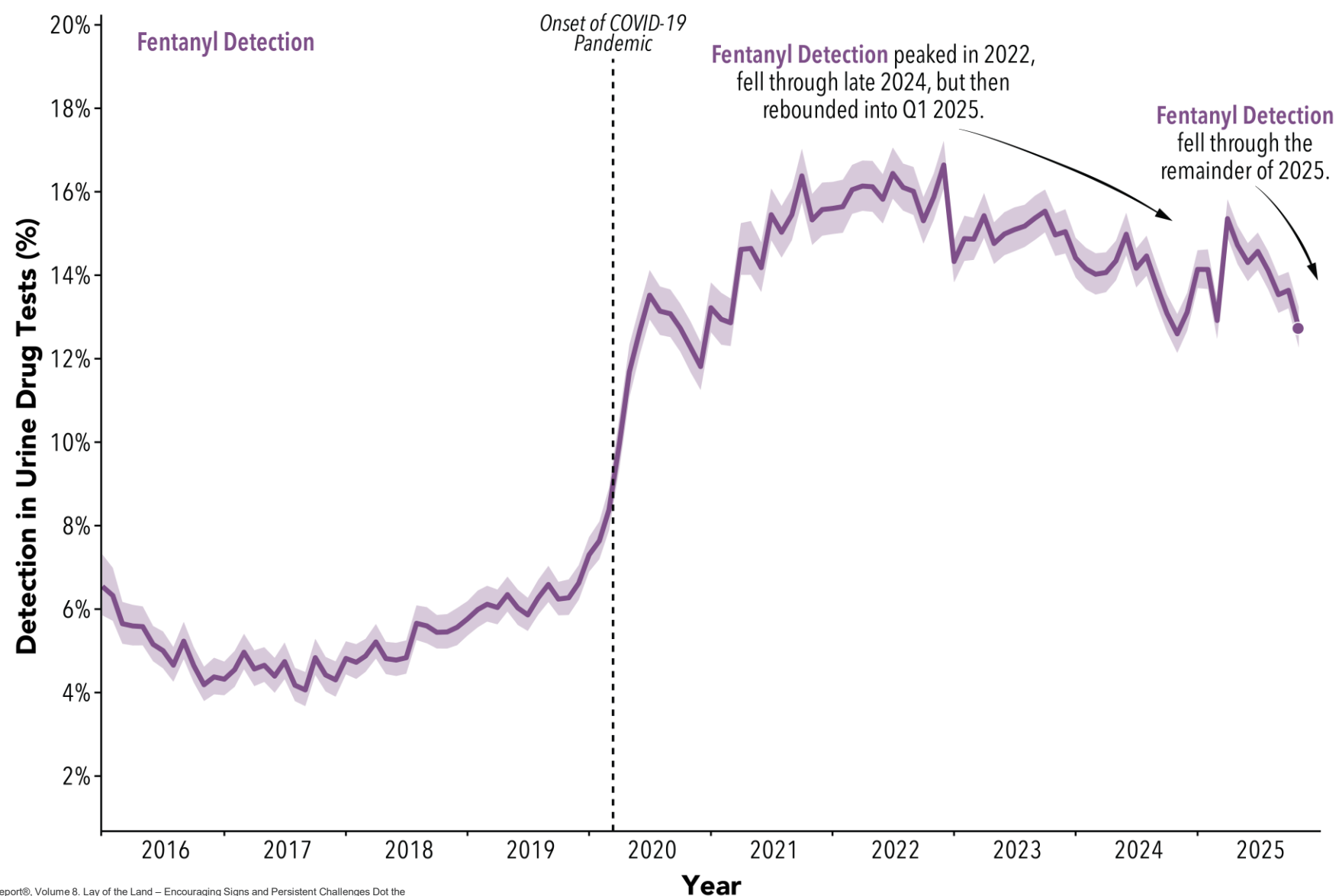
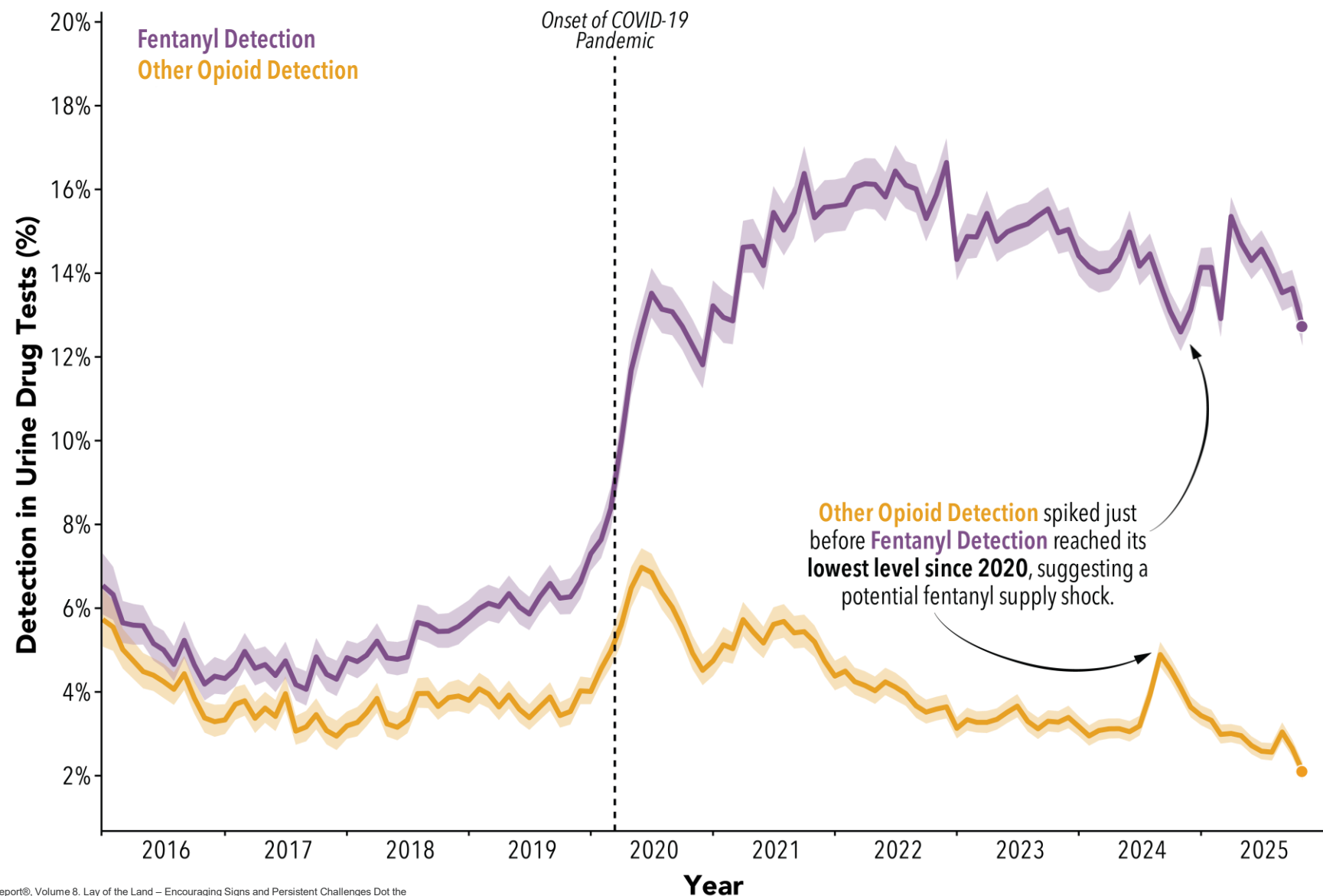


Figure 4: National Fentanyl Detection and Associated Polysubstance Use



1. Millennium Health, LLC. Millennium Health Signals Report®, Volume 8. Lay of the Land – Encouraging Signs and Persistent Challenges Dot the Terrain of America’s Evolving Drug Use Epidemic. Published February, 2026. Available at: <https://www.millenniumhealth.com/signalsreport/>

Fentanyl Supply Shock & Overdose Deaths



ANALYSIS

POLICY ARTICLE

DRUG POLICY

Did the illicit fentanyl trade experience a supply shock?

A synthesis of government and social media data suggests a disruption, possibly tied to events in China

Kasey Vangelov¹, Keith Humphreys², Jonathan P. Caulkins³, Harold Pollack⁴, Bryce Pardo⁵, Peter Reuter^{1,6}

Fatal overdoses from synthetic opioids, most notably fentanyl, steadily increased more than 25-fold in the United States over 15 years, peaking at 76,000 in 2023 (1). This trend began to sharply reverse in mid-2023, dropping the annual rate of fentanyl overdose deaths (ODDs) by over a third by the end of 2024 (1). Explaining this unexpected drop is of major scientific and policy interest. Whether a supply shock could account for a substantial part of the decline is challenging to determine because drug trafficking organizations operate in secret. Synthesizing data from the US and Canadian governments and from discussions on the social media platform Reddit, we suggest there was a major disruption in the illicit fentanyl trade, possibly tied to Chinese government actions, that translated into sharp reductions in overdose mortality beginning in mid- or late-2023 and continued into 2024 across both the US and Canada.

Supply shocks sometimes produce large and rapid changes in the severity of drug problems. The early proliferation and overprescribing of prescription opioid pain medications beginning in the late 1990s and traffickers' introduction of fentanyl into the North American illicit drug supply around 2014 are two prominent examples of supply changes that sharply increased drug-related morbidity and mortality (2). In the opposite direction, the pronounced drought in Australia's heroin supply in early 2001 (the causes of which are still debated) was followed by a 60% decline in opioid overdose mortality (3). The Chinese government's scheduling of the potent synthetic opioid carfentanil in 2017, legally designating the drug as potentially dangerous and tightening regulatory controls on it accordingly, immediately preceded a sharp drop in both seizures of and deaths from this fentanyl analog in the Midwest US region where it was prevalent (4). Controls on precursor chemicals used in the manufacture of drugs can sometimes shock markets; increased controls on pseudoephedrine, required to make methamphetamine, reduced availability and harm from that drug for at least some months (5).

CONVENTIONAL INDICATORS OF DRUG SUPPLY AND ITS RELATIONSHIP TO PUBLIC HEALTH

We begin with two standard indicators of drug supply: drug purity and counts of seizures of drugs by law enforcement. Drug dealers often adapt to supply shortages by lowering purity more than raising prices. This is akin to the "shrinkflation" seen in many consumer products in recent years. Documented historical examples include European and

clined by more than half from their May 2023 peak. The average purity of fentanyl pills also fell, albeit slightly less (by one-third, to roughly 15%) and slightly later than the decline in powder purity and deaths.

The correspondence is broader than just those downturns. Across the entire monthly series from January 2019 to October 2024, the rate of synthetic opioid ODDs was correlated with the purity of fentanyl in the form of both pills [correlation coefficient $r = 0.62$; 95% confidence interval (CI): 0.44 to 0.74] and powder ($r = 0.37$; 95% CI: 0.15 to 0.56) (see the first figure).

The number of drug seizures tends to positively correlate with supply. Semiannual counts of fentanyl seizures reported publicly by the US National Forensic Laboratory Information System (NFLIS) peaked in the first half of 2023, fell by 15% in the second half of 2023, and were 37% below peak by the second half of 2024 [see supplementary materials (SM)]. In theory, seizures could have fallen despite stable supply if enforcement ebbed. However, given the sustained public and political attention to the fentanyl crisis throughout this period, reduced supply seems the more plausible explanation for declining seizure numbers.

AN UNCONVENTIONAL INDICATOR OF ILLICIT DRUG SUPPLY SHOCKS

Another avenue for attempting to determine whether a supply disruption took place is to gather data from customers. Given the challenges of recruiting persons purchasing illegal drugs to participate in research and the more general difficulties of tracking drug problems in real time, some researchers are finding productive uses for social media postings as drug problem indicators (9).

In particular, Reddit participants frankly discuss drug availability and quality. We therefore analyzed Reddit posts containing the word "fentanyl" (including misspellings and slang terms such as "fetty") across six subreddits: r/fentanyl, r/heroin, r/opiates, r/meth, r/cocaine, and r/mdma. Within these posts, we tracked mentions of the word "drought" (and similar terms, such as "shortage") monthly from January 2021 through January 2025. We then manually verified that drought references pertained to fentanyl availability rather than other contexts.

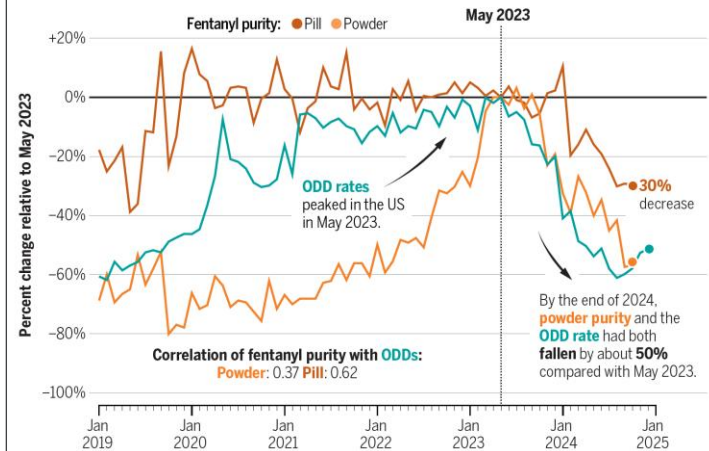
These Reddit data show a first notable peak in mention of drought in July 2023, followed by a much more pronounced spike beginning in late 2023 and continuing until it was cut short by moderator intervention (see the second figure). In January 2024, the r/fentanyl subreddit

Check for updates

Downloaded from https://www.science.org at Copyright Clearance Center - Oct 11 Now on January 09, 2026

US fentanyl purity and overdose mortality rates

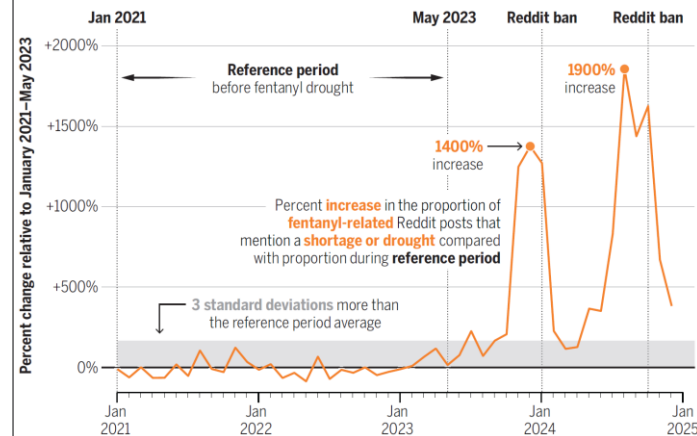
Rates of overdose death (ODD) involving synthetic opioids and the purity of fentanyl powder and pills are indexed to May 2023, when ODDs peaked in the United States. Crude ODD rates are calculated using monthly population counts. See supplementary materials for details.



Discussions of "fentanyl drought" on Reddit spiked in December 2023 and August-October 2024

Reddit posts reflect discussion of fentanyl drought

Of the total fentanyl-related Reddit posts each month, the proportion that mention "drought" are shown, relative to the mean during the reference period spanning January 2021 through May 2023. Discussion moderators twice enforced bans on fentanyl drought-related posts.



1. Vangelov K, Humphreys K, Caulkins JP, Pollack H, Pardo B, Reuter P. Did the illicit fentanyl trade experience a supply shock? Science. 2026;391(6781):134-136. doi:10.1126/science.aaa6130

Millennium Health Signals Report® Volume 8.1

Fentanyl Concentrations Surge to All-Time Highs in the West Following National Fentanyl “Supply Shock” in 2024



Millennium Health Signals Report® Volume 8.1

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Published July 2026

MILLENNIUM HEALTH

Background

A recent study showed that declines in overdose deaths during 2023 and 2024 correlated with an approximately 50% decrease in illicit fentanyl purity as reported in National Forensic Laboratory Information System (NFLIS) data.¹ Coupled with spikes in social media posts describing a perceived “fentanyl drought,” these indicators suggest that a fentanyl supply disruption may have contributed to the sharp decline in overdose deaths from mid-2023 to late 2024.

In this year’s Signals Report, we highlighted decreases in overall fentanyl detection in urine drug testing (UDT) data² that were consistent with the reported declines in fentanyl purity and fatal overdoses.¹ Although decreases in fentanyl detection may reflect reduced availability—consistent with a “supply shock” hypothesis—urine concentration data capture changes in drug exposure levels³ that may correspond more closely with shifts in fentanyl purity.

We also observed a brief spike in the detection of other opioids—primarily heroin—among individuals using fentanyl in late 2024,² which may provide additional evidence of a fentanyl supply shock. Despite being less potent, heroin has opioid effects similar to fentanyl that would make it well suited to offset a temporary fentanyl shortfall.

Key Takeaways

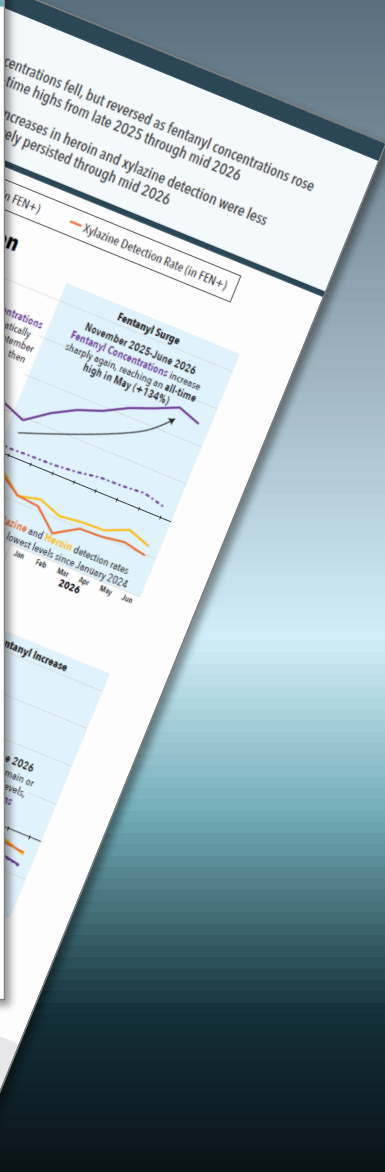
- UDT data revealed real-time changes in fentanyl concentrations and the detection of other drugs that are consistent with a fentanyl “supply shock” hypothesis
- In the West, the striking increases in fentanyl concentrations from late 2024 through early 2025 paralleled rising overdose mortality rates; the increases observed during the first half of 2026 suggest that overdose deaths have risen again in the West⁴
- After fentanyl concentrations declined in the Eastern regions, they remained below January 2024 levels, consistent with flattened overdose death rates
- Collectively, these findings suggest that UDT data provide invaluable, timely information about rapid shifts in the illicit opioid supply and/or drug use patterns that carry important implications for overdose mortality trends across the country

Figure 1: Regional Fentanyl-Related Overdose Mortality

Regional fentanyl-involved overdose death rates from January 2019 through November 2025

Region	Fentanyl Overdose Death Rate (per 100,000 population) in November 2025
West	12.0
Northeast	9.6
South	7.3
Midwest	6.4

continued on next page



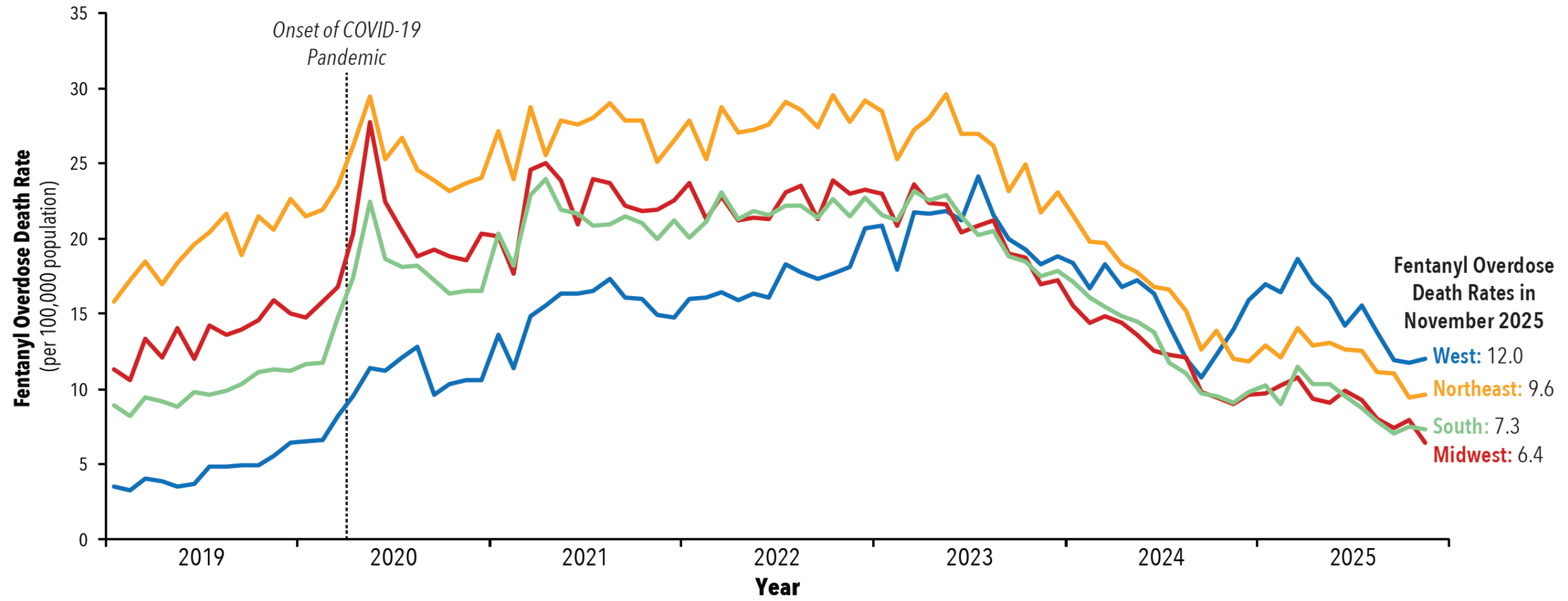
The logo for Millennium Health, featuring the word "MILLENNIUM" in black and "HEALTH" in orange, with a green leaf-like graphic to the right.

-



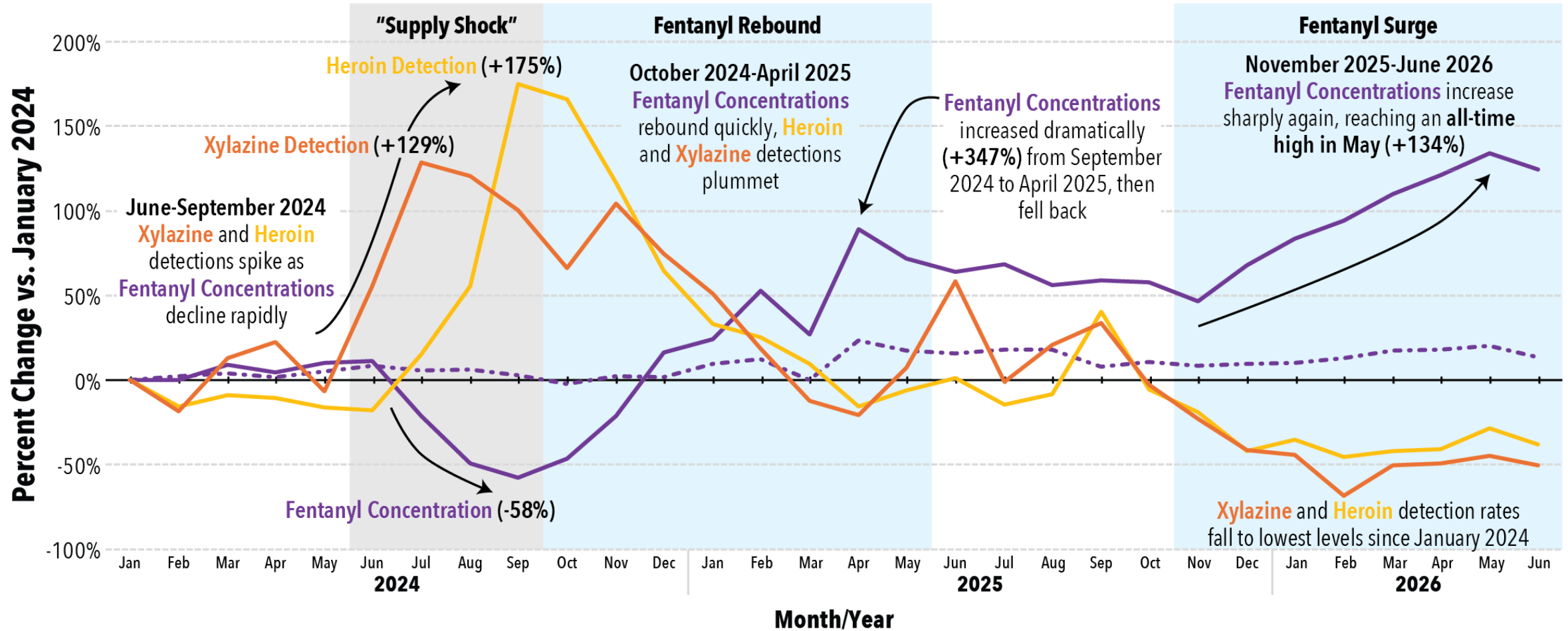
Regional Fentanyl-Related Overdose Mortality

January 2019 – November 2025



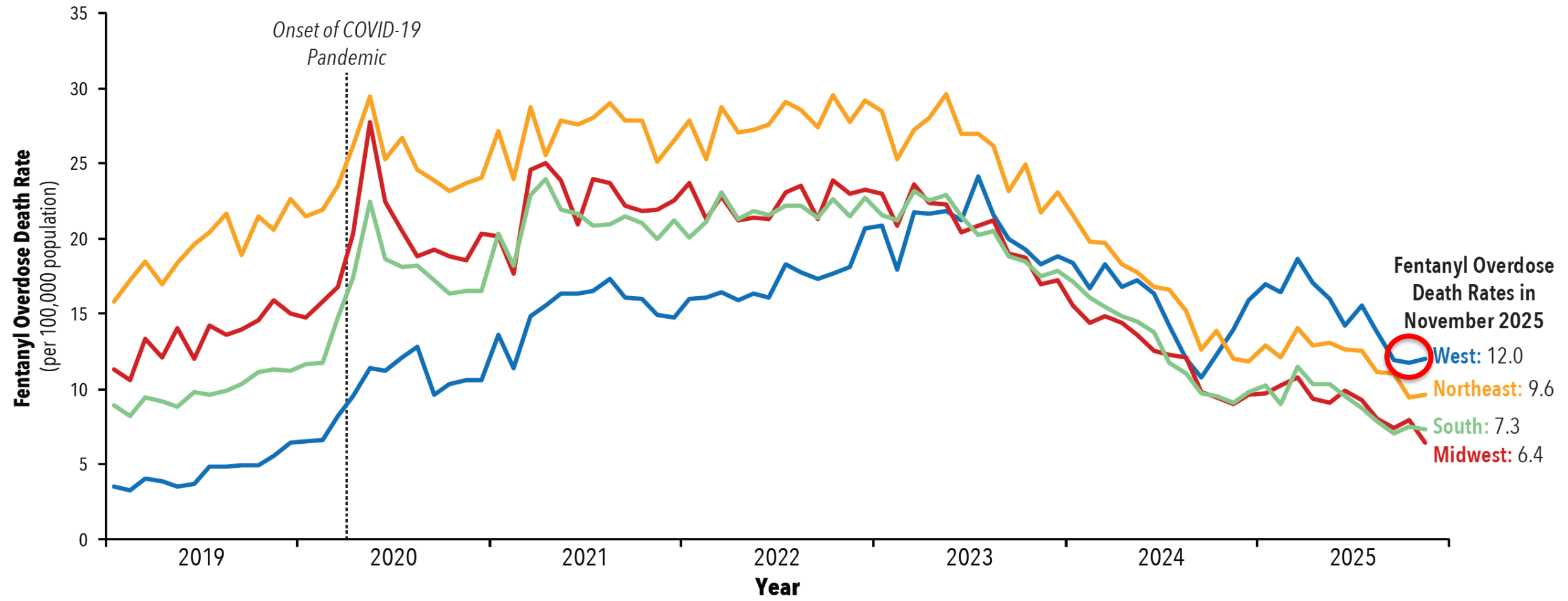
1. CDCWONDER. Centers for Disease Control and Prevention. Accessed June 24, 2026. <https://wonder.cdc.gov/>
2. Millennium Health, LLC. Millennium Health Signals Report®, Volume 8.1. Fentanyl Concentrations Surge to All-Time Highs in the West Following National Fentanyl "Supply Shock" in 2024. Published July, 2026. Available at: <https://www.millenniumhealth.com/signalsreport/>

Western U.S. Census Region



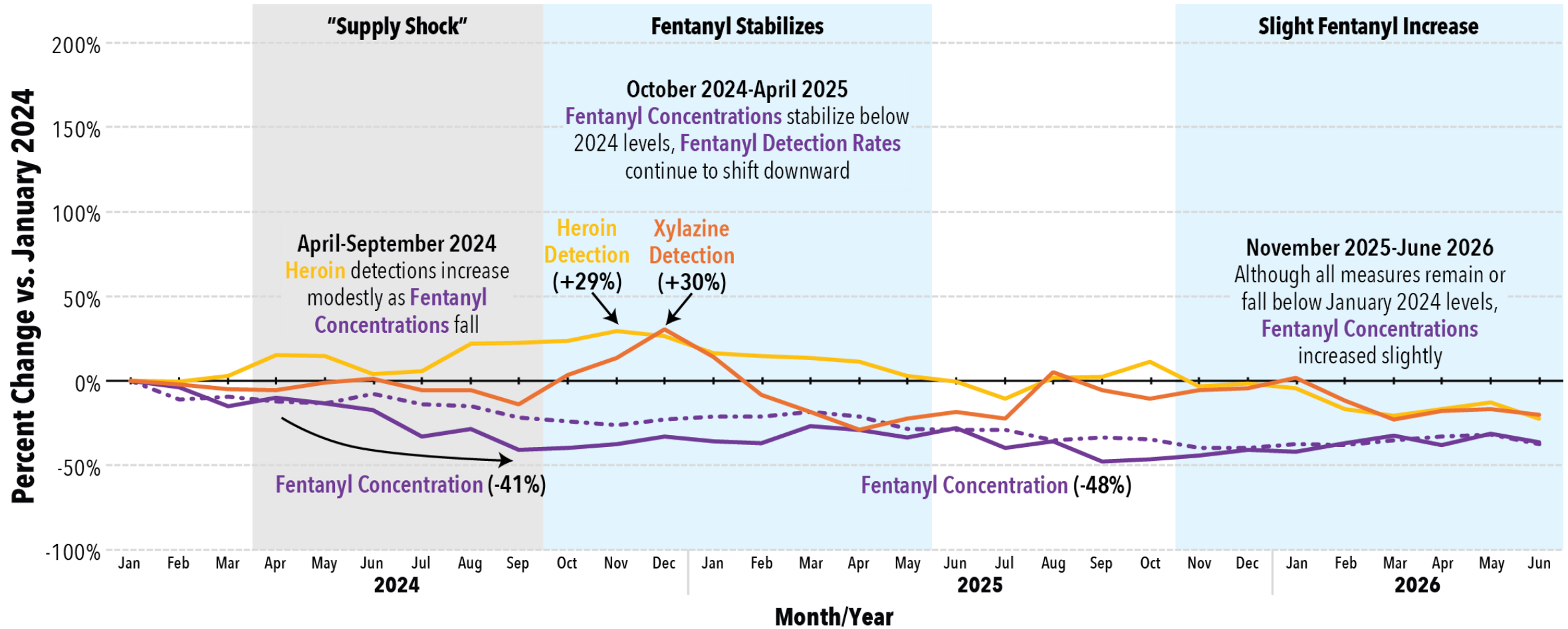
Regional Fentanyl-Related Overdose Mortality

January 2019 – November 2025

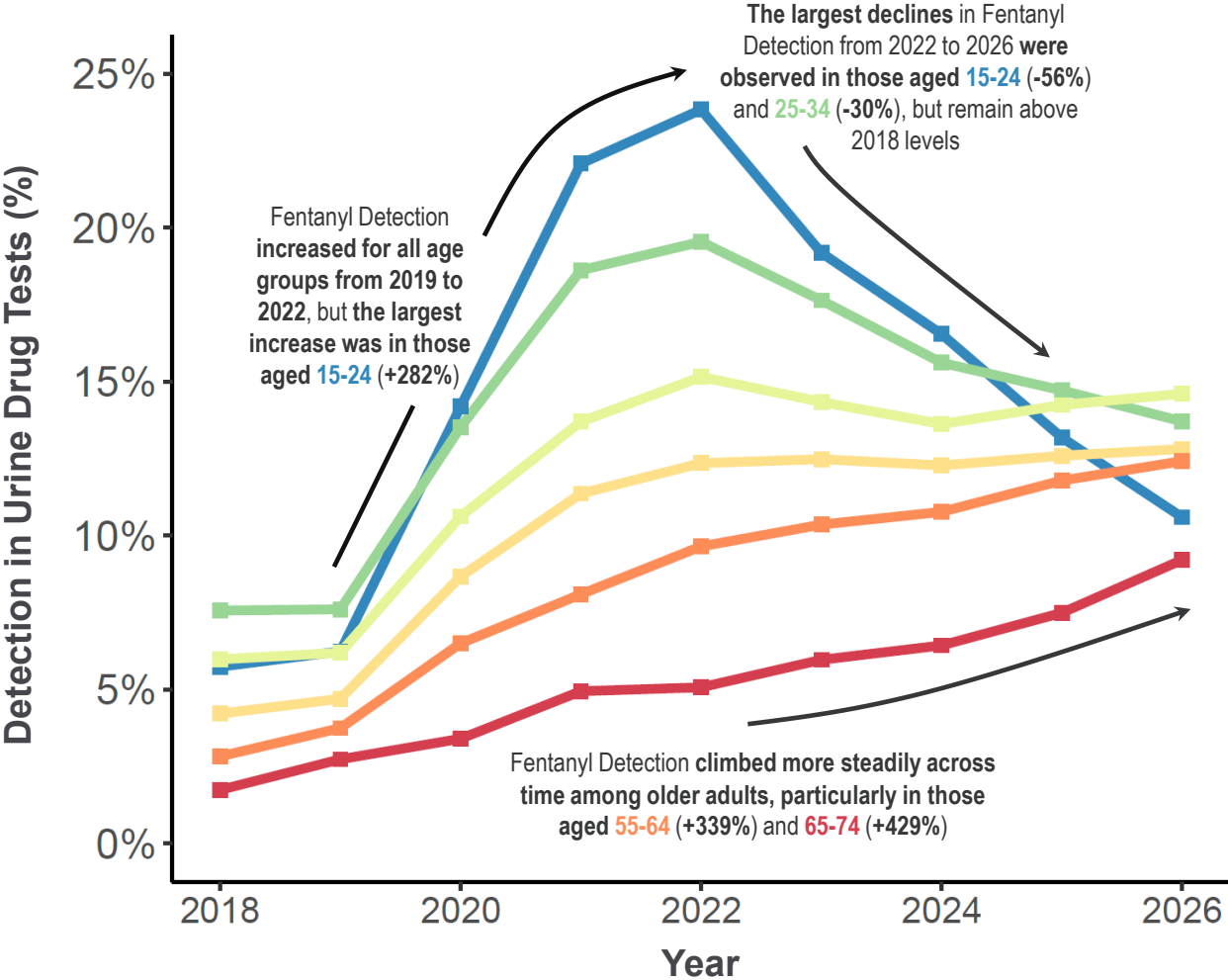


1. CDCWONDER. Centers for Disease Control and Prevention. Accessed June 24, 2026. <https://wonder.cdc.gov/>
2. Millennium Health, LLC. Millennium Health Signals Report®, Volume 8.1. Fentanyl Concentrations Surge to All-Time Highs in the West Following National Fentanyl "Supply Shock" in 2024. Published July, 2026. Available at: <https://www.millenniumhealth.com/signalsreport/>

Eastern U.S. Census Regions



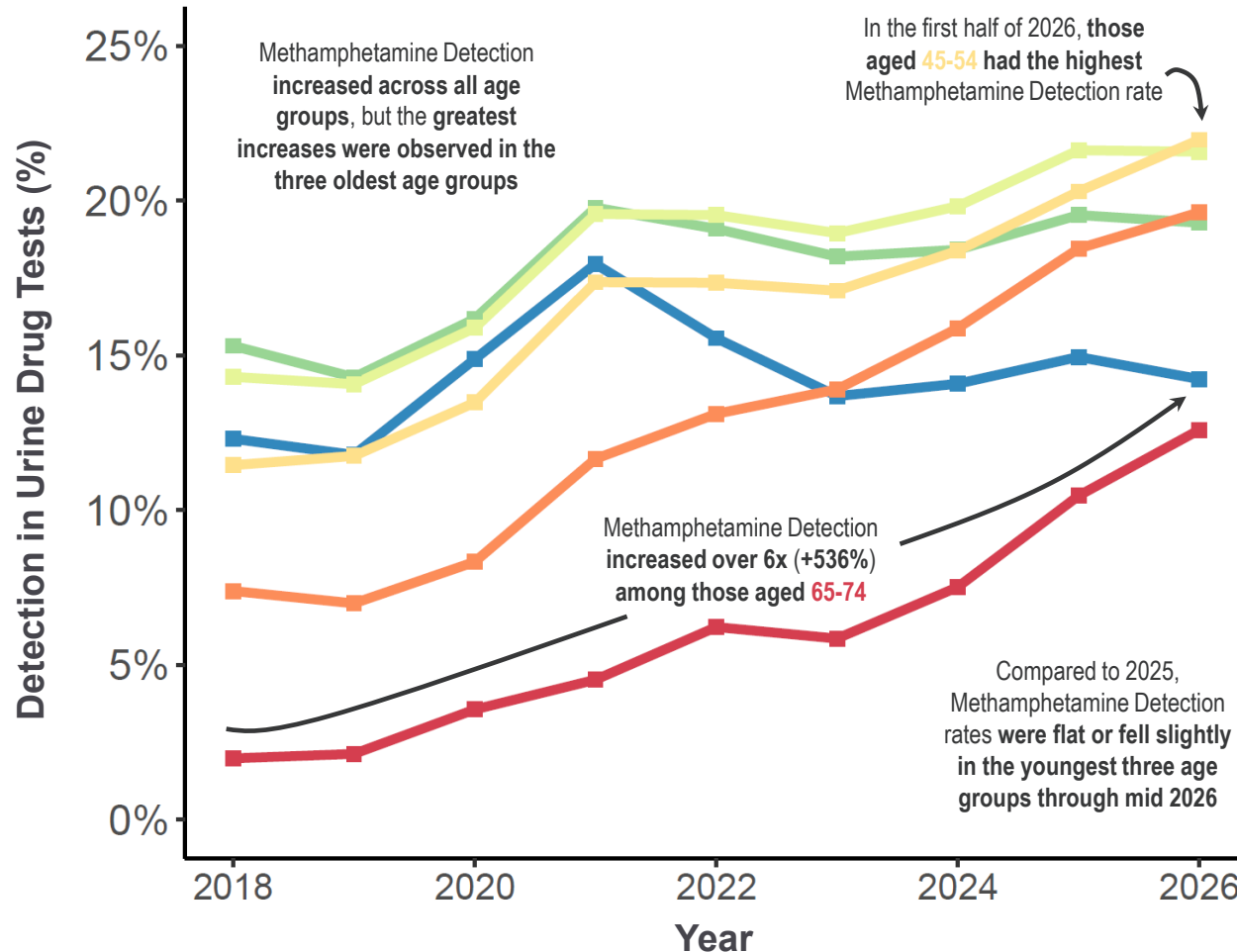
National Detection of Non-Prescribed Fentanyl in Urine Drug Test Results Stratified by Age



Age Group	2018 Detection Rate	2026 Detection Rate	Percent Increase
15-24	5.7%	10.6%	+84.6%
25-34	7.6%	13.7%	+81.2%
35-44	6.0%	14.6%	+144.2%
45-54	4.2%	12.8%	+204.0%
55-64	2.8%	12.4%	+339.1%
65-74	1.7%	9.2%	+429.6%

LEFT: Yearly detection rate (rounded to the nearest tenth) for non-prescribed fentanyl in urine specimens collected from patients with a substance use disorder aged 15-24 (blue line), 25-34 (dark green line), 35-44 (light green line), 45-54 (yellow line), 55-64 (orange line) and 65-74 (red line) from January 1, 2018, through July 31, 2026. Percent Increase values in the figure annotations refer to the specific time frames referenced. RIGHT: Fentanyl detection rates in 2018 and 2026 and the Percent Increase from 2018-2026 for each age group. Percent Increase values in the table were calculated as ((2026 Value - 2018 Value) / 2018 Value) × 100. Intensity of red shading denotes magnitude of change. Note: Percent Increase values in the table are statistically significant for all age groups.

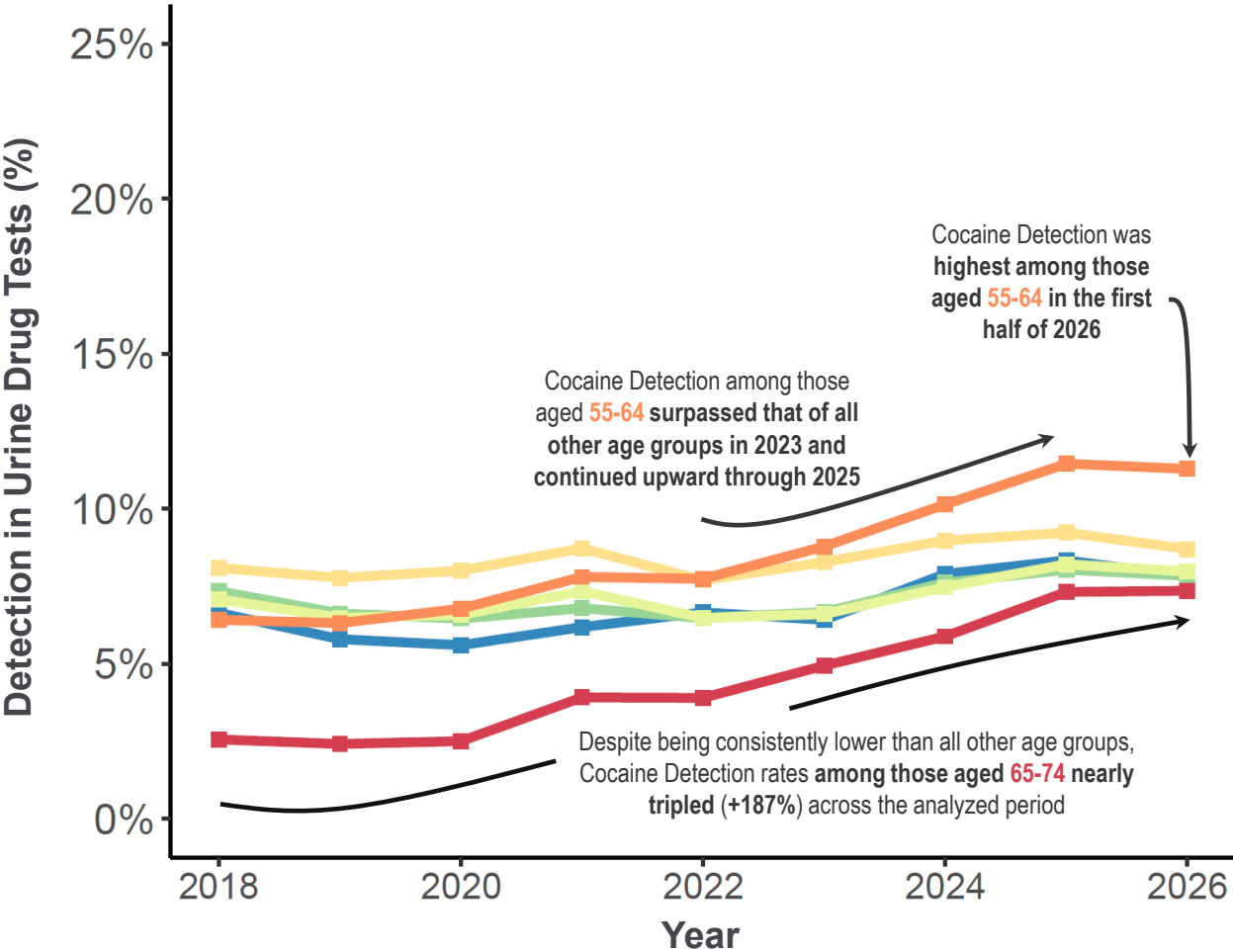
National Detection of Methamphetamine in Urine Drug Test Results Stratified by Age



Age Group	2018 Detection Rate	2026 Detection Rate	Percent Increase
15-24	12.3%	14.2%	+15.7%
25-34	15.3%	19.3%	+26.0%
35-44	14.3%	21.6%	+50.9%
45-54	11.5%	22.0%	+91.8%
55-64	7.4%	19.6%	+165.7%
65-74	2.0%	12.6%	+535.9%

LEFT: Yearly detection rate (rounded to the nearest tenth) for methamphetamine in urine specimens collected from patients with a substance use disorder aged 15-24 (blue line), 25-34 (dark green line), 35-44 (light green line), 45-54 (yellow line), 55-64 (orange line) and 65-74 (red line) from January 1, 2018, through July 31, 2026. RIGHT: Methamphetamine detection rates in 2018 and 2026 and the Percent Increase from 2018-2026 for each age group. Percent Increase values in the table were calculated as $((2026 \text{ Value} - 2018 \text{ Value}) / 2018 \text{ Value}) \times 100$. Intensity of red shading denotes magnitude of change. Note: Percent Increase values in the table are statistically significant for all age groups.

National Detection of Cocaine in Urine Drug Test Results Stratified by Age



Age Group	2018 Detection Rate	2026 Detection Rate	Percent Increase
15-24	6.6%	7.8%	+17.7%
25-34	7.3%	7.8%	+6.8%
35-44	7.1%	8.0%	+12.7%
45-54	8.1%	8.7%	+7.5%
55-64	6.4%	11.3%	+75.9%
65-74	2.6%	7.4%	+187.2%

LEFT: Yearly detection rate (rounded to the nearest tenth) for cocaine in urine specimens collected from patients with a substance use disorder aged 15-24 (blue line), 25-34 (dark green line), 35-44 (light green line), 45-54 (yellow line), 55-64 (orange line) and 65-74 (red line) from January 1, 2018, through July 31, 2026. RIGHT: Cocaine detection rates in 2018 and 2026 and the Percent Increase from 2018-2026 for each age group. Percent Increase values in the table were calculated as ((2026 Value - 2018 Value) / 2018 Value) × 100. Intensity of red shading denotes magnitude of change. Note: Statistically significant Percent Increase values in the table are in bold font.

Conclusions

FENTANYL “SUPPLY SHOCK”

- UDT data revealed real-time changes in fentanyl concentrations and the detection of other drugs that are consistent with a fentanyl “supply shock” hypothesis
- In the West, the striking increases in fentanyl concentrations from late 2024 through early 2025 paralleled rising overdose mortality rates; the increases observed during the first half of 2026 suggest that overdose deaths have risen again in the West

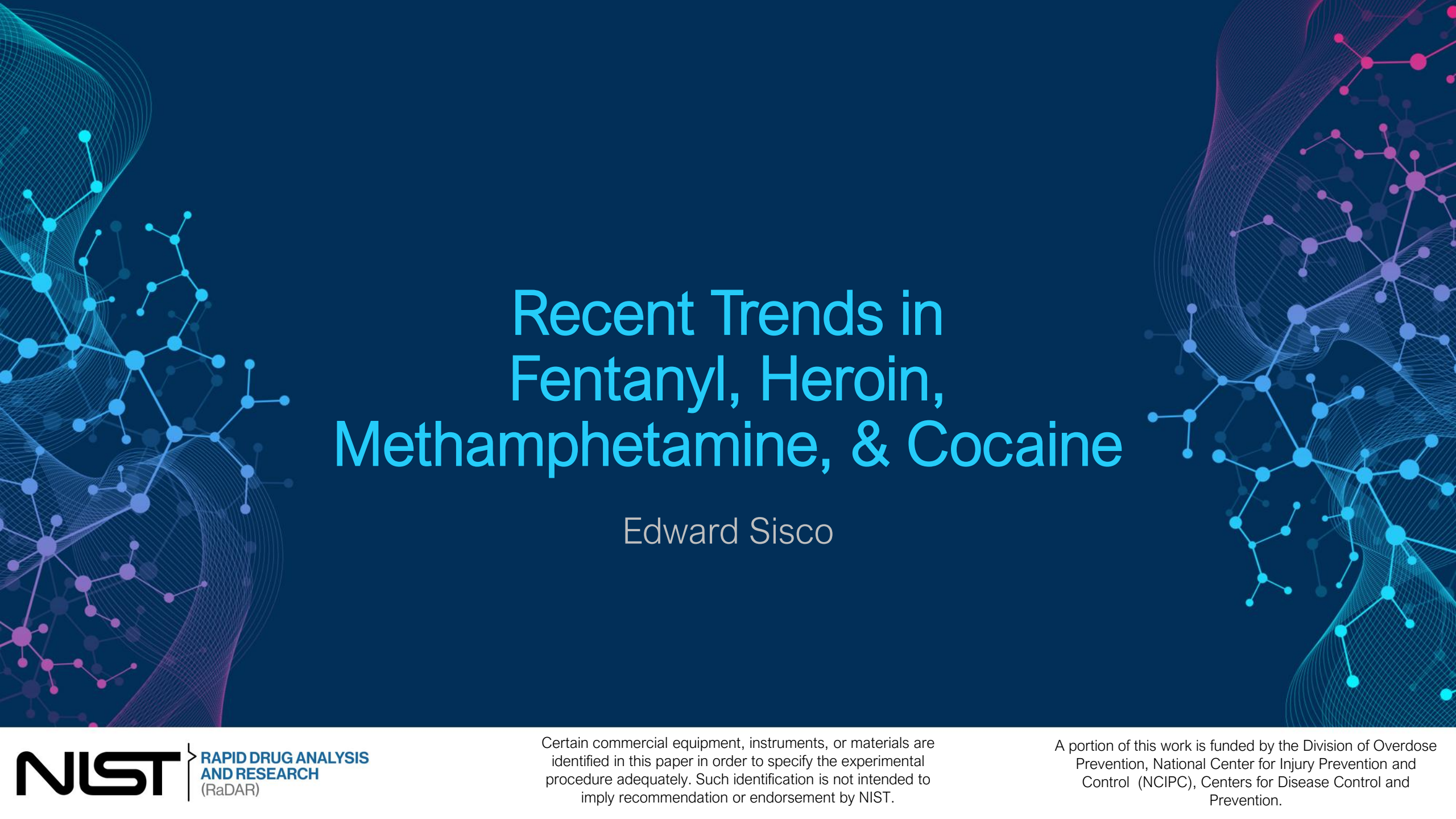
TRENDS IN FENTANYL, METHAMPHETAMINE, AND COCAINE DETECTION BY AGE

- Rates of fentanyl and illicit stimulant detection increased across all age groups from 2018 through the first half of 2026, but the most persistent and pronounced increases were observed among older adults—particularly those aged 55-64 and 65-74
- Increases in the use of fentanyl and illicit stimulants among older adults are consistent with recent demographic shifts in overdose mortality data and highlight the need for increased awareness of the negative consequences of and screening for issues related to illicit drug use in this vulnerable population

MILLENNIUM
HEALTH



SM



Recent Trends in Fentanyl, Heroin, Methamphetamine, & Cocaine

Edward Sisco

How It Works

Partners



Public Health



Law Enforcement
(Informational Use Only)



Emergency Department



Medical Examiner /
Coroner

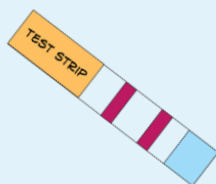
Samples



Drug Product
($\approx$ 5 mg to 10 mg of material)



Paraphernalia Residue
(Collected using swabs)



Used Test Strips
(Eliminates the need for sampling)

Testing



Qualitative
(What is in the sample?)



Quantitative
(How much is in the sample?)



Specialty
(Enantiomer, synthetic route, etc.)



Exploratory
(Are new compounds present?)

RaDAR Provides:



<48 Hours

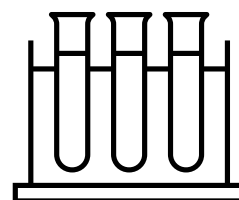


Near complete
chemical
information

Footprint:

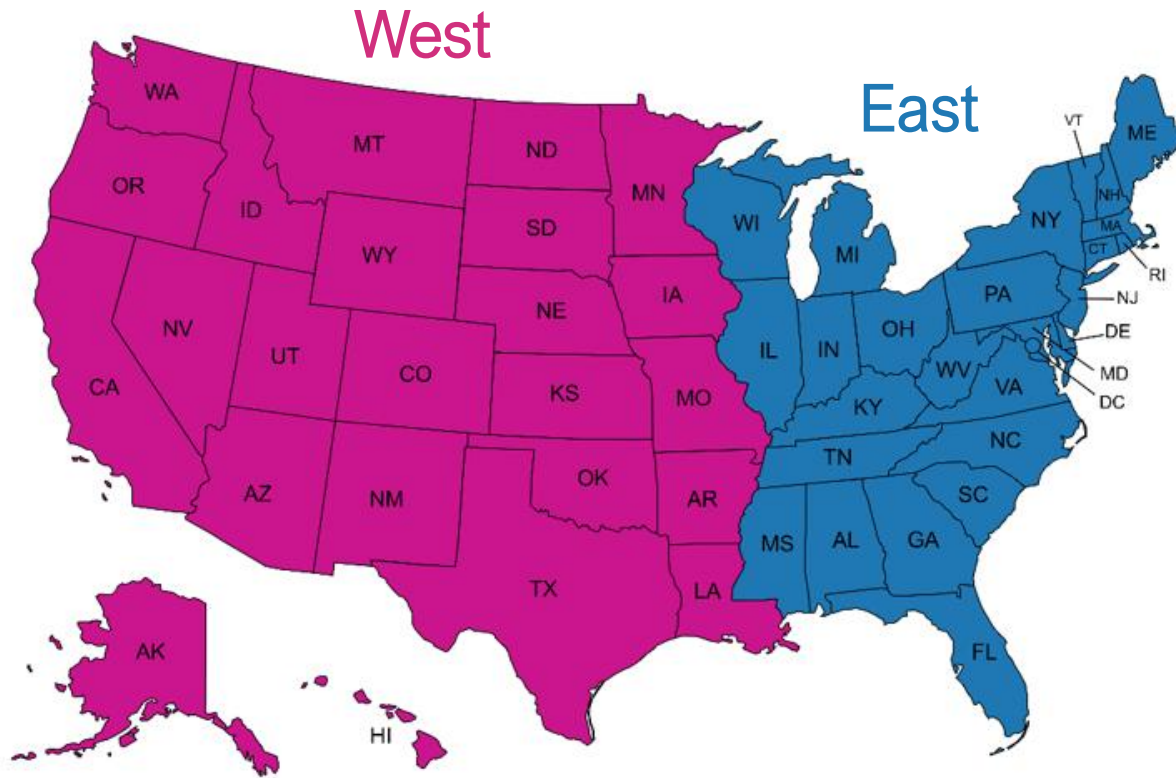


110+ Sites
18+ States



20,000+ Samples
analyzed in the
last year

Regions & Notes on the Data



Created with mapchart.net

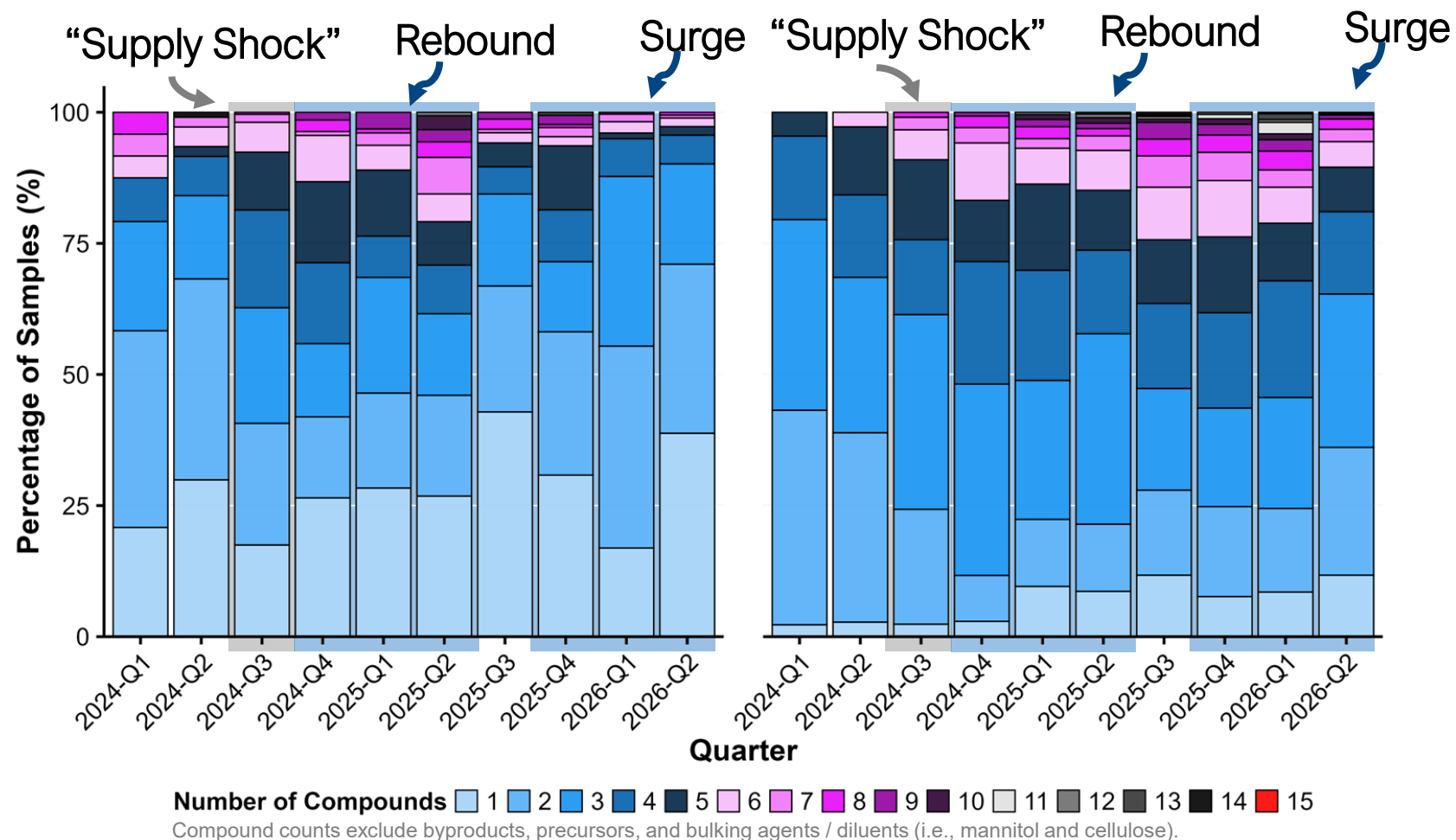
Following slides will discuss data from the East and West regions

The data shown has been paired down to remove results from paraphernalia use samples (i.e., syringes) due to potential co-use of items which could skew co-detection percentages.

All quantitative values reflect the free base form of the compound.

Fentanyl supply shock, rebound, and surge from the previous talk have been overlaid, when appropriate, to enable cross-comparison of data.

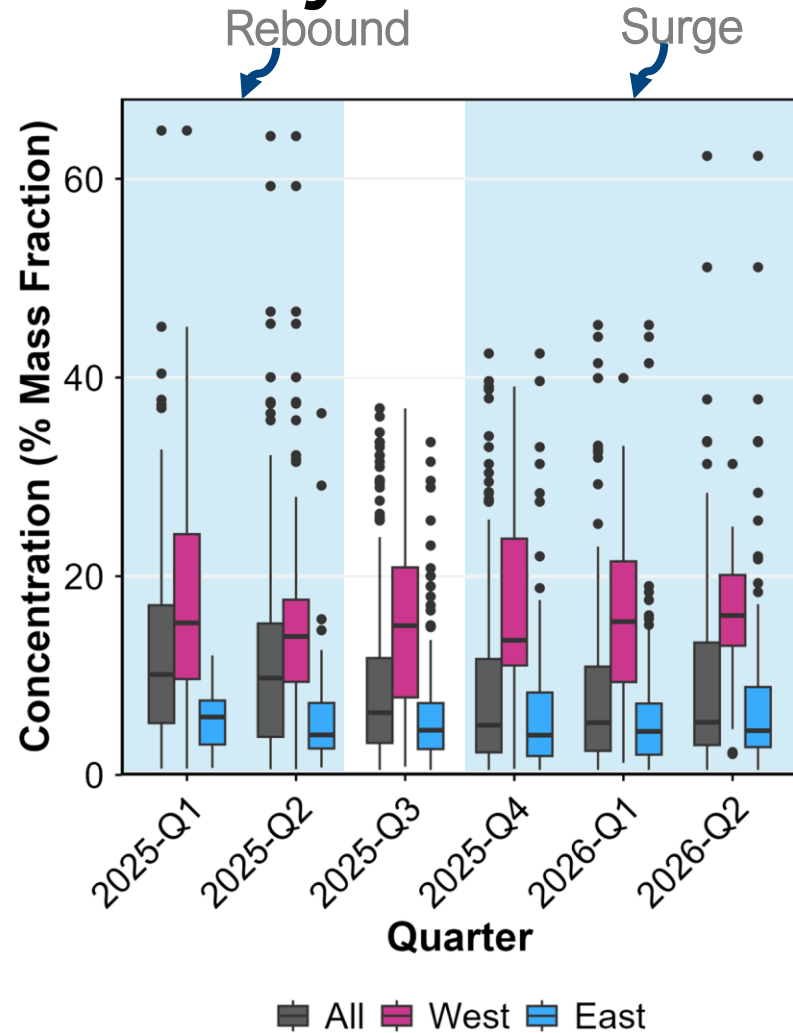
Fentanyl Sample Complexity



Since 2024, we have seen increased adulteration of fentanyl samples, especially in the East.

In 2026, adulteration levels may be decreasing slightly.

Fentanyl Concentration in Drug Product



Median Fentanyl Concentration (% Mass Fraction)

Region	2025-Q1	2026-Q2
All	10.1 %	5.3 %
West	15.3 %	16.0 %
East	10.1 %	4.4 %

- Median fentanyl concentration in West samples has not changed significantly in the last 18 months
- Median fentanyl concentration in East samples has decreased 56 % between Q1 2025 and Q2 2026
- Samples with >50 % mass fraction fentanyl still observed

Largest Fentanyl Co-Detection Shifts

Compound	2/25 to 8/25	2/26 to 8/26	Absolute Change
Lidocaine	36.0 %	17.2 %	-18.8 %
BTMPS	19.4 %	5.3 %	-14.1 %
Tetracaine	19.7 %	8.1 %	-11.6 %
Quinine	8.3 %	15.8 %	+7.4 %
Cocaine	7.9 %	14.5 %	+6.7 %
Heroin	8.9 %	3.3 %	-5.7 %
Acetaminophen	27.8 %	22.5 %	-5.3 %
Medetomidine	23.4 %	18.5 %	-4.9 %
Methamphetamine	13.3 %	9.2 %	-4.1 %
Nicotinamide	4.2 %	0.5 %	-3.7 %

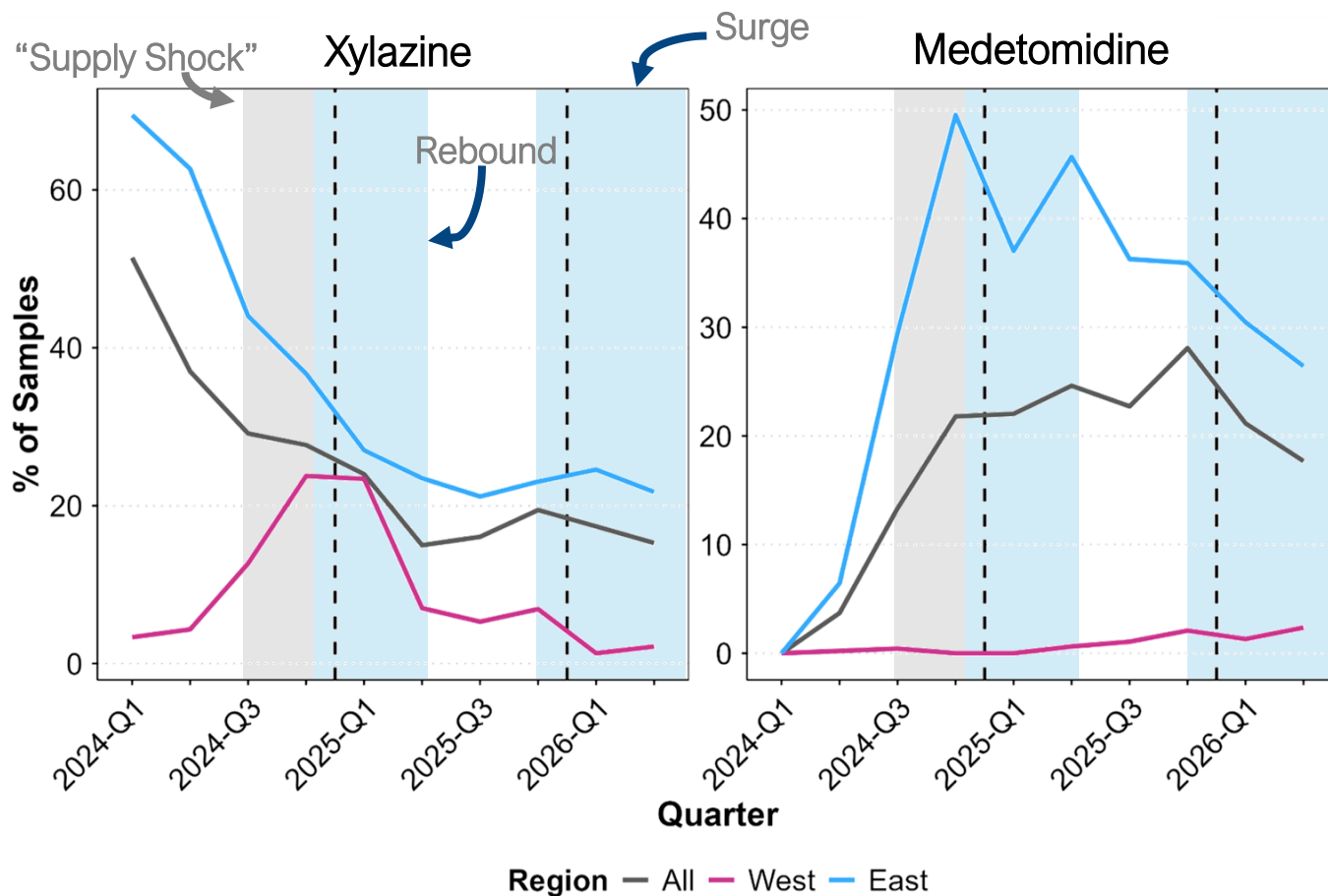
Most Common Co-Detected Compounds

Compound	% Fentanyl Samples	Compound	% Fentanyl Samples
Acetaminophen	22.5 %	Fluorofentanyl	6.4 %
Medetomidine	18.5 %	BTMPS	5.3 %
Caffeine	17.4 %	iso-PV8	3.7 %
Lidocaine	17.2 %	Heroin	3.3 %
Quinine	15.8 %	Phenacetin	3.2 %
Xylazine	15.0 %	Diphenhydramine	2.8 %
Cocaine	14.5 %	Tetramethyl-4-AP	1.9 %
Procaine	13.1 %	Methylfentanyl	1.8 %
Methamphetamine	9.2 %	Gabapentin	1.8 %
Tetracaine	8.1 %	Ketamine	1.7 %

Samples collected February 1, 2026 – August 20, 2026

α_2 -Agonists Qualitative Trends

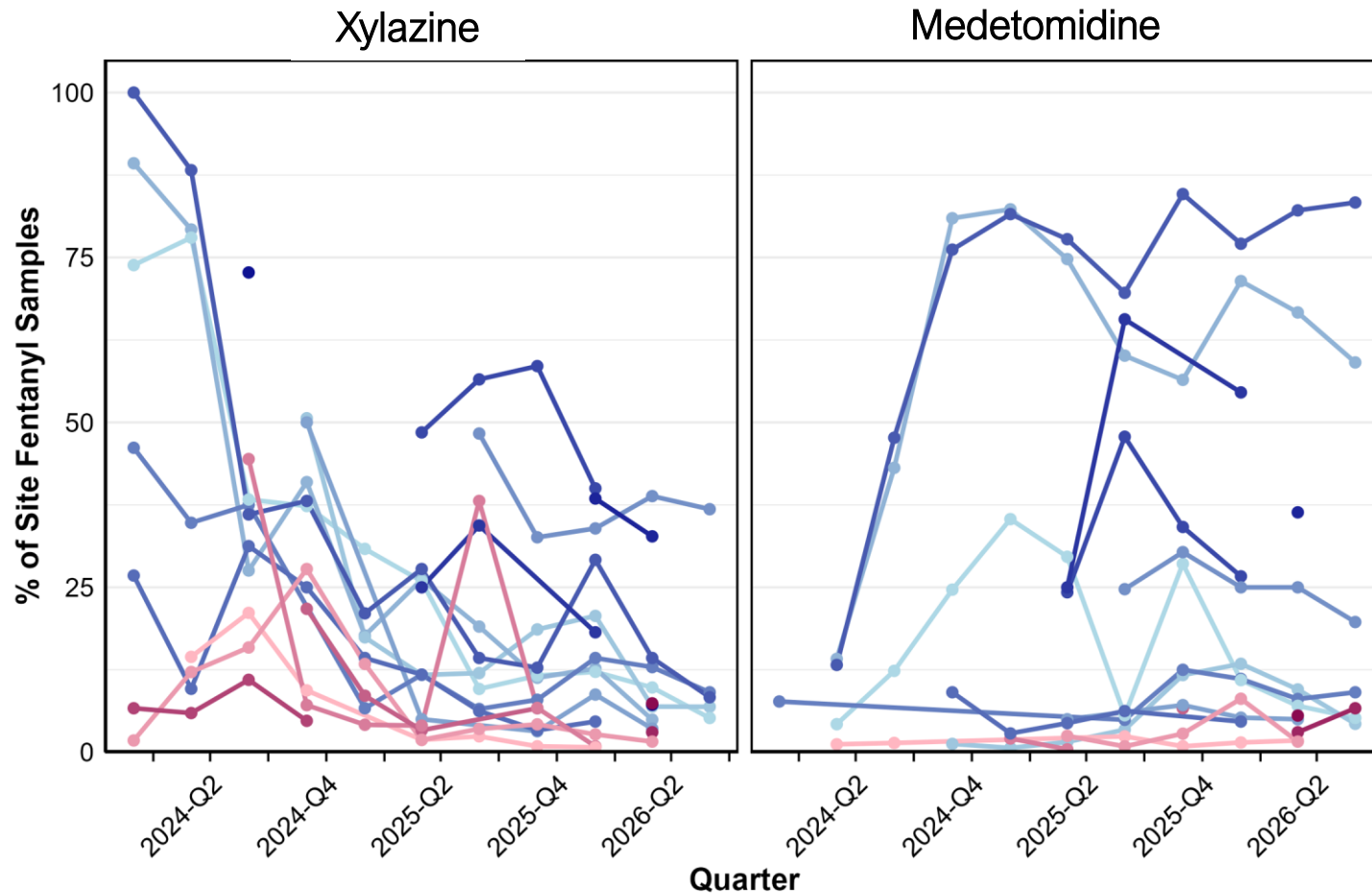
Xylazine and Medetomidine Prevalence in Fentanyl Samples



- Steady decline in xylazine prevalence since the beginning of 2024 in the East
- Fentanyl “supply shock” and increase of xylazine in the West show some overlap
- Steady decline in medetomidine prevalence in East since mid-2025

α_2 -Agonists Qualitative Trends

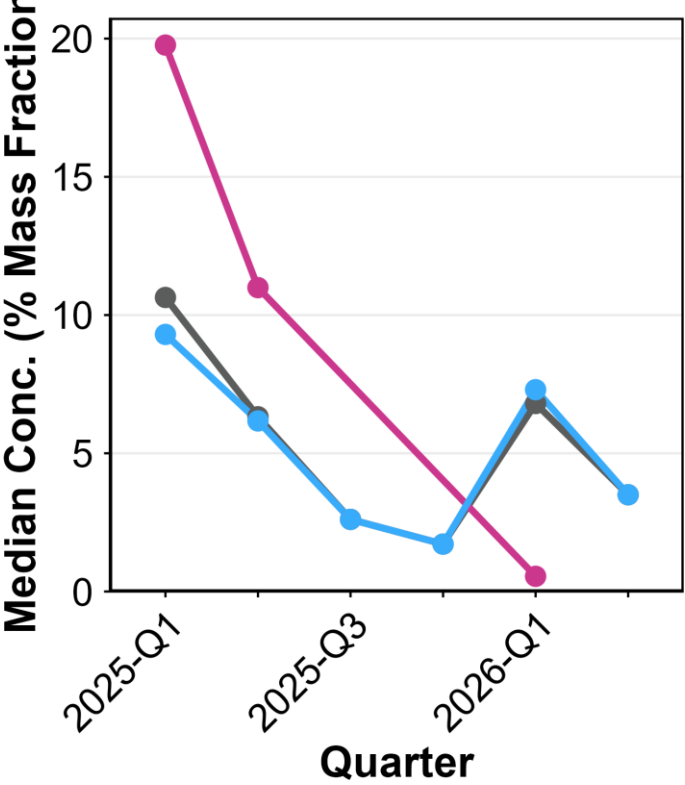
Xylazine and Medetomidine Prevalence in Fentanyl Samples, By Site



- Steady decline in xylazine prevalence since the beginning of 2024 in the East
- Supply shock and increase of xylazine in the West show some overlap
- Steady decline in medetomidine prevalence in East since mid-2025
- Decline in medetomidine prevalence is not uniform

Xylazine Quantitative Trends

Median Xylazine Concentration

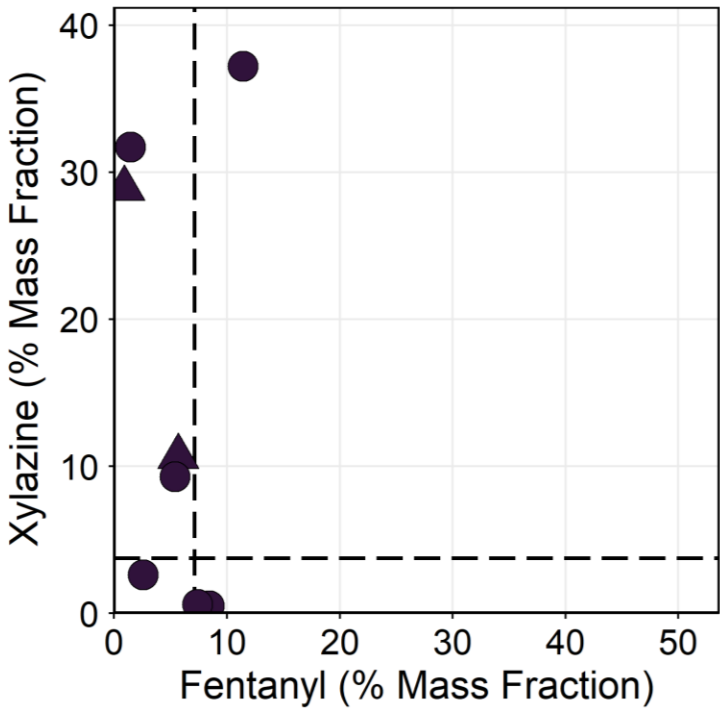


Xylazine concentrations spiked in early 2026, corresponding with a slight increase in prevalence.

In Q2 2026, there was a significant increase in samples containing high concentrations of fentanyl and xylazine.

Correlated Fentanyl & Xylazine Concentration Over Time

Quarter: 2025-Q1

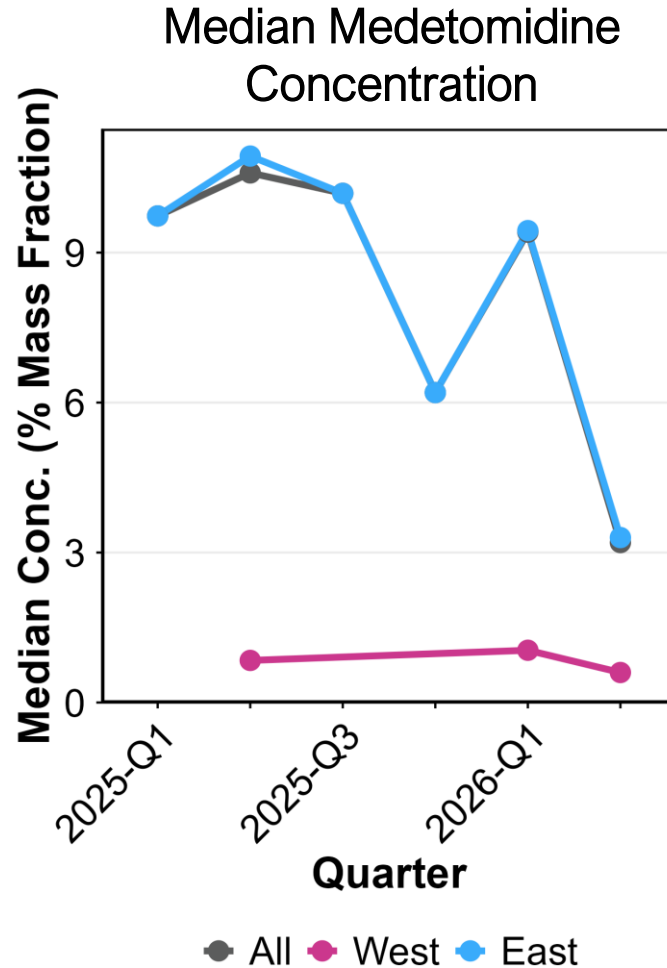


- Quarter**

 - 2025-Q1
 - 2025-Q2
 - 2025-Q3
 - 2025-Q4
 - 2026-Q1
 - 2026-Q2
- Region**

 - East
 - West

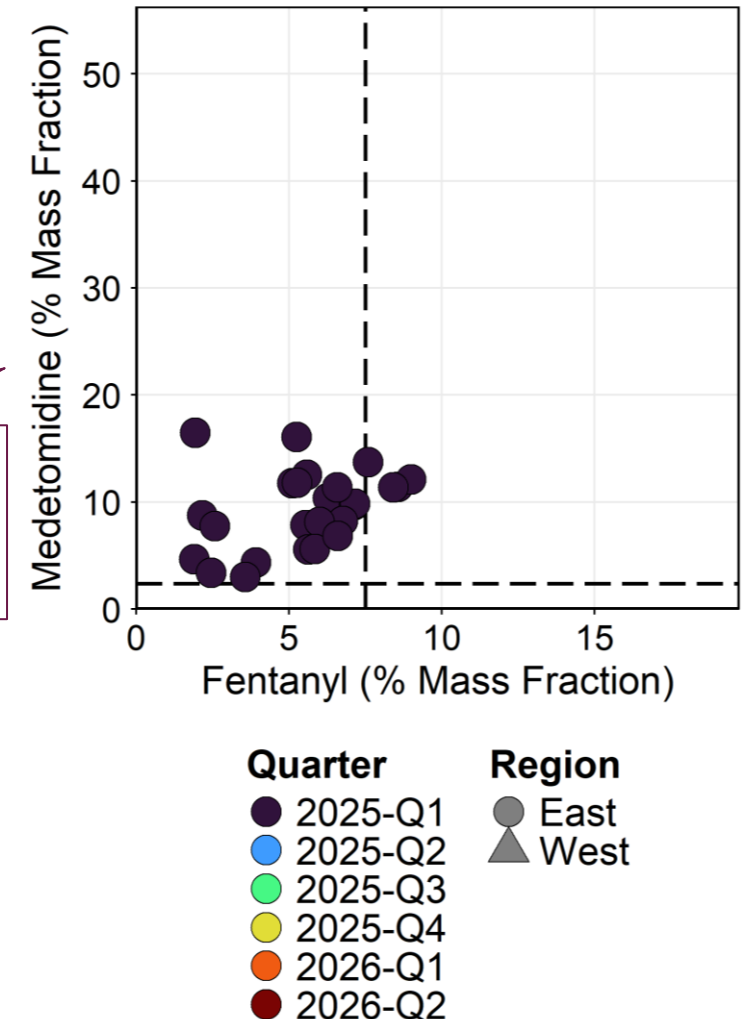
Medetomidine Quantitative Trends



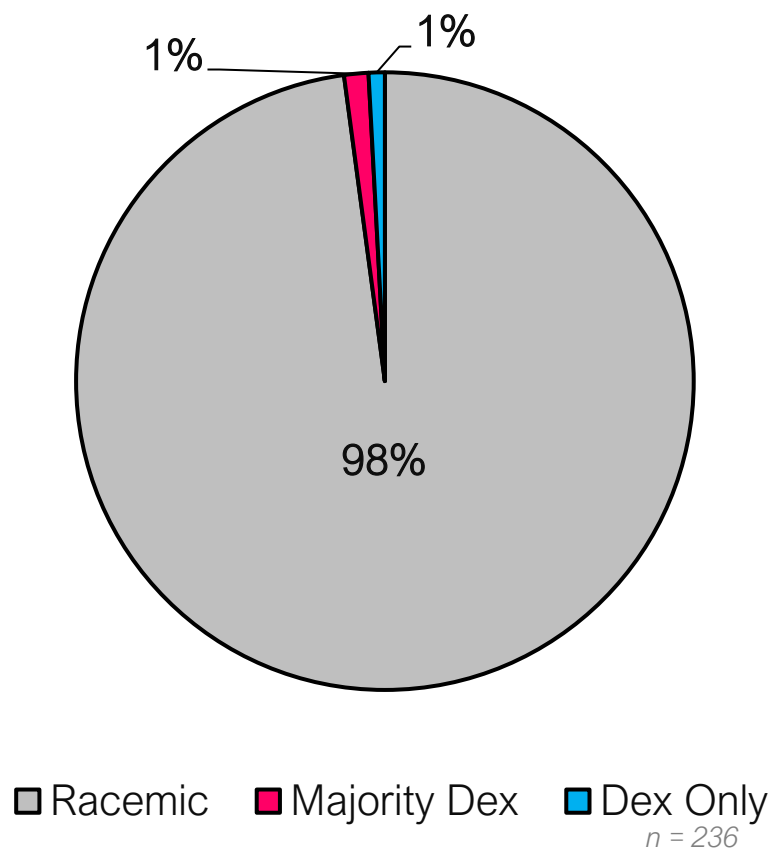
Medetomidine concentrations have dropped in Q2 2026, trending with decreasing prevalence.

Correlated concentrations have not changed substantially over time.

Correlated Fentanyl & Xylazine Concentration Over Time
Quarter: 2025-Q1



Medetomidine Enantiomeric Makeup



Dexmedetomidine:

- Twice as potent as the racemic mixture
- Sole enantiomer in human pharmaceuticals

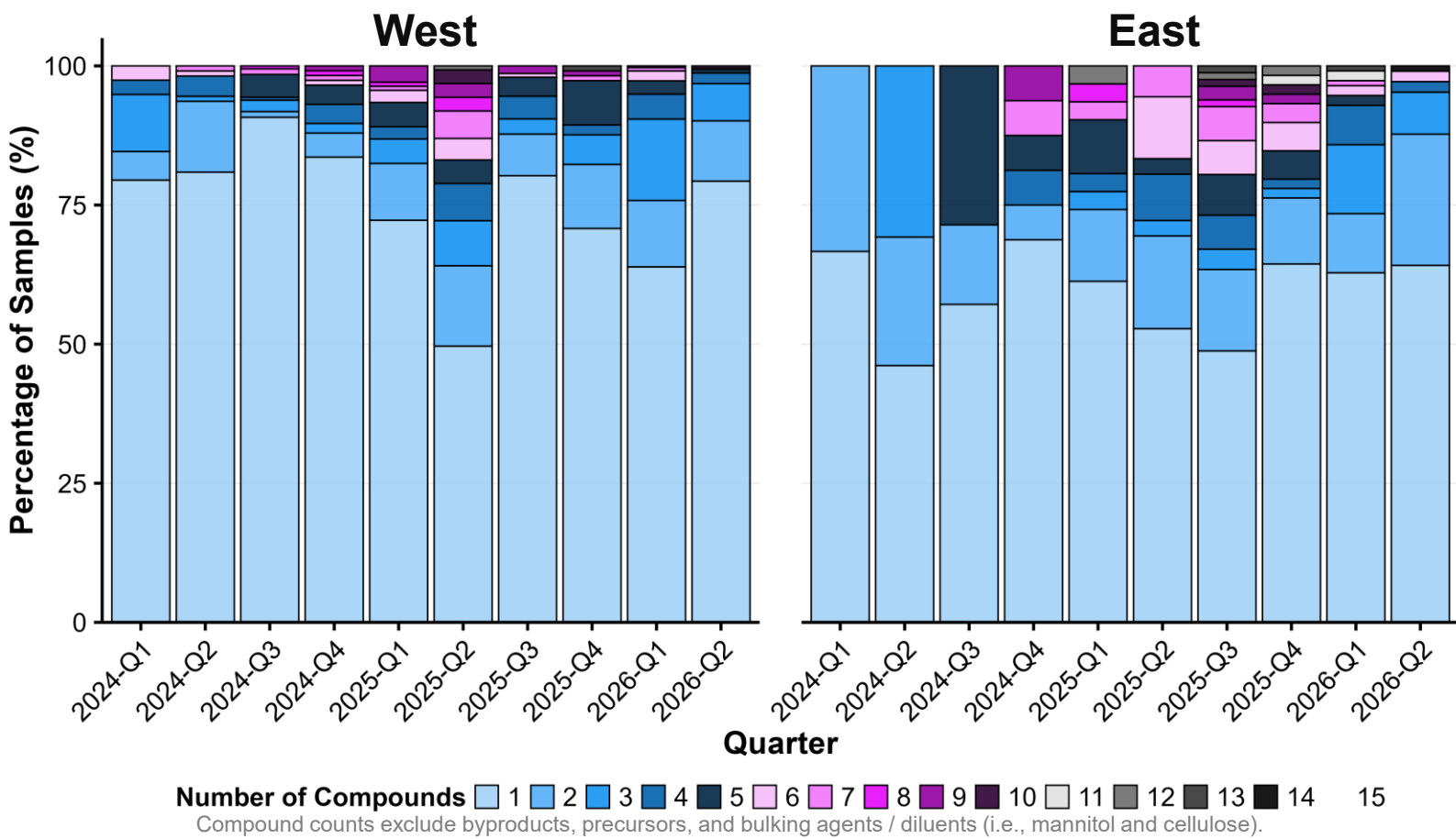
Levomedetomidine:

- Considered inactive

Racemic medetomidine (1:1 dex:levo):

- Less potent than dexmedetomidine
- Found in some veterinary pharmaceuticals

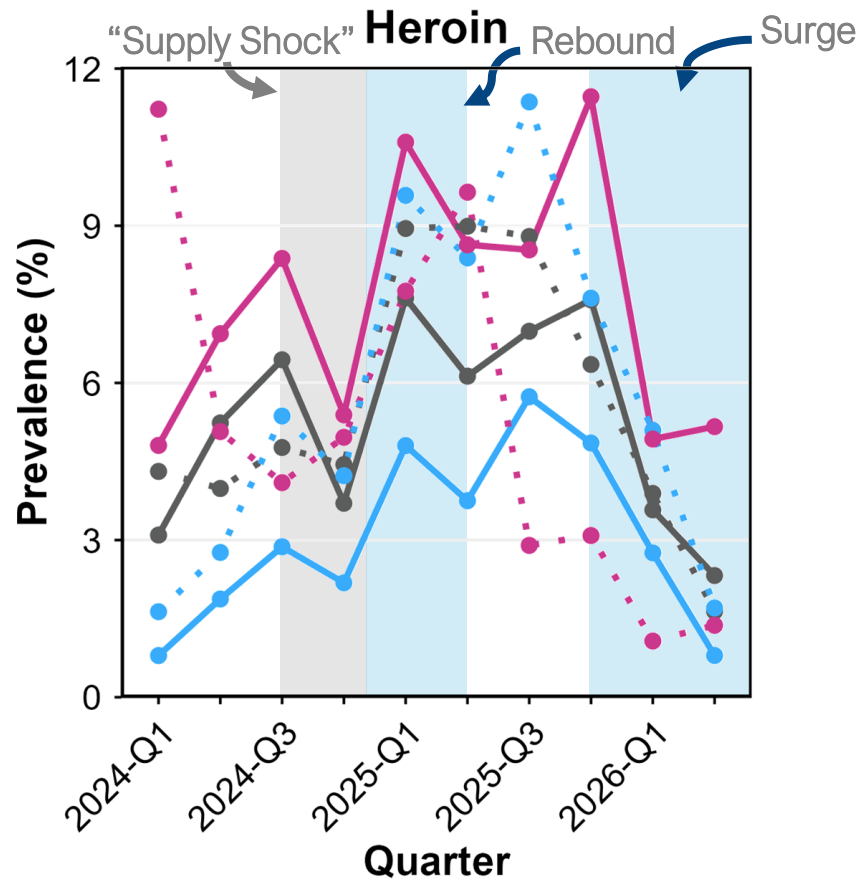
Heroin Sample Complexity



Top Co-Detected Compounds	
Compound	% Samples
Papaverine	58.0 %
Fentanyl	48.9 %
Noscapine	36.4 %
Lidocaine	19.3 %
Procaine	19.3 %
Acetaminophen	18.2 %
Cocaine	18.2 %
Caffeine	15.9 %
Quinine	15.9 %
Xylazine	14.8 %

Samples collected February 1, 2026 – August 20, 2026

Heroin Qualitative Trends

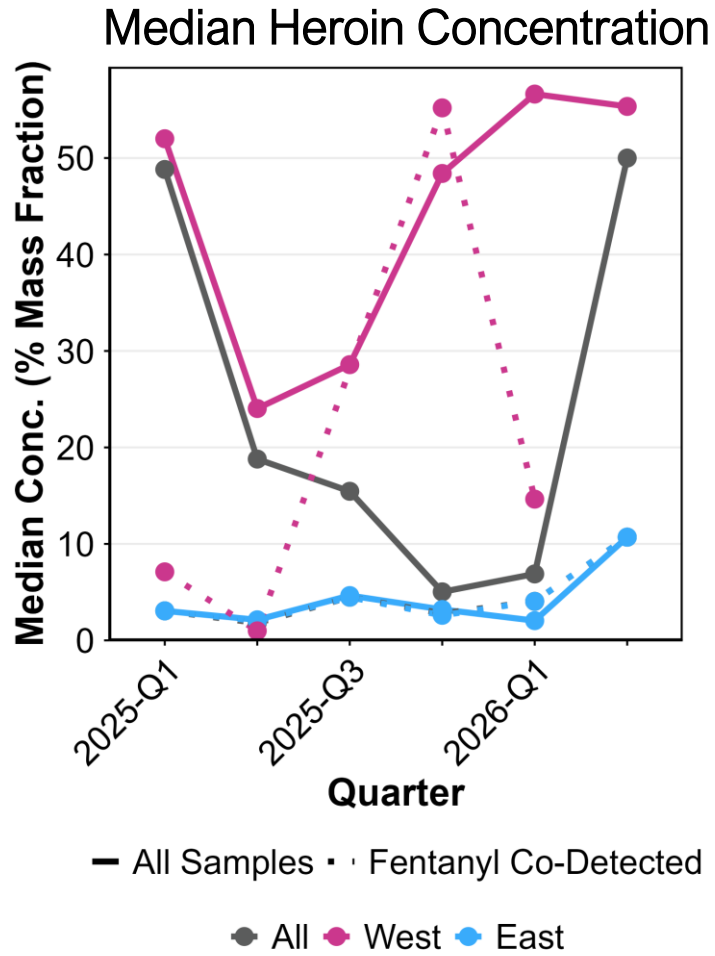


- Heroin was detected in 1 % to 12 % of samples per quarter
- No major indicator of heroin replacement seen in West or East samples during the fentanyl “supply shock”
- Decrease in both regions from late 2025 into 2026

— All Samples · · Fentanyl Co-Detected

— All — West — East

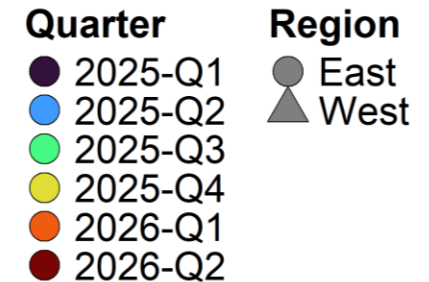
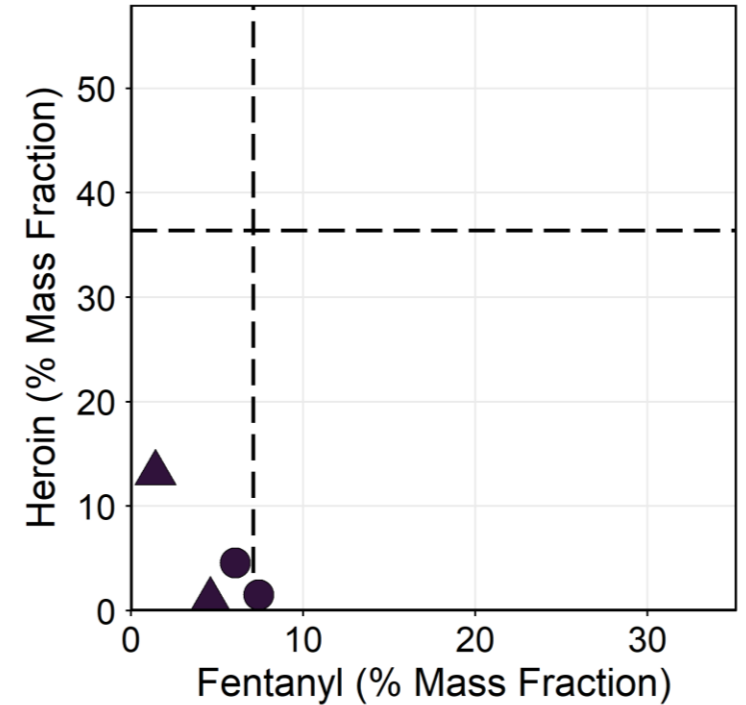
Heroin Quantitative Trends



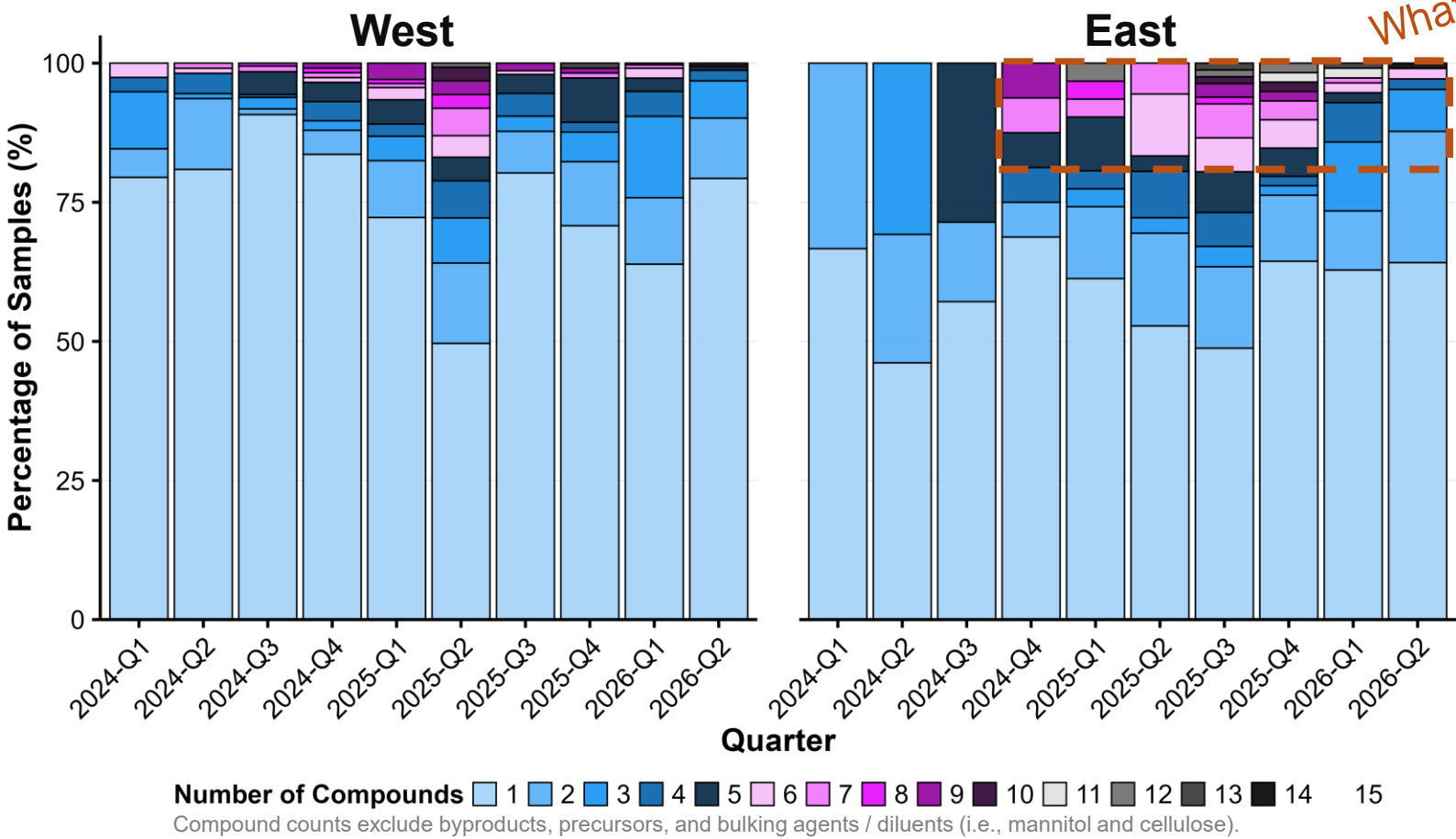
Heroin concentrations higher in West samples, likely driven by tar samples.

Significant variation in correlated concentrations, rough half contain <5 % mass fraction of both compounds.

Correlated Fentanyl & Heroin Concentration Over Time
Quarter: 2025-Q1



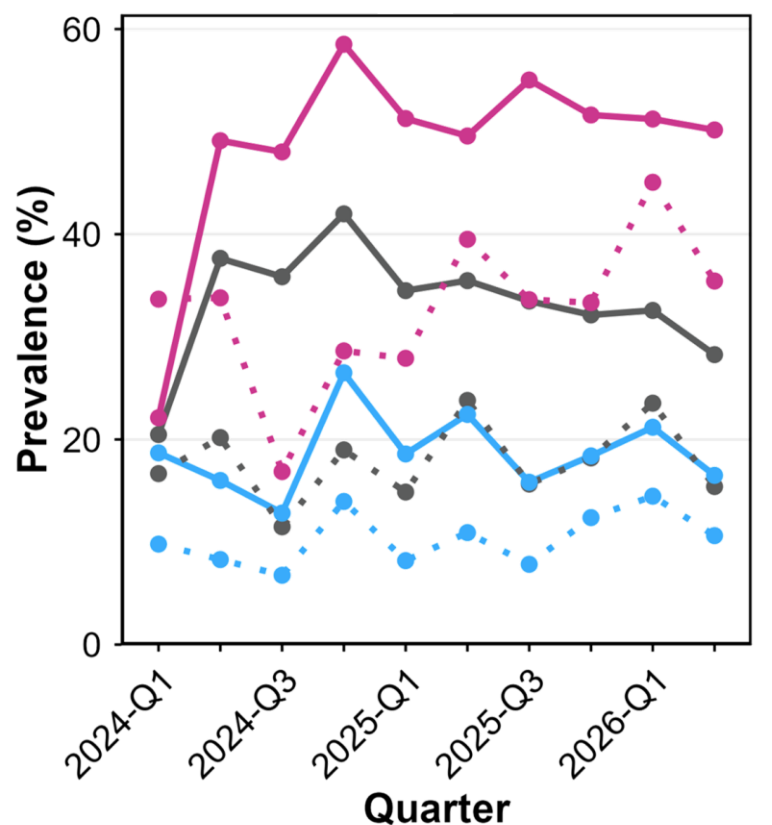
Meth Sample Complexity



Top Co-Detected Compounds	
Compound	% Samples
Fentanyl	15.3 %
Cocaine	9.3 %
Acetaminophen	8.9 %
Caffeine	2.3 %
Dimethyl sulfone	1.9 %
Creatine	1.5 %
iso-PV8	1.4 %
Nicotine	1.1 %
MDMA	1.1 %
Gabapentin	0.9 %

Samples collected February 1, 2026 – August 20, 2026

Meth Qualitative Trends

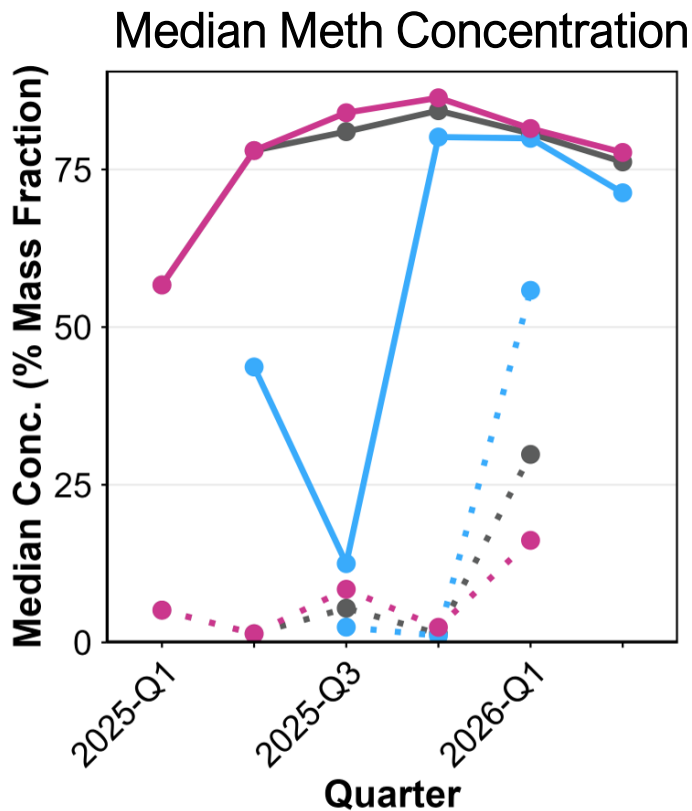


- Methamphetamine was found in 30 % to 40 % of all received samples from mid-2025 onward, more often in West samples
- Methamphetamine prevalence with fentanyl higher in the West than the East
- Low (≈ 10 %) prevalence of meth and fentanyl together in East region

— All Samples · · Fentanyl Co-Detected

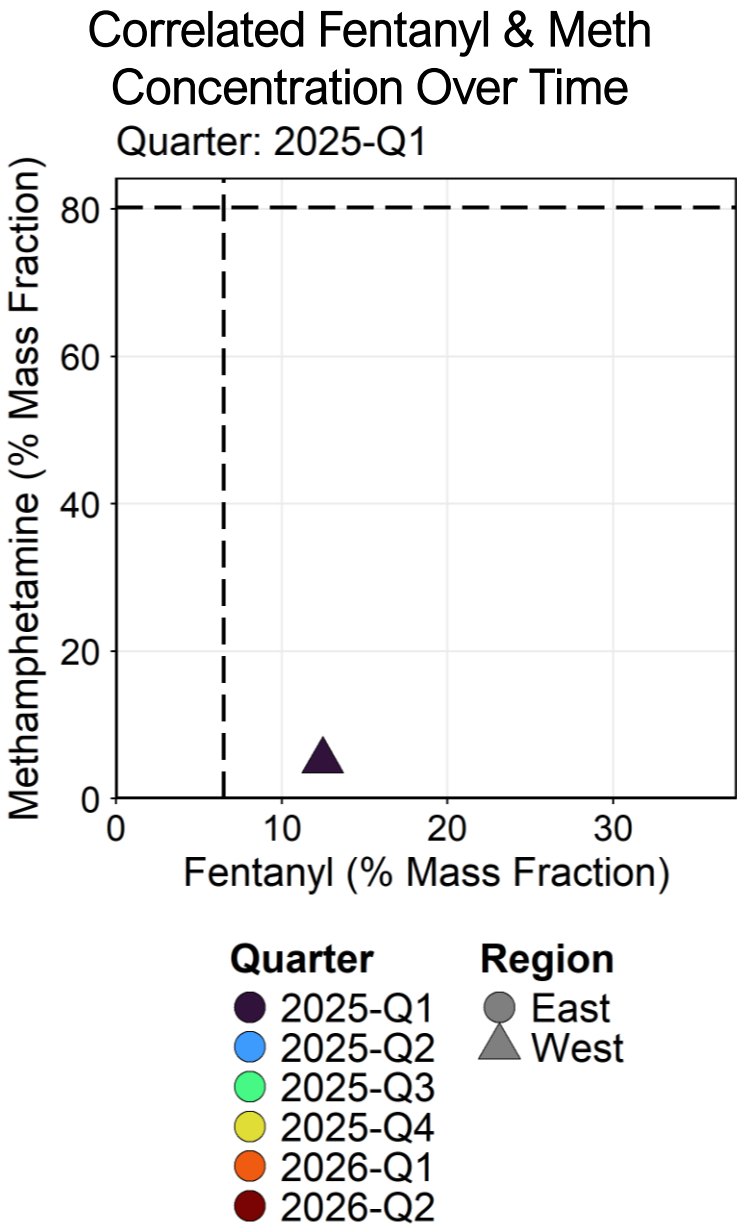
— All — West — East

Meth Quantitative Trends

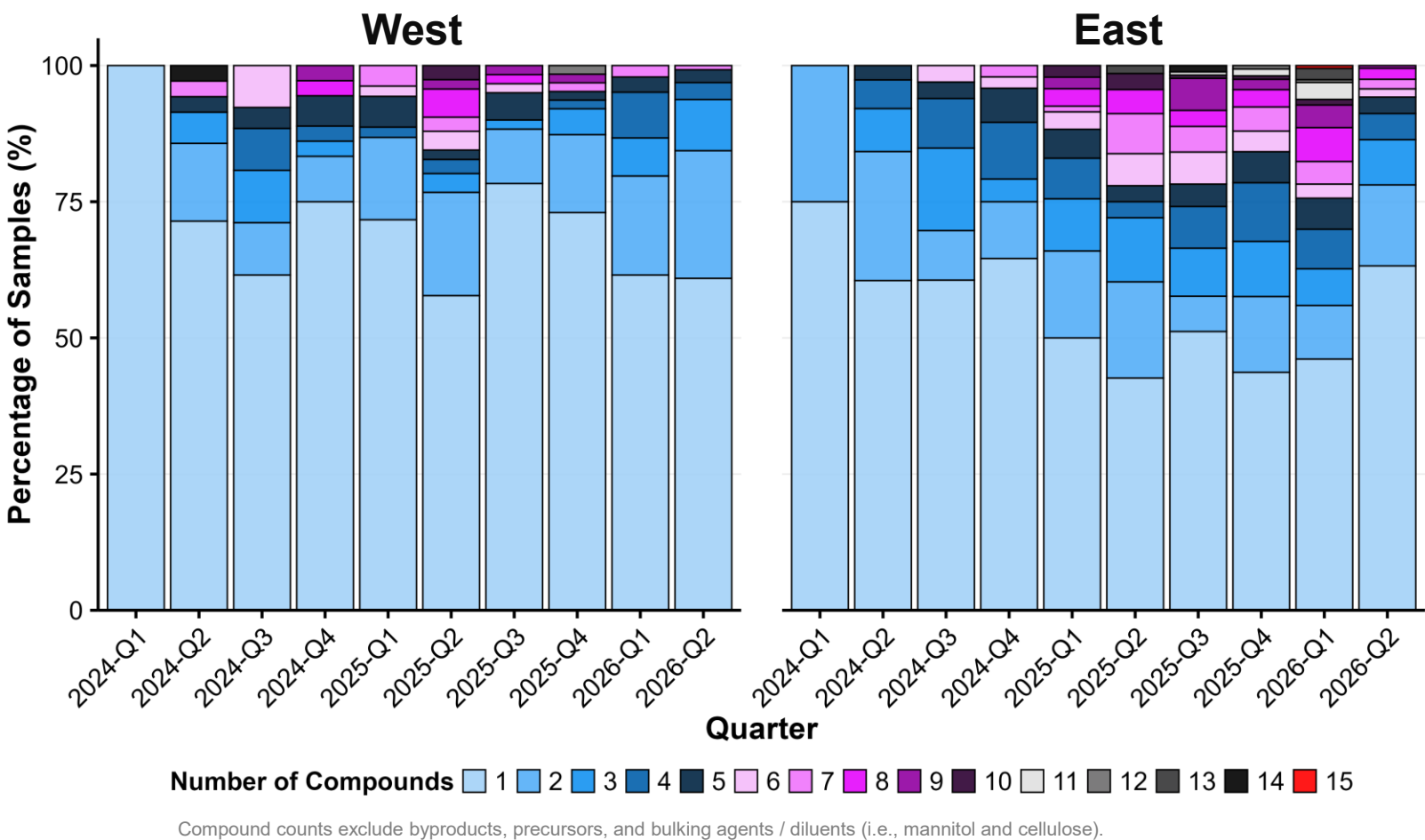


Meth purity has been, and remains, high in both West and East regions.

Until 2026, correlated data suggested predominantly fentanyl containing low levels of meth. Q1 2026 saw some meth with low level fentanyl.



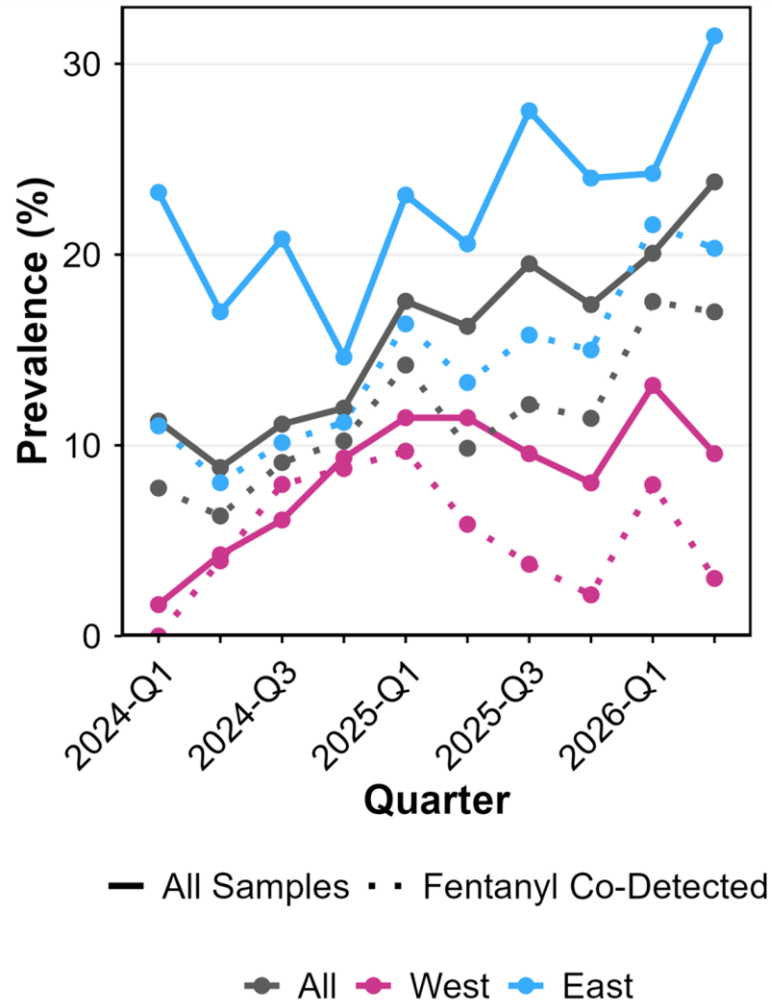
Cocaine Sample Complexity



Top Co-Detected Compounds	
Compound	% Samples
Fentanyl	22.4 %
Methamphetamine	8.6 %
Caffeine	6.7 %
Xylazine	5.8 %
Lidocaine	5.5 %
Phenacetin	4.9 %
Acetaminophen	4.7 %
Medetomidine	4.6 %
Quinine	3.9 %
Ketamine	3.3 %

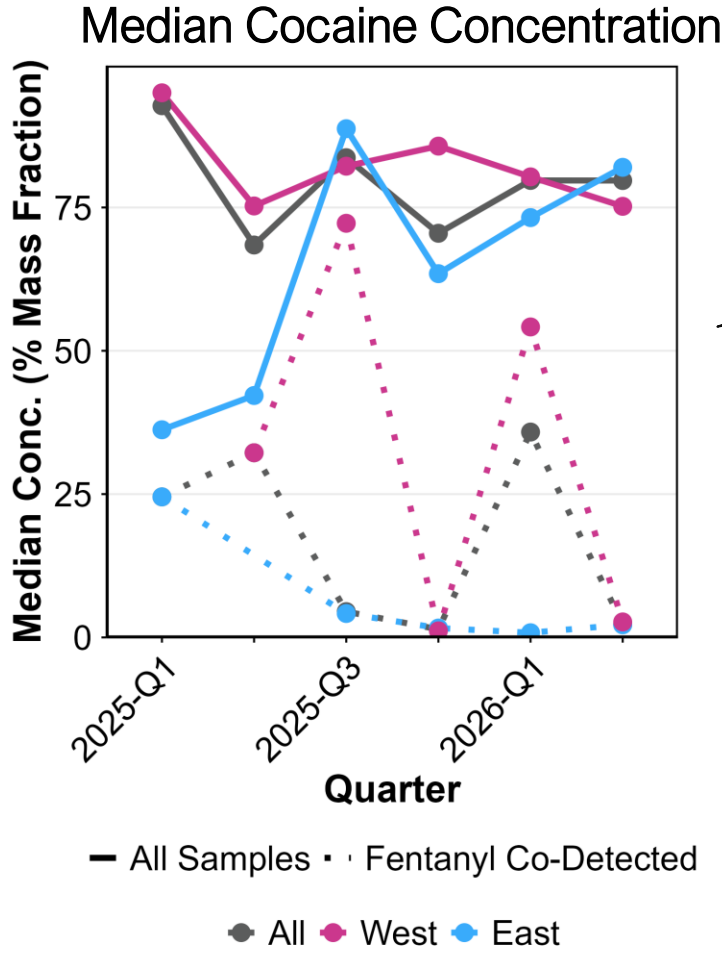
Samples collected February 1, 2026 – August 20, 2026

Cocaine Qualitative Trends



- Cocaine was found in 8 % to 25 % of all samples per quarter
- Steady increase in cocaine prevalence (overall and co-detected with fentanyl) in the East region
- West region has seen an increase in cocaine samples, but a drop in fentanyl co-detected samples from early 2025 levels

Cocaine Quantitative Trends

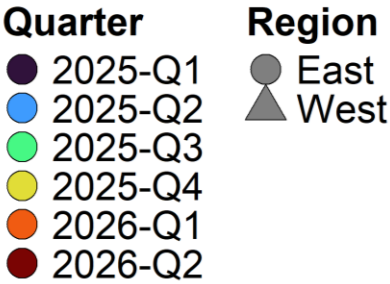
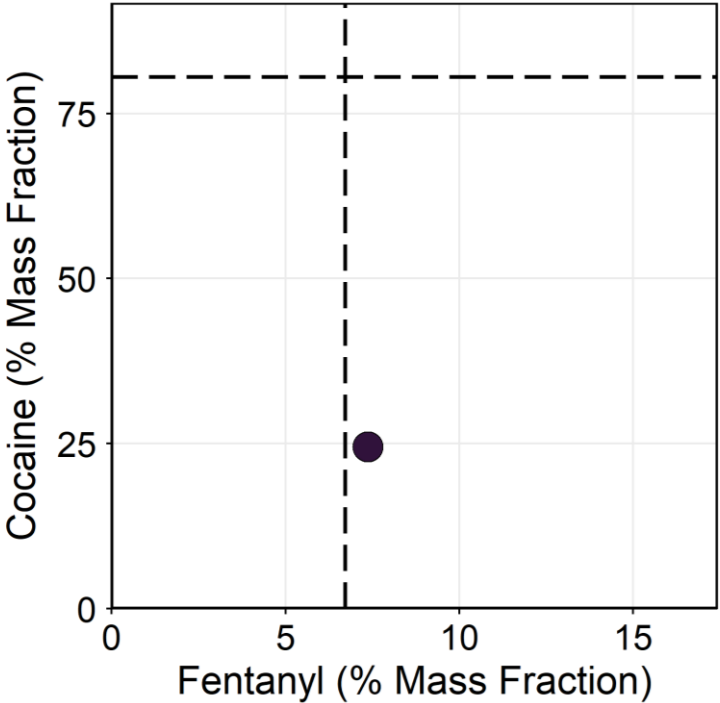


Cocaine purity has been, and remains, high in both West and East regions.

East samples show low levels of cocaine in fentanyl while West samples show low levels of fentanyl in cocaine samples.

Correlated Fentanyl & Cocaine Concentration Over Time

Quarter: 2025-Q1



Novel Compounds / Other Trends

In 2026, we have observed:

- An increase in brominated analogs
- An increase in fluorinated synthetic cathinones
- An uptick in the number of PCP, ketamine, mescaline, and tryptamine analogs
- When detected, nitazenes trending towards pyrrolidino versions
- Sustained detections of some orphine compounds
- A slight uptick of benzodiazepines in fentanyl / opioid samples
- More general “unknowns” than we’ve had in a while

Questions, Comments, Want to Collaborate?

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More Info



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Trends, Analysis & Threats Webinar Series

UPCOMING CALLS

Wednesday, November 4 from 2PM-3PM

Wednesday, January 6 from 2PM-3PM

Feedback Requested



THANK YOU!

