

Rapid Analysis of Drugs

2025 Calendar Year Q3 Newsletter

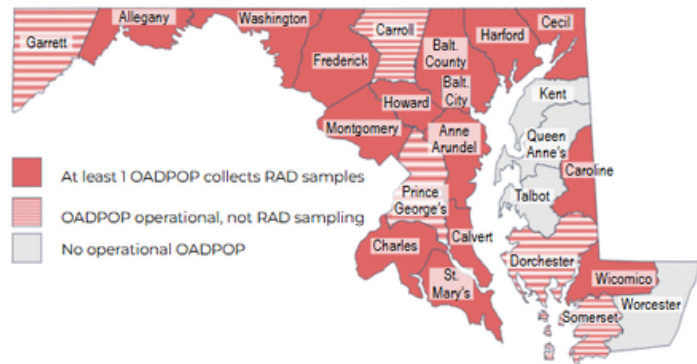
RAD BACKGROUND AND DATA DISCLAIMER

The Rapid Analysis of Drugs (RAD) is a statewide drug checking program that tests routinely returned paraphernalia voluntarily provided by Maryland Opioid Associated Disease Prevention and Outreach Programs (OADPOP) participants in partnership with the National Institute of Standards and Technology (NIST). RAD was piloted in 8 OADPOPs from Oct 2021 through Sept of 2022, when it expanded to be an ongoing service for any interested OADPOP. Since Oct 2021, a total of 4,518 samples have been collected.

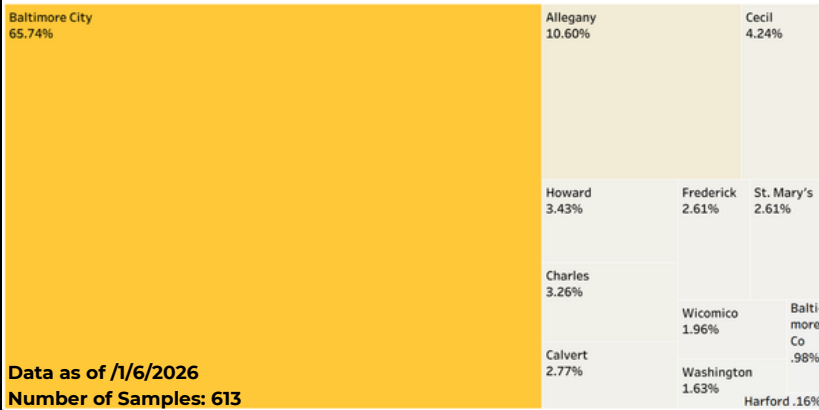
RAD gives us insight into the near real time drug supply in MD, but is not fully representative. RAD is completely voluntary for OADPOPs and their participants, making it a convenience sample. No personally identifiable information is collected, therefore we do not know how many individuals account for the sample size. All data in this report comes from the RAD database, as of 1/6/2026.

GOALS OF RAD

1. Increase stakeholder understanding of the Maryland drug market landscape.
2. Empower people who use drugs with knowledge about the drug supply that enables them to make informed decisions and employ risk reduction strategies.
3. Provide critical, timely information about new and emerging trends in the drug supply, informing the statewide and local response to mitigate harm.



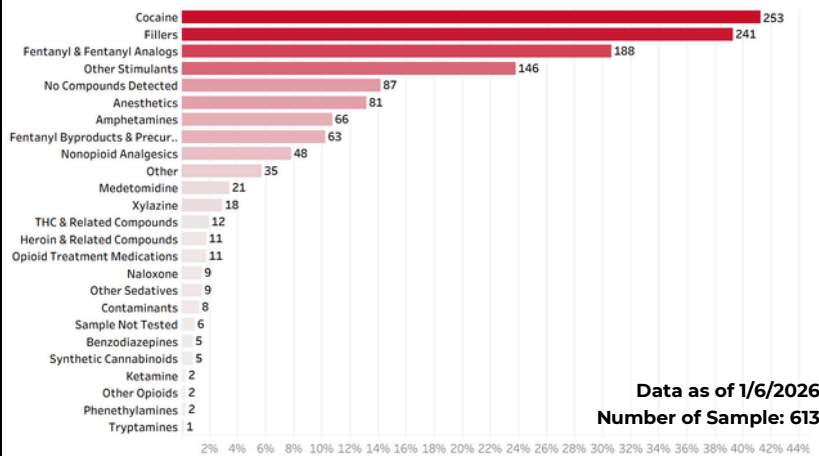
Number of Samples by Jurisdiction, Q3 CY2025

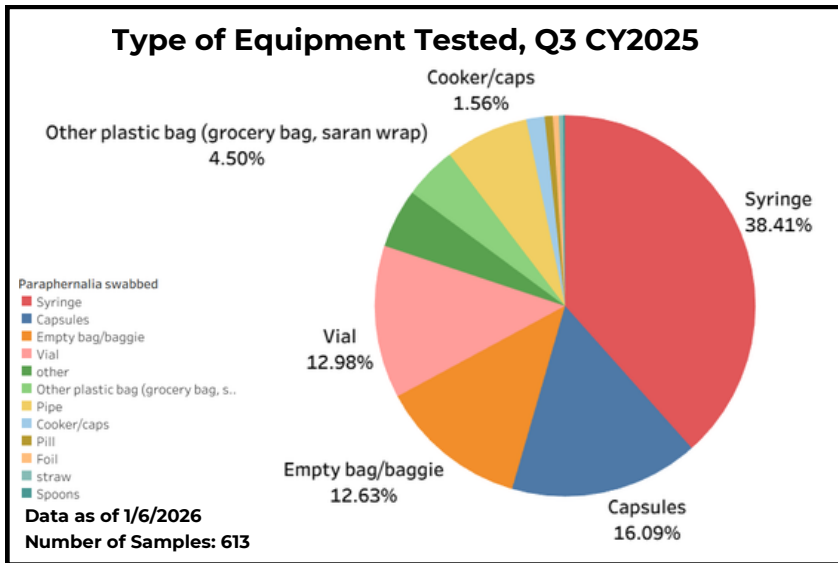


KEY FINDINGS FOR Q3 CY2025

- In Q3 CY2025 (7/1/25 - 9/30/25), **613 samples** were collected from 20 OADPOPs in 13 jurisdictions. Of those samples:
 - **44.5% contained opioids**
 - Of those samples, 92 % contained fentanyl.
 - **41.27% contained cocaine**
 - **10.77% contained amphetamines**
 - **3.43% contained medetomidine**
 - **2.94% contained xylazine**
- **65.1%** of samples were collected through street outreach or mobile units.
- **52.04%** of samples had multiple active ingredients.
- Identification of **emerging substances** in MD:
 - An increase in **medetomidine** and **anesthetics**, both commonly seen in combination with fentanyl.
 - **Kratom/ Mitragynine** - seen in 11 samples from 4 jurisdictions (Baltimore County, Baltimore City, Frederick, and St. Mary's) since 2023

Compounds Detected, Q3 CY2025





RAD Website



NPHL MD OADPOP Law



Find an OADPOP Near You

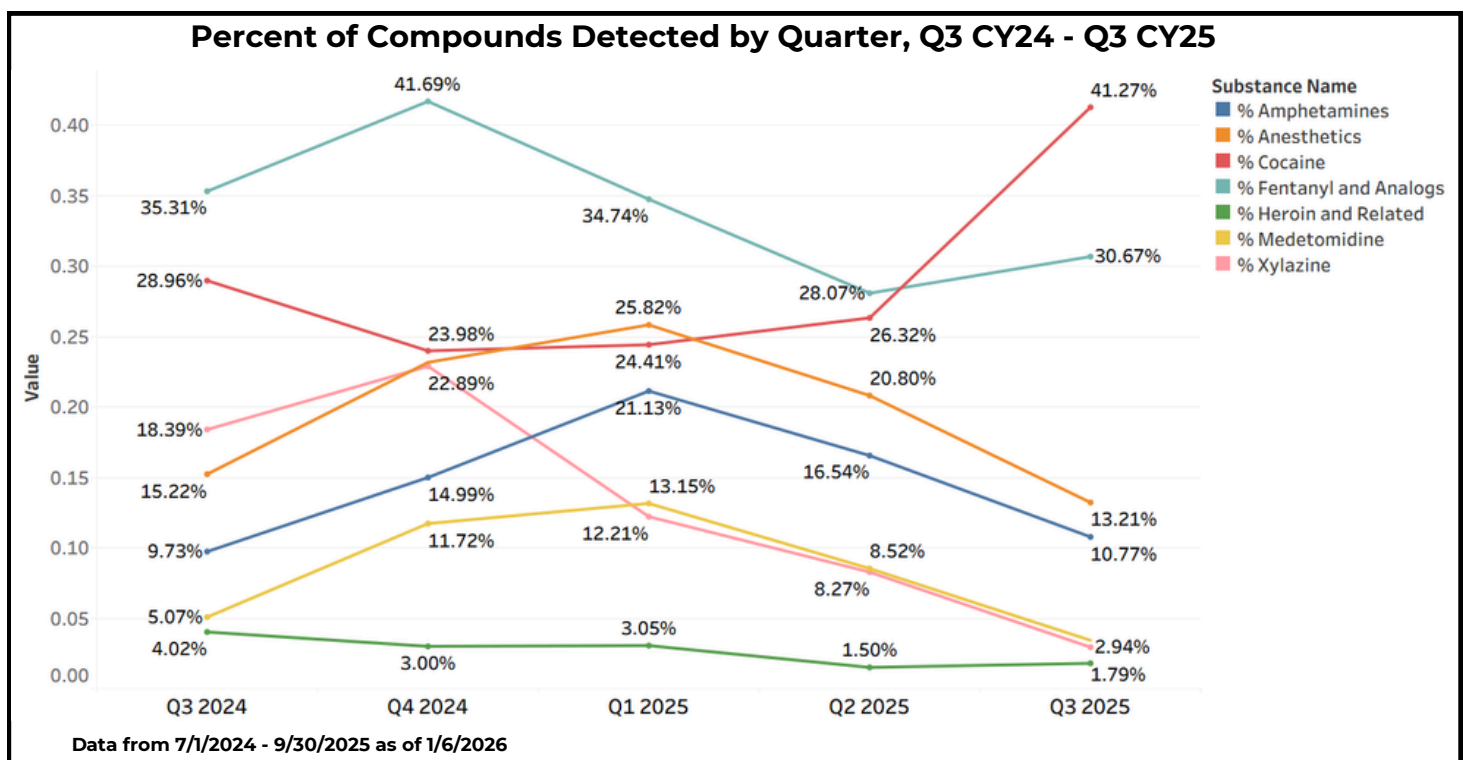


NIST Monthly Newsletters



Thirty-eight percent of samples tested in Q3 of CY2025 were syringes, followed by capsules (16%), and vials (13%). Syringe testing is the most common method of RAD testing since OADPOP participants are often returning syringes for safe disposal. RAD is an authorized OADPOP program activity and therefore included in legal protections of OADPOPs through [MD General Health Code Ann. § 24-901 through 24-909](#).

In Q3, cocaine was the most prevalent compound detected through RAD, found in 41% of samples. The majority of samples this quarter came from Baltimore City, which typically has a higher proportion of cocaine samples. Fentanyl or fentanyl analogs were present in 31% of samples in Q3 of 2025. The presence of fentanyl or fentanyl analogs in RAD samples had steadily decreased from Q4 of 2024 through Q2 of 2025, but increased in Q3 of 2025. Amphetamines (11%) have increased slightly compared to Q3 2024 (9.5%). Anesthetics continue to decrease in prevalence this calendar year, found in 13% of the Q3 samples. Xylazine and medetomidine were both found in around 3% of samples, lower than the prior quarter. The [National Institute of Standards and Technology's Newsletter](#) provide similar trends for the east coast.



Penn North Overdose Event: On October 8th, 2025, at least 11 people experienced a non-fatal overdose in the Penn North area of Baltimore City. Samples were submitted from a RAD program in the area on that day. Two samples from the area had the following substances in common: fentanyl, lidocaine, mannitol, medetomidine, and quinine. Medetomidine is an alpha-2 agonist used as a sedative primarily in veterinary medicine. The intense sedation noted in people who experienced an overdose on that day corresponds to medetomidine having the highest peak intensity among the compounds present in both samples based on NIST testing. Learn more about how [medetomidine affects overdose response and withdrawal](#).

Despite the decrease in the number of samples testing positive for medetomidine between Q2 and Q3 of 2025, sedatives, typically veterinary sedatives, have still been detected across the east coast, primarily in combination with fentanyl and other opioids. From January 2025 - September 2025 (Q1-Q3), medetomidine was most commonly seen in combination with anesthetics and fentanyl (25) in RAD samples. The next most common combinations containing medetomidine also included an anesthetic, fentanyl, and either fentanyl byproducts or precursors (7) or a substance in the "other" category (7). The substance from the other category in these 7 cases was Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate (BTMPS). [BTMPS](#) is a amine light stabilizer, seen in drug checking samples since June 2024. Anesthetics have become a common additive to the US drug supply, including Maryland. [The Center for Forensic Science Research & Education](#) published a report on the most common anesthetics in the illicit drug supply, including recommendations for clinicians.

Although veterinary sedatives are not new to the drug supply, their increasing presence may complicate overdose prevention and response strategies. The emergence of medetomidine in Maryland coincides with a reduction in xylazine that followed the scheduling of xylazine in Pennsylvania and Virginia. The drug supply continues to shift, with azaperone, another veterinary sedative being [found](#) in states neighboring Maryland. Maryland has yet to see azaperone in RAD samples, but it is an emerging trend being monitored.

Medetomidine and other sedatives increase the complexity of overdose response. Sedatives are not opioids, so they do not respond to naloxone. **However, sedatives are almost always found in combination with opioids, so naloxone should still be given.** Sedatives may keep a person unconscious even if naloxone reverses the effects of an opioid overdose. Breathing should be monitored closely when responding to an overdose, and [rescue breathing](#) should be given if a person's breathing is not sufficient.

Polysubstance Combinations* in Samples Containing Medetomidine, CY2025 Q1 - Q3

Anesthetics, Fentanyl & Fentanyl Analogs, Medetomidine 25	Anesthetics, Fentanyl & Fentanyl Analogs, Fentanyl Byproducts & Precursors, Medetomidine 7	Amphetamines, Anesthetics, Medetomidine 3	Anesthetics, Fentanyl & Fentanyl Analogs, Medetomidine, Xylazine 3	Anesthetics, Medetomidine 3
	Anesthetics, Fentanyl & Fentanyl Analogs, Medetomidine, Other 7	Fentanyl & Fentanyl Analogs, Fentanyl Byproducts & Precursors, Medetomidine, Nonopioid Analgesics 3	Anesthetics, Fentanyl & Fentanyl Analogs, Fillers, Medetomidine 2	Cocaine, Fentanyl & Fentanyl Analogs, Fentanyl 2
		Anesthetics, Cocaine, Fentanyl & Fentanyl Analogs, Fillers, Medetomidine 2		

*top 10 combinations
Data from 1/1/2025-9/30/2025 as of 1/6/2026