Rapid Analysis of Drugs

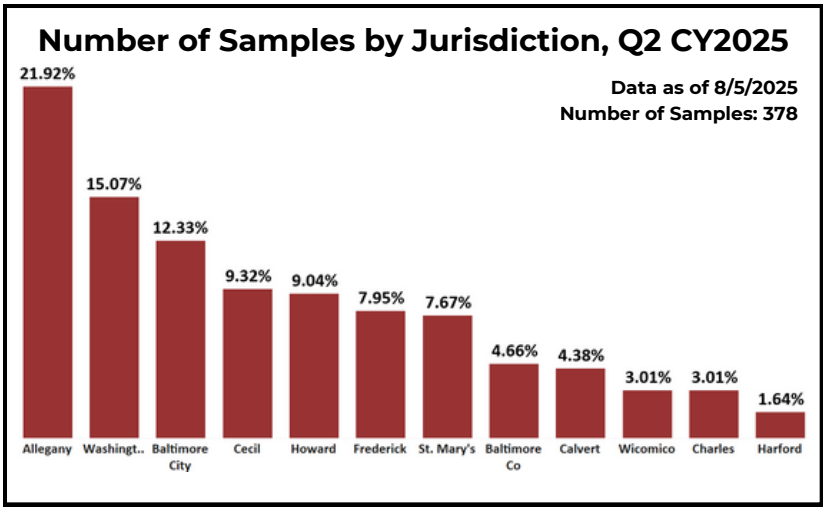
2025 Calendar Year Q2 Newsletter

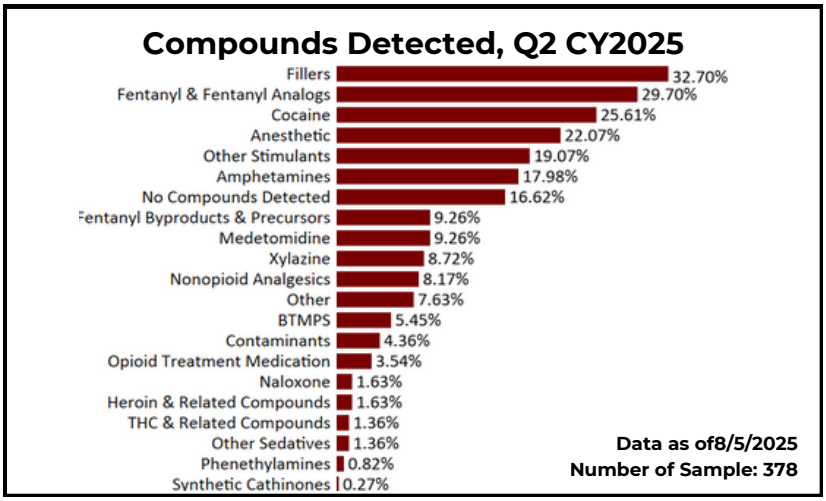
Maryland DEPARTMENT OF HEALTH

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 Syringe Services Program (SSP) participants in partnership with the National Institute of Standards and Technology (NIST). RAD was piloted in 8 SSPs from Oct 2021 through Sept of 2022, when it expanded to be an ongoing service for any interested SSP. Since Oct 2021, a total of 4,518 samples have been collected.

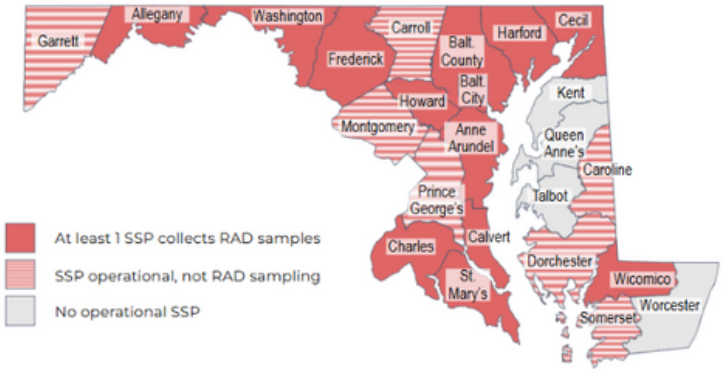
RAD gives us insight into the near real time drug supply in MD, but is not fully representative. RAD is completely voluntary for SSPs and their participants, making it a convenience sample. No personally identifiable information is collected, therefore we do not know how many individuals account for the sample size. All data in this report comes from the RAD database and is current as of 8/5/2025.





GOALS OF RAD

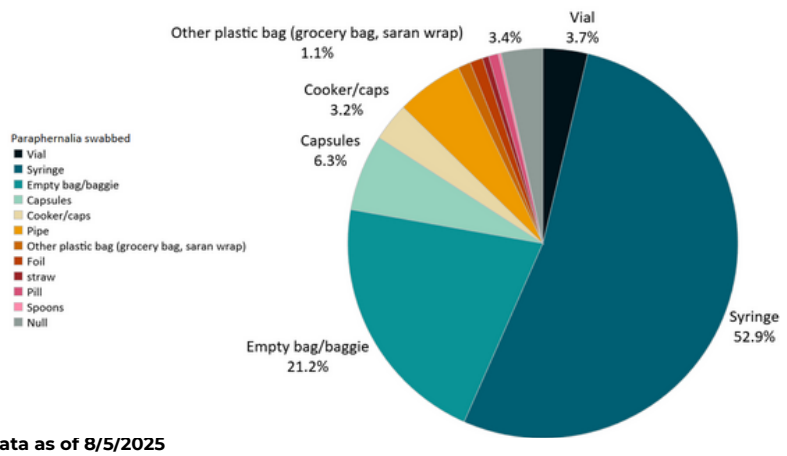
1. Increase stakeholder understanding of the Maryland drug market landscape.
2. Empower people who use drugs with knowledge about the drug supply that enables them to make informed decisions and employ risk reduction strategies.
3. Provide critical, timely information about new and emerging trends in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



KEY FINDINGS FOR Q1 CY2025

- In Q2 CY2025, **378 samples** were collected from 17 SSPs in 12 jurisdictions. Of those samples:
  - **42.9% contained opioids**
    - *Of those samples,* 88.3 *% contained fentanyl.*
  - **26.98% contained cocaine**
  - **17.46% contained amphetamines**
  - **8.99% contained medetomidine**
  - **8.47% contained xylazine**
- **36.2%** of samples were collected through street outreach or mobile units.
- **30%** of samples had multiple active ingredients.
- Identification of ***emerging substances*** in MD:
  - An **increase in sedatives** like medetomidine and benzodiazepines seen in all 12 jurisdictions as varying levels (pg. 3)
  - **BTMPS** (Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate) - UV light stabilizer with various industrial applications, seen in 131 samples from 11 jurisdictions since 10/22

Type of Equipment Tested, Q2 CY2025



Data as of 8/5/2025
Number of Samples: 378

RESOURCE CORNER:

RAD Website

NPHL MD SSP Law

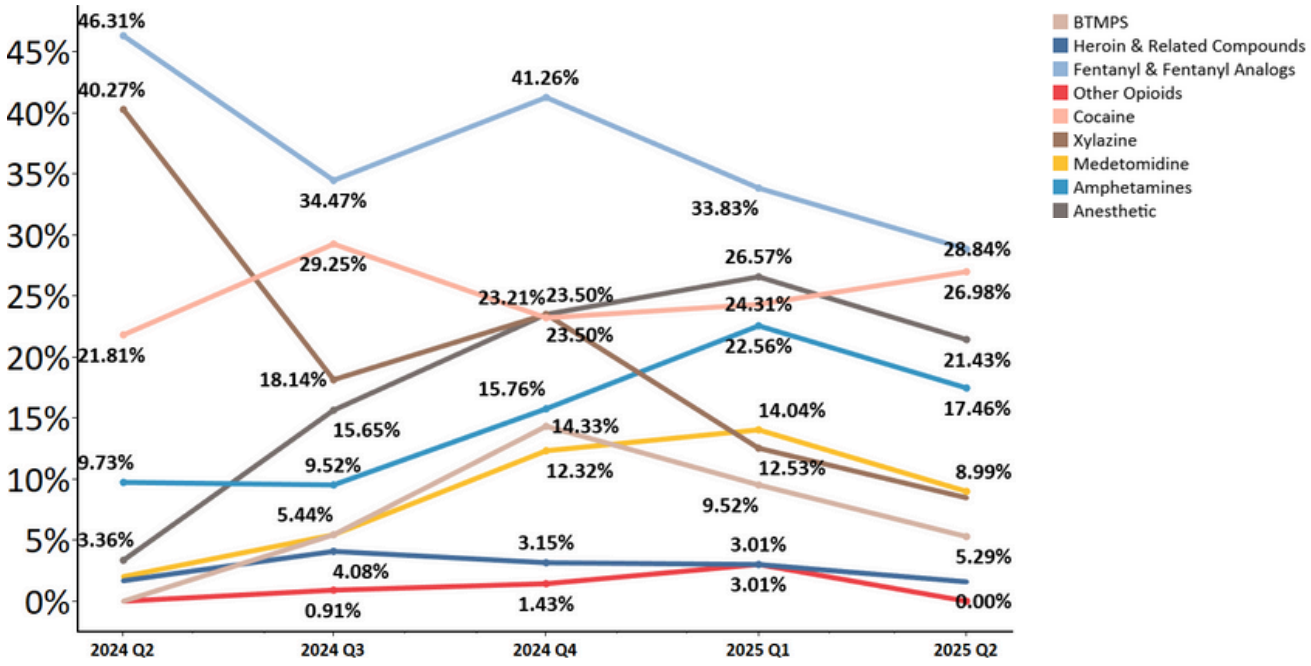
Find an Syringe Service Program Near You

NIST Newsletters

Fifty-two percent of samples tested in Q2 of CY2025 were syringes, followed by empty bags (21.2%), and capsules (6.3%). Syringe testing is the most common method of RAD testing since SSP participants are returning syringes for safe disposal at SSPs. RAD is an authorized SSP program activity and therefore included in legal protections granted to SSPs through MD General Health Code Ann. § 24-901 through 24-909.

Fentanyl and its analogs continue to be the most commonly seen compound in RAD data, in Q2 it was present in 28.84% of samples. Cocaine continues to remain a constant in the Maryland drug market, found in 26.9% of samples in Q2 of CY2025. Heroin was almost entirely replaced by fentanyl in Maryland in 2016, but is still found in a small number of RAD samples, in Q2 of 2025 2.16% of samples had heroin in them. Amphetamines have increased notably from Q3 2024 (9.5%) to Q2 2025 (17.5%). In the NIST's June Newsletter, the same trend continues to be noted along the east coast.

Percent of Compounds Detected by Quarter, April 2024 - June 2025



Data as of 8/5/2025

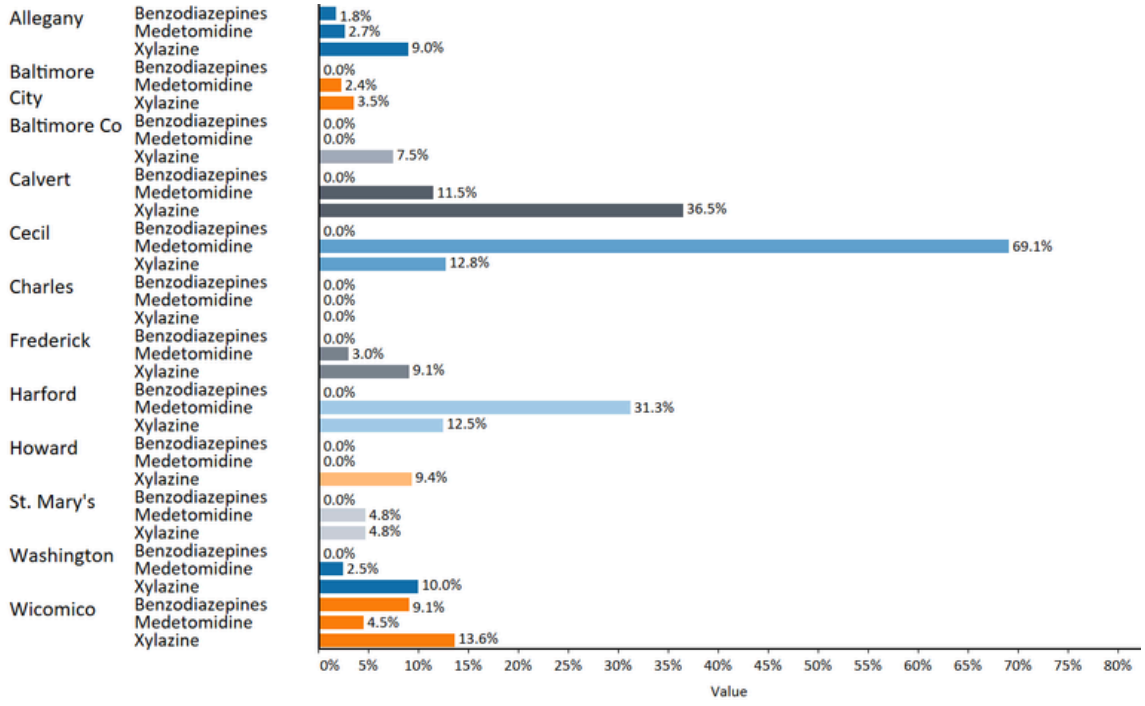
Penn North Mass Overdose Event: On July 10th, 2025, a mass overdose event resulting in 35 people experiencing a non-fatal overdoses occurred in the Penn North area of Baltimore City. Samples where submitted to RAD from SSPs in the area on that day. Two syringe samples from the area produced the following results: acetaminophen, caffeine, fentanyl, N-Methylclonazepam, and quinine. N-Methylclonazepam is a benzodiazepine derivative with intense sedative effects and based on the lab testing from NIST, there was approximately 10 times more N-Methylclonazepam than fentanyl in these samples. Based on other samples NIST has analyzed, benzodiazepines typically make up a smaller percent of the sample than fentanyl or other opioids.

Over the last decade, sedatives (xylazine, medetomidine, benzodiazepines) have become a common additive to the illicit drug supply in the US, especially along the east coast. The presence of xylazine, a veterinary sedative, has decreased in 2024 and continues that trend in Q2 2025, being found in 10.34% of samples. Medetomidine continues to replace xylazine in the Maryland RAD samples. It was seen in 10.34% of samples in Q2 2025, after being seen in 0% of samples in Q1 2024. Benzodiazepines are less common than xylazine and medetomidine, but have been seen in 80 RAD samples from 11 jurisdictions since Oct 2021.

Which sedatives are present in the illicit drug supply vary on a local level as seen in the graph below. From April 2024 - June 2025, the highest rate of xylazine has been seen in Calvert County RAD samples (36.5%) and Wicomico County RAD samples (13.6%). The highest rates of medetomidine have been seen in Cecil County RAD samples (69.1%) and Harford County RAD Samples (31.3%). Benzodiazepines have been most commonly seen in Wicomico County RAD samples (9.1%).

These sedatives have added complexity to overdose response. They are most often seen in combination with opioids and naloxone should be always be administered when someone is experiencing a suspected overdose. However, the heavy sedation may cause the person to remain unconscious after naloxone is administered. The person should be monitored and rescue breaths should administered if needed. Medetomidine use has been associated with more severe withdrawal symptoms in Philadelphia and a greater need for rescue breathing during overdose response. To learn more about harm reduction resources in Maryland, or find naloxone or an SSP near you, visit our website.

Percent of Benzodiazepines, Medetomidine and Xylazine by Jurisdictions, April 2024 - June 2025



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