

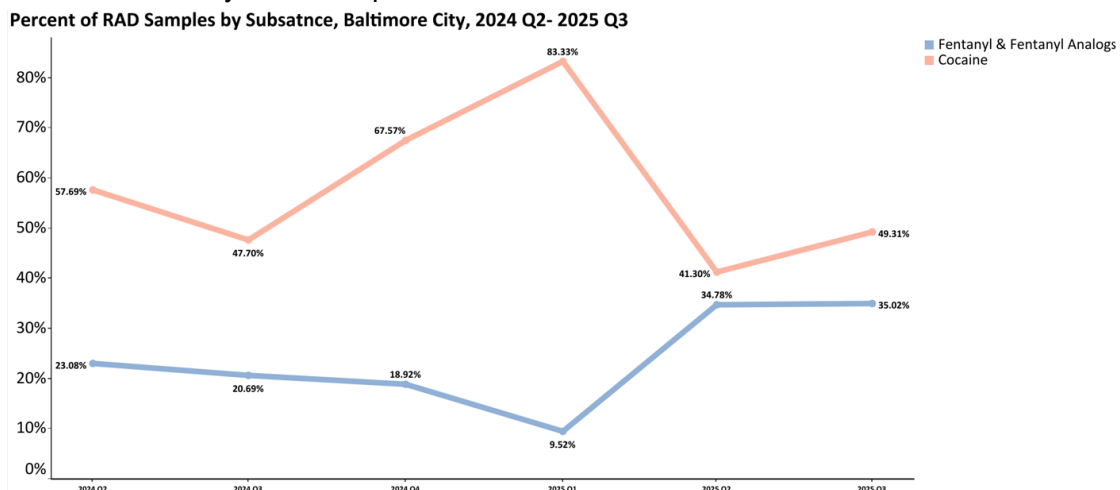
Baltimore City Rapid Analysis of Drugs and EMS Naloxone Administration Trends

December 18, 2025

Summary Points:

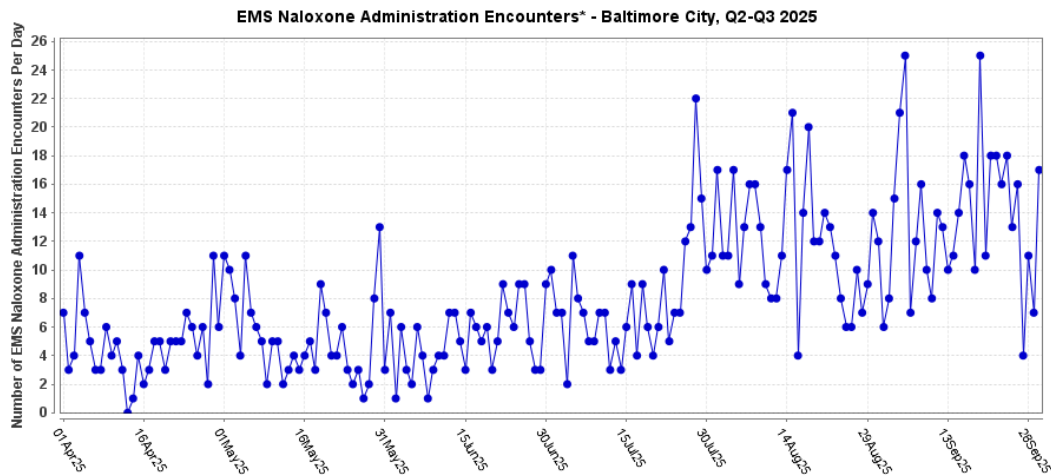
- Rapid Analysis of Drugs (RAD) samples from Baltimore City saw an increase in samples containing fentanyl and a decrease in samples containing cocaine starting in Q2 of calendar year 2025 (April 2025 - June 2025).
- The Maryland Drug Overdose Surveillance & Epidemiology (DOSE) team's surveillance shows that Emergency Medical Services (EMS) naloxone administration encounters (calls where naloxone was administered at least once by EMS) for suspected non-fatal opioid overdose *more than doubled* (increased by 122%) between Q2 and Q3 of calendar year 2025 in Baltimore City (April 2025 - Sept 2025).
- DOSE findings also demonstrate that the ratio of naloxone doses administered and EMS naloxone administration encounters remained stable – approximately one dose of naloxone was administered by EMS per encounter – between Q2 2024 and Q3 2025 (April 2024 - Sept 2025).
- Risk reduction action steps: [carry naloxone](#), test your drugs, and avoid using alone.

Data from the [Maryland Rapid Analysis of Drugs](#) program, the statewide drug checking program located in [syringe services programs](#), has identified an increase in fentanyl within the samples submitted in Baltimore City (see figure below). In Quarter 2 of calendar year 2025, 34.8% of Baltimore City RAD samples contained fentanyl, which is a 39% increase from Quarter 2 of calendar year 2024. This shift also comes with a notable 17.4% decrease in cocaine from Quarter 2 of 2024 to Quarter 2 of 2025 within Baltimore City RAD samples.



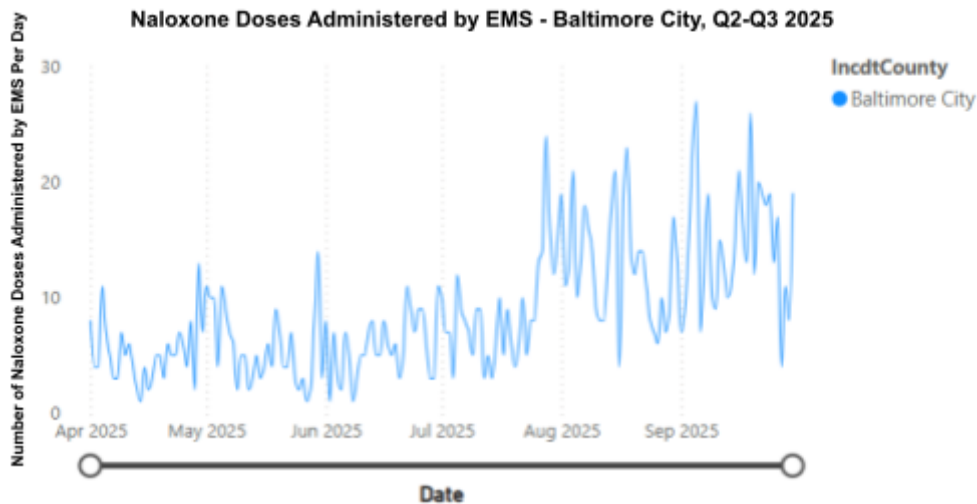
Source: Rapid Analysis of Drugs Program Data, Baltimore City sites only

The Maryland Drug Overdose Surveillance and Epidemiology (DOSE) Team, which monitors trends in non-fatal overdose using near real-time Emergency Medical Services (EMS) data captured by the Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE), observed an increase in Quarter 3 in EMS naloxone administration encounters and total doses of naloxone administered by EMS. The graph below represents the number of EMS naloxone administration encounters in Baltimore City between Quarter 2 and Quarter 3 of calendar year 2025. In Quarter 2, there were 459 EMS naloxone administration encounters; in Quarter 3, there were 1,020 EMS naloxone administration encounters, representing a 122% increase.



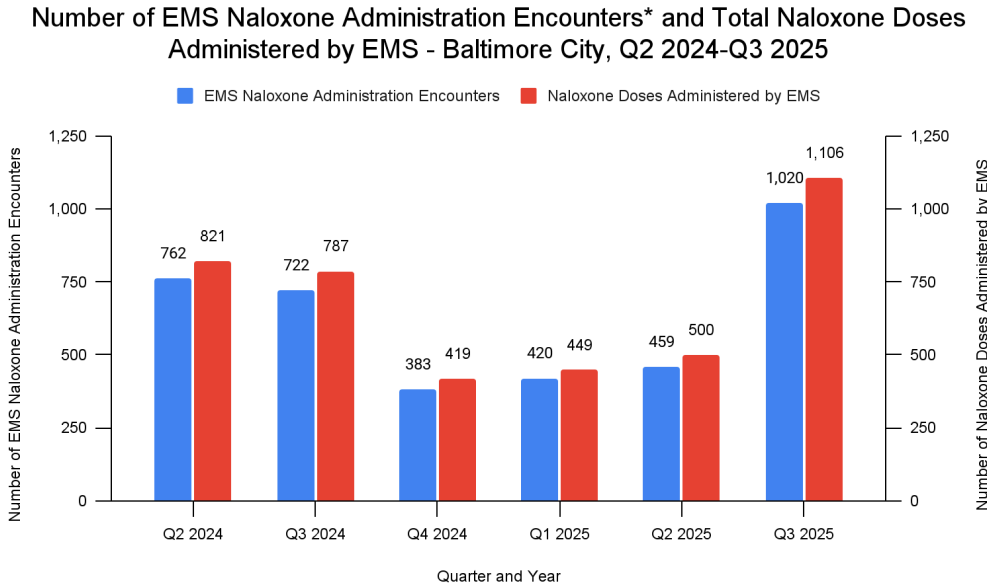
*EMS calls where naloxone was administered at least once by EMS
Source: Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

The Maryland DOSE team also observed a corresponding increase in the number of total naloxone doses administered by EMS in Baltimore City (graph below). In Quarter 2, 500 doses of naloxone were administered, whereas in Quarter 3, 1,106 doses were administered, representing a 121% increase.



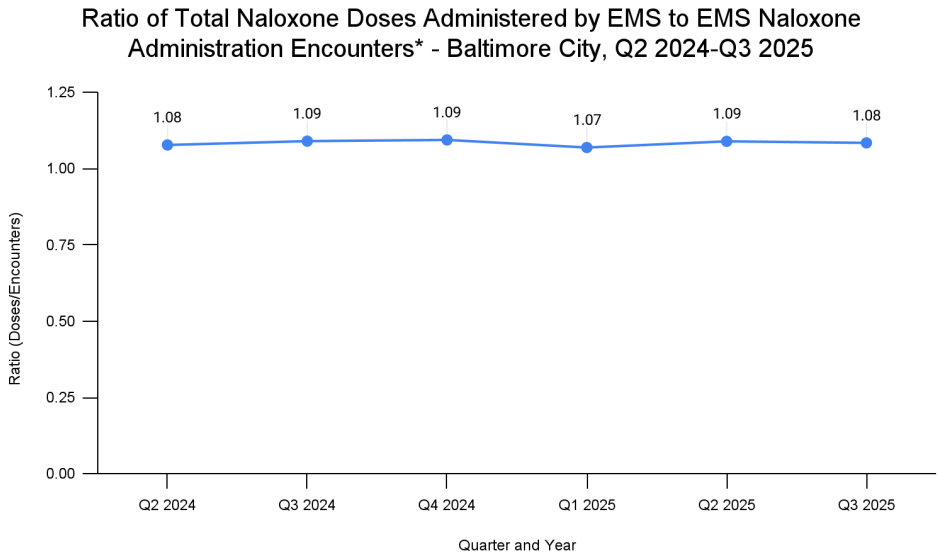
Source: Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

A longitudinal comparison of the number of EMS naloxone administration encounters to the total naloxone doses administered by EMS in Baltimore City by quarter, between Q2 2024 and Q3 2025, reveals a similar trend. As the number of encounters increased, the number of doses also increased proportionally.



**EMS calls where naloxone was administered at least once by EMS*
Source: Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

The ratio of total number of naloxone doses administered to EMS naloxone administration encounters for suspected non-fatal opioid overdose remained consistent between Q2 2024 and Q3 2025. Approximately one dose of naloxone was administered by EMS *per encounter* between Q2 2024 and Q3 2025.



**EMS calls where naloxone was administered at least once by EMS*
Source: Maryland Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

These findings align with the standard recommendation that a single dose of 3 or 4 mg naloxone is generally sufficient to restore a person's breathing in the event of a suspected opioid overdose, despite the increased complexity of the drug market. Rescue breaths should be given while responding. In the event that breathing is not restored within 1-3 minutes, another dose should be administered.

Safer use practices can include:

- Carry naloxone: [Learn the signs of an overdose and know how to use naloxone](#) to respond to an overdose you may witness.
 - Nearly 3 out of 5 (58%) of opioid-detected overdose decedents had potential bystanders from 2019-2024. In cases where potential bystanders were not spatially separated from the deceased, over half (53%) did not recognize the signs of an overdose.¹
 - Free naloxone is available at over 296 Overdose Response Programs (ORP) throughout Maryland. [Find a location near you](#).
- Give rescue breaths when responding to an overdose.
- Test drugs with test strips (available at most ORPs), or go to a [local syringe service program](#) which participates in the Rapid Analysis of Drugs program to get samples tested.
- Try not to use drugs alone. If you are able and comfortable around someone else, make sure [naloxone](#) is available.
- Go slow: try a smaller amount of their drug to see how it feels before using a normal dose.
- Speak with your community to see if certain drugs are causing adverse events for people who use substances. Let people know when you experience an adverse event.

¹ The Spectrum of Response: A Trend Analysis of Opioid Detected Fatal Overdoses in Maryland, 2019-2022, Link: https://health.maryland.gov/phpa/OEHFP/Injury/Documents/SUDORS/APHA_Poster_Final_SUDORS_bystander_analysis.pdf