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Public Health Advisory:

Medetomidine Identified throughout MD in Drug Checking Samples

March 30, 2026

The Maryland Department of Health's Behavioral Health Administration (BHA) identified medetomidine through the Rapid Analysis of Drugs (RAD) program, led by the Office of Overdose Prevention and Education. Medetomidine prevalence is trending up statewide from October to December 2025, including notable increases in Baltimore City, Harford, St. Mary's, and Wicomico Counties.

Summary Points

- Medetomidine was first identified in the Maryland drug supply through RAD testing in October 2022.
- Between June 2024 and October 2025, medetomidine was primarily seen in Cecil County. Medetomidine prevalence is increasing statewide as of Q4, including notable increases in Baltimore City and Harford, St. Mary's, and Wicomico Counties.
- Medetomidine is a veterinary sedative that is stronger than xylazine. In Maryland, medetomidine is most often found in combination with fentanyl, fentanyl analogs, and anesthetics. Medetomidine use has been associated with [severe withdrawal](#), often requiring hospitalization.
- The risk of overdose death can be reduced by always carrying naloxone, giving rescue breaths and using the recovery position for all overdoses, using test strips prior to use, having substances tested at a local [Opioid Associated Disease Prevention and Outreach Program \(OADPOP\)](#), and avoiding using illicit substances alone.
- Medetomidine Palm Cards in [English](#) and [Spanish](#) have been designed to provide information directly to people who use drugs, who can then share them with first responders and providers in the event of heightened medetomidine withdrawal.
- [Clinicians can find additional resources](#), including withdrawal protocols from Philadelphia Department of Health and a webinar hosted by CDC on clinical implications of medetomidine mixed with opioids.

Medetomidine is an alpha-2 adrenergic agonist used in veterinary medicine, similar to but more potent than xylazine. Medetomidine is not approved for human use and poses significant health risks due to the extended sedation and severe withdrawal associated with its use. Its appearance in [Rapid Analysis of Drugs \(RAD\)](#) samples (often mixed with fentanyl, anesthetics, or other substances, see *Figure 3*) raises concerns about increased risk of respiratory

depression, bradycardia, hypotension, profound sedation, and overdose. [Withdrawal from medetomidine](#) can be severe, sometimes requiring hospitalization and care in an intensive care unit. In May 2025, the [CDC published a report](#) describing 165 patients admitted to Philadelphia's health systems between Sept 1, 2024-Jan 31, 2025 with a newly recognized medetomidine withdrawal syndrome, of which 91% were admitted to an intensive care unit and 24% were intubated.

Medetomidine in Maryland

Medetomidine was first identified in the Maryland drug supply through RAD testing in October 2022. In 2024, Cecil County saw a significant increase in medetomidine prevalence within the RAD sample, going from 6.67% in Q1, to 36.07% in Q2, to 62.07% in Q3 (*Table 1*). This corresponded to medetomidine replacing xylazine in the [Philadelphia drug market](#) between May 2024 and November 2024. Medetomidine has been detected in RAD samples from Allegany County, Baltimore City, Baltimore County, Calvert County, Caroline County, Frederick County, Harford County, Howard County, St. Mary's County, Washington County, and Wicomico County. Prior to Q4 of 2025, medetomidine was primarily seen in Cecil County. **Medetomidine prevalence is trending up statewide as of Q4 2025, including notable increases in Baltimore City, Harford, St. Mary's, and Wicomico Counties** (*Figures 1 and 2*).

Medetomidine and naloxone

Standard doses of naloxone (3mg or 4mg) will reverse the effects of opioids that may be present but **naloxone will not counteract medetomidine's sedative properties**, complicating overdose response. A person may remain sedated after one dose of naloxone. Naloxone is successful if a person is breathing evenly. If a person is breathing, they do not need additional doses of naloxone. Monitor a person's breathing and give rescue breaths to maintain breathing. Medetomidine is not associated with xylazine-type necrotic wounds.

Health Risks and Clinical Considerations for Medetomidine

- **Severe sedation and unresponsiveness:** Individuals exposed to medetomidine may present with deep sedation, hypotension or low blood pressure, bradycardia or slow heart rate, or respiratory compromise. Naloxone may restore breathing, but the person may not regain consciousness. Breathing should be closely monitored, including provision of rescue breaths if needed, and place the person in the recovery position while awaiting emergency medical services.
- **Early and severe withdrawal symptoms:** Medetomidine has been seen to induce withdrawal earlier than fentanyl. Prolonged hypertension or high blood pressure (>200) and tachycardia or fast heart rate (>140), as well as tremors, nausea, vomiting, agitation,

and reduced mentation (e.g. starting, unable to talk) have been reported. Oftentimes these symptoms require intensive medical attention.

- **Polysubstance risk:** Medetomidine has been seen in combination with opioids and anesthetics in Maryland (*Figure 3*). Combination with opioids increases the risk of overdose. Typically people do not know medetomidine is present in their drugs. It is important to test drugs with medetomidine test strips prior to use. To find medetomidine test strips near you, visit the [Overdose Response Program \(ORP\)](#).
- See the [MACS one-pager](#), [MD Poison Control Center](#), and [Delaware Clinical Guidance](#) for more.

Recommendations for First Responders and Clinicians

- **Check for breathing.** Medetomidine may leave a person unresponsive but still breathing. A person does not need naloxone if they are breathing, but they should be monitored closely.
- **Administer naloxone** during all suspected overdoses as opioids are often present in combination with medetomidine. Use the lowest dose (3mg or 4mg) to restore breathing. The person may remain unconscious when breathing is restored. Rescue breathing may be needed if breathing is uneven. Wait 2-3 minutes before administering a second dose of naloxone if breathing does not resume.
- Communicate the potential for **severe withdrawal** from medetomidine to patients and caregivers, even after overdose response.
- Consider using adjunctive medications for medetomidine withdrawal as identified in the palm card below.

Printable Palm Card in [English](#) and [Spanish](#)

- Created as a tool for people who use drugs, first responders, and providers responding to medetomidine withdrawal.
- For people who use drugs - you can obtain a card at your local Opioid Associated Disease Prevention and Outreach Program. **Carry this card with you and present it to care providers if you are experiencing heightened withdrawal symptoms.**
- For providers - use the QR code on the back of the card for [medetomidine resources](#) for providers through Maryland Addiction Counseling Services (MACS).

Safer use practices can include:

- **Carry naloxone** and [know how to use naloxone](#) to respond to an overdose you may witness. Give rescue breaths for all overdoses. Free naloxone is available at over 330 Overdose Response Programs (ORP) throughout Maryland. [Find a location near you.](#)

- **Test your drugs** with test strips (available at most [ORPs](#)), or go to a [local Opioid Associated Disease Prevention and Outreach Program](#) which participates in the [Rapid Analysis of Drugs program](#) to get samples tested.
- **Try not to use it alone.** Use the buddy system and make sure [naloxone](#) is available. If you are alone, call [Never Use Alone](#) at 800-484-3731 or 877-696-1996.
- **Start Low, Go slow:** try a smaller amount of your drugs before using your normal dose, and use that dose more slowly than normal.
- Go to the hospital if you are experiencing **severe vomiting, uncontrollable shaking, chest pain, confusion, or worse withdrawal symptoms than normal.**
- Carry a [medetomidine palm card](#) (available at OADPOPs).

Overdose Landing Page:

- Find related resources and the latest information on our [Overdose Data landing page](#).

Maryland Medetomidine Data from the Rapid Analysis of Drugs (RAD) Program

Table 1: Proportion of RAD samples containing Medetomidine by Jurisdiction and Quarter
April 1, 2025 - March 15, 2026

Data from Rapid Analysis of Drugs (RAD) project as of March 16, 2026. Data are preliminary and subject to change.

Jurisdiction	2025 Q2	2025 Q3	2025 Q4	2026 Q1 ¹
Allegany	2.20%	1.56%	1.41%	1.43%
Baltimore City	1.49%	2.72%	10.47%	2.72%
Baltimore County	0%	0%	0%	N/A ²
Calvert County	0%	0%	0%	0%
Caroline County	N/A ²	N/A ²	100% ³	N/A ²
Cecil County	73.53%	34.62%	51.16%	51.61%
Charles County	0%	0%	0%	0%
Frederick County	3.45%	0%	0%	0%
Harford County	50%	0%	16.67%	30.77%
Howard County	0%	0%	0%	0%
Montgomery County	N/A ²	N/A ²	0%	N/A ²
St. Mary's County	0%	0%	25%	0%
Washington County	1.82%	0%	0%	0%
Wicomico County	9.09%	0%	20%	28.57%

¹2026 Q1 is not a full quarter of data. It contains data from January 1st - March 16th, 2026.

² No samples submitted within this jurisdiction during the selected time period.

³ Only one sample was submitted in this jurisdiction during this time period.

Figure 1: Proportion of Samples Containing Medetomidine by County: Q3 2025

July 1, 2025 - September 30, 2025

Data from Rapid Analysis of Drugs (RAD) project as of March 16, 2026. Data are preliminary and subject to change.

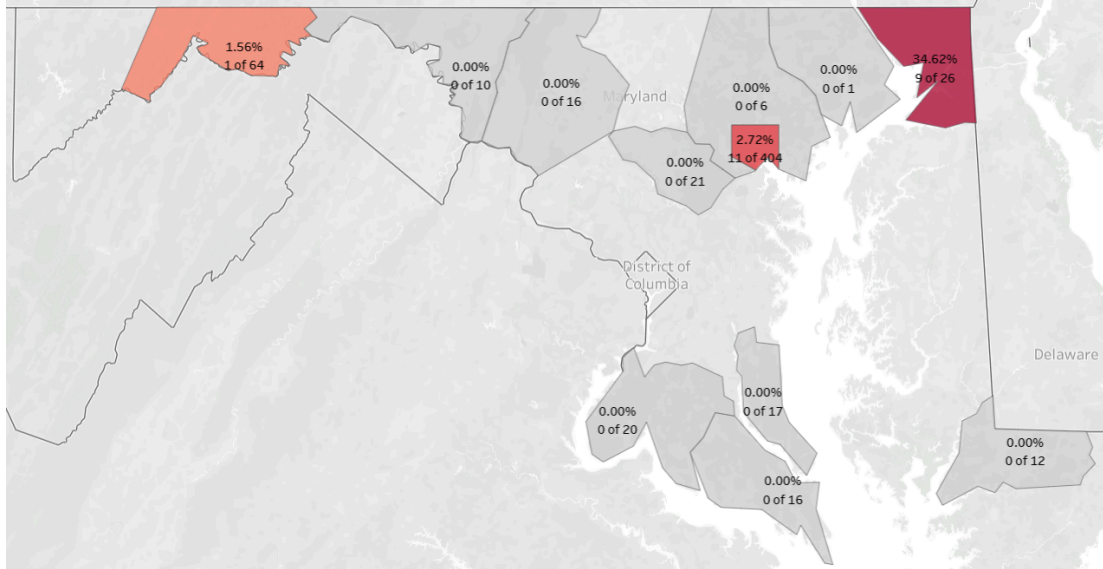


Figure 2: Proportion of Samples Containing Medetomidine by County: Q4 2025 - Q1 2026

October 1, 2025 - March 15th, 2026

Data from Rapid Analysis of Drugs (RAD) project as of March 16, 2026. Data are preliminary and subject to change.

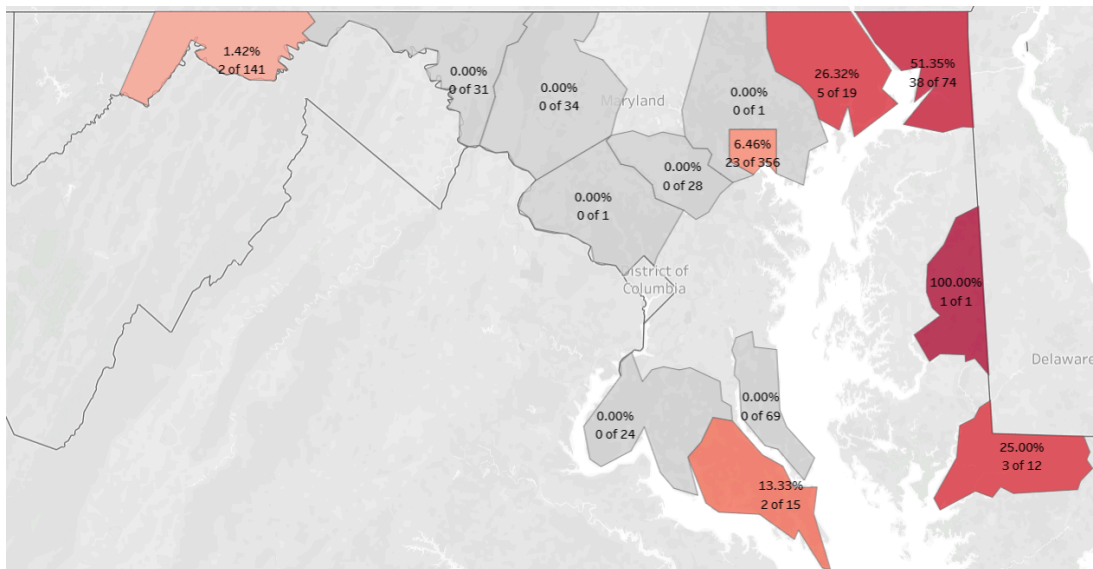
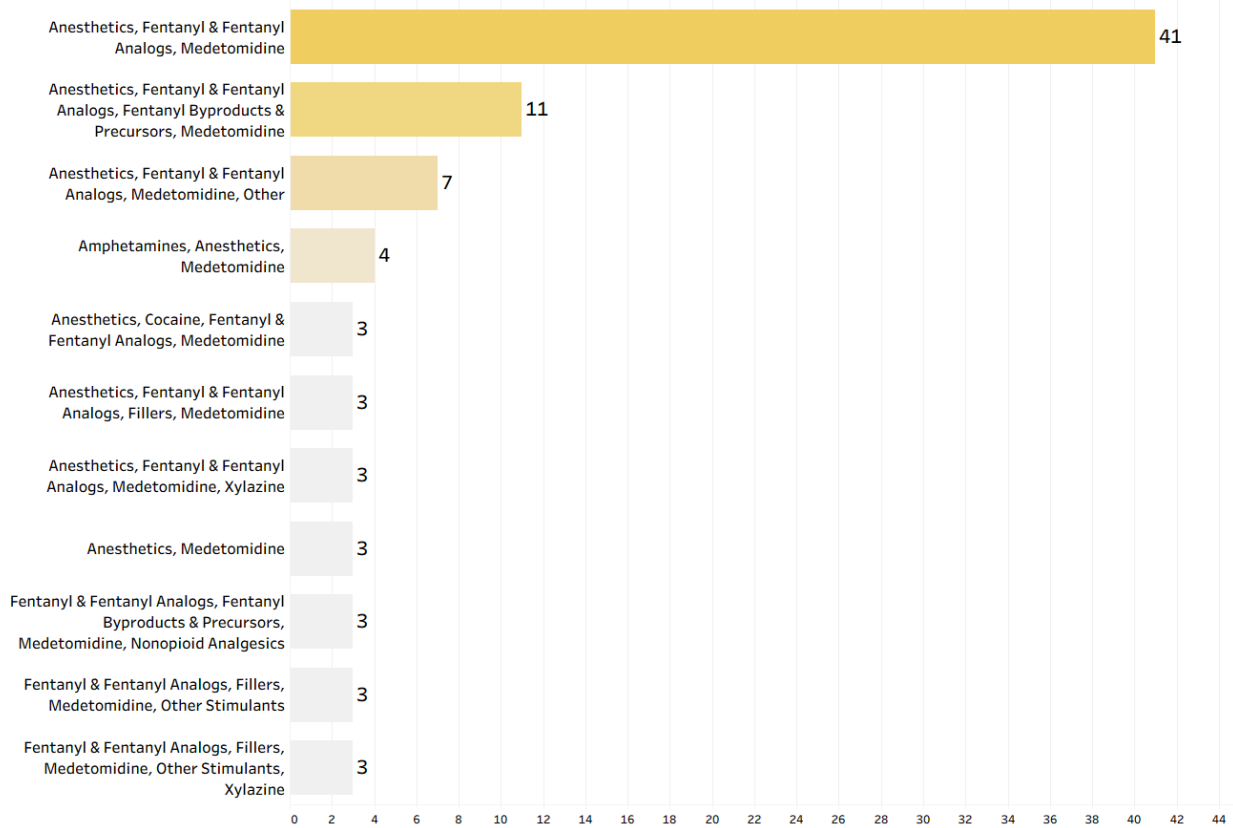


Figure 3: Top Polysubstance Combinations in Samples Containing Medetomidine

January 1, 2025 - March 15th, 2026

Data from Rapid Analysis of Drugs (RAD) project as of March 16, 2026. Data are preliminary and subject to change.



How to Give Naloxone

SAVE A LIFE WITH NALOXONE

WHAT IS NALOXONE?

Naloxone is a prescription medicine that safely and effectively reverses an opioid overdose. Doctors and paramedics have used it for decades. Naloxone is sprayed up the nose.

OPIOID OVERDOSE RESPONSE STEPS

Recognize the Signs of an Opioid Overdose

Loud snoring

Lips or fingertips turning blue

Pale/grayish skin

Unresponsiveness

A very limp body

Shallow, slow, or stopped breathing

Slow or stopped heartbeat

Know Your Rights

Maryland's Good Samaritan Law protects people assisting in an emergency overdose situation from arrest, as well as prosecution, for certain crimes.



STEP 1: GET THEIR ATTENTION

Firmly rub your knuckles up and down the middle of the person's chest.



STEP 2: CALL 911

Tell them your location and the person's symptoms.



STEP 3: GIVE NALOXONE

1. Peel back the package to remove the device.
2. Place tip of nozzle in either nostril until your fingers touch the bottom of the person's nose.
3. Press the plunger firmly to release dose into nose.
4. Give second dose if first dose does not work within 1-3 minutes.



STEP 4: SUPPORT BREATHING

1. Lay the person on their back.
2. Tilt the chin back. Remove anything blocking airway.
3. Pinch the person's nose closed and cover their mouth with your mouth.
4. Blow 2 regular breaths, then give 1 breath every 5 seconds.
5. Do chest compressions if trained in CPR.



STEP 5: CARE FOR THE PERSON

Stay with the person until medical help arrives.

Place the person in recovery position: face and head turned to the side, top hand placed under head, and top knee bent to support the body.



**USED YOUR NALOXONE?
LET US KNOW!**

Scan to report naloxone use.

StopOverdose.Maryland.gov
MD Crisis Lifeline: Call or text 988