



# Circumstances of Fatal Overdose:

## Trends from the Maryland State Unintentional Drug Overdose Reporting System (SUDORS)

August 2025

---

### January 2019 - June 2024 Trends

- Method of Use
- Opioid and Stimulant Use
- Presence of Potential Bystanders

### January 2018 - June 2024 Trends

- Naloxone Administration
- Place of Death

► August 2025



---

## Introduction

The State Unintentional Drug Overdose Reporting System (SUDORS) is **an enhanced surveillance system for fatal overdose events** that were either unintentional (accidental) or were of undetermined intent. SUDORS specializes in describing the circumstances of the overdose death.

SUDORS data are used by state and local health departments, policy-makers, fatality review boards, harm reduction programs, researchers and other agencies to engage partners, plan interventions, evaluate programs, allocate resources, provide services and identify priority populations.

## Background

SUDORS is a project of the Centers for Disease Control and Prevention (CDC) and is collected in almost every state in the United States, plus many local jurisdictions.

Every participating jurisdiction has a highly skilled team of data abstractors who systematically review death certificates, coroner/medical examiner reports, and available law enforcement reports to collect hundreds of data points about the demographics, injury and death, circumstances, scene evidence, and postmortem toxicology into a unified system to create a more complete picture of each fatal overdose event.

While the primary source documents for SUDORS may contain identifying information, no identifying information is ever recorded in the SUDORS system or shared with the CDC.

## Vital Statistics Administration

The Maryland SUDORS program uses death certificate data provided by the Maryland Vital Statistics Administration, but there are some important differences. That's why we always refer people to the Maryland Vital Statistics Administration for the official numbers and rates of [overdose deaths in Maryland](#).

SUDORS includes all substances testing positive in postmortem toxicology, and not just those substances causing the death. That's important because it can help data users understand polysubstance use. But remember, information collected is limited to what is available in source documents, so medical information, like other data, is limited to what is provided in death certificates, medical examiner reports, and available law enforcement reports.

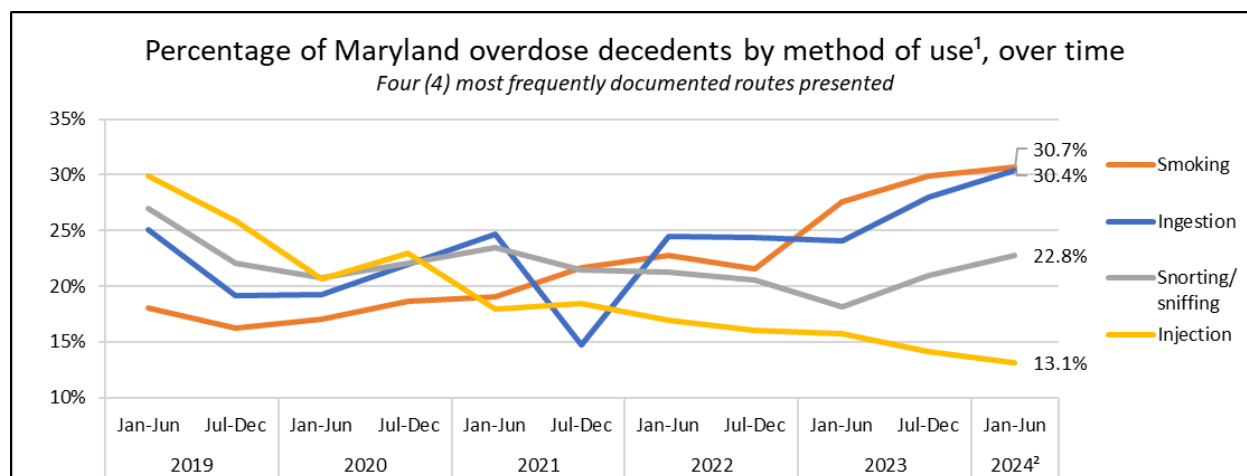
---

► August 2025

## Method of Use

Injection as a method of use decreased from 2019 to 2024 among all Maryland overdose decedents. Snorting/sniffing, smoking, and ingestion were all more common than injection by 2022. **Methods of use can impact what harm reduction interventions are needed, a person's likelihood of accessing harm reduction services, a person's perceived risk of overdose, and risk for infectious disease transmission.** Many of Maryland's Syringe Services Programs provide safe smoking and snorting supplies in addition to injection supplies. A map and list of services is available at <https://health.maryland.gov/pha/NALOXONE/Pages/Syringe-Services-Program.aspx>

- Injection dropped from the leading method of substance use among Maryland decedents in 2019 to the fourth most common method of use in 2024 (30% vs 13%, respectively).
- The percentage of deaths with evidence of smoking increased from 18% in 2019 to 31% in 2024, making it the most common method of use.
- The prevalence of ingestion remained stable (around 25%) from 2019-2022. Due to continued decreases in injection, ingestion became the second most common method of use in 2024.
- Injection was most common among White, non-Hispanics (19%) and least common among Hispanics (4%) in 2024, and was more common in rural areas compared to large metropolitan areas (39% vs. 12%) in 2024.



<sup>1</sup>Methods of substance use were identified using information from scene investigations, witness reports, or autopsy data and were categorized into non-mutually exclusive categories of ingestion, injection, smoking, and snorting; other routes (e.g., transdermal).

<sup>2</sup>2024 data are through June only and are considered preliminary.

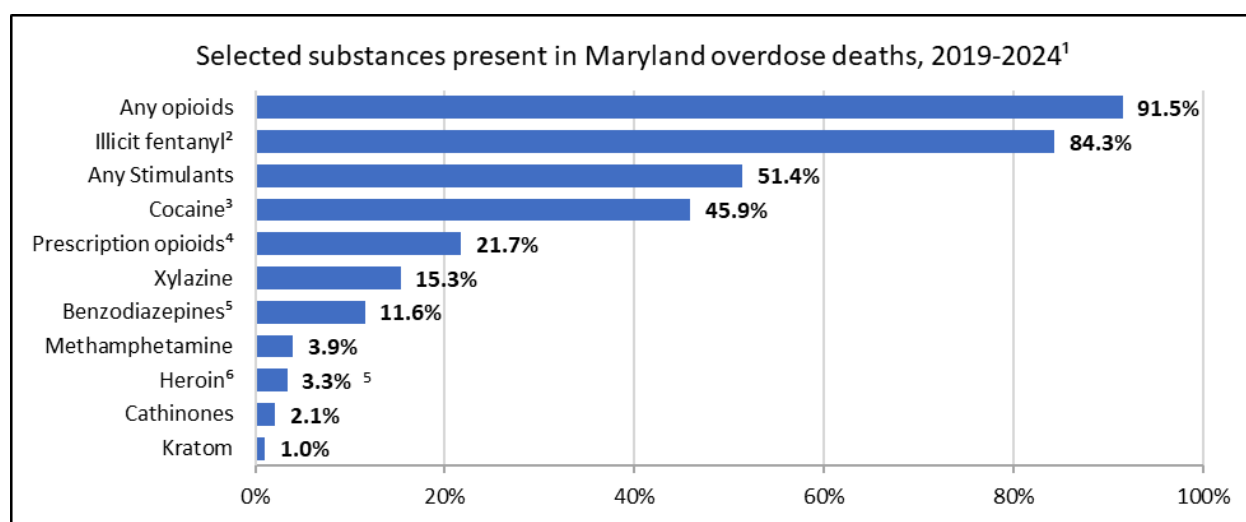
► August 2025

## Opioid and Stimulant Use

**Polysubstance use** describes a situation in which two or more drugs are taken together, whether intentionally or unintentionally. The large number of overdoses with combinations of opioids, stimulants, and/or other substances such as sedative adulterants (like xylazine and medetomidine) detected highlights the need to **always respond to an overdose with both naloxone and rescue breathing**.

Presence of a substance in postmortem toxicology does not necessarily indicate that it contributed to the death. Substances are not mutually exclusive.

- About 17 out of 20 overdose deaths involved illicitly manufactured fentanyl (84%).
- Over half of all overdose deaths involved a stimulant (51%); with 46% including cocaine.
- Just over 1 in 5 overdose deaths was positive for a prescription opioid (22%).



<sup>1</sup>2024 data are through June only and are considered preliminary.

<sup>2</sup>*Illicit fentanyl* (aka illicitly manufactured fentanyl or IMF) includes all fentanyl analogs except alfentanil, remifentanil, and sufentanil (which have legitimate human medical use).

<sup>3</sup>*Cocaine* includes cocaine and/or a metabolite of cocaine (benzoylecgonine, ecgonine methyl ester, and cocaethylene).

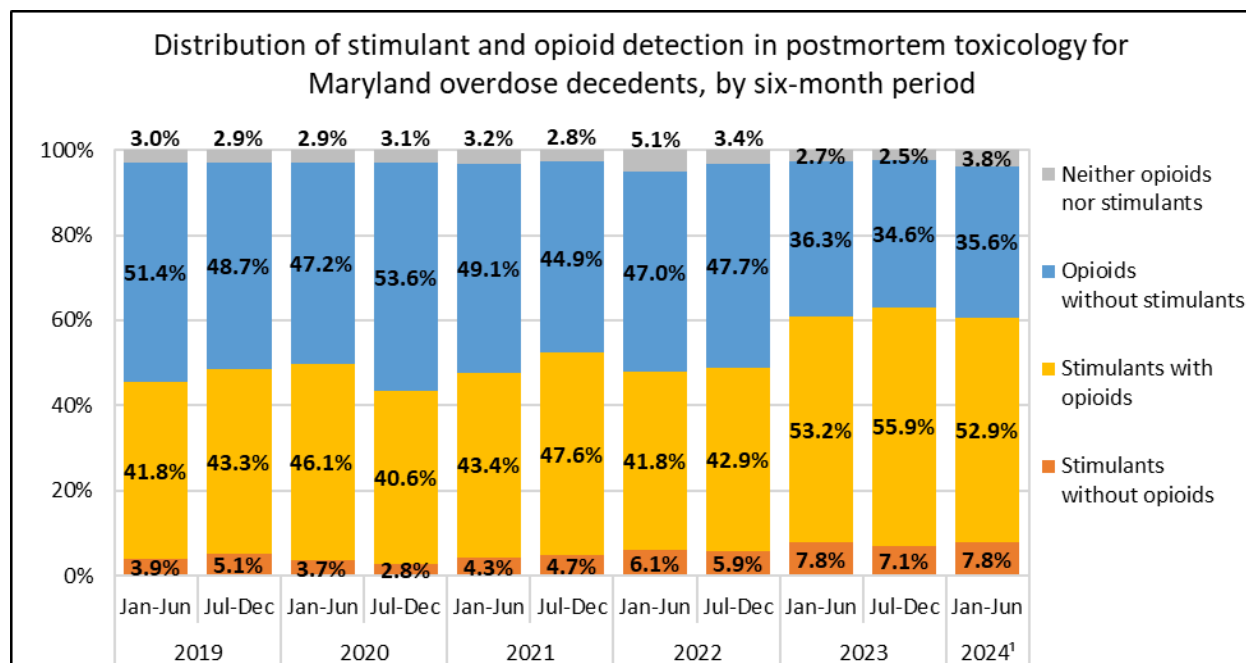
<sup>4</sup>*Prescription opioids* includes alfentanil, buprenorphine, butorphanol, codeine, dihydrocodeine, fentanyl, hydrocodone, hydromorphone, levorphanol, loperamide, meperidine, methadone, morphine, nalbuphine, noscapine, oxycodone, oxymorphone, pentazocine, fentanyl, propoxyphene, remifentanil, sufentanil, tapentadol, thebaine, and tramadol.

<sup>5</sup>*Benzodiazepines* include both prescription benzodiazepines and illegal benzodiazepines.

<sup>6</sup>*Heroin* includes deaths that had heroin and/or 6-acetylmorphine, a metabolite of heroin.

Overdose deaths including **stimulants** are increasing in Maryland.

- The total percentage of overdose deaths with a stimulant increased from 46% in 2019 to 61% in 2024.
- The percentage with a combination of an opioid with a stimulant has increased from 42% of deaths in 2019 to 53% of deaths in 2024.
- The percentage with a stimulant without an opioid has also increased from 4% of deaths in 2019 to 8% in 2024.



<sup>1</sup>2024 data are through June only and are considered preliminary.

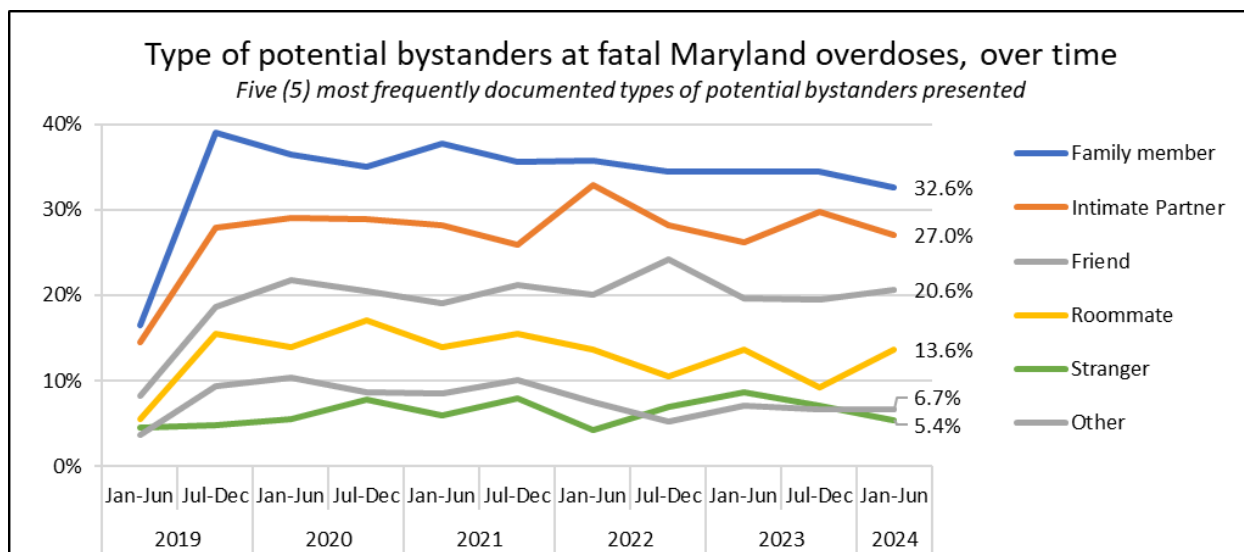
**Did you know** that Maryland has a statewide drug checking program called the Rapid Analysis of Drugs (RAD), which is available to Maryland Syringe Service Program (SSP) participants? For more information about RAD and Maryland's drug supply, please visit <https://health.maryland.gov/pha/NALOXONE/Pages/RAD.aspx>

► August 2025

## Presence of Potential Bystanders

A potential bystander is defined as **a person aged ≥11 years who was physically nearby either during or shortly before a drug overdose and potentially had an opportunity to intervene or respond to the overdose.** This includes anyone in the same structure as the decedent during that time. This could mean they were in the same building but in a different room (i.e. **spatially separated**) or that they were in the same room as the decedent (i.e. **not spatially separated**) during that time.

- **Nearly 3 out of 5 (58%)** of opioid-detected overdose decedents had potential bystanders from 2019-2024: 34% had a family member, 28% had an intimate partner, and 19% had a friend.
- **When bystanders intervened**, CPR was the most common intervention (64%). In addition, lay persons were responsible for more than 7 out of 10 (71%) of the naloxone administrations that occurred in private residences, and more than 2 out of 5 (44%) of naloxone administrations that occurred in supervised locations such as hospitals, jails, etc.
- **When bystanders did not intervene**, the most common reason was spatial separation (64% in 2024). In those cases, spatial separation such as being in a different room of the same house hindered the possibility of observing that an overdose was occurring.



<sup>1</sup>2024 data are through June only and are considered preliminary.

In cases where potential bystanders were not spatially separated from the decedent, over half (53%) did not recognize the signs of an overdose. You can learn how to recognize signs of an overdose at <https://howtoadministernaloxone.maryland.gov/en/files/naloxone-poster.pdf>.

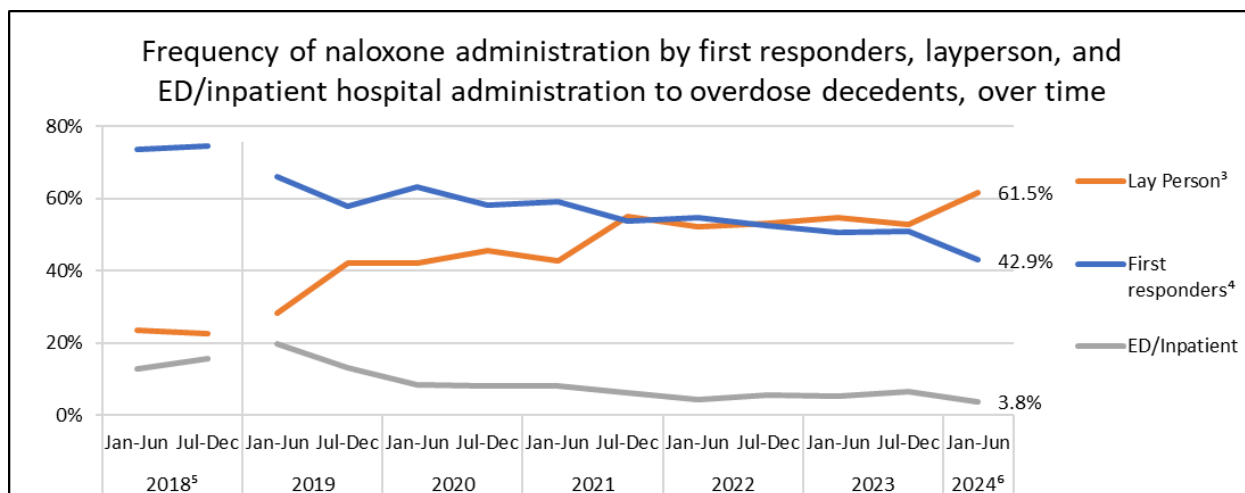
► August 2025

## Naloxone Administration

**Naloxone** is a medicine that rapidly reverses an opioid overdose. When an individual is showing signs of opioid overdose, naloxone administration<sup>1</sup> can provide a window of opportunity for further intervention. In Maryland, 1 in 6 opioid-detected overdose decedents received naloxone (17%). To learn more about accessing and administering naloxone, please visit <https://stopoverdose.maryland.gov/naloxone/>

While naloxone administration can be a crucial intervention, **basic life support such as CPR and rescue breathing are also important** components of overdose response. To learn more, please visit <https://howtoadministernaloxone.maryland.gov/en/files/naloxone-poster.pdf>

- For decedents who received naloxone, administration by a lay person increased from 23% to 62%, while administration by first responders decreased from 74% to 33% between 2018 and 2024.
- Naloxone administration was more common in smaller jurisdictions than in large metropolitan<sup>2</sup> areas (24% vs. 14%) in 2024.




<sup>1</sup>Naloxone administration is either a situation in which an EMS responder, law enforcement officer, firefighter, or health care worker administered naloxone, or a situation in which there was evidence that a layperson administered naloxone. Categories are not mutually exclusive.

<sup>2</sup>Large metropolitan areas refers to counties in central or fringe metropolitan statistical areas of 1 million or more, per the 2013 NCHS Urban-Rural Classification Scheme for Counties.

<sup>3</sup>Lay-persons include other persons using drugs/alcohol with the decedent, intimate partners, friends, family members, roommates, or bystanders with no relationship to the decedent.

► August 2025



<sup>4</sup>*First responders* include law enforcement, emergency medical services, firefighters, and other trained professionals.

<sup>5</sup>2018 data were collected for opioid involved overdose deaths only and exclude non-opioid involved overdose deaths. Because of this, data from 2018 should not be directly compared to data from 2019 and later years.

<sup>6</sup>2024 data are through June only and are considered preliminary.

► August 2025



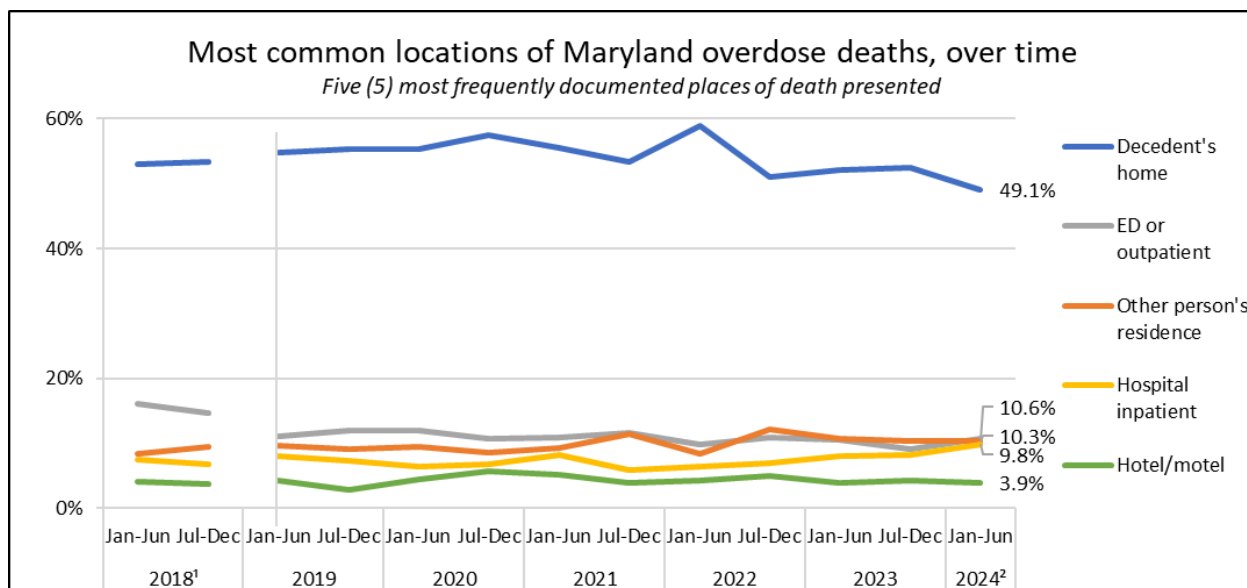
## Place of Death

**More than half** of Maryland overdose deaths (52-59%) occur in the decedent's **own home**, and **another 10%** occur in **someone else's home**. Efforts to reduce fatal overdoses at home can include learning how to use naloxone, having naloxone available and ready for use, avoiding using drugs while alone, and testing drug products with fentanyl and xylazine test strips. Naloxone and test strips are available at an Overdose Response Program near you. <https://health.maryland.gov/pha/NALOXONE/Pages/Approved-Entities.aspx>

A larger percentage of older decedents ages 55+ died in their own homes compared to younger decedents age <55 years (61% and 53%, respectively.)

In 2024,

- 1 in 25 (4%) overdose deaths occurred at a hotel/motel; more than half (55%) of those decedents were White, non-Hispanic
- Almost 1 in 12 (8%) overdose decedents in Baltimore City died in a vacant building
- 20% of overdose deaths occurred in medical facilities; 1 in 9 (11%) occurred in outpatient or emergency care and 1 in 10 (10%) while admitted to the hospital



<sup>1</sup>2018 data were collected for opioid involved overdose deaths only and exclude non-opioid involved overdose deaths. Because of this, data from 2018 should not be directly compared to data from 2019 and later years.

<sup>2</sup>2024 data are through June only and are considered preliminary.

► August 2025