



Introduction

Overdose deaths involving any opioid increased 26% from 2020 to a peak in 2022 with 5,361 deaths among New York State residents. Overdose deaths involving opioids have since started to decline in 2023 to 5,308 deaths,¹ however racial and ethnic disparities still exist. Similarly, hospitalizations and emergency department visits involving opioid overdose increased from 2020 to 2022, before a decline in 2023. Despite these recent decreases, non-fatal and fatal overdoses involving opioids continue to be a significant cause of morbidity and mortality in New York State.

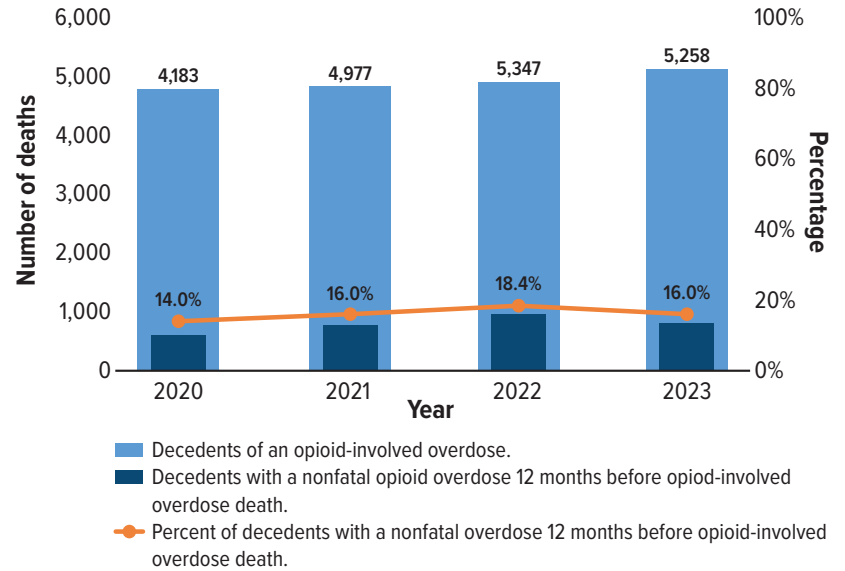
Studies have shown that many people who die of a drug overdose had overdose-related hospital and emergency medical services encounters in the year prior, and individuals who experience nonfatal overdoses are at an increased risk of an overdose death.²⁻⁴ Thus, linking fatal and nonfatal data sources can help identify groups of individuals that are likely to be at a higher risk for fatal opioid overdoses, and who would most benefit from intervention and referral to treatment programs to lower the fatality risk.^{5,6} Additionally, understanding demographic variations or other risk factors can further aid in targeting strategies, identifying opportunities for intervention, and timely follow up for those at higher risk of fatal overdoses.

This Data to Action brief describes the most recent trends and summary data for those who had a documented nonfatal opioid overdose in hospital or emergency services data in the 12 months before an opioid-involved overdose death in New York State from 2020 to 2023, along with [recommended actions and resources](#).

Data insights on overdose deaths involving any opioid

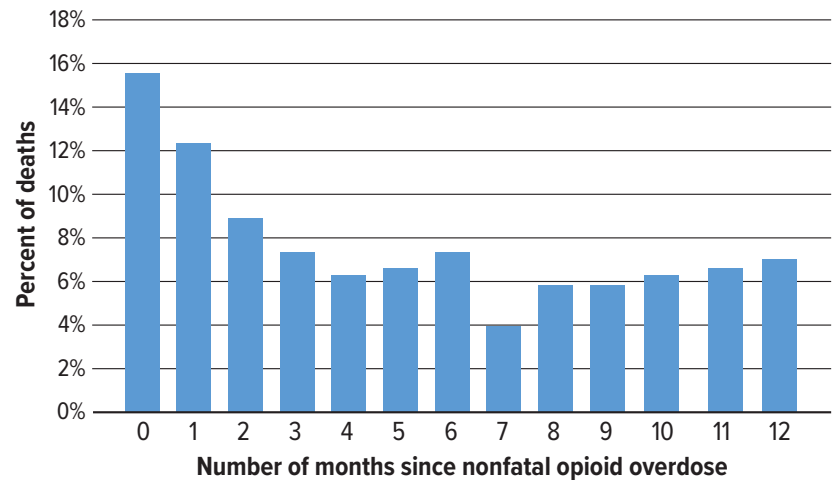
- During 2020 to 2023, 19,765 New York State residents died of an opioid-involved overdose. Of these decedents, at least **one in six** ($n = 3,204$; 16.0%) had a documented nonfatal opioid overdose in the 12 months before death (**Table 1**). Some nonfatal opioid overdoses reversed by community members may not be captured in EMS or hospital data.
- The percentage of opioid-involved overdose decedents who had a nonfatal opioid overdose in the prior 12 months increased from 14.0% ($n = 586$) in 2020 to 18.4% ($n = 982$) in 2022, before declining to 16.0% ($n = 842$) in 2023 (**Figure 1**).
- During 2020 to 2023, the number of days between opioid-involved overdose death and most recent nonfatal overdose ranged from 0–365 days, indicating that some individuals died on the same day they experienced a nonfatal opioid overdose (data not shown). In 2023, half of decedents with a prior nonfatal opioid overdose died within 4 months of their last documented nonfatal overdose (**Figure 2**).

Figure 1: Decedents of an opioid-involved overdose and the percentage with a documented nonfatal opioid overdose within the 12 months before death, New York State, 2020-2023



Data sources: Non-fatal opioid overdoses identified from New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS) Data as of December 2024 and Emergency Medical Services (EMS) data as of September 2024. Fatal opioid overdoses identified from New York State Vital Statistics and New York City Department of Health and Mental Hygiene Bureau of Vital Statistics data as of December 2024.

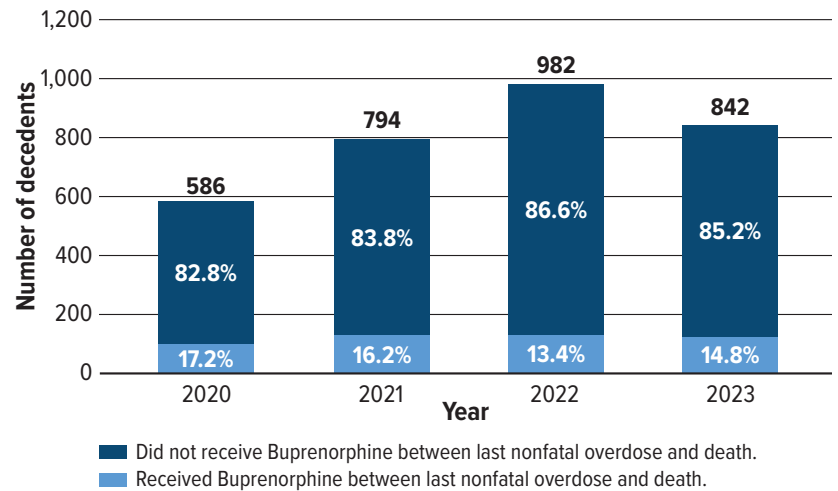
Figure 2: Distribution of opioid-involved overdose deaths after a documented nonfatal opioid overdose, by the number of months since the most recent nonfatal overdose, 2023 (N=842)



Data sources: Non-fatal opioid overdoses identified from New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS) Data as of December 2024 and Emergency Medical Services (EMS) data as of September 2024. Fatal opioid overdoses identified from New York State Vital Statistics and New York City Department of Health and Mental Hygiene Bureau of Vital Statistics data as of December 2024.

- Overall, among opioid-involved overdose decedents who had a nonfatal opioid overdose in the prior 12 months, more than 80% did not receive buprenorphine for OUD treatment after their last nonfatal overdose (**Figure 3**). This was more than 85% in 2023.
- Although methadone is also an effective medication for OUD treatment shown to reduce the risk of fatal overdose,⁶ receipt of methadone after a nonfatal opioid overdose could not be assessed in these analyses.

Figure 3: Buprenorphine receipt* between last documented nonfatal opioid overdose and overdose death among decedents of an opioid-involved overdose who had a nonfatal opioid overdose in the prior year, New York State, 2020-2023



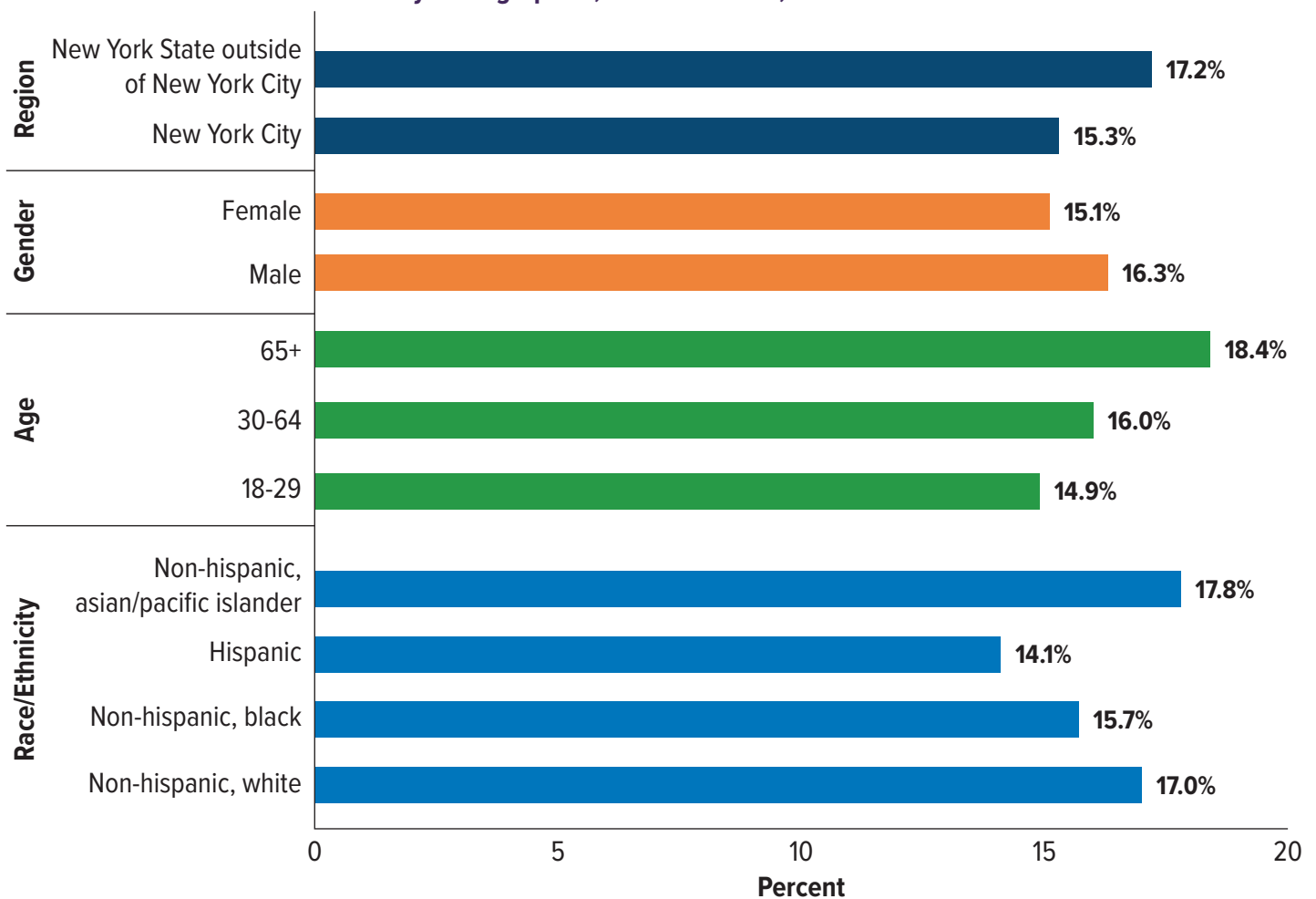
*Receipt of Buprenorphine is defined as having a filled prescription for Buprenorphine for opioid use disorder (OUD) treatment.

Data sources: Buprenorphine treatment data obtained from the New York State Prescription Monitoring Program Registry Data as of December 2024. Non-fatal opioid overdoses identified from and New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS) Data as of December 2024 and Emergency Medical Services (EMS) data as of September 2024. Fatal opioid overdoses identified from New York State Vital Statistics and New York City Department of Health and Mental Hygiene Bureau of Vital Statistics data as of December 2024.

Demographics

- Regionally in 2023, 17.2% ($n = 486$) of decedents of an opioid-involved overdose had a documented nonfatal overdose in the 12 months prior in New York State outside of New York City compared with 15.3% ($n = 356$) in New York City. (Figure 4).
- In 2023, among decedents of an opioid-involved overdose by age group, the oldest decedents, aged 65+ years, had the highest proportion of experiencing a nonfatal overdose in the prior 12 months ($n = 88$; 18.4%). Conversely, among the youngest decedents, aged 18-29 years, the proportion of prior nonfatal overdoses was lowest compared with the other age groups ($n = 79$; 14.9%). (Figure 4).
- In 2023, among decedents of an opioid-involved overdose by sex, males had a higher proportion of experiencing a nonfatal overdose in the prior 12 months ($n = 635$; 16.3%) compared with females ($n = 207$; 15.1%). (Figure 4).
- In 2023, among decedents of an opioid-involved overdose by race and ethnicity, non-Hispanic Asian/Pacific-islanders had the highest proportion of experiencing a nonfatal overdose in the 12 months before death ($n = 35$; 17.8%), followed by non-Hispanic Whites ($n = 411$; 17.0%), and Hispanics had the lowest proportion ($n = 171$; 14.1%). (Figure 4). Lower proportions of documented prior nonfatal overdose among blacks may reflect reduced likelihood among this population to seek emergency medical care following an overdose.⁷

Figure 4: Decedents of an opioid-involved overdose who experienced a documented nonfatal opioid overdose within the 12 months before death by demographics, New York State, 2023



Data sources: Non-fatal opioid overdoses identified from New York State Department of Health Statewide Planning and Research Cooperative System (SPARCS) Data as of December 2024 and Emergency Medical Services (EMS) data as of September 2024. Fatal opioid overdoses identified from New York State Vital Statistics and New York City Department of Health and Mental Hygiene Bureau of Vital Statistics.

Opportunities for Action

Many individuals who experience a fatal opioid overdose have had a nonfatal opioid overdose within the 12 months before death. Any nonfatal overdose represents an opportunity for action to prevent fatal overdose and improve outcomes among overdose survivors. Results from linked data analyses show that:

- At least **one in six** decedents of an opioid-involved overdose have had a documented nonfatal opioid overdose within the prior year, with a higher proportion observed among racial minority and older population groups in New York State.
- In 2023, half of decedents died within four months of their last documented nonfatal opioid overdose therefore timely intervention is crucial.
- The vast majority of decedents who had survived an opioid overdose in the prior year did not receive buprenorphine between their nonfatal opioid overdose and their death.

Enhancing public health strategies and programs focused on prevention, harm reduction, and ensuring linkage to treatment and clinical care is imperative, including but not limited to Post Overdose Follow-up for those who survive any overdose, Drug Checking Programs and Drug User Health Hubs for persons who use drugs, and the Buprenorphine Access Initiative which increases access to buprenorphine for OUD treatment. Studies have shown that buprenorphine treatment after a nonfatal opioid overdose significantly reduces the risk of overdose death involving opioids.^{5,6}

Please see the following list of recommended actions and resources below to learn more about harm reduction and ways to reduce risk of overdose.

Recommended Actions and Resources

The following list of recommendations is tailored to specific audiences and is not exhaustive.

For more information about resources for people who use drugs in New York State, please visit health.ny.gov/opioids, or contact opioidprevention@health.ny.gov.

ACTIONS

Healthcare Providers

- Prescribe buprenorphine following a nonfatal opioid overdose. In December 2022, the law was changed to allow all prescribers with DEA registrations to [prescribe buprenorphine](#). Brief trainings can be found at <https://ceitraining.org/courses/>. Enroll your program and clinic with [Buprenorphine Assistance Program \(BUPE-AP\)](#), so that patients who have no insurance or underinsured can receive buprenorphine with no out of pocket expenses.
- Refer patients to Opioid Treatment Programs to receive methadone and other drug treatment. Methadone has also been shown to be effective in preventing fatal opioid overdose.⁶
- Take the [Providers Clinical Support System \(PCSS\)](#) online medication for opioid use disorder (MOUD) training.
- Refer complicated patients to other providers more experienced in treating substance use disorders.
- Provide stigma-free care by withholding judgment about patients' substance use. The New York State Department of Health (New York State DOH) AIDS Institute provides [clinical guidelines](#) for caring for people who use drugs.
- Develop an awareness of structural competency described in [OASAS Recommendations on Structural Competency in Substance Use Disorder Treatment](#).

- Examine practices regarding bias that reduces the ability to serve a diversity of races and ethnicities. Information on racial justice and health equity in substance use disorders is available from the [American Society of Addiction Medicine](#).
- Prescribe naloxone to patients at risk of having or witnessing an opioid overdose. That includes patients whose drugs of choice are limited to stimulants. The [Naloxone Co-payment Assistance Program \(N-CAP\)](#), will cover co-payments for naloxone up to \$40 resulting in no or lower out-of-pocket expenses for most insured patients. Patients may also be referred to one of the State's [Opioid Overdose Prevention Programs](#) for overdose training and naloxone.

State and Local Health Departments

- Explain the serious health risks associated with opioids, including overdose, coma, and death.
- [Opioid Overdose Educational Materials](#) are available from the New York State DOH at no cost to you.
- [Opioid Overdose Program providers nearby](#) can be found on the New York State DOH website.
- Ensure the inclusion of people with lived and living experience in department [overdose surveillance and prevention efforts](#).
- Become a [Registered Opioid Overdose Prevention Program](#) or work closely with one.
- Learn about the [Naloxone Co-payment Assistance Program \(N-CAP\)](#), which allows individuals with prescription coverage as part of their health insurance plan to get naloxone at pharmacies with no or lower out of pocket expenses. The cost of the medication is billed to the insurance company; N-CAP covers co-payments up to \$40.
- Educate community members on the ability to access naloxone at pharmacies. As of 2022, there is a [statewide standing order for naloxone](#), allowing pharmacists to dispense naloxone without individuals having to bring in a prescription from their own provider.
- Facilitate better public health surveillance of the illicit substance environment, encourage comprehensive and [improved data reporting by EMS](#) of all suspected substances involved in an overdose.
- Work to ensure that harm reduction services and substance use treatment services are equitably distributed both geographically and culturally to serve those at highest for a fatal overdose following a non-fatal overdose. This may require outreach and use of epidemiology data to determine where these services are most needed.
- Promote the [Buprenorphine Assistance Program \(BUPE-AP\)](#).

County Coroners/Medical Examiners

- Take the [Mastering the Cause of Death in the 21st Century](#) online course for guidance on accurately entering information on the death certificate for drug overdose deaths and on enhanced toxicology screening for opioids when suspected.
- Review the Office of Assistant Secretary report on, [Strengthening the Data Infrastructure for Outcomes Research on Mortality Associated with Opioid Poisonings](#), for way to improve data quality and reporting.
- Establish regular and open communication among laboratory and coroner/medical examiner personnel with county public health and public safety officials to keep local partners informed of emerging drug trends and appropriate responses.

Community and Family Members

- Find out how to obtain [fentanyl & xylazine test strips](#) and use them to check substances for the presence of fentanyl.
- Naloxone (also known by the brand name, Narcan®) is a medication that can be used in an emergency to reverse overdoses involving opioids. It is legal to possess in all states. Because substances may contain opioids without the users' knowledge, anyone using drugs should have naloxone available and know how to use it.
- Check the [Community Calendar of Opioid Overdose Trainings](#) for opioid prevention training near you. Learn how to identify and respond to an opioid overdose and be trained in how to administer naloxone.
- For an online and mailed service of naloxone, visit [NEXT Distro](#) or NY [MATTERS \(Medication for Addiction Treatment and Electronic Referrals\)](#).
- If you have prescription drug coverage as part of your health insurance, the [Naloxone Co-payment Assistance Program \(N-CAP\)](#) will cover co-payments for naloxone of up to \$40 resulting in no or lower out-of-pocket expenses for most individuals.
- If you call 911 to report an overdose, you and the person who has overdosed will not be charged with possession of a controlled substance. Read [Facts about the 911 Good Samaritan Law](#) and share this information with others.
- If you reverse an overdose encourage the recipient to seek help with buprenorphine or methadone.

RESOURCES

Treatment and Recovery Resources

- New Yorkers struggling with a substance use disorder can find help and hope by calling the state's toll-free, 24-hour, 7-day-a-week HOPEline at 1-877-8-HOPENY (1-877-846-7369), or by texting HOPENY (Short Code 467369).
- To locate a substance use disorder treatment program, visit the New York State OASAS [Treatment Availability Dashboard](#).
- To locate a Buprenorphine Treatment Practitioner, check the NY [MATTERS \(Medication for Addiction Treatment and Electronic Referrals\)](#) referral network.
- Learn more about [buprenorphine](#), an option for medication for opioid use disorder, from the Office of Drug User Health.
- Visit the New York State DOH website to learn about [Drug User Health](#), including helpful information and resources, such as [Syringe Access Programs](#), [Safe Sharps Disposal](#), and Drug User Health Hubs. Your medical provider might prescribe buprenorphine.

Comprehensive Programs and Services for People Who Use Drugs

- Practice safer use strategies to lower your risk of overdose. Start slow, don't use alone, keep naloxone on hand.
- No matter what drug or drugs you use, reduce your risk of overdose by building a [safety plan](#) and sharing it with someone you trust.
- Where available, use drug checking services to be more informed about what is in your substance(s). If drug checking isn't available, find out how to obtain [fentanyl & xylazine test strips](#) and use them to check substances for the presence of fentanyl.
- Learn the "411" about fentanyl, why it may increase your risk of overdose, why it is important to be cautious of all drugs and not just opioids, and how you can reduce that risk.
- Visit the New York State DOH website to learn about [Drug User Health](#), including helpful information and resources, such as [Syringe Access Programs](#), [Safe Sharps Disposal](#), and Drug User Health Hubs.
- To locate Syringe Exchange Programs (SEPs), visit the [New York State Directory of Program Sites](#).

Methodology

Data Source

- The New York State Department of Health, Office of Science, Center for Population Health Science links de-identified person-level data from distinct sources to more efficiently improve public health by addressing gaps and informing effective interventions for public health threats, including fatal and non-fatal overdose.
- The datasets used for this analysis included Vital records from the New York State Vital Records for records outside New York City and New York City Department of Health and Mental Hygiene Bureau of Vital Records for records within New York City, the Prescription drug Monitoring Program data (PDMP), the Statewide Planning and Research Cooperative System (SPARCS) and Emergency Medical Services data.

Data Preparation and Linkage

This project utilized Statistical Analysis System (SAS) software to manage the data sets. Standardized datasets were deduplicated, and each person was assigned a within-data source unique pseudo-ID based on name, sex, and date of birth. Linkage across datasets was implemented using exact matching, and identical pseudo-IDs were considered matches. Analyses for this study were then performed with the deidentified linked data.

Definitions

Vital Records

- **Overdose death involving any opioid:** Includes drug overdose deaths AND deaths where any opioid was indicated in the other contributing causes of death (ICD-10 codes T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6).

Statewide Planning and Research Cooperative System

- **Unintentional and undetermined nonfatal opioid overdose:** Any ICD-10-CM code (any diagnosis) of T40.0, T40.1, T40.2, T40.3, T40.4, T40.6 (Excludes 'self-harm', 'assault', 'adverse effect' or 'underdosing' as indicated by the values of 2, 3, 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T400X5S, T400X6S).

Emergency Medical Services

- **Suspected opioid overdose:** The NYS definition for suspected opioid overdose includes EMS responses for which ANY of the following criteria is true:
 - Naloxone administered with positive response; or,
 - Provider impressions indicate poisoning by opioids and naloxone is administered or at least two keywords indicating an opioid overdose mentioned in narrative; or,
 - Provider impressions indicate opioid related disorder and naloxone is administered or at least three keywords indicating an opioid overdose mentioned in narrative; or,
 - Provider impressions indicate unspecified drug overdose, and opioid term is mentioned in narrative and response to naloxone is not worse and no narcotics are administered by EMS; or,
 - Provider impressions indicate unspecified drug overdose, cardiac arrest, apnea, or respiratory failure and opioid term is mentioned in narrative and no narcotics are administered by EMS and patient fatality is indicated; or,
 - Opioid term and overdose term mentioned in narrative (with no exclusion term) and at least two keywords indicating an opioid overdose mentioned in narrative and no narcotics are administered by EMS.

Prescription Drug Monitoring Program

- Receipt of prescription buprenorphine for treatment of Opioid Use Disorder (OUD).

Appendix

Table 1: Decedents of an opioid-involved overdose and percentage with a documented nonfatal opioid overdose 12 months before death, New York State, 2020-2023

| Year | Decedents with a nonfatal opioid overdose during the 12 months before opioid-involved overdose death | Number of decedents of an opioid-involved overdose |
|--------------|--|--|
| 2020 | 586 (14.0%) | 4,183 |
| 2021 | 794 (16.0%) | 4,977 |
| 2022 | 982 (18.4%) | 5,347 |
| 2023 | 842 (16.0%) | 5,258 |
| TOTAL | 3,204 (16.2%) | 19,765 |

References

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