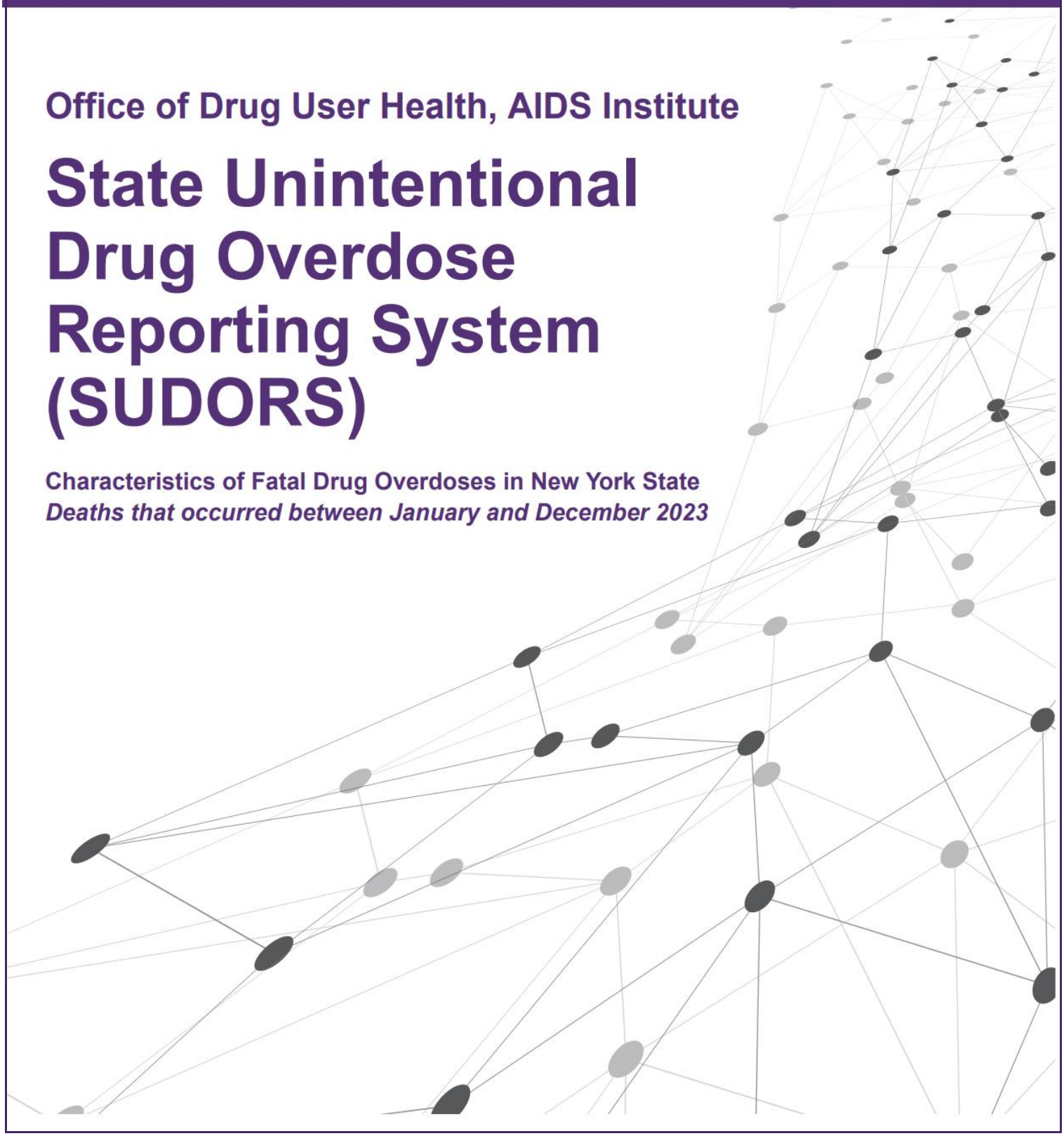
NEW YORK STATE | Department of Health

Office of Drug User Health, AIDS Institute

State Unintentional Drug Overdose Reporting System (SUDORS)

Characteristics of Fatal Drug Overdoses in New York State

Deaths that occurred between January and December 2023



The New York State Department of Health respectfully acknowledges that every data point in this report represents a human life and the loss of a loved one. The intention of this report is to help our communities, and their leaders, develop a deeper understanding of the circumstances surrounding drug overdose deaths to inform prevention and harm reduction programs across New York State.

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The State Unintentional Drug Overdose Reporting System (SUDORS) is an enhanced public health surveillance reporting system, supported by the Centers for Disease Control and Prevention, that aims to collect comprehensive information on fatal drug overdose cases to inform public health action.

Case Inclusion Criteria:

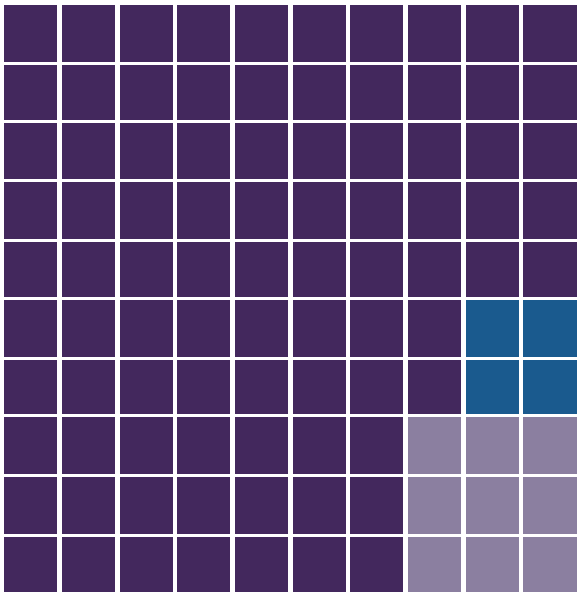
- Cause of death: Drug poisoning/overdose deaths that occurred *in* New York State
- Manner of death: Unintentional/accidental or undetermined
- Location of death: Occurrent (within the jurisdiction), regardless of residence of decedent and location of injury (overdose).

A *complete* case includes information from:

- Death certificate
- Toxicology report
- Forensic, coroner, or medical examiner report

DATA SOURCES AND COMPLETENESS

Information collected for deaths occurring January to December 2023 in New York State



87% of case reports include a death certificate, a toxicology report, and a coroner or medical examiner report.

4% of case reports had a death certificate and either a toxicology report or a coroner or medical examiner report.

9% of case reports include only a death certificate.

KEY FINDINGS AND CALL TO ACTION

- **In 2023, 5,985 individuals died of an accidental or undetermined intent drug overdose in New York State and were reported to the State Unintentional Drug Overdose Reporting System.**
  Action #1: Overdose rates remain at epidemic levels. Interventions focused on reducing overdose morbidity and mortality should be continued and expanded statewide.

- **Drug overdoses are often the result of an acute polydrug intoxication. Most overdose deaths involve illegally-made fentanyl(s), with other substances, like stimulants also present in the person's system.**
  Action #2: Promote the use of fentanyl and xylazine test strips, and other drug checking technologies, as they are effective tools to inform users of the contents of drugs.
  Action #3: Administer naloxone in the event of a suspected overdose. Continue to distribute naloxone statewide.

- **Men, especially Black men, American Indian and Alaska Native, and working age adults (aged 25 to 64) are disproportionately affected by drug overdose.**
  Action #4: Develop specific and culturally sensitive risk communication and outreach strategies to engage the most affected demographic groups and communities.

- **Most fatal overdoses occur in private, residential settings, often when a person is using drugs alone, leading to delay in response.**
  Action #5: Communication campaigns should emphasize the importance of, if you're going to use - avoid using alone, and developing safety plans. Promote the Never Use Alone hotline and increase support to this initiative at the state level. Reducing stigma of drug use remains vital.

- **There is evidence of missed opportunities among lay persons responding to overdose, with only one out of four potential bystanders responding.**
  Action #6: Distribute naloxone, educate on how to use naloxone and how to recognize an opioid overdose, and signs of acute intoxication from non-opioid substances that require a medical response.

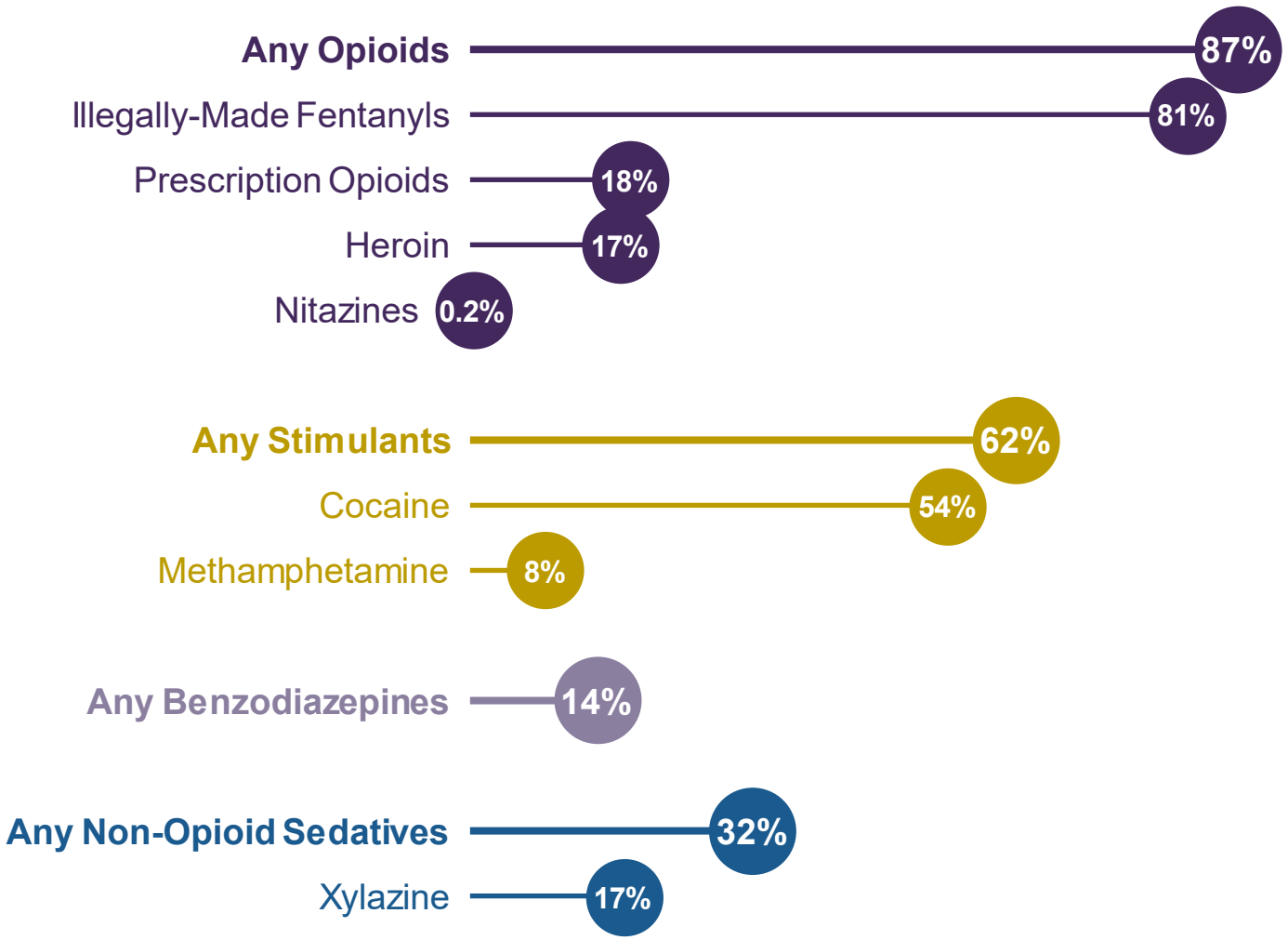
- **Persons who die of drug overdose are often living with a substance use disorder and have multiple medical needs, including mental health needs and chronic medical conditions like heart disease.**
  Action #7: Low-threshold treatment services, mental health counseling, and clinical services are critical in addressing the overdose crisis.
  Action #8: Harm reduction programs and drug user health outreach can link people to care and post-overdose support to those who recently experienced an overdose.

- **Addressing social determinants of health, like housing, transportation, and access to care, play a key role in the overdose prevention.**
  Action #9: Addressing social determinants of health and promoting interventions grounded in health equity and person-centered approaches are critical elements to address the overdose crisis.

Most overdose deaths involved illegally-made fentanyl(s), often with other substances, like stimulants present in the body. Polydrug involvement complicates the response to the overdose epidemic.

87% of overdose deaths involved Opioids, 62% involved Stimulants, and 17% involved Xylazine.

Figure 1. Percent of overdose deaths where select drugs and drug classes were listed as cause of death, 2023.



Call to Action

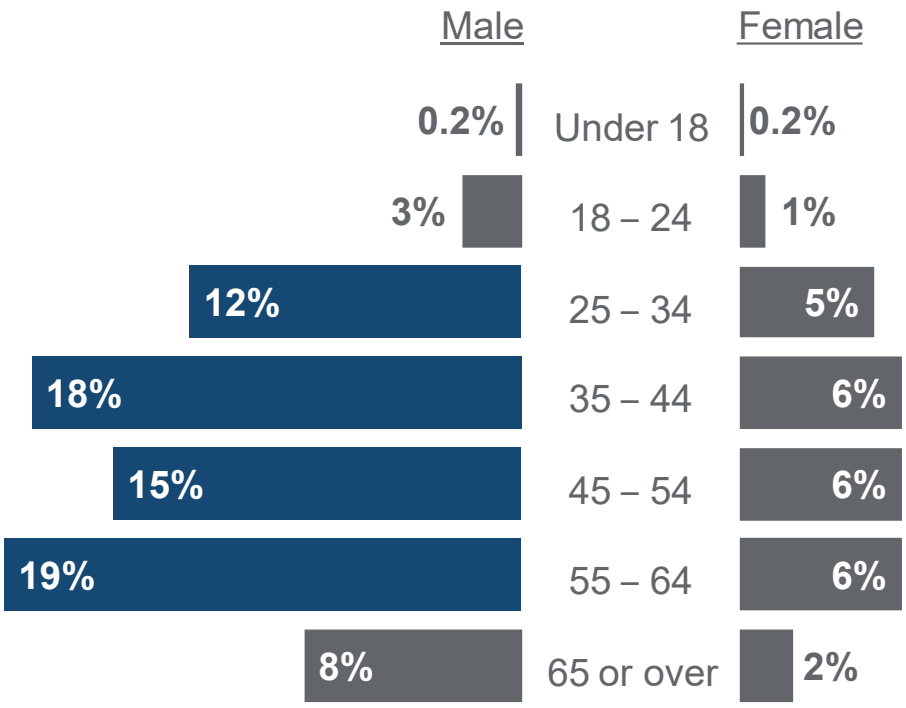
- **Fentanyl and xylazine test strips, and other drug checking technologies, are effective tools to inform users of the contents of drugs.**
- **Naloxone is a life-saving intervention that should be used in the event of a suspected overdose.**

In New York, Men are disproportionately affected by drug overdose. Working age adults, especially those between the ages of 25 to 64, represent the largest portion of overdose deaths.

About 3 in 4 people who died of an overdose were male.

Figure 2. Percent of overdose decedents, by sex and age group, 2023.

Over half of overdose deaths happened among men aged 25 to 64.

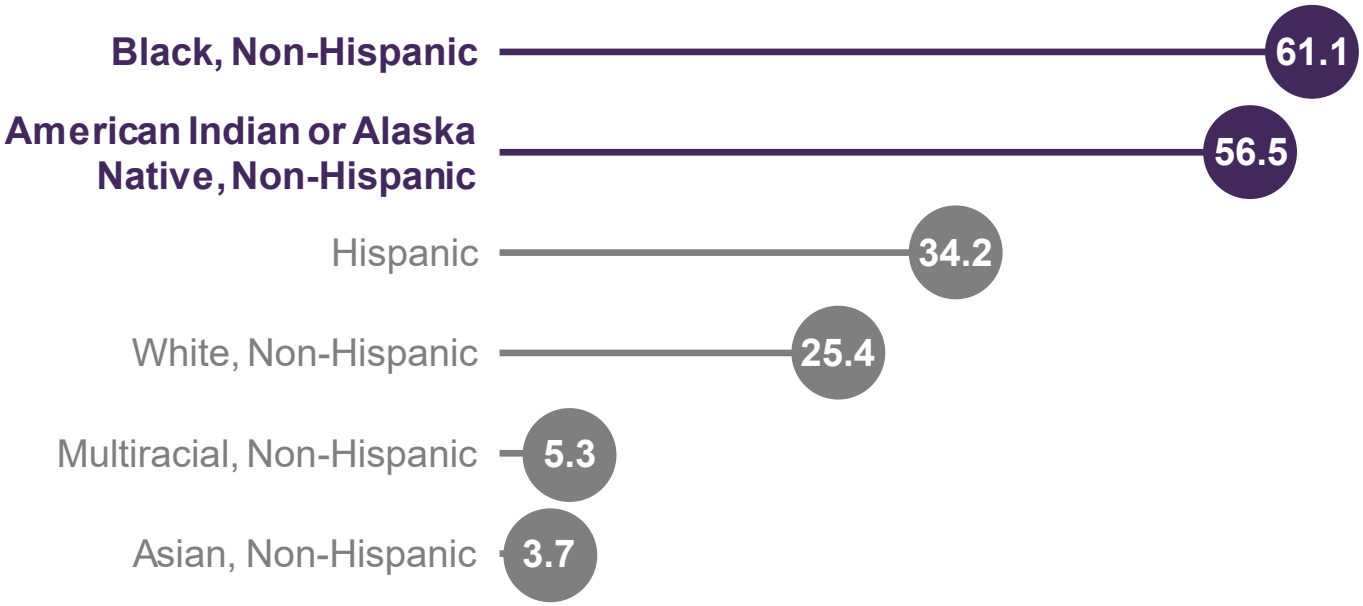


Call to Action

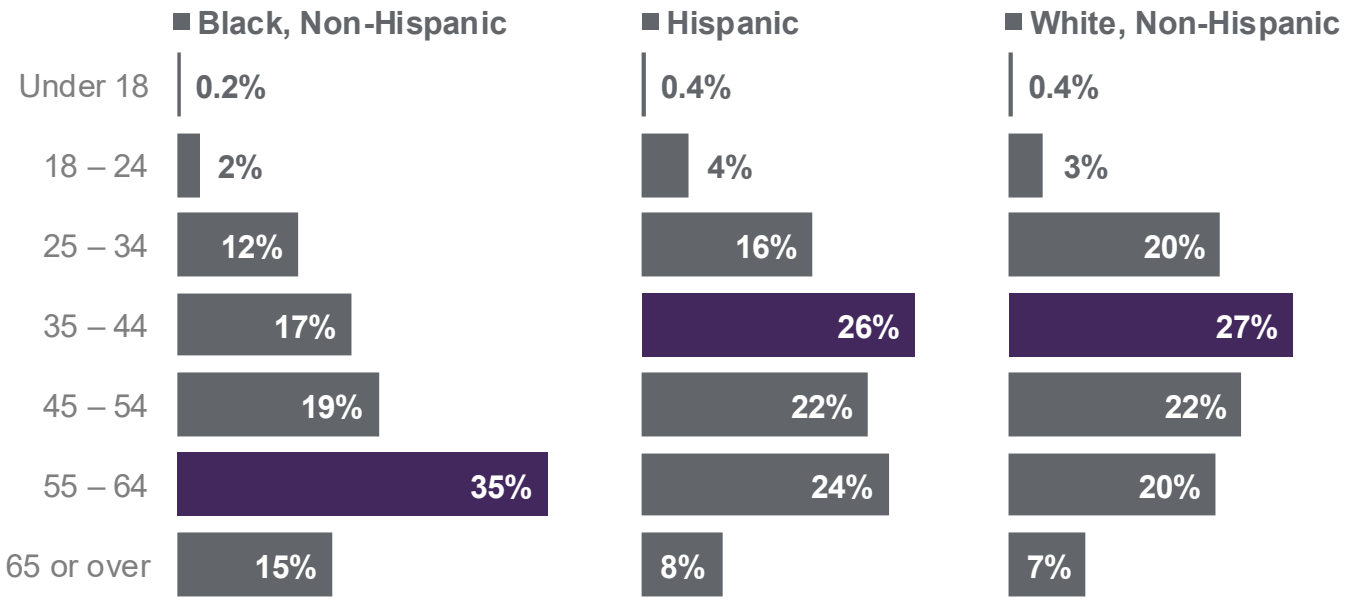
- **Communication campaigns should consider specific and culturally sensitive risk communication and outreach strategies to engage the most affected demographic groups and communities.**

Black, non-Hispanic, and **American Indian or Alaska Native**, non-Hispanic, communities experienced the highest overdose mortality rates in 2023.

Figures 3a and 3b. Overdose deaths per 100,000 population.
Percent of overdose decedents and population, by race/ethnicity and by age group, 2023.



Black, non-Hispanic people who died of a drug overdose were more often **55 to 64** years old, while **Hispanic and White, non-Hispanic** overdose decedents were more often **35 to 44** years old.



Most fatal overdoses occur in private, residential settings, often when a person is using drugs alone, leading to a delay in response. Overdoses can occur rapidly with a short window of opportunity to provide lifesaving measures.

Figure 4. Percent of overdose decedents with select circumstances related to status of medical response, among cases with a report, 2023.

59% of people who died of an overdose, **died at home**.

24% of people were seen in the **emergency room.**

71% of people **had no pulse** when first responders arrived.

21% of people were **administered Naloxone**.

Call to Action

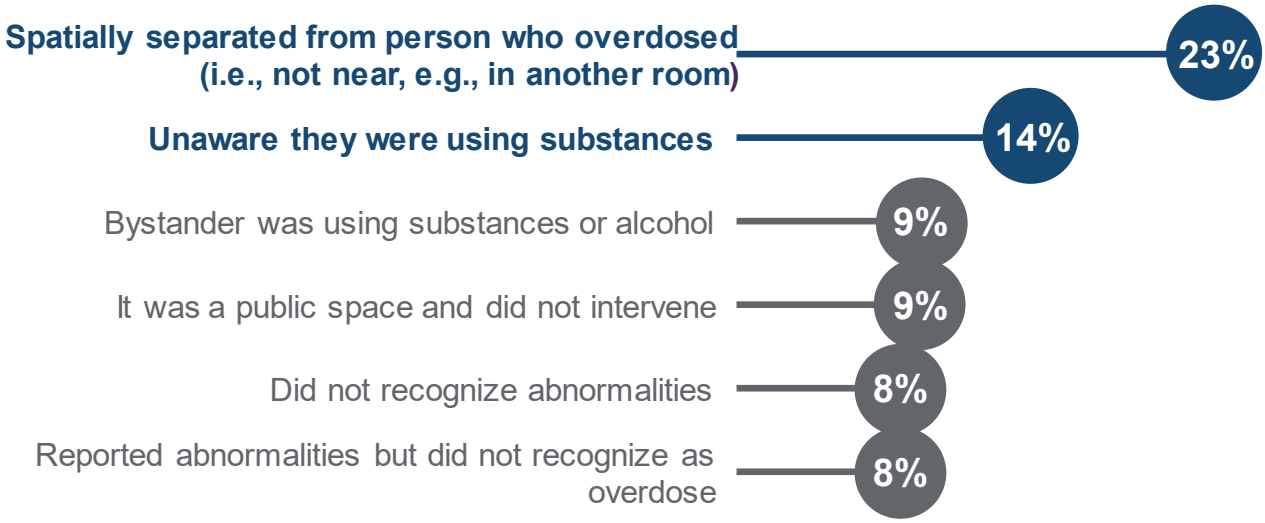
- **Communication campaigns should emphasize the importance of, if you're going to use - avoid using alone, and developing safety plans.**

There is evidence of **missed opportunities** among individuals responding to drug overdoses, with **only 1 out of 4** bystanders engaging in responding to the crisis.

Figure 5: Percent of overdose deaths with a potential bystander and reasons for non-response, among cases with a report, 2023.

- **At least 1 in 3** fatal overdoses **had a bystander nearby** who could have potentially responded.
- **Bystanders** present at the time of a fatal overdose were most often an **intimate partner**, a **friend**, or **other family**.
- **Bystanders**, when present, **responded** to at least **1 in 4** fatal overdoses by calling 911, administering naloxone, performing rescue breathing, etc.

Bystanders who **did not respond** most often were **not directly near** the person who overdosed, or they were **unaware** they were using.



Call to Action

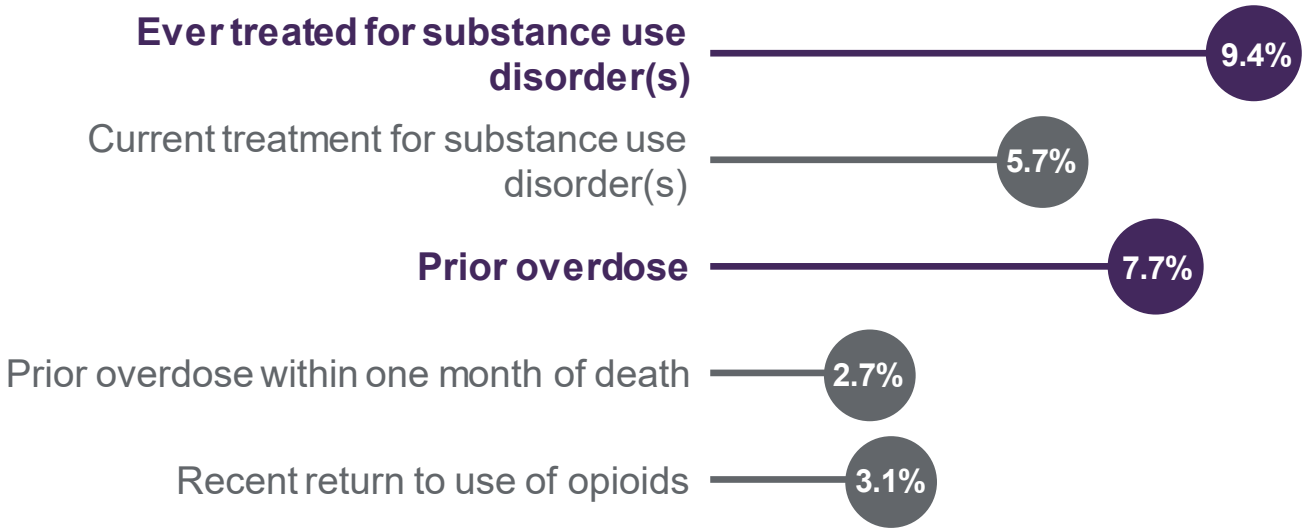
- **Distribute naloxone and educate on how to use naloxone, how to recognize an opioid overdose, and signs of acute intoxication from non-opioid substances that require a medical response.**

Most persons who died of a drug overdose have a **substance use history** but very few have documented **evidence of receiving low-threshold treatment**.

Figure 6. Percent of overdose decedents with previous or current substance use disorder or substance use history, among cases with a report, 2023.

68% of people who died of an overdose had a **substance use history** and **20%** had an **alcohol use disorder**.

Among people who died from an overdose, **9.4%** were **ever treated** for substance use disorder(s) and **7.7%** had a **prior overdose**.

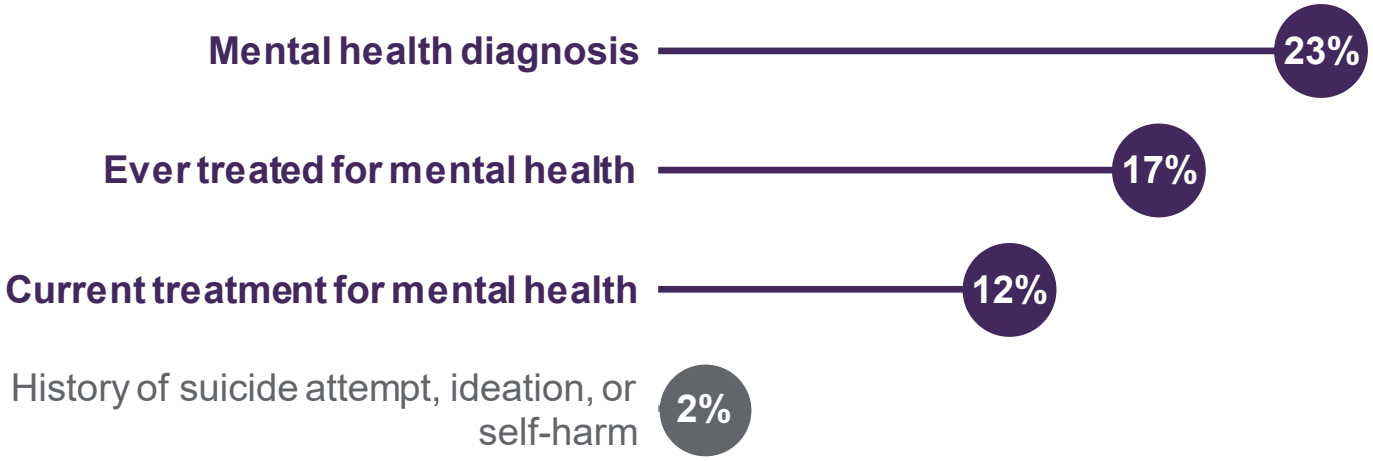


Call to Action

- **Low-threshold clinical services are critical services to address the overdose crisis.**
- **Harm reduction programs and drug user health outreach can link people to care and post-overdose support to those who recently experienced an overdose.**

23% of overdose decedents had a mental health diagnosis, while only **17%** were ever treated and **12%** were currently receiving treatment.

Figure 7. Percent of overdose deaths with one or more previous or current mental health diagnoses, among cases with a report, 2023.



The most common mental health diagnoses were **depression** (11.7%), **anxiety** (6.3%), **bipolar disorder** (5.5%), and **schizophrenia** (4.0%). Other mental health diagnoses (including post-traumatic stress disorder, borderline personality disorder, and panic disorder) were reported for less than 2% of people who died of an overdose.

Call to Action

- **Low-threshold mental health counseling and linkage to mental health services are critical in addressing the overdose crisis.**

Social determinants of health, including access to healthful food, quality housing, economic opportunities, transportation, and health care in all settings play an important role overdose prevention.

Figure 8. Percent of overdose deaths among selected social determinants of health, among cases with a report, 2023.

8.3% were experiencing **homelessness or housing instability** at the time of their death.

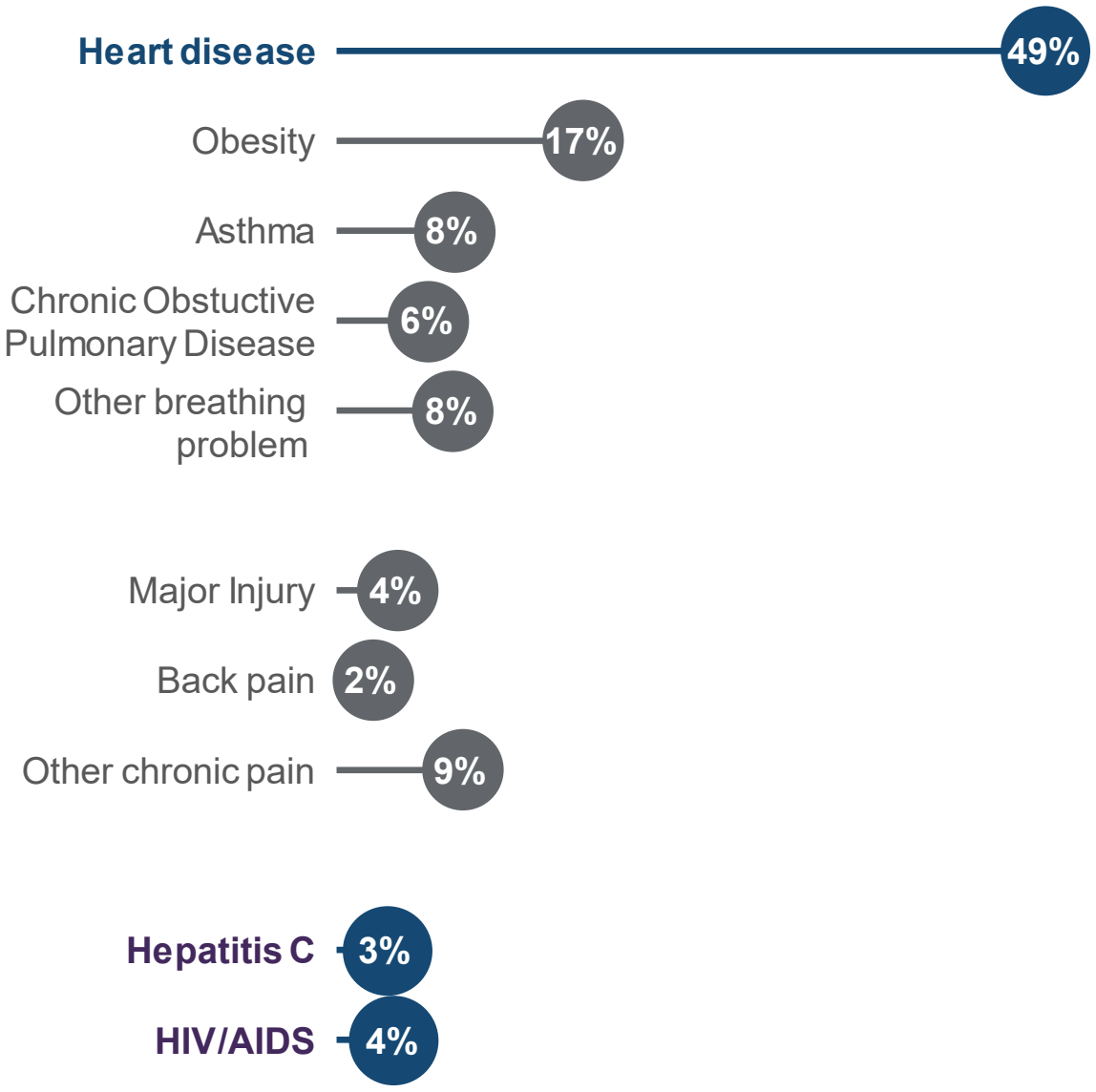
4.9% had been recently released from an **institutional setting** (e.g., a hospital, jail, or residential treatment facility).

Call to Action

- **Addressing social determinants of health and promoting practices and interventions grounded in health equity principles and person-centered approaches are critical elements to address the overdose crisis.**

Most persons who died of an overdose had at least one medical condition that required ongoing clinical care. 49% of overdose decedents had some form of heart disease.

Figure 9. Medical conditions among persons who died of a drug overdose, among cases with a report, 2023.

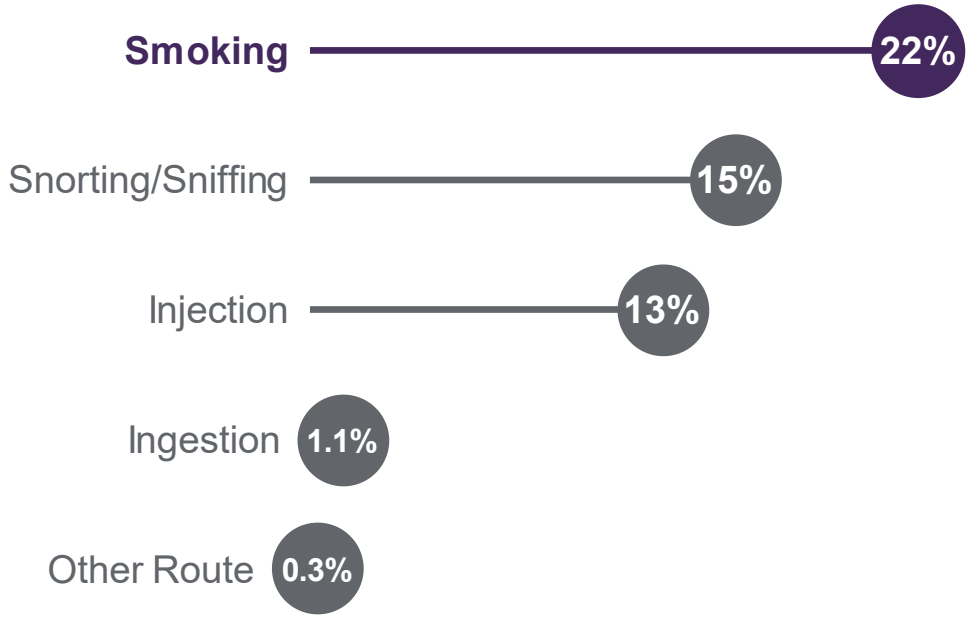


Call to Action

- **Low-threshold clinical services are critical services, including maintaining heart and lung health, access to HIV and Hepatitis C testing, and pain management. Linkages to care are important in addressing the overdose crisis.**

Smoking was the most common route of administration among persons who died of an overdose based on evidence at the scene. Among people who died of a drug overdose, **22% overdosed when smoking**. Snorting/sniffing and injection were the next most common routes of administration with 15% and 13% respectively.

Figure 10. Route of drug administration among drug overdose decedents, among cases with a report, 2023.



Call to Action

- **Strengthen and expand harm reduction services, particularly safe smoking, and injection supplies.**
- **Promote safe smoking practices and educate on the risk of overdose.**

TECHNICAL NOTES

Information in this report includes 5,985 of the 6,178, or 97%, of the deaths in this period based on provisional data from the Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Provisional Mortality on CDC WONDER (Wide-ranging ONline Data for Epidemiologic Research) Online Database. Data are from the final Multiple Cause of Death Files, 2018-2021, and from provisional data for years 2022-2024, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at http://wonder.cdc.gov/mcd-icd10-provisional.html on November 19, 2024.

This report includes death certificates from all counties in New York State with deaths in this time frame, with 55 counties submitting coroner or medical examiner and toxicology reports. The counties submitting reports during this reporting period included: Albany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Nassau, New York, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, and Wyoming.

Cases are identified using ICD-10 cause of death codes (X40–X44 and Y10–Y14 for unintentional and undetermined intent overdose deaths, respectively), scans of the text-based cause of death information, and reviews of coroner or medical examiner reports, subject to review by Centers for Disease Control and Prevention's quality assurance team.

Figure 1. Percent of overdose deaths involving select drugs and drug classes indicated as a cause of death, 2023. The prevalence of any opioids listed in cause of death was 87% (N=5,194/5,985 cases), with fentanyl listed in cause of death in 81% (N=4,843/5,985) of cases. The prevalence of any stimulants listed in cause of death was 62% (N=3,697/5,985), with cocaine listed in the cause of death in 54% (N=3,227/5,985) of cases. The prevalence of any non-opioid sedatives listed in cause of death was 32% (N=1,916/5,985), with xylazine listed in 17%(N=1,030/5,985) of cases.

Percentages are not mutually exclusive. Deaths involving multiple drugs were included in the percentages for each drug (i.e., heroin, cocaine, methamphetamine) or drug class (i.e., any opioids, illegally-made fentanyls, prescription opioids, any stimulants, benzodiazepines, non-opioid sedatives). For example, a death involving both heroin and cocaine would be included in both the heroin and cocaine percentages.

"Any Opioids" includes deaths that had at least one opioid listed as a cause of death. The "Any Opioids" category includes illegally-made fentanyl, heroin, prescription opioids, and any other opioids involved in overdose deaths. Fentanyl was classified as likely illegally made using toxicology, scene, and witness evidence. In the absence of sufficient evidence to classify fentanyl as illegal or prescription, fentanyl was classified as illegally made because most fentanyl overdose deaths involve illegally-made fentanyl. All fentanyl analogs except alfentanil, remifentanil, and sufentanil (which have legitimate human medical use) were included as "Illegally-made fentanyls."

Drugs coded as "Prescription Opioids" were alfentanil, buprenorphine, butorphanol, codeine, dihydrocodeine, hydrocodone, hydromorphone, levorphanol, loperamide, meperidine, methadone, morphine, nalbuphine, noscapine, oxycodone, oxymorphone, pentazocine, prescription fentanyl, propoxyphene, remifentanil, sufentanil, tapentadol, thebaine, and tramadol. Also included as prescription opioids were brand names and metabolites (e.g., nortramadol) of these drugs and combinations of these drugs and nonopioids (e.g., acetaminophen-oxycodone). Morphine was included as prescription only if scene or witness evidence did not indicate likely heroin use and if 6-acetylmorphine was not also detected. Fentanyl was coded as a prescription opioid based on scene, toxicology, or witness evidence indicating that it was in prescribed form (e.g., a fentanyl patch was found at the scene).

Drugs coded as “Heroin” were heroin and 6-acetylmorphine, a metabolite of heroin. In addition, morphine was coded as heroin if detected along with 6-acetylmorphine, if heroin was listed as a cause of death on the death certificate, or if scene, toxicology, or witness evidence indicated presence of heroin impurities or other illegal drugs, injection, illegal drug use, or a history of heroin use. “Any Stimulants” includes deaths that had at least one stimulant listed as a cause of death, including cocaine, methamphetamine, and any other stimulants involved in overdose deaths. “Benzodiazepines” includes both prescription benzodiazepines (e.g., alprazolam) and illegal benzodiazepines (e.g., etizolam). “Any non-opioid sedatives” includes deaths with anxiolytics, barbiturates, benzodiazepines, gabapentin, ketamine, ketamine analogs, kratom/mitragynine, medetomidine, metomidate, xylazine, or other hypnotics or sedatives (e.g., zolpidem) listed as a cause of death.

Figure 2. Percent of overdose decedents, by sex and age group, 2023. Based on death certificate demographic data, the percentage of overdose deaths among men was 73.7% (N=4,412) and 26.3% (N=1,573) among women. The highest percentage of deaths were observed among the 35-44 and 55-64 male age groups, representing 17.7% and 18.5% of total deaths, respectively.

Figures 3a and 3b: Percent of overdose decedents and population, by race/ethnicity and by age group, 2023. Population based on 2020 US Census Bureau data. When examining both race/ethnicity and age, the percentage of overdose among the Black, non-Hispanic population was highest in the 55-64 age group (at 35%), while the percentage of overdose among the Hispanic and White, non-Hispanic was highest among the 35-44 age group (at 26% and 27%, respectively).

Figure 4. Percent of overdose decedents with select circumstances related to status of medical response, among cases with a report, 2023. Based on information in the death certificate (n=5,985), over 59% (n=3,545) of decedents died at their home. For cases with a coroner or medical examiner report (n=5,253), only 24% (n=1,269) were seen in an emergency room for their fatal overdose. The data suggests that there is often no pulse by the time first responders arrive, and naloxone is utilized only 21% (n=1,121/5,253) of the time among those with a coroner or medical examiner report. Reports often state that the person was pronounced deceased on arrival, leaving no opportunity for resuscitation and lifesaving care.

Figure 5. Percent of overdose deaths with a potential bystander and reasons for non-response, among cases with a report, 2023. The percent of overdose incidents that had a potential bystander was 34.7%. Of the incidents who had a bystander present, only 27.3 percent responded by calling 911, administering naloxone, performing rescue breathing, etc. The most common reasons listed for non-response were that the bystander was not physically near the person who overdosed (i.e., they were in another room, etc.) almost 23% of the time or they were unaware the person was using substances at the time (14%).

A bystander is an individual who was physically nearby either during or shortly preceding a drug overdose who potentially had an opportunity to intervene and respond to the overdose. First responders or medical professionals called to the scene are not considered bystanders. The definition of a bystander allows for inclusion of individuals that were nearby during or shortly preceding an overdose even if they were not directly with the decedent at the onset of overdose. This would include individuals who were in a different room of the same house or otherwise spatially separated from the person who overdosed, therefore hindering the ability to recognize that an overdose was occurring.

Figure 6. Percent of overdose decedents with previous or current substance use disorder or substance use history, among cases with a report, 2023. Amongst the (n=5,253) people who died from an overdose in 2023 and had a coroner or medical examiner report provided, 67.9% (n=3,567) had any history of drug use, 20.1% (n=1,054) had a documented alcohol use disorder, 9.4% (n=492) had ever been treated for one or more substance use disorders, 5.7% (n=298) were currently receiving treatment for one or more substance use disorders, 7.7% (n=403) ever had a prior drug overdose, 2.7% (n=142) had a prior overdose within one month of their death, and 3.1% (n=162) had recently returned to the use of opioids.

Low-threshold programs are programs that make minimal demands on the patient, offering services without attempting to control their intake of drugs, and providing counselling only if requested.

Current or past treatment for substance use disorders includes reported treatment for any type of substance use disorder (e.g., opioid use disorder, cocaine use disorder), excluding alcohol. Current treatment is limited to decedents who were receiving treatment for any substance use disorder at the time of the fatal overdose.

Prior overdose includes any previous drug overdose, involving any substance, and regardless of intent (e.g., unintentional, undetermined intent, or intentional (i.e., suicide attempt by overdose)) was reported.

Figure 7. Percent of overdose deaths with one or more previous or current mental health diagnoses, among cases with a report, 2023. Amongst the (n=5,253) people who died from an overdose in 2023 and had a coroner or medical examiner report provided, 22.9% (n=1,203) had been identified as having a mental health diagnosis at the time of their death. However, only 17.3% (n=909) had ever received mental health treatment, and even fewer (n=637) were receiving treatment at the time of their death. 1.6% of decedents (n=83) had a known history of suicidal ideation, attempts or self-harm.

Figure 8. Percent of overdose deaths among selected social determinants of health, among cases with a report, 2023. Amongst the (n=5,253) people who died from an overdose in 2023 and had a coroner or medical examiner report provided, 8.3% (N=433) were experiencing homeless or housing instability at their time of death, and 4.9% has been recently released from an institutional setting within the past month prior to their death. Institutional settings could include a correctional facility, a hospital, nursing home, a residential treatment facility or group home. Recent stays in these settings could reflect conditions that could impact the individual's drug tolerance and could have increased the risk of overdose.

Figure 9. Medical conditions among persons who died of a drug overdose, among cases with a report, 2023. 49.4% (n=2,595) of all drug overdose decedents had evidence of heart disease among cases with reports, compared to 8.2%, the estimate of all New York state adults with cardiovascular disease in 2022. 17.1% (n=900) of people who died of a drug overdose were obese, and evidence of Hepatitis C Virus and or HIV infection was present in 3.5% (n=181) and 4.0% (n=209) of decedents.

Heart disease can refer to multiple conditions that affect the functioning of the heart. It is possible that heart disease can put someone at higher risk for overdose or could make it harder to revive someone after an overdose. If there is evidence that the decedent had heart disease at the time of the overdose, this evidence might be included in the autopsy report, the coroner or medical examiner report in a section on medical history or in the report narrative, or in medical records if they are available. The New York State population heart disease rate estimate is referenced from the 2022 BRFSS brief report, available from BRFSS Reports.

Figure 10. Route of drug administration among drug overdose decedents, among cases with a report, 2023. Amongst the (n=5,253) people who died from an overdose in 2023 and had a coroner or medical examiner report provided, the most reported route of drug administration was smoking, accounting for 21.8% (n=1,144) of reported drug overdose deaths with a report. Snorting or sniffing, and injection were the next most common means of administration, with 15.2% (n=799) and 12.6% (n=663) respectively. Information on route of administration was missing for 60.3% of cases with a coroner of medical examiner report.
Evidence of Smoking definition: Witness, death scene, or autopsy evidence suggests that the decedent smoked substance(s) leading up to the fatal overdose. Evidence of smoking includes witness reports of smoking and drug paraphernalia at the scene of the overdose associated with smoking such as pipes, stems, tinfoil, and vape pens. Matches, disposable lighters, and gas torches are also indications of smoking.
Evidence of Injection Definition: Witness, death scene, or autopsy evidence suggests that the decedent injected substance(s) leading up to the fatal overdose. Evidence of injection includes witness reports of injecting, documentation of items used to prepare and inject substances found at the scene (e.g., needles, cookers, filters, tourniquets, alcohol pads), and/or track marks found on decedent that appear to be recent.
Evidence of Snorting/Sniffing Definition: Witness, death scene, or autopsy evidence suggests that the decedent snorted or sniffed substance(s) leading up to the fatal overdose. Snorting may also be called insufflation. Evidence of snorting or sniffing includes witness reports of snorting or sniffing or drug paraphernalia at the overdose scene associated with snorting or sniffing. Scene evidence may include razor blades or credit cards used to chop and separate powder; straws, rolled paper, dollar bills, or tubes for nasal inhalation; powder visible on a table/mirror; or powder on the decedent's nose.

RESOURCES AND PROGRAMMATIC INFORMATION

For more information on the New York State AIDS Institute Office of Drug User Health: Office of Drug User Health

For more information on Centers for Disease Control and Prevention's State Unintentional Drug Overdose Reporting System: About the State Unintentional Drug Overdose Reporting System (SUDORS) | Overdose Prevention | CDC

For more information on the New York State's Opioid Prevention Program: New York State's Opioid Overdose Prevention Program

For more information on New York's Drug Checking Services: Drug Checking (ny.gov)

For additional Opioid-related Data in New York State: Opioid-related Data in New York State

For more information on the Never Use Alone Hotline: Main - Never Use Alone

To find a provider: Provider Directory Home Page - Provider Directory Application (aidsinstituteny.org)

For information on building an overdose safety plan: Your health and life matter build a safety plan (ny.gov)

For information on Buprenorphine access: Buprenorphine Access Initiative (ny.gov)

For more information on Office of Addiction Services and Supports' Harm Reduction Initiatives: Harm Reduction | Office of Addiction Services and Supports

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