

Methods

Measures

Indicator	Definition	ICD Codes/Detailed Explanation	Data Source
All overdose deaths involving opioids	All poisoning deaths involving opioids, all manners, using all causes of death	Underlying cause of death, determined from the field designated as such, or, where missing or unknown, from the first-listed multiple cause of death field: X40-X44, X60-X64, X85, Y10-Y14 AND Any opioid in all other causes of death: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6	Vital Statistics
Overdose deaths involving heroin	Poisoning deaths involving heroin, all manners, using all causes of death	Underlying cause of death, determined from the field designated as such, or, where missing or unknown, from the first-listed multiple cause of death field: X40-X44, X60-X64, X85, Y10-Y14 AND Heroin in all other causes of death: T40.1	Vital Statistics
Overdose deaths involving opioid pain relievers	Poisoning deaths involving opioid pain relievers, all manners, using all causes of death	Underlying cause of death, determined from the field designated as such, or, where missing or unknown, from the first-listed multiple cause of death field: X40-X44, X60-X64, X85, Y10-Y14 AND Any opioid pain relievers in all other causes of death: T40.2, T40.3, T40.4	Vital Statistics
All emergency department visits involving opioid overdose	All outpatient (not being admitted) emergency department visits involving opioid poisonings, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T400X5S, T400X6S)	SPARCS
Emergency department visits involving heroin overdose	Outpatient (not being admitted) emergency department visits involving heroin poisoning, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.1 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T401X5S, T401X6S)	SPARCS
Emergency department visits involving opioid overdose excluding heroin	Outpatient (not being admitted) emergency department visits involving opioid poisonings except heroin, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.0, T40.2, T40.3, T40.4, T40.6 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T400X5S, T400X6S)	SPARCS

Indicator	Definition	ICD Codes/Detailed Explanation	Data Source
All hospitalizations involving opioid overdose	All hospitalizations involving opioid poisonings, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.0, T40.1, T40.2, T40.3, T40.4, T40.6 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T400X5S, T400X6S)	SPARCS
Hospitalizations involving heroin overdose	Hospitalizations involving heroin poisonings, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.1 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T401X5S, T401X6S)	SPARCS
Hospitalizations involving opioid overdose excluding heroin	Hospitalizations involving opioid poisonings except heroin, all manners, principal diagnosis or first-listed cause of injury	ICD-10-CM: Principal Diagnosis: T40.0, T40.2, T40.3, T40.4, T40.6 (Excludes 'adverse effect' or 'underdosing' as indicated by the values of 5 and 6 in the 6th character; and 'sequela' as indicated by the value of 'S' in the 7th character; e.g. T400X5S, T400X6S)	SPARCS
Unique clients admitted for heroin	Unique clients admitted to OASAS-certified chemical dependence treatment programs with heroin reported as the primary, secondary, or tertiary substance of abuse at admission, aggregated by client county of residence.	<p>Clients may also have another opioid or any other substance as the primary, secondary, or tertiary substance of abuse at admission.</p> <p>A unique client is identified by the client's date of birth, last four digits of Social Security number, gender, and the first two letters of last name.</p>	OASAS Client Data System
Unique clients admitted for any opioid (including heroin)	Unique clients admitted to OASAS-certified chemical dependence treatment programs with heroin or any other synthetic or semi-synthetic opioid reported as the primary, secondary, or tertiary substance of abuse at admission, aggregated by client county of residence.	<p>Other opioid includes synthetic and semi-synthetic opioids. The OASAS Client Data System (CDS) collects specific data on methadone, buprenorphine, oxycodone, as well as "other synthetic opioids." Other synthetic opioids also include drugs such as hydrocodone, pharmaceutical and/or non-pharmaceutical fentanyl.</p> <p>Clients may also have heroin or any other substance as the primary, secondary or tertiary substance of abuse at admission.</p> <p>A unique client is identified by the client's date of birth, last four digits of Social Security number, gender, and the first two letters of last name.</p>	OASAS Client Data System
Naloxone administration report by Emergency Medical Services (EMS)	Each naloxone administration report represents an EMS encounter when the administration of naloxone was given during the course of patient care. Often, administrations of naloxone were given for patients presenting with similar signs and symptoms of a potential opioid overdose; final diagnosis of an opioid overdose is completed during definitive care or final evaluation.	Medication administered is equal to naloxone.	NYS e-PCR data, and other regional EMS Program data collection methods

Indicator	Definition	ICD Codes/Detailed Explanation	Data Source
Naloxone administration report by law enforcement	Each naloxone administration report represents a naloxone administration instance in which a trained law enforcement officer administered one or more doses of naloxone to a person suspected of an opioid overdose.	Not applicable	NYS Law Enforcement Naloxone Administration Database
Naloxone administration report by registered COOP program	Each naloxone administration report represents a naloxone administration instance in which a trained responder administered one or more doses of naloxone to a person suspected of an opioid overdose. Naloxone administration instances that are not reported to the AIDS Institute by the registered COOP programs are excluded from the county report.	Not applicable	NYS Community Opioid Overdose Prevention Naloxone Administration Database

Data Sources

Vital Records (Vital Statistics) Vital Event Registration:

New York State consists of two registration areas, New York City (NYC) and New York State Exclusive of New York City (also referred to as Rest of State). NYC includes the five counties of Bronx, Kings (Brooklyn), New York (Manhattan), Queens and Richmond (Staten Island); the remaining 57 counties comprise New York State Exclusive of NYC. The NYSDOH's Bureau of Vital Records processes data from live birth, death, fetal death and marriage certificates recorded in New York State Exclusive of NYC. Through a cooperative agreement, the NYSDOH receives data on live births, deaths, and fetal deaths recorded in NYC from the New York City Department of Health and Mental Hygiene (NYCDOHMH), and on live births and deaths recorded outside of New York State to residents of New York State from other states and Canada.

In general, vital event indicators for NYC geographical areas reported by the NYSDOH and the NYCDOHMH may be different because the former includes possibly all NYC residents' events, regardless of where they took place, and the latter reports events to NYC residents that took place in NYC.

Vital statistics mortality data include up to 20 causes of death. Frequencies are based on decedents' county of residence, not the county where death occurred. This report's mortality indicators reflect all manners and all causes of death. Data are frequently updated as additional confirmations on the causes of death and new records for all NYS resident deaths are received. Therefore, the frequencies published in subsequent reports may also differ due to timing and/or completeness of data.

Statewide Planning and Research Cooperative System (SPARCS):

SPARCS collects information about hospitalizations and ED visits through the patient discharge data system. Outpatient ED visits are events that did not result in admission to the hospital. Each hospitalization and outpatient ED visit receives an ICD-10-CM code at discharge that indicates the primary reason for the occurrence. There is also a first-listed cause, external cause of injury, and up to 24 other diagnosis codes recorded to further describe the hospitalization or ED visits.

Statistics in these tables are based on the primary diagnosis and first-listed cause of injury unless otherwise noted. An individual can have more than one hospitalization or ED visit. Numbers and rates are based on the number of discharges and not on the number of individuals seen. The frequencies are based on patients' county of residence, not the county where the incident occurred. County of residence was assigned based on ZIP code for cases in which patient county of residence was listed as unknown or missing, but a valid NY ZIP code was present. For indicators related to the ED data, the numbers represent ED visits for opioid overdose patients who were not subsequently admitted into the hospital.

New York State Office of Alcoholism and Substance Abuse Services (OASAS) Client Data System (CDS):

NYS OASAS collects data on people treated in all OASAS-certified chemical dependence treatment programs. Data are collected through the OASAS CDS. Data are collected at admission and discharge from a level of care within a provider. Levels of care include crisis, residential, inpatient, outpatient, and opioid treatment. An individual admitted to more than one level of care during a quarter or a year would count as one unique admission. The primary, secondary and tertiary substance of abuse is collected for all clients admitted. Not all clients have a secondary or tertiary substance of abuse.

Numbers are based on the number of unique people admitted during the quarter or year, and not on the number of individuals treated. A person admitted in a previous quarter or year could still be receiving treatment in subsequent quarters or years, but would not be shown as an admission for the new quarter or year.

New York State Emergency Medical Services (EMS) Data:

New York State maintains an EMS patient care data repository, in which all e-PCR data are captured from across the State. Data for Suffolk County come from Regional EMS Medical Control to which all medication administrations by EMS—including naloxone—are required to be reported. Data from Nassau County are provided by the Nassau County Police Department based on reports submitted by Nassau County first response agencies and most ambulance transport agencies. The EMS data from Nassau County Police Department are combined with e-PCR data submitted by other agencies not included in the Nassau County Police Department reporting. As of the January 2018 report, EMS naloxone administrations for Nassau County have been updated with the Nassau County Police Department data for all quarters and years shown, and are likely to show increases compared to previously-issued data.

New York State Law Enforcement Naloxone Administration Dataset:

The NYS Law Enforcement Naloxone Administration dataset provides information on naloxone administrations by law enforcement officers in the case of a suspected opioid overdose. The form collects the age and gender of the individual receiving naloxone, the county and ZIP code where the suspected opioid overdose occurred, aided status before and after naloxone administration, the suspected drug used, the number of naloxone vials administered by the officer and whether the person lived. Initial trainings of law enforcement began in 2014 and are ongoing. The data do not yet comprehensively include the New York City Police Department and the Nassau County Police Department, which use a distinct reporting mechanism.

New York State Community Opioid Overdose Prevention (COOP) Program Dataset:

The NYS COOP program dataset provides information on naloxone administrations by lay persons trained by registered NYS COOP programs in the case of a suspected opioid overdose. Naloxone administration reports are submitted by registered COOP programs, not individual lay persons. The form collects information including age and gender of the individual receiving naloxone, the county and ZIP code where the suspected opioid overdose occurred, aided status before naloxone

administration, the number of naloxone doses administered by the responder, and whether the person lived.

Data Suppression Rules for Confidentiality

In many instances, results are not shown (i.e., suppressed) to protect individuals' confidentiality. Suppression rules vary, depending on the data source. An 's' notation indicates that the data did not meet reporting criteria.

Data Source	Suppression Criteria
Vital Statistics - Death Records	Denominator population <50
Statewide Planning and Research Cooperative System (SPARCS) - ED and hospital records	Numerator 1-5 cases
OASAS Client Data System (CDS) - Admissions	Numerator 1-5 admissions
Prehospital Care Reports	None
NYS Law Enforcement Naloxone Administration Dataset	None
NYS Community Opioid Overdose Prevention Program (COOP) Dataset	None

Data Limitations

Data Source	Limitations
Vital Records	<p>The accuracy of indicators based on codes found in vital statistics data is limited by the completeness and quality of reporting and coding. Death investigations may require weeks or months to complete; while investigations are being conducted, deaths may be assigned a pending status on the death certificate (ICD-10-CM underlying cause code of R99, "other ill-defined and unspecified causes of mortality"). Analysis of the percentage of death certificates with an underlying cause of death of R99 by age, over time, and by jurisdiction should be conducted to determine potential impact of incomplete underlying causes of death on drug overdose death indicators.</p> <p>The percentage of death certificates with information on the specific drug(s) involved in drug overdose deaths varies substantially by state and local jurisdiction and may vary over time. The substances tested for, the circumstances under which the tests are performed, and how information is reported on death certificates may also vary. Drug overdose deaths that lack information about the specific drugs may have involved opioids.</p> <p>Even after a death is ruled as caused by a drug overdose, information on the specific drug might not be subsequently added to the certificate. Therefore, estimates of fatal drug overdoses involving opioids may be underestimated from lack of drug specificity. Additionally, deaths involving heroin might be misclassified as involving morphine (a natural opioid), because morphine is a metabolite of heroin.</p> <p>The indicator "Overdose deaths involving opioid pain relievers" includes overdose deaths due to pharmaceutically and illicitly produced opioids such as fentanyl.</p> <p>Data for New York City on opioid overdose deaths are not included in this report.</p>
SPARCS	<p>The recent data may be incomplete and should be interpreted with caution. Health Care Facilities licensed in New York State, under Article 28 of the Public Health Law, are required to submit their inpatient and/or outpatient data to SPARCS. SPARCS is a comprehensive all-payer data reporting system established in 1979 as a result of cooperation between the healthcare industry and government. Created to collect information on discharges from hospitals, SPARCS now collects patient level detail on patient characteristics, diagnoses and treatments, services, and charges for hospitals, ambulatory surgical centers, and clinics, both hospital extension and diagnosis and treatment centers.</p> <p>Per NYS Rules and Regulations, Section 400.18 of Title 10, data are required to be submitted: (1) monthly, (2) 95% within 60 days following the end of the month of patient's discharge/visit, and (3) 100% are due 180 days following the end of the month of the patient discharge/visit. Failure to comply may result in the issuance of Statement of Deficiencies (SODs) and facilities may be subject to a reimbursement rate penalty.</p> <p>The accuracy of indicators, which are based on diagnosis codes (ICD-9-CM codes before Oct. 1, 2015 and ICD-10-CM on or after Oct. 1, 2015) reported by the facilities, is limited by the completeness and quality of reporting and coding by the facilities. The indicators are defined based on the principal diagnosis code or first-listed valid external cause code only. The sensitivity and specificity of these indicators may vary by year, hospital location, and drug type. Changes should be interpreted with caution due to the change in codes used for the definition.</p> <p>The SPARCS data do not include discharges by people who sought care from hospitals outside of New York State, which may lower numbers and rates for some counties, especially those which border other states.</p>

Data Source	Limitations
OASAS Client Data System (CDS)	<p>The recent data may be incomplete and should be interpreted with caution. The CDS includes data for individuals served in the OASAS-certified treatment system. It does not have data for individuals who do not enter treatment, get treated by the U.S. Department of Veterans Affairs, go outside New York State for treatment, are admitted to hospitals but not to substance use disorder (SUD) treatment, get diverted to other systems, or receive an addictions medication from a physician outside the OASAS system of care. OASAS-certified chemical dependence treatment programs are required to submit their admissions data to the CDS not later than the fifth of the month following the clinical admission transaction. Data are considered to be substantially complete three months after the due date, but are able to be updated indefinitely.</p> <p>The accuracy of measures, which are based on data reported by the programs, is limited by the completeness, consistency and quality of reporting and coding by the programs. The sensitivity and specificity of these indicators may vary by provider, program, and possible substances reported.</p> <p>Opioid admissions data are not direct measures of the prevalence of opioid use.</p> <p>The availability of chemical dependence treatment services within a county may affect the number of admissions of county residents to programs offering those services.</p> <p>Counties will not sum to the State. Clients are unique within a county.</p>
EMS Patient Care Reports	<p>Documentation data entry errors can occur, and may result in 'naloxone administered' being recorded when a different medication had actually been administered.</p> <p>Patients who present as unresponsive or with an altered mental status with unknown etiology may be administered naloxone, as part of the treatment protocol, while attempts are being made to determine the cause of the patient's current unresponsive state or altered mental status.</p> <p>Electronic PCR data currently capture 85%-90% of all EMS data statewide, from 45%-50% of all certified EMS agencies. The remaining data are reported via paper PCR, from which extracting narcotic/heroin overdoses and naloxone administrations is impractical.</p> <p>The Suffolk County results in this report do not include patients recorded as 'unresponsive/unknown' who received a treatment protocol that includes naloxone; the Suffolk County results in this report only include patients who received naloxone alone for suspected opioid overdose.</p> <p>The National Emergency Medical Services Information System (NEMSIS) is a universal standard for how EMS patient care data are collected. Most EMS agencies in New York State adhere to the NEMSIS version 2 standard that was released in 2005. However, many are beginning to transition to the recently released NEMSIS version 3 standard, which will improve the quality of EMS data. In upcoming quarters, the quarterly opioid data reports will capture electronic PCR data from both NEMSIS version 2 and NEMSIS version 3 agencies. However, at present, this report only captures data from NEMSIS version 2 agencies. As a result, naloxone administrations by EMS agencies reporting via NEMSIS version 3 are not included in this report, but they will be included retroactively in future reports.</p>
NYS Law Enforcement Naloxone Administration Dataset	<p>All data are self-reported by the responding officer at the scene. Not all data fields are completed by the responding officer. There is often a lag in data reporting. All data should be interpreted with caution.</p> <p>It is possible that not all naloxone administrations reported are for an opioid overdose. There are not toxicology reports to confirm suspected substances used.</p> <p>Increase may represent expansion of program and may or may not indicate an increase in overdose events.</p> <p>Data for New York City on naloxone administration reports by law enforcement are not included in this report. Data displayed for Nassau County on naloxone administration reports by law enforcement are not complete due to the use of an alternate reporting system.</p>
NYS Community Opioid Overdose Prevention (COOP) Program Dataset	<p>All data are self-reported by the responder on the scene. Not all data fields are completed by the responder. There is often a lag in data reporting. All data should be interpreted with caution.</p> <p>Increase may represent expansion of program and may or may not indicate an increase in overdose events.</p> <p>Reporting administrations of naloxone to the NYSDOH is one of the mandated responsibilities of registered COOP program directors. The actual number of incidents of naloxone administrations in the community may be higher than the number reported to the NYSDOH due to the delay in reporting.</p> <p>The actual number of naloxone administrations is likely to substantially exceed the number reported to the NYSDOH.</p>

Acknowledgments:

New York State Department of Health

Office of Public Health:

Office of Public Health Practice

AIDS Institute

Center for Environmental Health

Office of Quality and Patient Safety

Bureau of Emergency Medical Services and Trauma Systems

Bureau of Narcotic Enforcement

Bureau of Vital Records

Office of Governmental Affairs

New York State Office of Alcoholism and Substance Abuse Services