



# Epi Data Brief

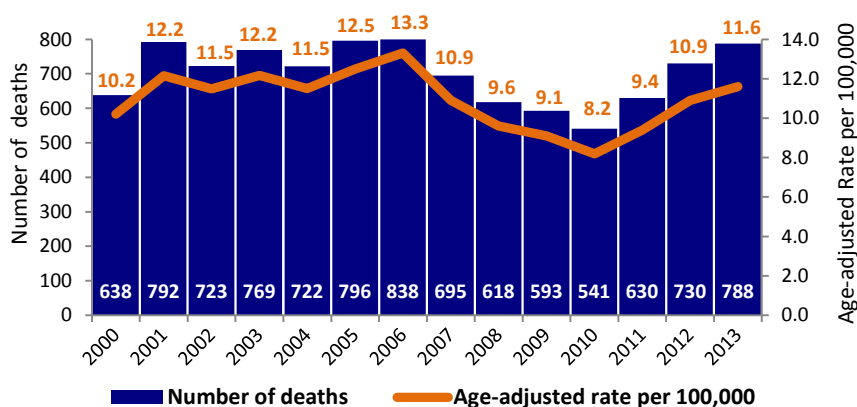
New York City Department of Health and Mental Hygiene

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## Unintentional Drug Poisoning (Overdose) Deaths Involving Opioids in New York City, 2000–2013

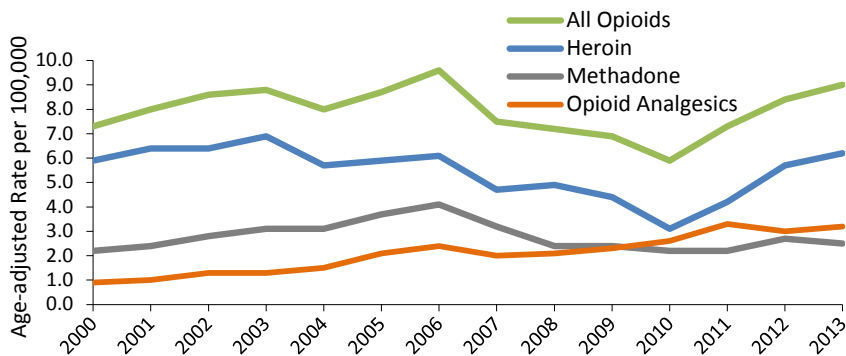
- In New York City (NYC) there were nearly 10,000 unintentional drug poisoning (overdose) deaths during the years 2000–2013, an average of 700 unintentional overdose deaths per year.
- From 2006–2010 the rate of overdose deaths decreased each consecutive year from 13.3 per 100,000 New Yorkers in 2006 to 8.2 per 100,000 New Yorkers in 2010, a 38% decrease.
- From 2010–2013, the rate of overdose deaths increased three years consecutively, from 8.2 per 100,000 in 2010 to 11.6 per 100,000 New Yorkers in 2013, a 41% increase.
- In 2013, more than three-quarters (77%) of overdose deaths involved an opioid.
- The rate of overdose deaths involving opioid analgesics increased by 256% from 2000 to 2013.
- The rate of overdose deaths involving heroin increased for three consecutive years from 3.1 per 100,000 New Yorkers (209 deaths) in 2010 to 6.2 per 100,000 New Yorkers (424 deaths) in 2013.
- Since 2008, the rate (2.4 per 100,000) of overdose deaths involving methadone has been stable.
- In 2013, methadone was involved in 21% (169 deaths) of overdose deaths, 2.5 per 100,000 New Yorkers.
- In 2013, nearly all (94%) of overdose deaths involved more than one substance.
- [Benzodiazepines](#) were found in 60% of overdose deaths involving [opioid analgesics](#), 36% of deaths involving heroin, and 58% of deaths involving methadone in 2013.

### Unintentional overdose deaths, New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

### Unintentional overdose deaths by opioid type involved (not mutually exclusive), New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

**Definitions: Unintentional drug poisoning deaths referred to as overdose deaths:** Derived from death certificates and includes deaths from both illicit drugs and licit drugs taken for non-medical reasons. Excludes drug poisonings where the manner of death was intentional (suicide), undetermined, or homicide. Toxicology findings were abstracted from medical examiner files. Drugs are not mutually exclusive.

**Opioids:** Includes the entire family of opiates and opioids. Opiates are narcotic analgesics derived from “natural” opium. Opioids are synthetic and semi-synthetic drugs, such as methadone or heroin.

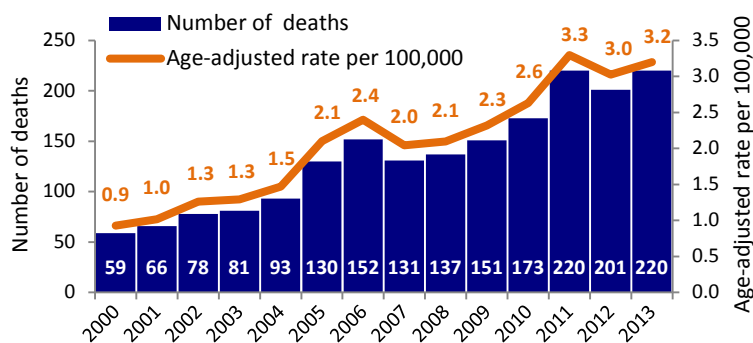
**Opioid analgesics:** Commonly known as prescription pain relievers, such as oxycodone (Percocet®) and hydrocodone (Vicodin®).

**Methadone:** A synthetic opioid used medically as an analgesic and to treat opioid dependence. Methadone is reported separately from opioid analgesics in New York City due to a large methadone maintenance population.

## Unintentional overdose deaths involving opioid analgesics

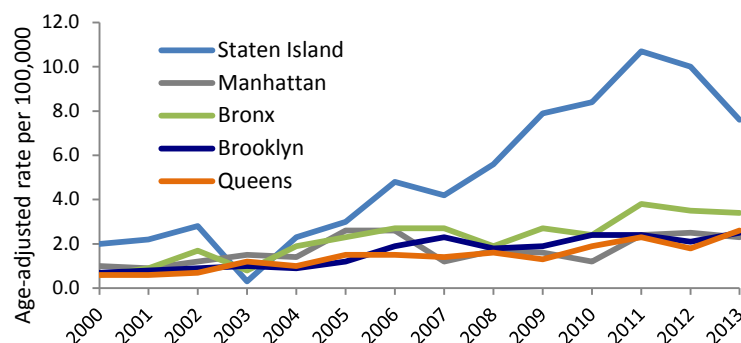
- Opioid analgesics were involved in 28% of overdose deaths in 2013.
- In 2013, the rate of overdose deaths involving opioid analgesics remained highest among Staten Island residents (7.6 per 100,000); however, the rate decreased for two consecutive years (by 29% from 10.7 per 100,000 in 2011).
- The rate increased from 2012 to 2013 in Queens from 1.8 to 2.6 per 100,000 residents and in Brooklyn from 2.1 to 2.5 per 100,000 residents.
- In 2013, residents of the lowest poverty (wealthiest) neighborhoods had the highest rate (4.1 per 100,000) of opioid analgesic-involved deaths compared with residents of all other neighborhoods.

### Unintentional overdose deaths involving opioid analgesics, New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics.

### Unintentional overdose deaths involving opioid analgesics, by borough of residence New York City, 2000–2013

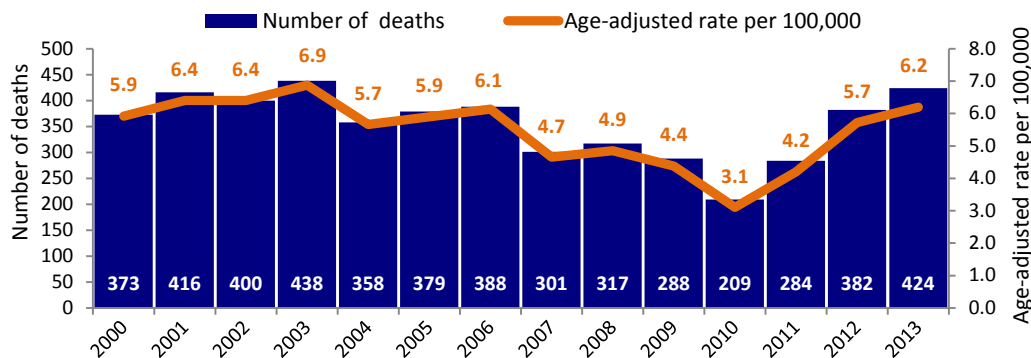


Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics.

## Unintentional overdose deaths involving heroin

- In 2013, heroin was involved in 54% of all overdose deaths, making it the most common substance involved in overdose deaths.

### Unintentional overdose deaths involving heroin, New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

#### Data Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics:

Mortality data were collected through an in-depth review of data and charts from the Health Department's Bureau of Vital Statistics and the Office of the Chief Medical Examiner for 2000-2013.

Methadone is reported separately and not included in opioid analgesic analyses.

#### Definitions:

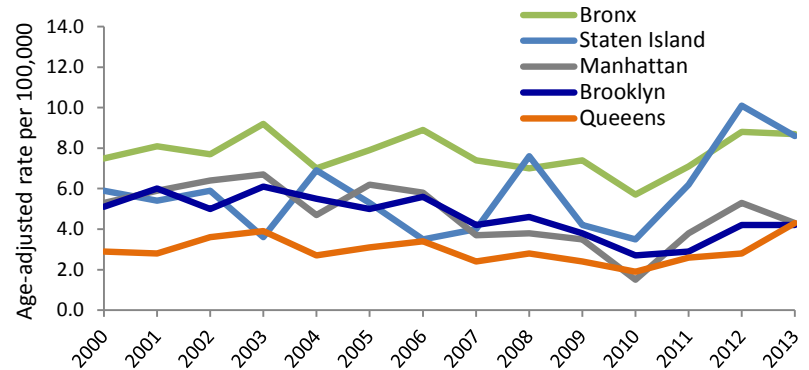
**Rate Calculation:** NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2013, updated December 2014. These rates will differ from previously reported rates based on Census counts or previous versions of population estimates. Rates are age-adjusted to Census 2000 US standard population, except those for specific age groups.

**Neighborhood poverty** is based on ZIP code and is defined as the percentage of residents with incomes below 100% of the federal poverty level (per American Community Survey 2007-2011) in four groups: low (<10%), medium (10%–<20%), high (20%–<30%), and very high (≥30%).

## Demographics of unintentional overdose deaths involving heroin

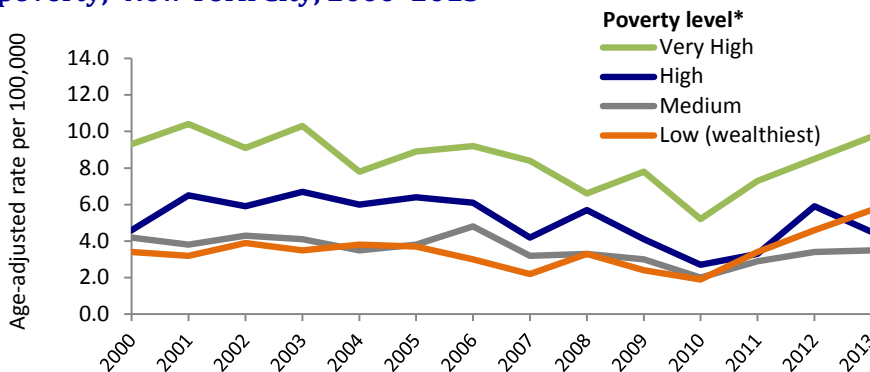
- In 2013, Bronx residents had the highest rate (8.7 per 100,000) of overdose deaths involving heroin, followed by Staten Island residents (8.6 per 100,000).
- The rate among Queens residents more than doubled from 1.9 in 2010 to 4.3 in 2013 per 100,000 residents.
- From 2010 through 2013, New Yorkers aged 35 to 54 had the highest rate of overdose deaths involving heroin.
- The largest increase (by age group) was among New Yorkers aged 15 to 34; the rate more than doubled from 2.1 per 100,000 in 2010 to 4.8 per 100,000 in 2013, a 129% increase.

### Unintentional overdose deaths involving heroin by borough of residence, New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

### Unintentional overdose deaths involving heroin by neighborhood poverty,\* New York City, 2000–2013



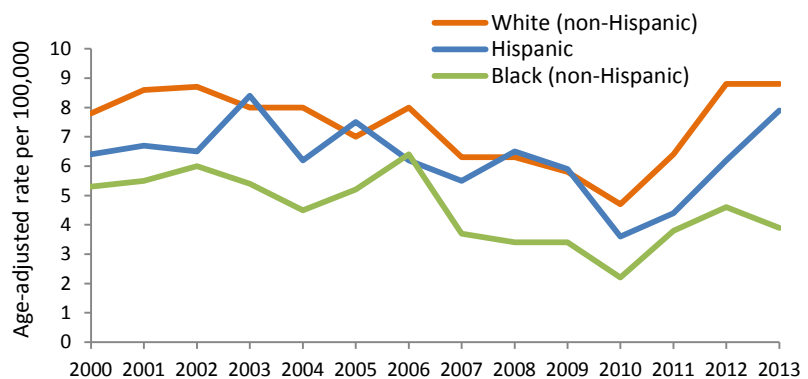
\*Neighborhood poverty (based on ZIP code) defined as percent of residents with incomes below 100% of the Federal Poverty Level, per American Community Survey 2007-2011, in four groups: low (<10%), medium (10% - < 20%), high (20% - < 30%), and very high (>=30%).

Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

- Residents of the highest poverty neighborhoods had a higher rate of overdose deaths involving heroin (9.7 per 100,000) than residents of all other neighborhoods in 2013.
- From 2010 to 2013, residents of the lowest-poverty (wealthiest) neighborhoods had the largest increase in rates (200%) from 1.9 per 100,000 in 2010 to 5.7 per 100,000 in 2013.

- The rate of overdose deaths involving heroin remained highest among white New Yorkers (8.8 per 100,000) in 2013.
- The largest increase was among Hispanic New Yorkers, from 3.6 per 100,000 residents in 2010 to 7.9 per 100,000 residents in 2013, a 119% increase.

### Unintentional overdose deaths involving heroin by race/ethnicity, New York City, 2000–2013



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics

**Comment:** For three consecutive years, the rate of heroin-involved overdose deaths increased in New York City, while the opioid analgesic mortality rate appears to have leveled off during the same time period. We cannot determine drug use patterns prior to the individual's death, thus, we cannot draw conclusions about the relationship between opioid analgesic use and heroin initiation. It is likely that some decedents did transition from opioid analgesics to heroin, while others may have increased their use of heroin and still others may have initiated heroin, without prior opioid analgesic use. In New York City, heroin mortality rates rose while prescribing rates of opioid analgesics remained stable.

New York City residents of low-income neighborhoods and white New Yorkers have the highest heroin-involved mortality rates; however, 2013 data show the highest increases are among residents of the wealthiest neighborhoods and younger New Yorkers.

### ***DOHMH prevention and treatment activities***

To prevent overdose and reduce adverse health consequences of heroin and prescription opioid use:

1. **Public awareness.** The Department of Health and Mental Hygiene (DOHMH) has conducted public awareness campaigns through television about overdose risk from prescription opioids.
2. **Overdose prevention.** DOHMH funds training of responders in overdose treatment and distributes naloxone, a medicine that reverses the effects of prescription opioids and heroin.
3. **Effective treatment for opioid dependence.** DOHMH funds and promotes quality improvement among substance use disorder treatment programs. DOHMH also conducts training, disseminates practice guidelines, and provides technical assistance to promote effective practice, particularly with buprenorphine, an effective medication for opioid dependence.
4. **Policy development and program initiatives.** DOHMH uses data to inform policy-makers and initiate new programs such as: advocating for relabeling of opioids to discourage their use for treatment of chronic non-cancer pain, making naloxone an over-the-counter medication, and urging hospital adoption of guidelines for judicious opioid prescribing in emergency departments.

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### ***MORE New York City Health Data and Publications***

- For complete tables of data presented in this Brief, visit [nyc.gov/html/doh/downloads/pdf/epi/datatable50.pdf](http://nyc.gov/html/doh/downloads/pdf/epi/datatable50.pdf)
  - For more information on drug use, check out the following Health Department resources:
    - [Unintentional Drug Poisoning \(Overdose\) Deaths in New York City, 2000-2012](#)
    - [Unintentional Opioid Analgesic Poisoning \(Overdose\) Deaths in New York City, 2011](#)
    - [Opioid Analgesics in New York City: Prescriber Practices](#)
    - [Drugs in New York City: Misuse, Morbidity and Mortality Update](#)
    - [Patterns of Opioid Analgesic Prescriptions for New York City Residents](#)
    - [Prescription Drug Misuse and Illicit Drug Use among New York City Youth](#)
    - [City Health Information: Preventing Misuse of Prescription Opioid Drugs](#) (includes prescribing guidelines)
    - [New York City Emergency Department Discharge Opioid Prescribing Guidelines](#)
    - [Vital Signs: Illicit Drug Use in New York City](#)
  - Visit EpiQuery – the Health Department's online, interactive health data system: [nyc.gov/health/EpiQuery](http://nyc.gov/health/EpiQuery)
- Data & Statistics at [nyc.gov/health/data](http://nyc.gov/health/data)**