



Epi Data Brief

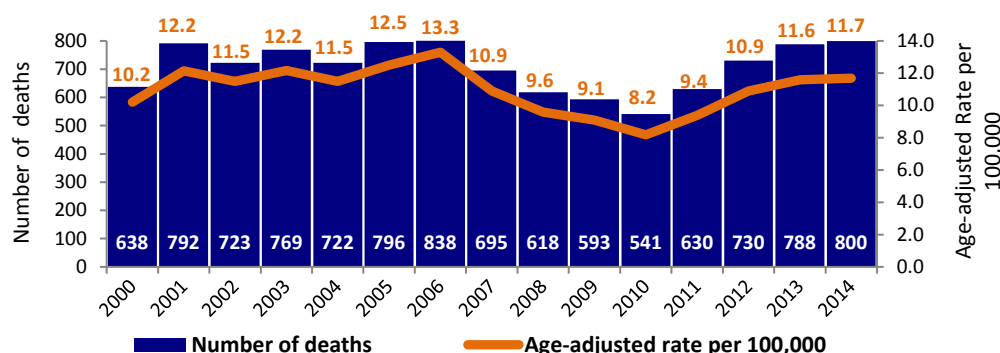
New York City Department of Health and Mental Hygiene

December 2015, No. 66

Unintentional Drug Poisoning (Overdose) Deaths Involving Opioids in New York City, 2000–2014

- In 2014, there were 800 overdose deaths in New York City (NYC) (11.7 per 100,000 residents), compared with 788 overdose deaths in 2013 (11.6 per 100,000 residents).
- Rates of unintentional drug overdose deaths increased by 43% for the period 2010 to 2014, from 8.2 per 100,000 residents in 2010 to 11.7 per 100,000 residents in 2014.

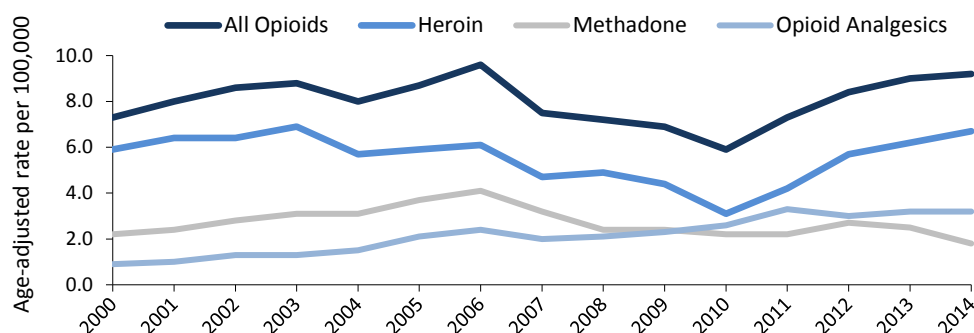
Unintentional overdose deaths, New York City, 2000–2014



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

- In 2014, nearly all (97%) overdose deaths involved more than one substance. Approximately eight in ten (79%) overdose deaths involved an opioid.
- [Benzodiazepines](#) were found in 53% of overdose deaths involving [opioid analgesics](#), 41% of deaths involving heroin, and 55% of deaths involving methadone in 2014.

Unintentional overdose deaths by opioid type involved (not mutually exclusive), New York City, 2000–2014



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

- Opioid analgesic-involved overdose death rates in NYC did not change in 2014 compared with 2013 (3.2 per 100,000 residents in both 2013 and 2014).
- The rate of heroin-involved overdose deaths increased each year for a cumulative 88% increase. The rate more than doubled from 3.1 per 100,000 residents in 2010 to 6.7 per 100,000 residents in 2014.

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 2000–2014. Methadone is reported separately and not included in opioid analgesic analyses.

Definitions:

Rate Calculation: DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000–2014, updated October 13th, 2015. 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:

Based on ZIP code and defined as 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%).

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Definitions:

Opiates are sedative narcotics containing opium; most common opiates include, morphine, methadone, codeine and heroin.

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

Methadone is a synthetic opioid used medically as an analgesic and to treat opioid dependence. Methadone is reported separately from opioid analgesics in New York City.

We highlight opioid analgesics and heroin as they are involved in the majority of opioid-involved overdoses.

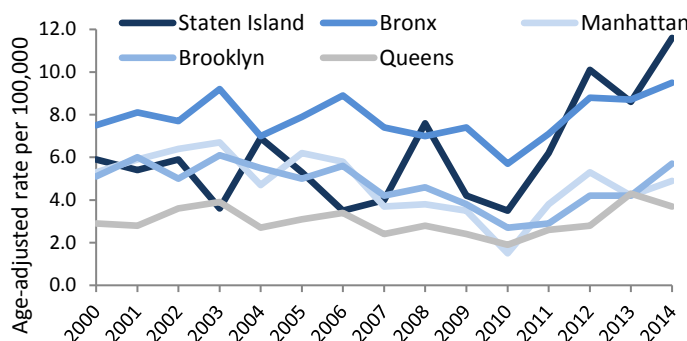
Unintentional overdose deaths involving opioid analgesics, 2014

- Opioid analgesics were involved in 27% of overdose deaths in NYC in 2014.
- In 2014, the rate of overdose deaths involving opioid analgesics was highest among Staten Island residents (7.9 per 100,000).
- In Queens, the rates decreased from 2.6 per 100,000 residents in 2013 to 2.4 per 100,000 residents in 2014.

Unintentional overdose deaths involving heroin, 2014

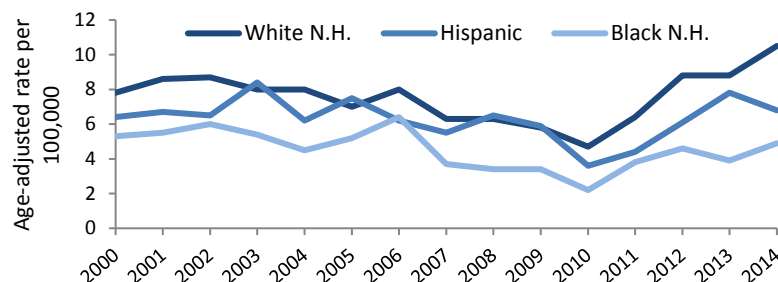
- In 2014, heroin was involved in 58% of all overdose deaths in NYC, making it the most common substance involved in overdose deaths.
- In 2014, heroin-involved overdose death rates increased in all boroughs except Queens.
- From 2000 to 2013, rates of heroin-involved overdose deaths were highest among Bronx residents in all years, except 2008 and 2012. In 2014, Staten Island residents had the highest rate (11.6 per 100,000, 42 deaths).
- More than half (55%) of heroin-involved overdose deaths among NYC residents were among residents of Brooklyn (29%, 116 deaths) and the Bronx (26%, 103 deaths) in 2014.
- From 2013 to 2014, rates of heroin-involved overdose deaths increased more than 50% in the neighborhoods of Union Square, Borough Park, Bedford Stuyvesant, Coney Island, and Stapleton-St. George. Rates more than doubled in Greenpoint, Bensonhurst-Bay Ridge, Port Richmond, and East Harlem neighborhoods.
- From 2010 to 2014, New Yorkers aged 35 to 54 had the highest rate of overdose deaths involving heroin.
- Among New Yorkers aged 15 to 34, the rate of heroin-involved overdose deaths more than doubled from 2.1 per 100,000 in 2010 to 5.3 per 100,000 in 2014, a 152% increase.

Unintentional overdose deaths involving heroin by borough of residence, New York City, 2000–2014



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

Unintentional overdose deaths involving heroin by race/ethnicity, New York City, 2000–2014



N.H.=non-Hispanic

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 (10.4 per 100,000) than neighborhoods with lower poverty in 2014.
- The rate of heroin-involved overdose deaths decreased among Hispanic New Yorkers, from 7.8 to 6.8 per 100,000 from 2013 to 2014.
- The rate of overdose deaths involving heroin remained highest among White New Yorkers (10.5 per 100,000).

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Epi Data Tables

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Unintentional Drug Poisoning (Overdose) Deaths Involving Opioids in New York City, 2011-2014

Data Tables

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- Table 3.** Number and rate of unintentional drug poisoning (overdose) deaths involving opioid analgesics, New York City, 2011-2014
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Data Sources

Bureau of Vital Stastics/Office of the Chief Medical Examiner: 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 2000-2014. Methadone is reported separately and not included in opioid analgesic analyses.

Rate Calculation: NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014, updated October 2015. 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, 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%).

Table 1. Number and rate of unintentional drug poisoning (overdose) deaths, New York City, 2011-2014

Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.

Rates per 100,000 New Yorkers are age adjusted, except those for specific age groups.

	2011			2012			2013			2014		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	630	100%	9.4	730	100%	10.9	788	100%	11.6	800	100%	11.7
Gender												
Male	455	72%	14.2	534	73%	16.6	570	72%	17.7	589	74%	18.1
Female	175	28%	5.0	196	27%	5.7	218	28%	6.1	211	26%	5.8
Race/Ethnicity[†]												
Black (non-Hispanic)	158	26%	9.9	180	25%	11.6	172	23%	10.6	170	22%	10.4
Hispanic	157	26%	8.7	192	27%	10.4	222	30%	12.0	208	27%	11.2
White (non-Hispanic)	300	49%	13.5	336	47%	15.6	358	48%	16.4	387	51%	17.5
Age (years)												
15-24	37	6%	3.2	48	7%	4.2	45	6%	4.0	51	6%	4.6
25-34	125	20%	8.7	140	19%	9.6	137	17%	9.2	166	21%	11.0
35-44	133	21%	11.5	158	22%	13.5	159	20%	13.5	165	21%	14.0
45-54	206	33%	18.5	245	34%	22.0	251	32%	22.5	232	29%	20.8
55-64	122	19%	13.2	122	17%	13.0	163	21%	17.1	151	19%	15.5
65-84	7	1%	0.8	17	2%	1.9	33	4%	3.6	35	4%	3.7
Age (years-collapsed)												
15-34	162	26%	6.3	188	26%	7.2	182	23%	7.0	217	27%	8.3
35-54	339	54%	14.9	403	55%	17.6	410	52%	17.9	397	50%	17.3
55-84	129	20%	7.2	139	19%	7.6	196	25%	10.4	186	23%	9.7
Borough of Residence[†]												
Bronx	140	25%	13.2	171	26%	16.0	162	24%	14.9	170	24%	15.5
Brooklyn	158	28%	7.8	179	27%	8.9	165	25%	8.2	195	28%	9.6
Manhattan	103	18%	7.7	131	20%	9.8	136	20%	9.7	141	20%	10.4
Queens	97	17%	5.2	105	16%	5.5	145	22%	7.5	131	18%	6.8
Staten Island	69	12%	18.4	74	11%	19.9	64	10%	17.6	74	10%	20.6
Borough of Death												
Bronx	147	23%	13.8	175	24%	16.5	184	23%	17.1	182	23%	16.6
Brooklyn	172	27%	8.5	188	26%	9.4	197	25%	9.8	220	28%	10.8
Manhattan	134	21%	9.9	172	24%	12.8	191	24%	13.8	184	23%	13.4
Queens	100	16%	5.4	120	16%	6.4	152	19%	7.9	141	18%	7.3
Staten Island	77	12%	20.6	75	10%	20.1	64	8%	17.5	73	9%	20.2
Neighborhood Poverty^{†*}												
Low (wealthiest)	124	22%	8.8	119	18%	8.6	147	22%	10.6	143	20%	10.4
Medium	158	28%	6.2	194	29%	7.5	183	27%	7.1	208	29%	8.1
High	130	23%	8.3	164	25%	10.5	160	24%	10.0	169	24%	10.6
Very High	155	27%	13.8	182	28%	16.1	181	27%	15.8	189	27%	16.3
Drug Type**												
Alcohol	273	43%	4.1	316	43%	4.7	342	43%	5.0	359	45%	5.2
Benzodiazepines	210	33%	3.1	278	38%	4.2	298	38%	4.4	301	38%	4.4
Cocaine	319	51%	4.7	348	48%	5.2	364	46%	5.4	326	41%	4.7
Heroin	284	45%	4.2	382	52%	5.7	424	54%	6.2	460	57%	6.7
Methadone	146	23%	2.2	184	25%	2.7	169	21%	2.5	127	16%	1.8
Opioid Analgesics	220	35%	3.3	201	28%	3.0	220	28%	3.2	217	27%	3.2
Top 5 NYC Neighborhoods[^]	2011-2012 Rate						2013-2014 Rate					
	Willowbrook						Hunts Point-Mott Haven					
	23.6						27.9					
	Hunts Point-Mott Haven						South Beach-Tottenville					
	23.4						26.8					
	Stapleton-St George						East Harlem					
	21.3						24.4					
	South Beach-Tottenville						Crotona-Tremont					
	20.0						19.2					
	Highbridge-Morrisania						Highbridge-Morrisania					
	17.4						18.2					

[†]Percentage of deaths within subgroup are calculated among categories presented.

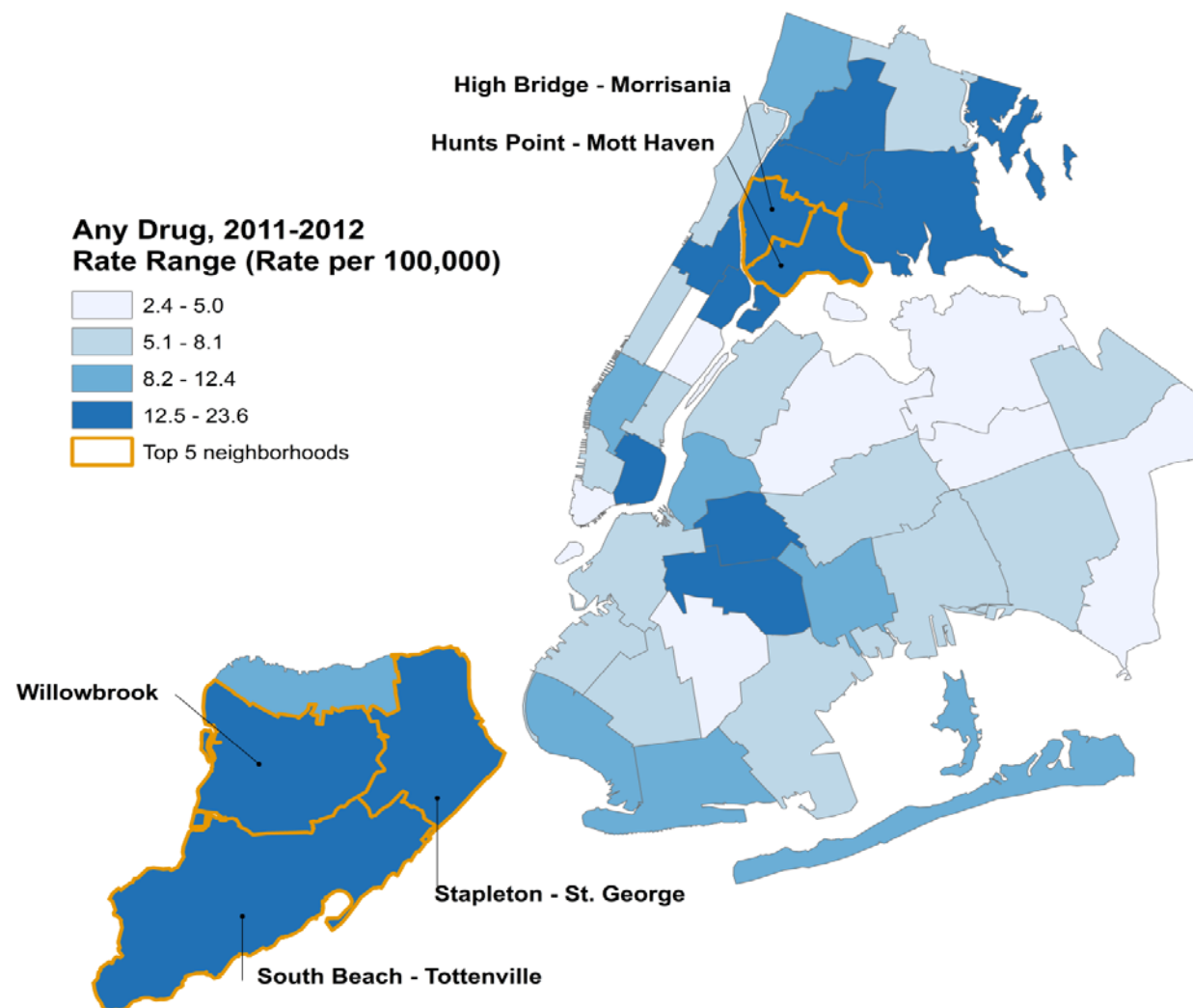
groups: low (<10%), medium (10%-<20%), high (20%-<30%) and very high (≥30%).

**Drug Type, not mutually exclusive.; percent will not equal 100%.

[^]Top five of 42 NYC Neighborhoods

Map 1. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) by neighborhood* of residence, 2011-2012

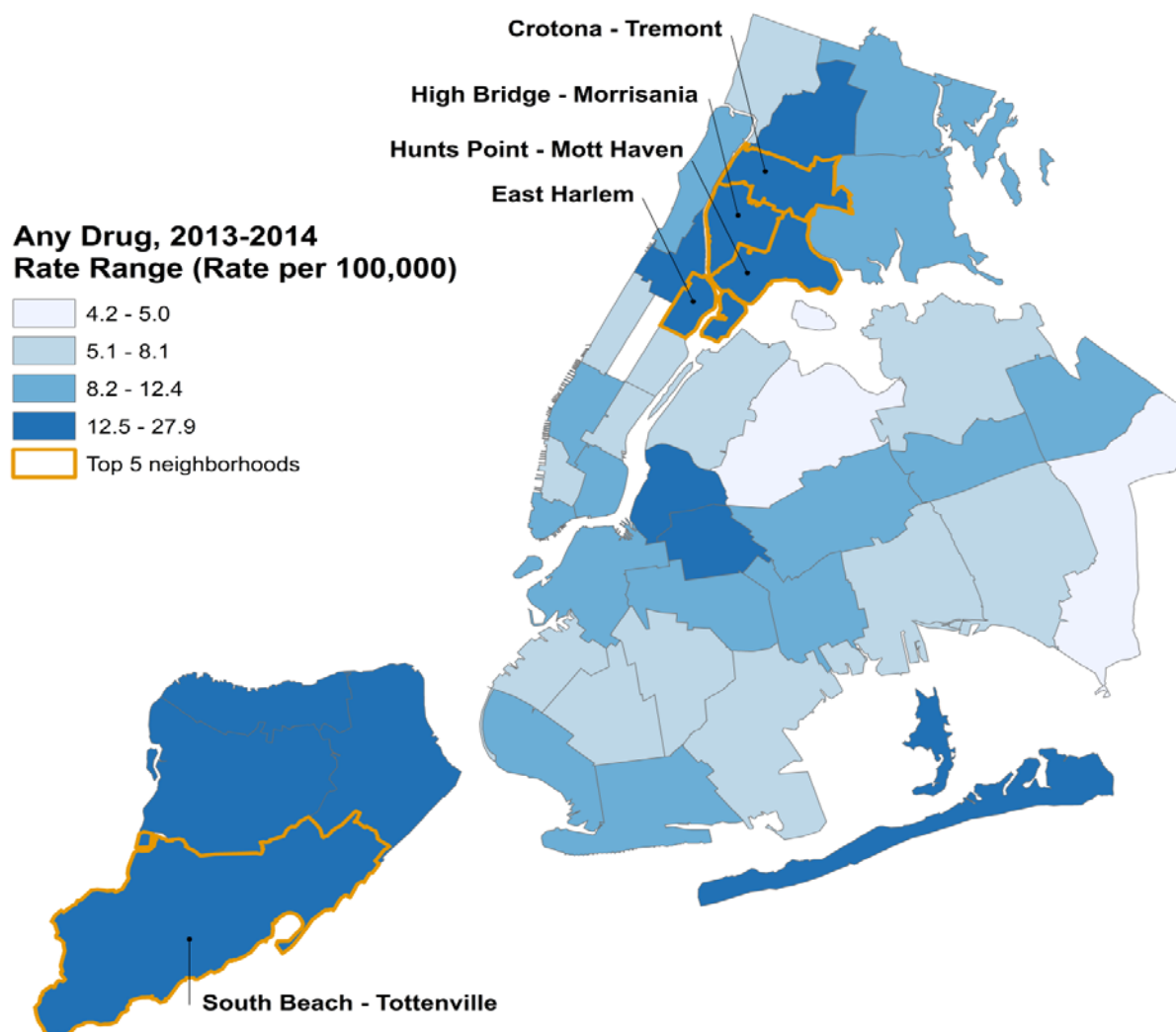
Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau internal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.



*The United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.

Map 2. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) by neighborhood* of residence, 2013-2014

Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.



*The United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.

Table 2. Number and rate of unintentional drug poisoning (overdose) deaths involving heroin, New York City, 2011-2014

Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.

Rates per 100,000 New Yorkers are age adjusted, except those for specific age groups.

	2011			2012			2013			2014		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	630	100%	9.4	730	100%	10.9	788	100%	11.6	800	100%	11.7
Total Unintentional Drug Poisoning Deaths Involving Heroin	284	45%	4.2	382	52%	5.7	424	54%	6.2	460	58%	6.7
Gender												
Male	222	78%	6.9	297	78%	9.2	326	77%	10.0	350	76%	10.7
Female	62	22%	1.8	85	22%	2.5	98	23%	2.7	110	24%	3.0
Race/Ethnicity[†]												
Black (non-Hispanic)	61	22%	3.8	70	19%	4.6	64	16%	3.9	81	18%	4.9
Hispanic	79	28%	4.4	114	30%	6.1	146	36%	7.8	126	29%	6.8
White (non-Hispanic)	140	50%	6.4	191	51%	8.8	195	48%	8.8	229	53%	10.5
Age (years)												
15-24	17	6%	1.5	27	7%	2.4	32	8%	2.9	34	7%	3.1
25-34	63	22%	4.4	88	23%	6.0	92	22%	6.2	105	23%	7.0
35-44	64	23%	5.5	80	21%	6.8	84	20%	7.1	95	21%	8.0
45-54	88	31%	7.9	130	34%	11.6	125	29%	11.2	129	28%	11.5
55-64	49	17%	5.3	50	13%	5.3	78	18%	8.2	80	17%	8.2
65-84	3	1%	0.3	7	2%	0.8	13	3%	1.4	17	4%	1.8
Age (years-collapsed)												
15-34	80	28%	3.1	115	30%	4.4	124	29%	4.8	139	30%	5.3
35-54	152	54%	6.7	210	55%	9.2	209	49%	9.1	224	49%	9.7
55-84	52	18%	2.9	57	15%	3.1	91	21%	4.9	97	21%	5.1
Borough of Residence[†]												
Bronx	75	30%	7.1	93	27%	8.8	94	27%	8.7	103	26%	9.5
Brooklyn	58	23%	2.9	84	25%	4.2	84	24%	4.2	116	29%	5.7
Manhattan	51	20%	3.8	73	22%	5.3	61	17%	4.2	69	17%	4.9
Queens	47	19%	2.6	53	16%	2.8	81	23%	4.3	71	18%	3.7
Staten Island	22	9%	6.2	36	11%	10.1	32	9%	8.6	42	11%	11.6
Borough of Death												
Bronx	80	28%	7.6	98	26%	9.3	109	26%	10.1	112	24%	10.3
Brooklyn	66	23%	3.3	96	25%	4.8	102	24%	5.0	138	30%	6.8
Manhattan	68	24%	5.0	96	25%	7.1	89	21%	6.2	90	20%	6.3
Queens	47	17%	2.6	59	15%	3.2	91	21%	4.8	79	17%	4.1
Staten Island	23	8%	6.5	33	9%	9.2	33	8%	9.1	41	9%	11.2
Neighborhood Poverty^{†*}												
Low (wealthiest)	46	18%	3.4	64	19%	4.6	78	22%	5.7	67	17%	4.9
Medium	73	29%	2.9	86	25%	3.4	90	26%	3.5	120	30%	4.7
High	52	21%	3.3	92	27%	5.9	73	21%	4.5	91	23%	5.7
Very High	82	32%	7.3	96	28%	8.5	110	31%	9.7	121	30%	10.4
Top 5 NYC Neighborhoods[^]	2011-2012 Rate					2013-2014 Rate						
	Hunts Point-Mott Haven					Hunts Point-Mott Haven					18.6	
	Union Square					South Beach-Tottenville					14.5	
	Highbridge-Morrisania					Crotona-Tremont					14.2	
	South Beach-Tottenville					East Harlem					11.6	
	Fordham-Bronx Park					Fordham-Bronx Park					9.7	

[†]Percentage of deaths within subgroup are calculated among categories presented.

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

[^][Top five of 42 NYC Neighborhoods](#)

Table 3. Number and rate of unintentional drug poisoning (overdose) deaths involving opioid analgesics, New York City, 2011-2014

Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.

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	2011			2012			2013			2014		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	630	100%	9.4	730	100%	10.9	788	100%	11.6	800	100%	11.7
Total Unintentional Drug Poisoning Deaths Involving Opioid Analgesics	220	35%	3.3	201	28%	3.0	220	28%	3.2	217	27%	3.2
Gender												
Male	160	73%	5.0	141	70%	4.3	147	67%	4.5	147	68%	4.6
Female	60	27%	1.7	60	30%	1.8	73	33%	2.0	70	32%	1.9
Race/Ethnicity[†]												
Black (non-Hispanic)	24	11%	1.5	40	20%	2.7	30	14%	1.9	28	13%	1.8
Hispanic	40	19%	2.2	42	21%	2.3	52	24%	2.8	54	26%	2.9
White (non-Hispanic)	152	70%	7.0	115	58%	5.4	131	62%	5.8	127	61%	5.8
Age (years)												
15-24	24	11%	2.1	23	11%	2.0	11	5%	1.0	20	9%	1.8
25-34	50	23%	3.5	39	19%	2.7	43	20%	2.9	45	21%	3.0
35-44	49	22%	4.2	49	24%	4.2	44	20%	3.7	49	22%	4.1
45-54	59	27%	5.3	56	28%	5.0	73	33%	6.5	55	25%	4.9
55-64	35	16%	3.8	32	16%	3.4	43	20%	4.5	37	17%	3.8
65-84	3	1%	0.3	2	1%	0.2	6	3%	0.7	11	5%	1.2
Age (years-collapsed)												
15-34	74	34%	2.9	62	31%	2.4	54	25%	2.1	65	30%	2.5
35-54	108	49%	4.7	105	52%	4.6	117	53%	5.1	104	48%	4.5
55-84	38	17%	2.1	34	17%	1.9	49	22%	2.6	48	22%	2.5
Borough of Residence[†]												
Bronx	40	20%	3.7	38	21%	3.5	36	18%	3.3	39	20%	3.5
Brooklyn	48	24%	2.4	40	22%	2.1	51	26%	2.5	55	27%	2.7
Manhattan	31	15%	2.4	33	18%	2.4	31	16%	2.3	32	16%	2.5
Queens	42	21%	2.3	33	18%	1.7	51	26%	2.6	45	23%	2.4
Staten Island	40	20%	10.7	37	20%	10.0	28	14%	7.5	27	14%	7.9
Borough of Death												
Bronx	41	19%	3.8	39	19%	3.6	42	19%	3.9	41	19%	3.7
Brooklyn	52	24%	2.6	41	20%	2.2	60	27%	3.0	59	27%	2.9
Manhattan	38	17%	2.9	45	22%	3.4	38	17%	2.7	40	19%	3.0
Queens	45	20%	2.4	38	19%	2.0	54	25%	2.8	49	23%	2.6
Staten Island	44	20%	12.0	38	19%	10.1	26	12%	6.9	28	13%	7.9
Neighborhood Poverty[*]												
Low (wealthiest)	59	29%	4.2	54	30%	4.0	59	30%	4.1	54	28%	4.1
Medium	67	33%	2.6	57	31%	2.2	55	28%	2.1	62	31%	2.4
High	33	16%	2.1	36	20%	2.3	44	22%	2.7	42	21%	2.6
Very High	42	21%	3.7	34	19%	3.0	38	19%	3.3	39	20%	3.3
Top 5 NYC Neighborhoods[^]	2011-2012 Rate					2013-2014 Rate						
	Willowbrook					South Beach-Tottenville						
						12.9						
	South Beach-Tottenville					12.5						
						East Harlem						
	Stapleton-St George					7.5						
						10.0						
	Rockaway					Port Richmond						
						7.1						
	Crotona-Tremont					Hunts Point-Mott Haven						
						6.9						
						Ridgewood						
						5.7						

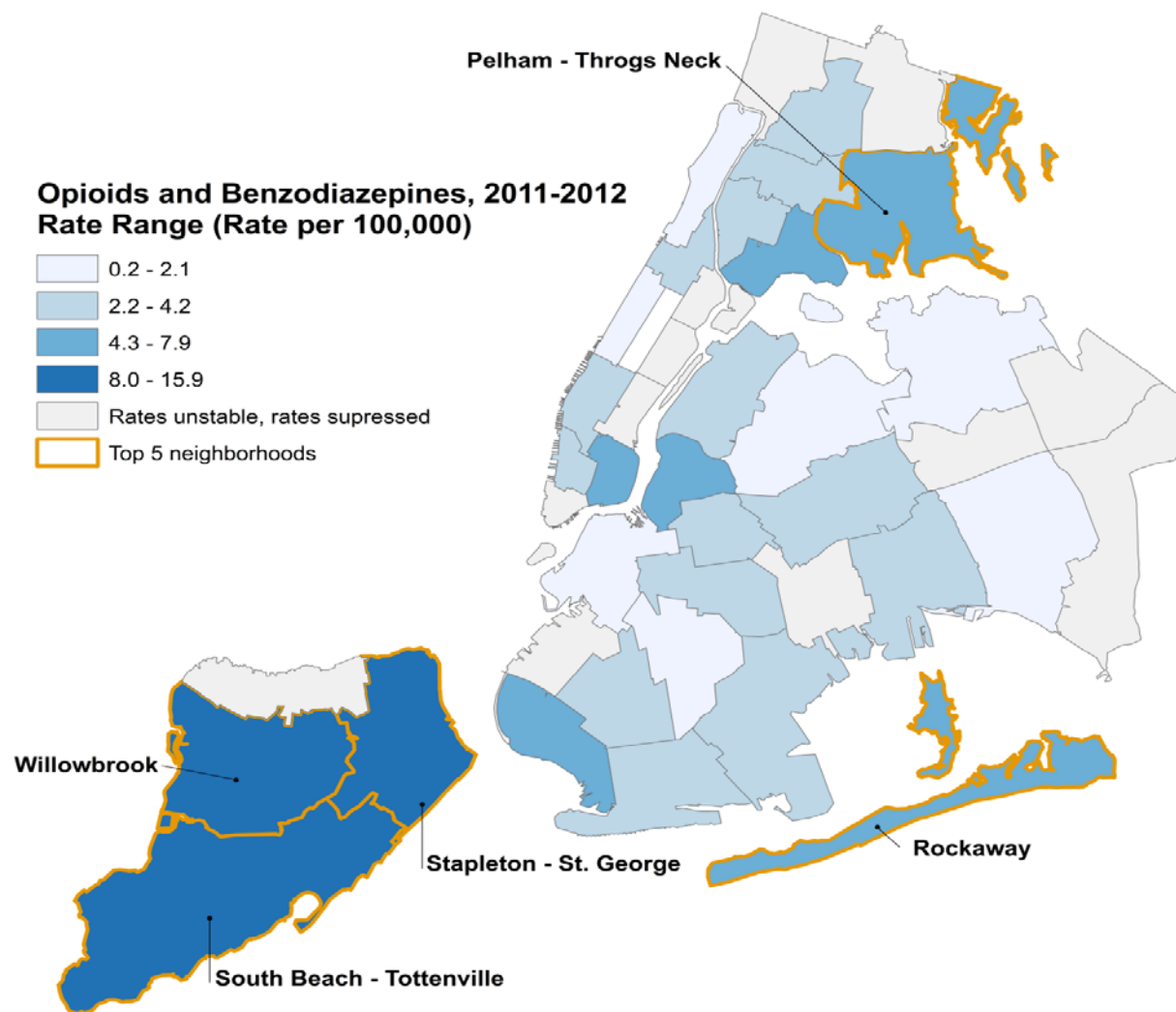
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[^]Top five of 42 NYC Neighborhoods

Map 3. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) deaths involving opioids and benzodiazepines by neighborhood* of residence, 2011-2012

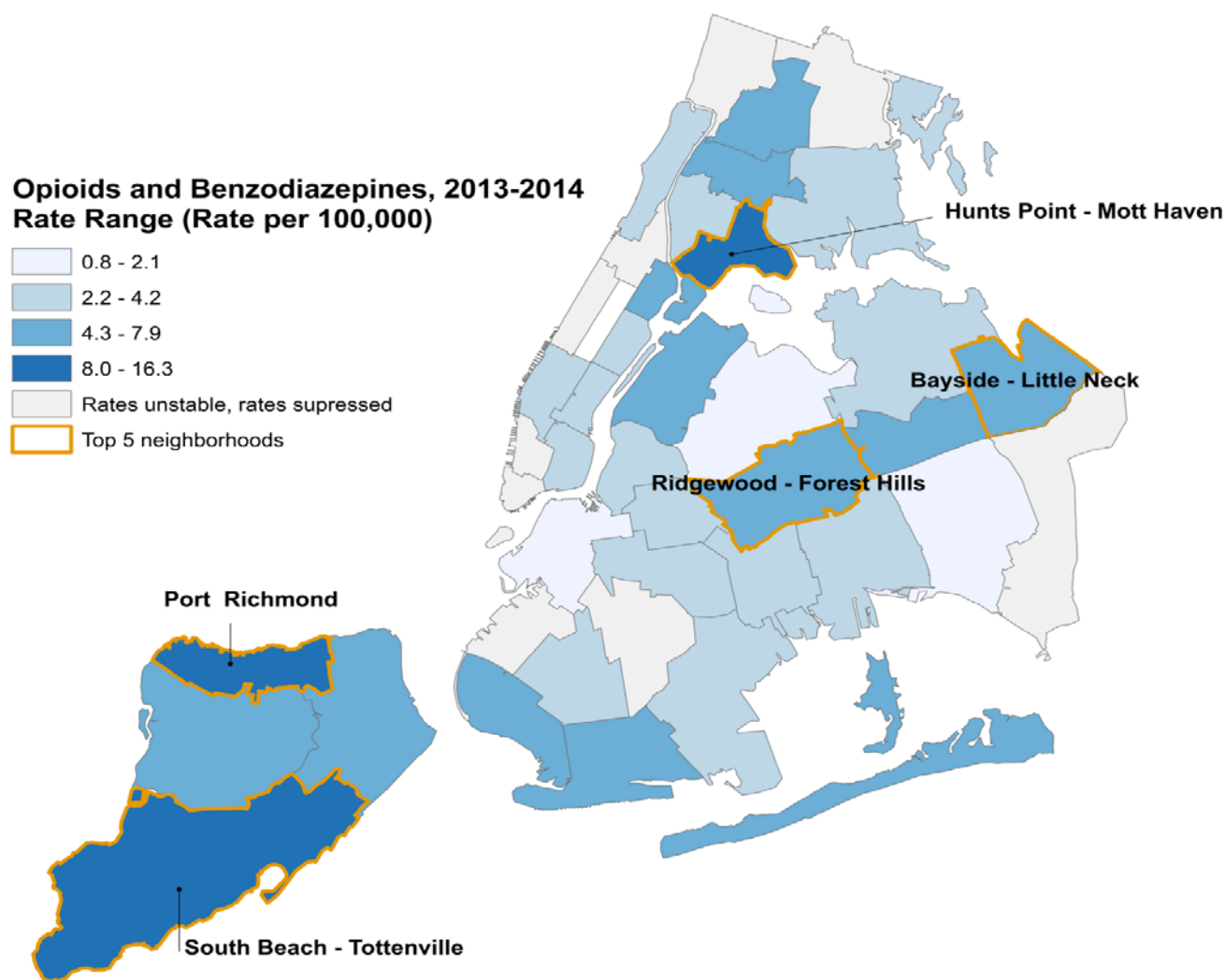
Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.



*The United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.

Map 4. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) deaths involving opioids and benzodiazepines by neighborhood* of residence, 2013-2014

Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2014 updated October 2015. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.



*The United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.