



Epi Data Brief

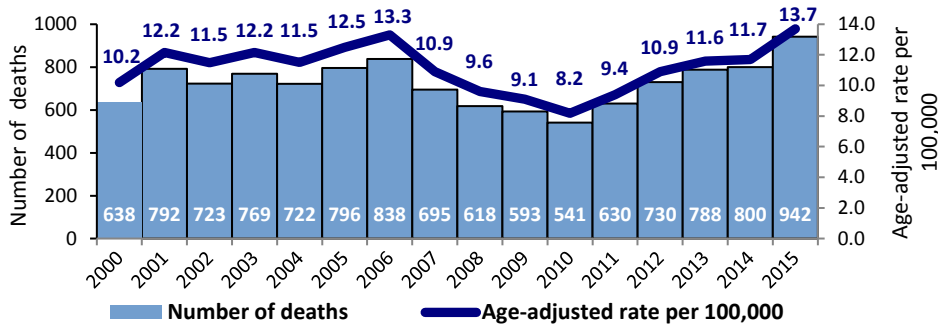
New York City Department of Health and Mental Hygiene

August 2016, No. 74

Unintentional Drug Poisoning (Overdose) Deaths Involving Heroin and/or Fentanyl in New York City, 2000–2015

- In 2015, there were 942 unintentional drug overdose deaths in New York City (NYC) compared with 800 unintentional drug overdose deaths in 2014.
- The rate of unintentional drug overdose death increased for the fifth consecutive year, from 8.2 per 100,000 residents in 2010 to 13.7 per 100,000 residents in 2015, a 67% increase.

Unintentional overdose deaths, New York City, 2000–2015

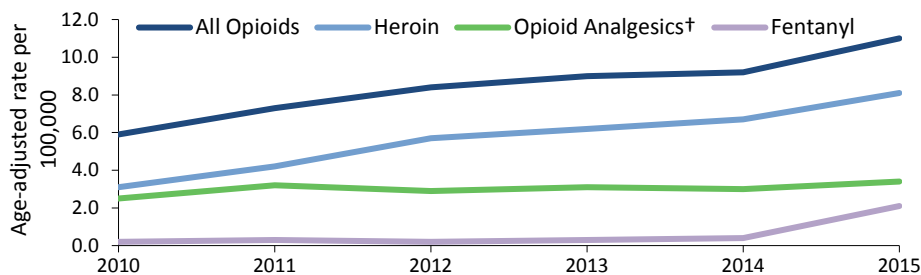


Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics, 2000-2015

Note:

- In 2015, the rate was highest among Bronx residents, 22.6 per 100,000 residents, a 46% increase from 15.5 per 100,000 residents in 2014.
- Latino New Yorkers had the largest increase (44%) compared with all other races/ethnicities. The rate increased from 11.3 per 100,000 residents in 2014 to 16.3 per 100,000 residents in 2015.
- In 2015, nearly all (97%) overdose deaths involved more than one substance. Eight in ten (80%) overdose deaths involved an opioid.
- Heroin was involved in 561 (60%) of all overdose deaths in NYC in 2015, making it the most common substance involved in overdose deaths. Opioid analgesics, excluding fentanyl, were involved in 232 (25%) of overdose deaths in 2015. A total of 147 (16%) overdose deaths involved fentanyl.

Unintentional overdose deaths by opioid type (not mutually exclusive), New York City, 2010–2015



†Opioid analgesics excludes fentanyl.

Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics, 2010-2015

Data Source:

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

Mortality data for 2000-2015 were collected through an in-depth review of data and charts from DOHMH Bureau of Vital Statistics and NYC Office of the Chief Medical Examiner.

Rate calculation: DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2016, updated September 2017. 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.

Definitions:

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

†For this analysis, opioid analgesics exclude fentanyl.

Fentanyl: a synthetic and short-acting opioid analgesic 50-100 times more potent than morphine.

Race/ethnicity: White and Black race categories exclude Latino ethnicity. Latino includes Hispanic and Latino origin.

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

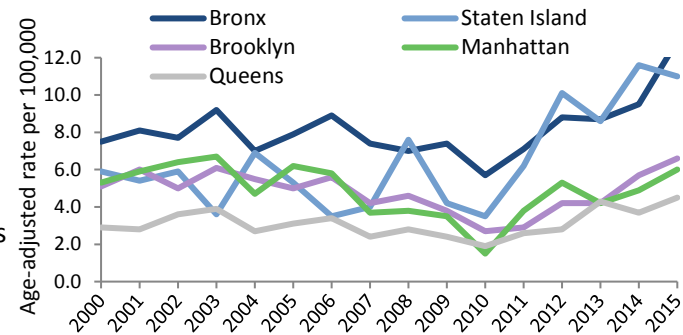
Unintentional overdose deaths involving opioid analgesics (excluding fentanyl)

- The rate of overdose death involving opioid analgesics, excluding fentanyl, has been stable for the last five-years, 2011 to 2015 (3.4 per 100,000 residents).
- In 2015, the rate of overdose deaths involving opioid analgesics was highest among residents of Staten Island; the rate decreased by 8%, from 7.6 in 2014 to 6.8 per 100,000 Staten Island residents in 2015.
- The largest increase (47%) was among residents of the Bronx; the rate of opioid analgesic-involved overdose deaths (excluding fentanyl) increased from 3.4 to 5.0 per 100,000 residents from 2014 to 2015.

Unintentional overdose deaths involving heroin

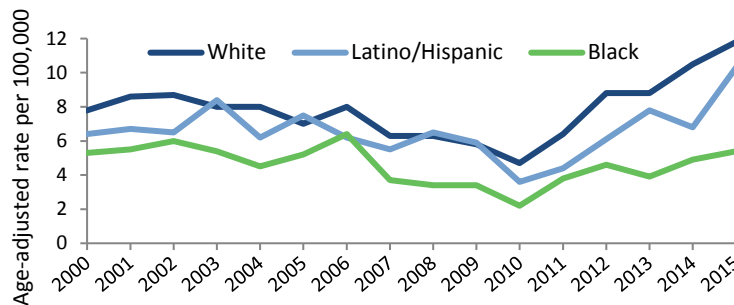
- The rate of heroin-involved overdose death in NYC increased for the fifth consecutive year since 2010.
- The rate increased 161%, from 3.1 per 100,000 residents in 2010 to 8.1 per 100,000 residents in 2015.
- In 2015, heroin-involved overdose death rates increased in all boroughs except Staten Island.
- Bronx residents had the highest rate of heroin-involved overdose death, 12.9 per 100,000 residents (146 deaths) in 2015.
- The rate in the Bronx was more than double the rate in Queens (4.5 per 100,000; 84 deaths), Manhattan (6.0 per 100,000; 80 deaths), and Brooklyn (6.6 per 100,000 ; 137 deaths). The rate in Staten Island was 11.0 per 100,000 (39 deaths).
- In 2015, four of the five neighborhoods with the highest rates of heroin-involved overdose death were in the Bronx: Hunts Point-Mott Haven (19.8 per 100,000), Crotona-Tremont (17.1 per 100,000), Fordham-Bronx Parkway (15.4 per 100,000), and Highbridge- Morrisania 13.9 per 100,000. South Beach-Tottenville in Staten Island had the fifth highest rate, 14.5 per 100,000.
- From 2014 to 2015, the rate of heroin-involved overdose death more than doubled among residents of Downtown Brooklyn-Heights-Slope (Brooklyn), an increase of 173%. Rates increased more than 50% in Flushing (Queens), Washington Heights-Inwood (Manhattan), Highbridge-Morrisania (Bronx), Fordham-Bronx Parkway (Bronx), Borough Park (Brooklyn), and Southwest Queens (Queens).

Unintentional overdose deaths involving heroin by borough of residence, New York City, 2000–2015



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics, 2000-2015

Unintentional overdose deaths involving heroin by race/ethnicity, New York City, 2000–2015



White and Black race categories exclude Hispanic/Latino ethnicity.
Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics, 2000-2015

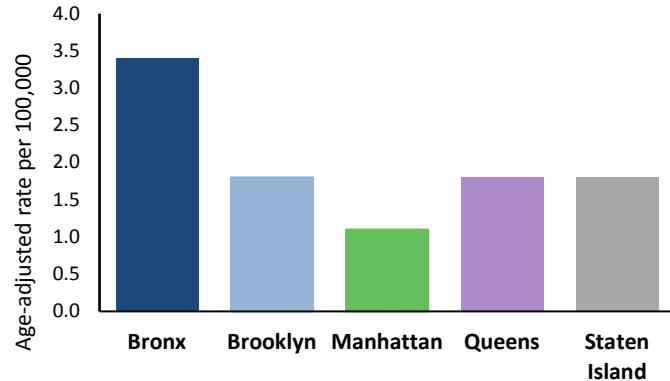
- In 2015, the rate was highest among White New Yorkers (11.8 per 100,000). The rate increased 51% among Latino New Yorkers from 6.8 per 100,000 in 2014 to 10.3 per 100,000 in 2015.
- Residents of the highest poverty neighborhoods had a higher rate of overdose death involving heroin (12.3 per 100,000) than residents of the lowest poverty neighborhoods (5.5 per 100,000) in 2015.
- From 2010 to 2015, New Yorkers aged 35 to 54 had the highest rates. The rate increased 139% from 4.9 per 100,000 residents in 2010 to 11.7 per 100,000 residents in 2015.

- New Yorkers aged 15 to 34 had the largest increase in heroin-related overdose deaths. The rate increased by 252%, from 2.1 per 100,000 residents in 2010 to 7.4 per 100,000 residents in 2015.

Unintentional overdose deaths involving fentanyl

- In 2015, 147 (16%) overdose deaths involved fentanyl (2.1 per 100,000 residents).
- Data from the previous ten years show that at most 3% of overdose deaths annually involved fentanyl.
- In 2015 the rate of fentanyl-involved overdose was highest among Bronx residents, 3.5 per 100,000 residents, double the rate of all other boroughs.
- Of the 147 fentanyl-involved overdose deaths in 2015, 102 (70%) also involved heroin.
- In 2015, the rates of overdose death involving both fentanyl and heroin were highest among residents of very high poverty neighborhoods (2.2 per 100,000), New Yorkers aged 25 to 34 (2.4 per 100,000), and residents of the Bronx (2.4 per 100,000).
- Rates of overdose death involving fentanyl without heroin differed only by age, and were highest among New Yorkers aged 45 to 54 (1.3 per 100,000).

Unintentional overdose deaths involving fentanyl by borough of residence, New York City, 2015



Source: NYC Office of the Chief Medical Examiner and NYC DOHMH Bureau of Vital Statistics, 2015

COMMENT

- Fentanyl, a synthetic and short-acting opioid analgesic, is 50 to 100 times more potent than morphine and approved for managing acute or chronic pain associated with advanced cancer.¹
- While pharmaceutical fentanyl can be diverted for misuse, most cases of fentanyl-related morbidity and mortality have been linked to illicitly manufactured fentanyl and fentanyl analogues.²
- While fentanyl-involved overdoses can be reversed with naloxone, patients may require a higher dose or multiple doses due to fentanyl's high potency.¹
- Early results have identified three issues related to fentanyl:
 - Survey data collected from syringe exchange program (SEP) participants in NYC found that the vast majority of drug users buying heroin were not intentionally seeking fentanyl, thus were not aware if they had used fentanyl.^{3,4}
 - Thus, drug users that are not aware that they are using fentanyl are at increased of overdose. This suggests the need to educate users on risk reduction practices, such as not using alone and having naloxone.
 - Street level sellers who use drugs may not know their drug products are tainted and may not want to be associated with deaths among users they have supplied.³

1. Centers for Disease Control and Prevention. Increases in Fentanyl Drug Confiscations and Fentanyl-related Overdose Fatalities. HAN Health Advisory. October 26, 2015.
2. National Heroin Threat Assessment Summary. DEA Intelligence Report. April 2015.
3. An Open Letter to United States Public Health Agencies. Johns Hopkins University and Brown University. May 4, 2016.
4. NYC Department of Health and Mental Hygiene. Unpublished data. May 2016.

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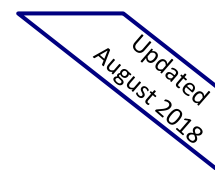
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Epi Data Tables

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Data Tables

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- Map 1 & 2.** Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) deaths by neighborhood of residence, 2012-2013 and 2014-2015
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- Table 3.** Number and rate of unintentional drug poisoning (overdose) deaths involving fentanyl, New York City, 2015
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Data Sources

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 2000-2015.

Rate Calculation: NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2016, updated September 2017. 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, 2012-2015

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 2000-2016 updated September 2017. 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.

	2012			2013			2014			2015		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	730	100%	10.9	788	100%	11.6	800	100%	11.7	942	100%	13.6
Gender												
Male	534	73%	16.6	570	72%	17.7	589	74%	18.1	710	75%	21.6
Female	196	27%	5.7	218	28%	6.1	211	26%	5.8	232	25%	6.5
Race/Ethnicity[†]												
Black (non-Hispanic)	180	25%	11.6	172	23%	10.6	170	22%	10.4	178	20%	10.9
Hispanic	192	27%	10.4	222	30%	12.0	208	27%	11.2	310	34%	16.4
White (non-Hispanic)	336	47%	15.6	358	48%	16.4	387	51%	17.5	414	46%	19.1
Age (years)												
15-24	48	7%	4.2	45	6%	4.0	51	6%	4.6	71	8%	6.6
25-34	140	19%	9.6	137	17%	9.2	166	21%	11.0	196	21%	12.9
35-44	158	22%	13.5	159	20%	13.5	165	21%	14.0	182	19%	15.4
45-54	245	34%	22.0	251	32%	22.5	232	29%	20.8	278	30%	25
55-64	122	17%	13.0	163	21%	17.1	151	19%	15.5	179	19%	18.2
65-84	17	2%	1.9	33	4%	3.6	35	4%	3.7	36	4%	3.7
Age (years-collapsed)												
15-34	188	26%	7.2	182	23%	7.0	217	27%	8.3	267	28%	10.3
35-54	403	55%	17.6	410	52%	17.9	397	50%	17.3	460	49%	20.1
55-84	139	19%	7.6	196	25%	10.4	186	23%	9.7	215	23%	11
Borough of Residence[†]												
Bronx	171	26%	16.0	162	24%	14.9	170	24%	15.5	254	30%	22.6
Brooklyn	179	27%	8.9	165	25%	8.2	195	28%	9.6	224	27%	10.9
Manhattan	131	20%	9.8	136	20%	9.7	141	20%	10.4	149	18%	11.1
Queens	105	16%	5.5	145	22%	7.5	131	18%	6.8	143	17%	7.4
Staten Island	74	11%	19.9	64	10%	17.6	74	10%	20.6	68	8%	19
Borough of Death												
Bronx	175	24%	16.5	184	23%	17.1	182	23%	16.6	274	29%	24.3
Brooklyn	188	26%	9.4	197	25%	9.8	220	28%	10.8	259	27%	12.5
Manhattan	172	24%	12.8	191	24%	13.8	184	23%	13.4	189	20%	14.1
Queens	120	16%	6.4	152	19%	7.9	141	18%	7.3	151	16%	7.9
Staten Island	75	10%	20.1	64	8%	17.5	73	9%	20.2	69	7%	19.3
Neighborhood Poverty^{†0}												
Low (wealthiest)	119	18%	8.6	147	22%	10.6	143	20%	10.4	135	16%	9.7
Medium	194	29%	7.5	183	27%	7.1	208	29%	8.1	247	30%	9.5
High	164	25%	10.5	160	24%	10.0	169	24%	10.6	211	25%	13.3
Very High	182	28%	16.1	181	27%	15.8	189	27%	16.3	236	28%	19.6
Drug Type^{**}												
Alcohol	316	43%	4.7	342	43%	5.0	359	45%	5.2	373	40%	5.5
Benzodiazepines	278	38%	4.2	298	38%	4.4	301	38%	4.4	374	40%	5.4
Cocaine	348	48%	5.2	364	46%	5.4	326	41%	4.7	403	43%	5.8
Heroin	382	52%	5.7	424	54%	6.2	460	57%	6.7	561	60%	8.1
Methadone	184	25%	2.7	169	21%	2.5	127	16%	1.8	154	16%	2.3
Opioid Analgesics ^{††}	192	26%	2.9	213	27%	3.1	200	25%	3.0	232	25%	3.4
Top 5 NYC Neighborhoods[^]	2012-2013 Rate						2014-2015 Rate					
	Hunts Point-Mott Haven			28.1			Hunts Point-Mott Haven			30.6		
	South Beach-Tottenville			23.2			South Beach-Tottenville			23.9		
	Willowbrook			21.0			Crotona-Tremont			23.9		
	Highbridge-Morrisania			19.0			East Harlem			23.1		
	Central Harlem			18.8			Fordham-Bronx Park			21.1		

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

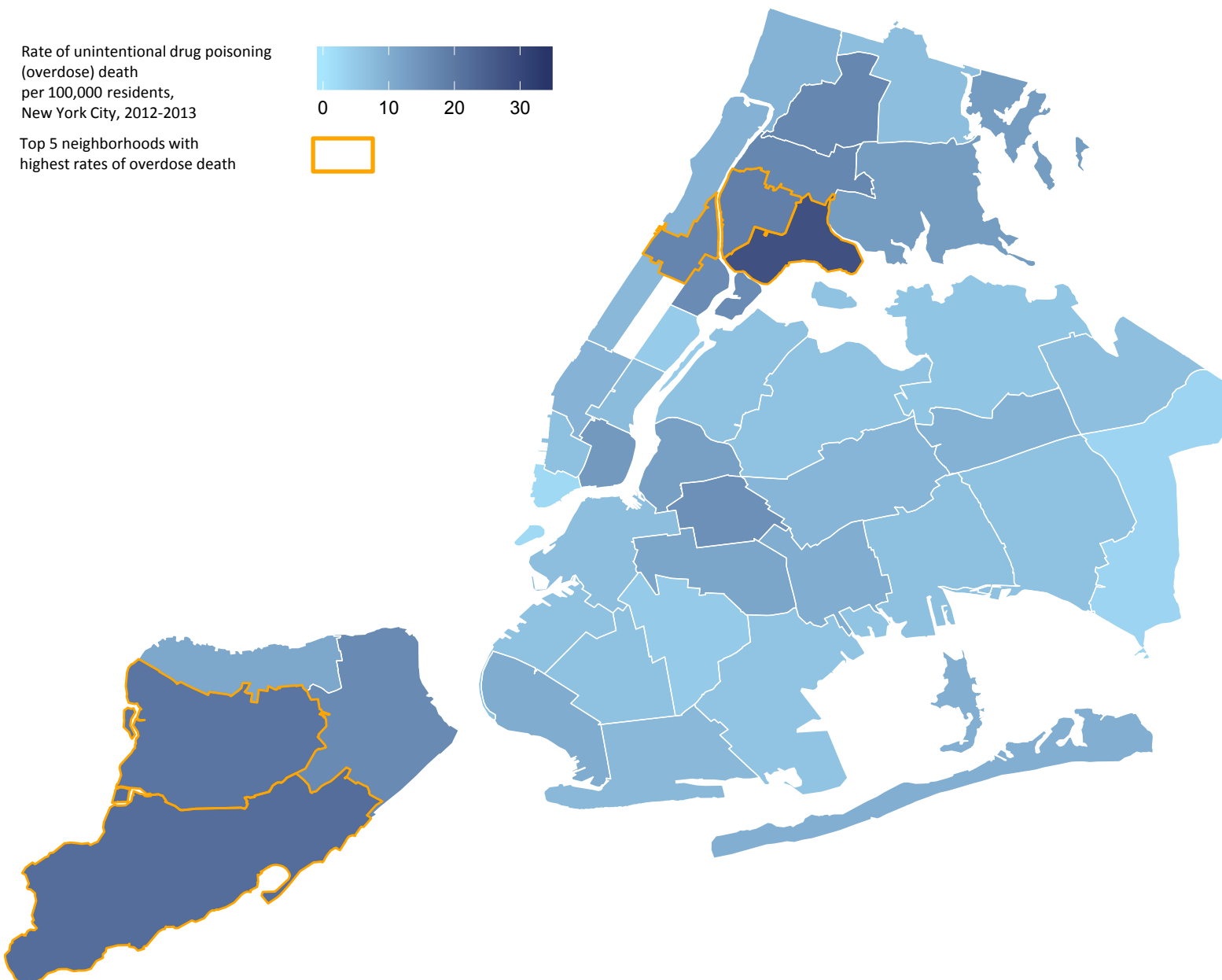
⁰Neighborhood poverty (based on ZIP code) was defined as percent of residents with incomes below 100% of the federal poverty level (FPL) (Census 2000), separated into four groups: low (<10% FPL), medium (10%-<20% FPL), high (20%-<30% FPL) and very high (≥30% FPL).

^{**}Drug Type, not mutually exclusive.; percent will not equal 100%. ^{††}For this analysis, opioid analgesics exclude fentanyl.

[^]Top five of 42 NYC Neighborhoods

Map 1. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) by neighborhood^ of residence, 2012-2013

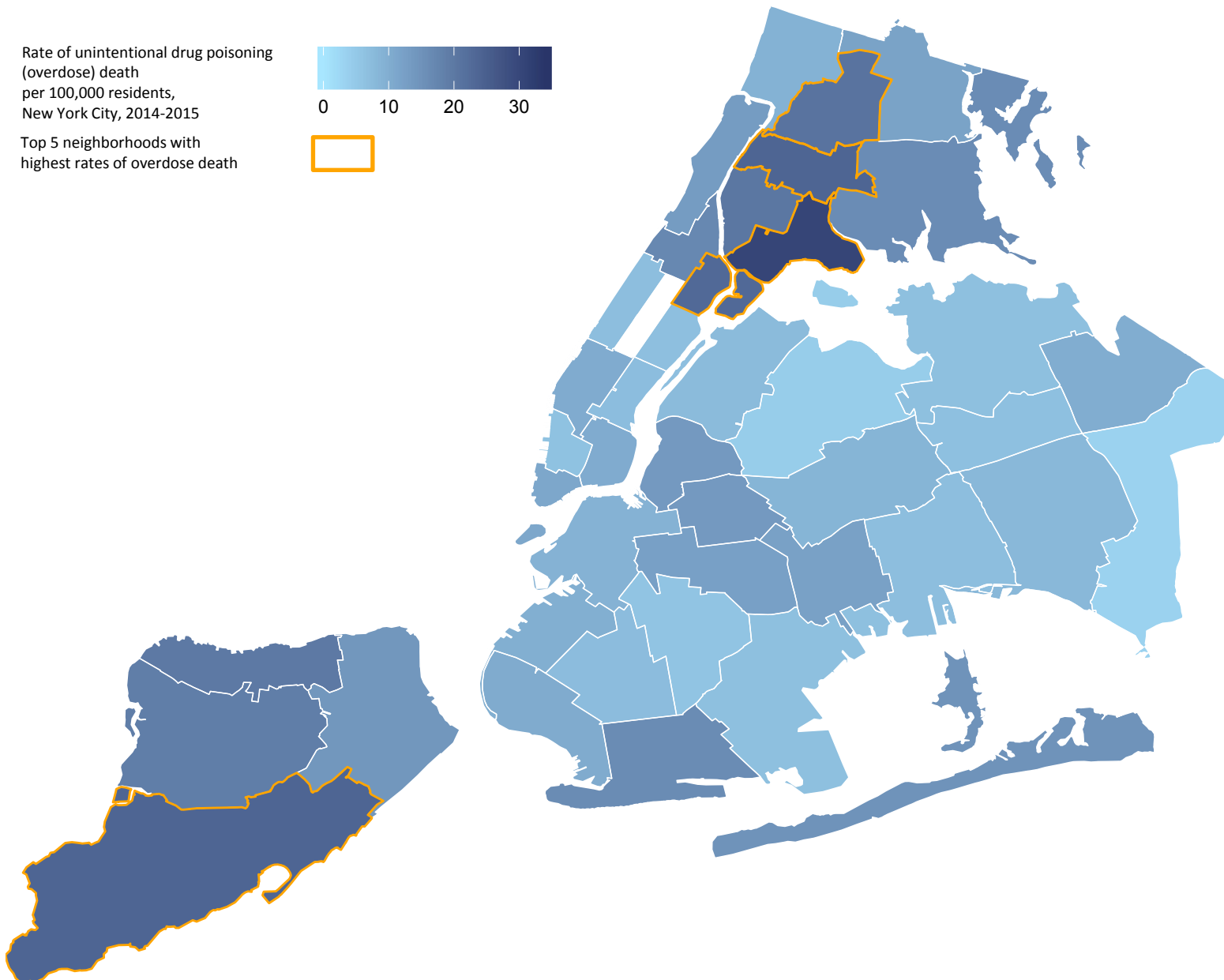
Source: Bureau of Vital Statistics/Office of the Chief Medical Examiner, New York City; Rates calculated using NYC DOHMH population estimates, modified from US Census Bureau intercensal population estimates 2000-2016 updated September 2017. Analysis by Health Department's Bureau of Alcohol and Drug Use 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, 2014-2015

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 2000-2016 updated September 2017. 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.

*Data for 2015 are provisional and are subject to change.

Table 2. Number and rate of unintentional drug poisoning (overdose) deaths involving heroin, New York City, 2012-2015

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 2000-2016 updated September 2017. 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.

	2012			2013			2014			2015		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	730	100%	10.9	788	100%	11.6	800	100%	11.7	942	100%	13.7
Total Unintentional Drug Poisoning Deaths Involving Heroin	382	52%	5.7	424	54%	6.2	460	58%	6.7	561	60%	8.1
Gender												
Male	297	78%	9.2	326	77%	10.0	350	76%	10.7	438	78%	13.3
Female	85	22%	2.5	98	23%	2.7	110	24%	3.0	123	22%	3.4
Race/Ethnicity[†]												
Black (non-Hispanic)	70	19%	4.6	64	16%	3.9	81	18%	4.9	89	16%	5.4
Hispanic	114	30%	6.1	146	36%	7.8	126	29%	6.8	198	37%	10.3
White (non-Hispanic)	191	51%	8.8	195	48%	8.8	229	53%	10.5	255	47%	11.8
Age (years)												
15-24	27	7%	2.4	32	8%	2.9	34	7%	3.1	44	8%	4.1
25-34	88	23%	6.0	92	22%	6.2	105	23%	7.0	148	26%	9.7
35-44	80	21%	6.8	84	20%	7.1	95	21%	8.0	111	20%	9.4
45-54	130	34%	11.6	125	29%	11.2	129	28%	11.5	156	28%	14
55-64	50	13%	5.3	78	18%	8.2	80	17%	8.2	90	16%	9.1
65-84	7	2%	0.8	13	3%	1.4	17	4%	1.8	12	2%	1.2
Age (years-collapsed)												
15-34	115	30%	4.4	124	29%	4.8	139	30%	5.3	192	34%	7.4
35-54	210	55%	9.2	209	49%	9.1	224	49%	9.7	267	48%	11.7
55-84	57	15%	3.1	91	21%	4.9	97	21%	5.1	102	18%	5.2
Borough of Residence[†]												
Bronx	93	27%	8.8	94	27%	8.7	103	26%	9.5	146	30%	12.9
Brooklyn	84	25%	4.2	84	24%	4.2	116	29%	5.7	137	28%	6.6
Manhattan	73	22%	5.3	61	17%	4.2	69	17%	4.9	80	16%	6
Queens	53	16%	2.8	81	23%	4.3	71	18%	3.7	84	17%	4.5
Staten Island	36	11%	10.1	32	9%	8.6	42	11%	11.6	39	8%	11
Borough of Death												
Bronx	98	26%	9.3	109	26%	10.1	112	24%	10.3	165	29%	14.6
Brooklyn	96	25%	4.8	102	24%	5.0	138	30%	6.8	166	30%	8
Manhattan	96	25%	7.1	89	21%	6.2	90	20%	6.3	104	19%	7.7
Queens	59	15%	3.2	91	21%	4.8	79	17%	4.1	87	16%	4.6
Staten Island	33	9%	9.2	33	8%	9.1	41	9%	11.2	39	7%	10.9
Neighborhood Poverty^{†0}												
Low (wealthiest)	64	19%	4.6	78	22%	5.7	67	17%	4.9	75	16%	5.5
Medium	86	25%	3.4	90	26%	3.5	120	30%	4.7	141	29%	5.4
High	92	27%	5.9	73	21%	4.5	91	23%	5.7	114	24%	7.2
Very High	96	28%	8.5	110	31%	9.7	121	30%	10.4	150	31%	12.3
Top 5 NYC Neighborhoods[^]	2012-2013 Rate						2014-2015 Rate					
	Hunts Point-Mott Haven			16.3			Hunts Point-Mott Haven			20.7		
	South Beach- Tottenville			12.9			Crotona-Tremont			17.0		
	Willowbrook			10.7			South Beach-Tottenville			14.0		
	Fordham-Bronx Park			10.6			East Harlem			13.8		
	Crotona-Tremont			10.3			Fordham-Bronx Park			12.4		

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

⁰Neighborhood poverty (based on ZIP code) was defined as percent of residents with incomes below 100% of the federal poverty level (FPL) (Census 2000), separated into four groups: low (<10% FPL), medium (10%-<20% FPL), high (20%-<30% FPL) and very high (>=30% FPL).

Table 3. Number and rate of unintentional drug poisoning (overdose) deaths involving fentanyl, New York City, 2015

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 2000-2016 updated September 2017. 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.

	Unintentional drug poisoning (overdose) deaths involving fentanyl			Unintentional drug poisoning (overdose) deaths involving fentanyl, no heroin			Unintentional drug poisoning (overdose) deaths involving fentanyl and/or heroin		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Total Unintentional Drug Poisoning Deaths	942	100%	13.7	942	100%	13.7	942	100%	13.7
Total Unintentional Drug Poisoning Deaths by Drug Type	147	16%	2.1	44	5%	0.6	605	64%	8.8
Gender									
Male	116	79%	3.4	35	80%	1.0	473	78%	14.3
Female	31	21%	0.9	9	20%	0.3	132	22%	3.7
Race/Ethnicity[†]									
Black (non-Hispanic)	25	17%	1.5	6	14%	0.4	95	16%	5.8
Hispanic	51	36%	2.6	15	35%	0.8	213	36%	11.1
White (non-Hispanic)	67	47%	3.1	22	51%	1.0	277	47%	12.9
Age (years-collapsed)									
15-34	56	38%	2.2	13	30%	0.5	205	34%	7.9
35-54	65	44%	2.8	20	45%	0.9	287	47%	12.5
55-84	26	18%	1.3	11	25%	0.6	113	19%	5.8
Borough of Residence[†]									
Bronx	40	30%	3.4	12	29%	1.0	158	30%	13.9
Brooklyn	38	27%	1.8	14	33%	0.7	151	29%	7.3
Manhattan	16	12%	1.1	8	19%	0.6	88	17%	6.5
Queens	32	25%	1.8	X	X	X	89	17%	4.8
Staten Island	7	5%	1.8	X	X	X	42	8%	11.8
Borough of Death									
Bronx	43	29%	3.6	12	27%	1.0	177	29%	15.6
Brooklyn	42	28%	2	15	34%	0.7	181	30%	8.7
Manhattan	25	17%	1.8	9	20%	0.6	113	19%	8.3
Queens	29	20%	1.6	X	X	X	93	15%	5.0
Staten Island	8	5%	2.1	X	X	X	41	7%	11.4
Neighborhood Poverty^{*Ø}									
Low (wealthiest)	20	16%	1.6	6	14%	0.5	81	15%	6.0
Medium	40	30%	1.5	10	24%	0.4	151	29%	5.8
High	35	24%	2.1	16	38%	0.9	130	25%	8.1
Very High	37	30%	3.1	10	24%	0.9	160	30%	13.2

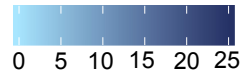
[†]Percentage of deaths within subgroup are calculated among categories presented.

^ØNeighborhood poverty (based on ZIP code) was defined as percent of residents with incomes below 100% of the federal poverty level (FPL) (Census 2000), separated into four groups: low (<10% FPL), medium (10%-<20% FPL), high (20%-<30% FPL) and very high (>=30% FPL).

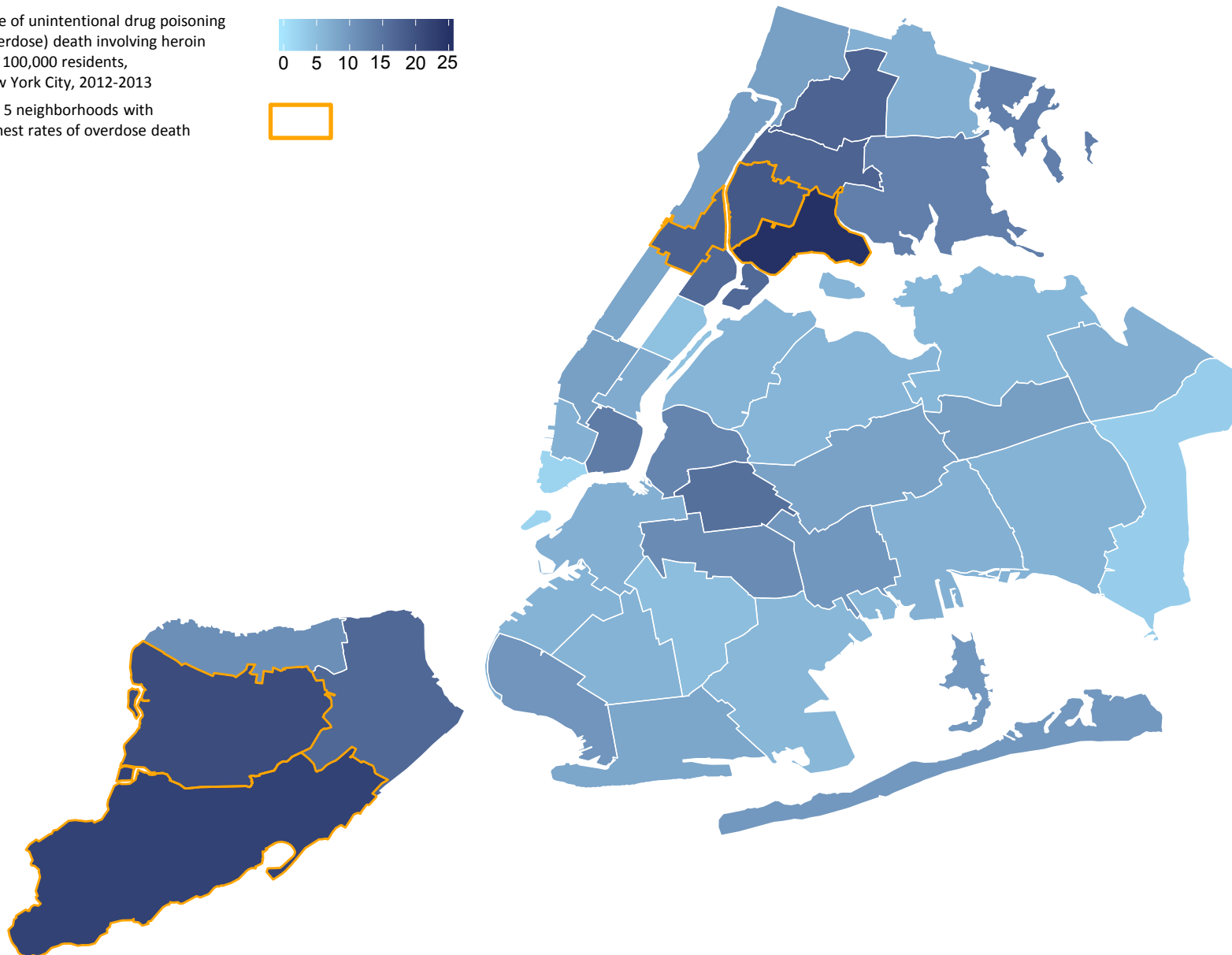
Map 3. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) deaths involving heroin by neighborhood[^] of residence, 2012-2013

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 2000-2016 updated September 2017. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.

Rate of unintentional drug poisoning
(overdose) death involving heroin
per 100,000 residents,
New York City, 2012-2013



Top 5 neighborhoods with
highest rates of overdose death



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

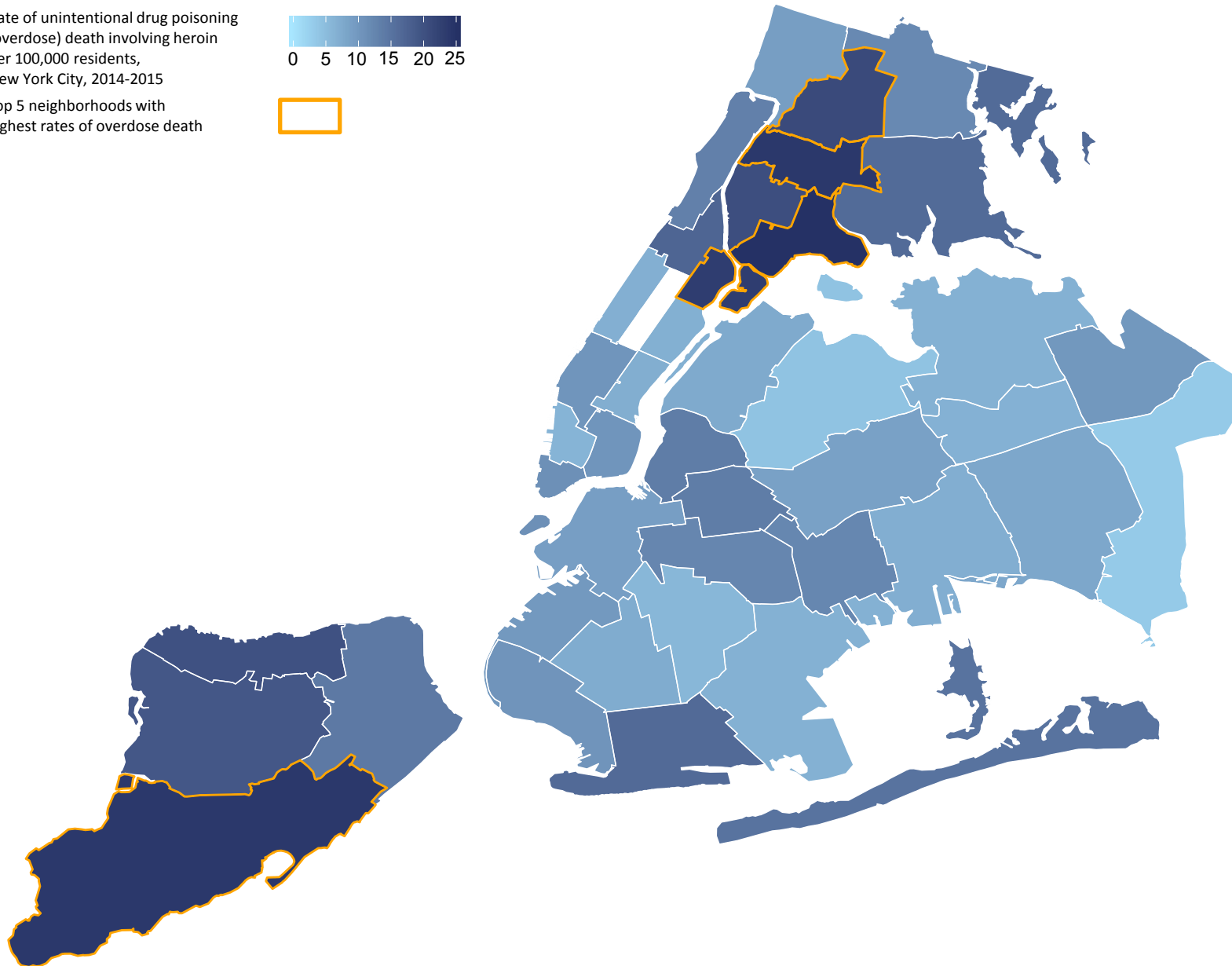
Map 4. Top five New York City neighborhoods: Rates of unintentional drug poisoning (overdose) deaths involving heroin by neighborhood^ of residence, 2014-2015

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 2000-2016 updated September 2017. Analysis by Health Department's Bureau of Alcohol and Drug Use Prevention, Care and Treatment.

Rate of unintentional drug poisoning (overdose) death involving heroin per 100,000 residents, New York City, 2014-2015

0 5 10 15 20 25

Top 5 neighborhoods with highest rates of overdose death



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