

Suicides among Males in New York City, 2007 to 2016

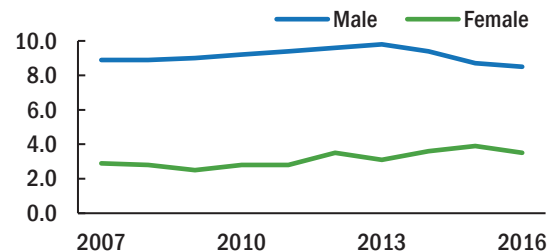
In 2016, 525 suicides were reported in New York City (NYC). Though the rate of suicide among males has decreased from 2013 to 2016, males still account for most suicide deaths. This report examines trends, demographic characteristics, and methods of suicide among males.

Suicide rate among New York City males is more than twice the rate among females

- In NYC, the rate of suicide among males in 2016 was 8.5 per 100,000 males, more than twice the rate among females (3.5 per 100,000 females).
- While the rate among males increased from 2007 to 2013 (8.9 to 9.8 per 100,000 males), it declined from 2013 to 2016, with an average annual decrease of 5%, resulting in the lowest rate in the past 10 years in 2016. Comparatively, the suicide rate among females increased from 2007 to 2016 (2.9 to 3.5 per 100,000 females), with an average annual increase of 4%.
- Nationally, the suicide rate among males has increased from 2007 to 2016 and is more than 2.5 times the rate in NYC (21.4 vs. 8.5 per 100,000 males in 2016).¹
- In 2016, the suicide rate among males in NYC was highest among those ages 45 to 64. The rate in this age group decreased from 2010 to 2016 (16.9 to 13.6 per 100,000 men), with an average annual decrease of 4%. Among NYC females, the rate in this age group was also the highest, with an average annual increase of 6% from 2007 to 2016.

Suicide rate among males is more than twice the rate among females

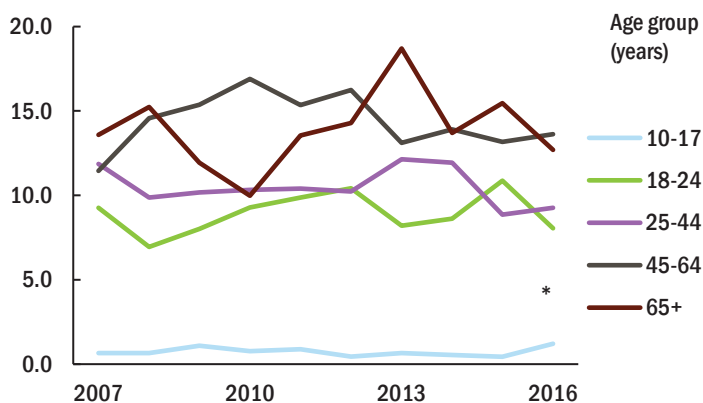
Rate of suicide per 100,000 people, by sex, New York City, 2007-2016



Sources: NYC DOHMH Bureau of Vital Statistics, 2007-2016

Men ages 45 and older have higher rates of suicide compared with younger men

Rate of suicide per 100,000 males, by age group, New York City, 2007-2016



* Interpret rates with caution due to small number of events.
Source: NYC DOHMH Bureau of Vital Statistics, 2007-2016

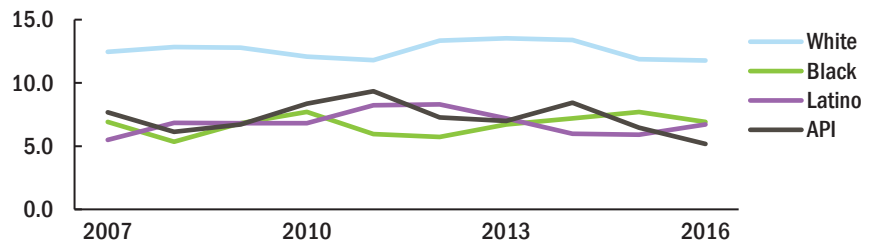
- While suicide rates among men ages 65 and older in NYC fluctuated between 2007 and 2016, the annual rate was often the highest or the second highest compared with other age groups, mirroring national data.¹ In 2016, the rate in NYC for men ages 65 and older was 12.7 per 100,000 men.
- From 2007 to 2016, the number of suicide deaths among boys ages 10 to 17 was the highest in 2016 with 11 deaths, of which five were among Latino boys.
- In 2016, 50% of men ages 18 and older who died by suicide were single (compared with 44% in NYC overall), 25% were married or in a domestic relationship (compared with 45% in NYC overall), 21% were separated, widowed, or divorced (compared with 11% in NYC overall), and 4% were of unknown relationship status.
- According to the 2015-2016 National Violent Death Reporting System, among suicides with any documented circumstances, a smaller proportion of males had a documented mental health problem (60%) compared with females (78%). Similarly, a lower percentage of male decedents had a documented history of mental health or substance abuse treatment (30%) compared with female decedents (46%).
- Among suicides with documented circumstances, a slightly smaller proportion of males had a prior documented suicide attempt (17%) compared with females (25%).

White males are disproportionately dying by suicide

- From 2007 to 2016, 34% of all males in NYC were White, but over half of all male deaths by suicide were among White males (51%).
- The suicide rate among White males has been consistently and markedly higher than other racial and ethnic groups in the past 10 years. In 2016, the rate was 11.8 per 100,000 White males.

White males have the highest rate of suicide

Rate of suicide per 100,000 males, by race/ethnicity, New York City, 2007-2016



White, Black, and Asian/Pacific Islander (API) race categories exclude Latino ethnicity. Latino includes Hispanic or Latino of any race.

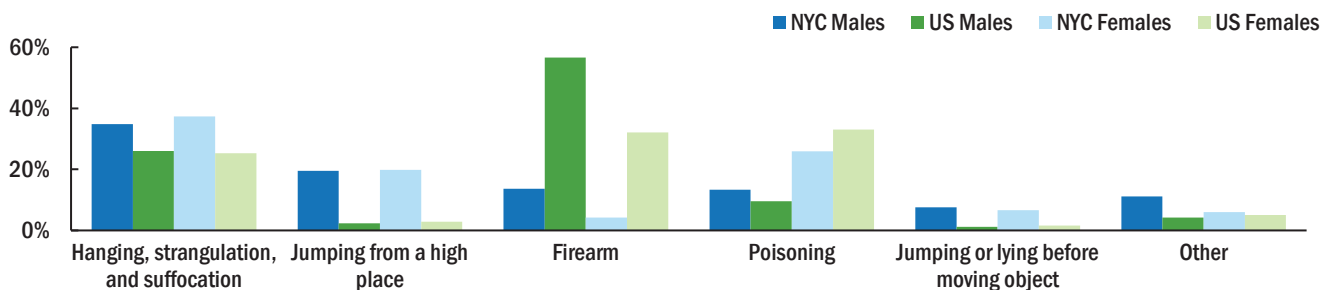
Source: NYC DOHMH Bureau of Vital Statistics, 2007-2016

The most common method of suicide among males is hanging, strangulation, and suffocation

- From 2007 to 2016, the most common method of suicide among males in NYC was hanging, strangulation, and suffocation. In 2016, there were 125 males (35%) who died by this method, an increase from 104 (30%) in 2007. This increase was also seen among females in NYC.
- Nationally, use of a firearm was the most common method of suicide among males (57%).¹ In contrast, use of a firearm among NYC males decreased in both number and percentage, from 66 (19%) in 2007 to 49 (14%) in 2016. Compared with females, a greater proportion of males died by firearms in both NYC and nationwide (NYC males: 14%, NYC females: 4%; US males: 57%, US females: 32%).¹
- Jumping from a high place was the second most common method (19%) of suicide among NYC males in 2016. The proportion of suicides attributable to jumping from a high place among males in NYC was about eight times the proportion nationwide (2%).¹ This difference was also seen among females.
- In 2016, a smaller proportion of NYC males died by poisoning (13%), compared with females (26%), consistent with national data.¹

Methods of suicide differ among males and females in New York City and nationwide

Proportion of suicide methods, by sex, New York City and United States, 2016



Other methods include: drowning and submersion; explosive material; smoke, fire, and flames; steam, hot vapors and hot objects; sharp object; blunt object; crashing of motor vehicle; other specified means; unspecified means; sequelae of intentional harm.

Source: NYC DOHMH Bureau of Vital Statistics, 2016; Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, 2016

Definitions:

Suicide is defined as intentional injury death resulting from self-harm.

Race/ethnicity: For the purpose of this publication, Latino includes persons of Hispanic origin based on ancestry reported on the death certificate, regardless of reported race; Latino excludes reported ancestry from non-Spanish speaking Central/South American countries, and non-Spanish speaking Caribbean islands. Black, White, Asian, and Other race categories do not include persons of Latino origin.

Neighborhood: United Hospital Fund classifies New York City into 42 neighborhoods, comprised of contiguous zip codes.

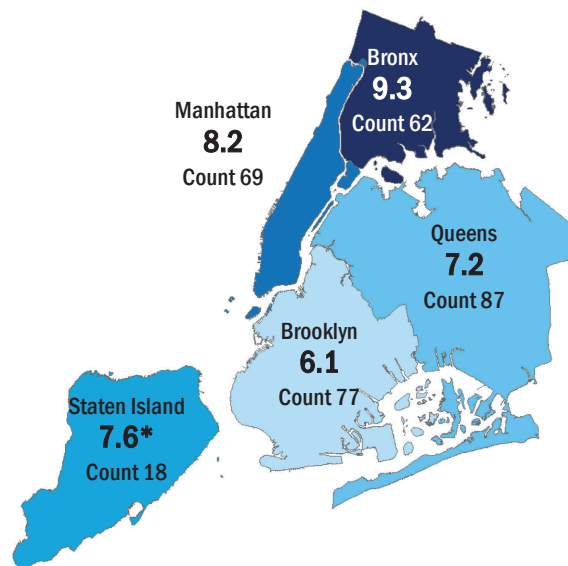
Neighborhood poverty: Based on census tract and defined as percentage of residents with incomes below 100% of the federal poverty level (FPL), per American Community Survey 2011-2015, in four groups: low (<10% FPL), medium (10%-<20% FPL), high (20%-<30% FPL), and very high (≥30% FPL). Borough, zip codes, and census tracts are based on the decedent's residence.

The rate of male suicide is highest among Bronx residents

- Within the five boroughs of NYC, the Bronx had the highest risk of suicide relative to the proportion of the population. The rate of suicide among males in the Bronx was 9.3 per 100,000 males in 2016, with those ages 25 to 44 having the highest rate (15.2 per 100,000 males). Over half of the suicides in the Bronx were among Latinos (53%).

Bronx has the highest rate of suicide among males

Rate of suicide per 100,000 males and count, by borough, New York City, 2016



* Interpret rate with caution due to small number of events.

Source: NYC DOHMH Bureau of Vital Statistics, 2016

- While the Bronx had the highest rate of suicide, the highest number (87) of suicides among males occurred in Queens in 2016.
- The three neighborhoods with the highest number of male suicides were all in Queens: Southwest Queens (16), West Queens (15), and Jamaica (15).
- The rate of suicide among males was lowest in Brooklyn, decreasing from 7.0 in 2007 to 6.1 per 100,000 males in 2016, with an average annual decrease of 2%.
- In 2016, there was little variation in suicide rates among males by neighborhood poverty. In contrast, females living in low poverty neighborhoods had a higher rate of suicide.

Data Sources:

NYC DOHMH Bureau of Vital Statistics 2007-2016: Mortality data on cause of death are classified using ICD10 codes. Suicides are coded U03, X60-X84, and Y87.0. Method of suicide is categorized using the following codes: firearm (X72-X74), hanging, strangulation, and suffocation (X70), poisoning (X60-X69), jumping from a high place (X80), jumping or lying before moving object (X81), and other methods (X71, X75-X79, X82-X84, Y87, U03).

National Violent Death Reporting System is a CDC-funded state-based surveillance system linking information from Vital Statistics, medical examiner, and law enforcement records. The New York City Health Department partnered with the New York State Department of Health to build and implement this surveillance system. Most current data are from 2015-2016. **NYC Department of Health and Mental Hygiene Population Estimates** modified from US Census Bureau intercensal population estimates 2007-2016, updated August 2018, were used for denominators in rate calculations. Rates may differ slightly from other published sources.

American Community Survey (ACS) 2012-2016: for characteristics of the population in NYC.

Note: All non age-specific rates are age-adjusted to the 2000 US standard population, and include the entire population in the denominator. Age-specific rates include only the relevant ages. Trends in rates were evaluated using the Joinpoint Regression Program: Joinpoint Regression Program, Version 4.5.0.1 - June 2017; Statistical Methodology and Applications Branch, Surveillance Research Program, National Cancer Institute.

Confidential and free resources

For more information about treatment resources or to talk to someone directly if you or someone you know is experiencing a crisis, call 1-888 NYCWell (1-888-692-9355) or visit: nycwell.cityofnewyork.us

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Acknowledgements: Gary Belkin, Myla Harrison, Catherine Stayton, Carla Clark, Mary Huynh, Marivel Davila, Kinjia Hinterland, Sophia Greer, Hannah Gould, Charon Gwynn, Gretchen Van Wye, Rugile Tuskeviciute

References: 1 United States Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying cause of death, 1999–2016. CDC WONDER online database. <http://wonder.cdc.gov/ucd-icd10.html>. Accessed September 2018.

Suggested citation: Tang E, Protacio A, Norman C. Suicides among Males in New York City, 2007 to 2016. New York City Department of Health and Mental Hygiene: Epi Data Brief 108; January 2019.

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Epi Data Tables

January 2019, No. 108

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- Table 7.** Suicide counts by United Hospital Fund neighborhood in New York City, 2012-2016

Data Sources

NYC DOHMH Bureau of Vital Statistics 2007-2016: Mortality data on cause of death are classified using ICD10 codes. Suicide deaths are coded U03, X60-X84, and Y87.0. Method of suicide is categorized using the following codes: firearm (X72-X74), hanging, strangulation, and suffocation (X70), poisoning (X60-X69), jumping from a high place (X80), jumping or lying before moving object (X81), and other methods (X71, X75-X79, X82-X84, Y87).

NYC Department of Health and Mental Hygiene Population Estimates, modified from US Census Bureau intercensal population estimates 2007-2016, updated August 2017, were used for denominators in rate calculations.

American Community Survey 2005-2009 and 2011-2015: Neighborhood poverty based on census tract is defined as the percentage of the population living below the Federal Poverty Line (FPL), per the American Community Survey 2005-2009 and 2011-2015. Neighborhoods are categorized into four groups as follows: “Low poverty” neighborhoods are those with <10% of the population living below the FPL; “Medium poverty” neighborhoods have 10-<20% of the population below FPL; “High Poverty” neighborhoods have 20-<30% of the population living below the FPL; “Very high poverty” neighborhoods have ≥30% of the population living below the FPL.

Table 1. Suicide counts and rates in New York City, 2007-2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007-2016; NYC Department of Health and Mental Hygiene Population Estimates, 2007-2016, updated August 2017.

Age-adjusted rates were calculated using the 2000 US standard population.

Year	Count of suicides		Crude rate (Total)	Crude rate (Males)	Crude rate (Females)	Age-adjusted rate (Total)	Age-adjusted rate (Females)	Age-adjusted rate (Males)	
	(Total)	(Females)							
2007	477	133	344	5.9	3.1	9.0	5.7	2.9	8.9
2008	473	125	348	5.8	2.9	9.0	5.6	2.8	8.9
2009	475	115	360	5.8	2.7	9.3	5.5	2.5	9.0
2010	503	129	374	6.1	3.0	9.5	5.8	2.8	9.2
2011	509	128	381	6.1	2.9	9.7	5.8	2.8	9.4
2012	557	163	394	6.7	3.7	9.9	6.3	3.5	9.6
2013	550	146	404	6.5	3.3	10.1	6.2	3.1	9.8
2014	565	172	393	6.7	3.9	9.7	6.3	3.6	9.4
2015	552	188	364	6.5	4.2	9.0	6.1	3.9	8.7
2016	525	166	359	6.1	3.7	8.8	5.8	3.5	8.5

Table 2. Suicide counts and rates by age group in New York City, 2007 and 2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007 and 2016; NYC Department of Health and Mental Hygiene Population Estimates, 2007 and 2016

Age group (years)	2007		2016	
	Count of suicides	Crude rate	Count of suicides	Crude rate
10-17				
Overall	7	0.4 *	14	0.8 *
Female	^	^	^	^
Male	^	^	^	^
18-24				
Overall	46	5.5	50	6.4
Female	8	1.9 *	19	4.7 *
Male	38	9.3	31	8.1
25-44				
Overall	195	7.6	177	6.5
Female	49	3.7	55	4.0
Male	146	11.9	122	9.3
45-64				
Overall	148	7.7	193	9.2
Female	46	4.5	58	5.2
Male	102	11.5	135	13.6
65+				
Overall	81	8.4	91	7.9
Female	29	4.9	31	4.5
Male	52	13.6	60	12.7

*Interpret with caution. The rate's relative standard error (a measure of precision) is between 22% and 50%, making the rate potentially unreliable.

^Rates with a relative standard error (a measure of precision) $\geq 50\%$ are unreliable and counts and rates have been suppressed.

Table 3. Suicide counts and rates by race/ethnicity in New York City, 2007 and 2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007 and 2016; NYC Department of Health and Mental Hygiene Population Estimates, 2007 and 2016

Age-adjusted rates were calculated using the 2000 US standard population.

Race/Ethnicity+	2007			2016		
	Count of suicides	Crude rate	Age-adjusted rate	Count of suicides	Crude rate	Age-adjusted rate
Asian/Pacific Islander						
Overall	60	6.0	5.7	61	4.9	4.5
Female	22	4.3	3.8	29	4.4	4.0
Male	38	7.9	7.7	32	5.4	5.2
Black						
Overall	78	4.1	4.0	85	4.5	4.3
Female	20	1.9	1.8	23	2.2	2.1
Male	58	6.8	6.9	62	7.2	6.9
Latino						
Overall	81	3.6	3.7	103	4.1	4.1
Female	25	2.1	2.1	22	1.7	1.7
Male	56	5.1	5.5	81	6.7	6.7
White						
Overall	251	9.1	7.9	263	9.6	8.5
Female	64	4.5	3.6	86	6.1	5.4
Male	187	14.0	12.4	177	13.2	11.8

+For the purpose of this publication, Latino includes persons of Hispanic origin based on ancestry reported on the death certificate, regardless of reported race; Latino excludes reported ancestry from non-Spanish speaking Central/South American countries, and non-Spanish speaking Caribbean islands. Black, White, Asian, and Other race categories do not include persons of Latino origin.

Table 4. Suicide counts and percentages by method in New York City, 2007 and 2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007 and 2016

Method	2007				2016					
	Count of total suicides	Count of suicides (Females)	Counts of suicides (Males)	Percent of total suicides (Females)	Percent of total suicides (Males)	Count of total suicides	Counts of suicides (Females)	Counts of suicides (Males)	Percent of total suicides (Females)	Percent of total suicides (Males)
Hanging, Strangulation, Suffocation	136	32	104	24.1%	30.2%	187	62	125	37.3%	34.8%
Jumping from a high place	90	29	61	18.9%	17.7%	103	33	70	19.9%	19.5%
Poisoning	88	46	42	18.4%	12.2%	91	43	48	25.9%	13.4%
Firearm	71	5	66	14.9%	19.2%	56	7	49	4.2%	13.6%
Other	51	10	41	10.7%	11.9%	50	10	40	6.0%	11.1%
Jumping before moving object	41	11	30	8.6%	8.7%	38	11	27	7.2%	7.5%

Other methods include: drowning and submersion; explosive material; smoke, fire, and flames; steam, hot vapors and hot objects; sharp object; blunt object; crashing of motor vehicle; other specified means; unspecified means; sequelae of intentional harm.

Table 5. Suicide counts and rates by borough in New York City, 2007 and 2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007 and 2016; NYC Department of Health and Mental Hygiene Population Estimates, 2007 and 2016

Age-adjusted rates were calculated using the 2000 US standard population.

Borough	2007			2016		
	Count of suicides	Crude rate	Age-adjusted rate	Count of suicides	Crude rate	Age-adjusted rate
Bronx						
Overall	72	5.3	5.4	80	5.5	5.5
Female	20	2.8	2.8	18	2.3	2.3 *
Male	52	8.2	8.8	62	9.0	9.3
Brooklyn						
Overall	109	4.4	4.3	120	4.6	4.4
Female	29	2.2	2.1	43	3.1	3.0
Male	80	6.9	7.0	77	6.2	6.1
Manhattan						
Overall	105	6.6	6.0	103	6.3	5.7
Female	42	5	4.4	34	3.9	3.5
Male	63	8.5	7.9	69	8.9	8.2
Queens						
Overall	127	5.8	5.5	137	5.9	5.4
Female	30	2.7	2.5	50	4.2	3.7
Male	97	9.2	8.9	87	7.7	7.2
Staten Island						
Overall	18	3.9	3.9 *	28	5.9	5.7
Female	^	^	^	10	4.1	4.0 *
Male	^	^	^	18	7.8	7.6 *

*Interpret with caution. The rate's relative standard error (a measure of precision) is between 22% and 50%, making the rate potentially unreliable.

^Rates with a relative standard error (a measure of precision) $\geq 50\%$ are unreliable and counts and rates have been suppressed.

Borough based on decedent's residence. In 2007, there were 46 non-NYC residents. In 2016, there were 57 non-NYC residents.

Table 6. Suicide counts and rates by neighborhood poverty level in New York City, 2007 and 2016

Source: NYC DOHMH Bureau of Vital Statistics, 2007 and 2016; NYC Department of Health and Mental Hygiene Population Estimates, 2007 and 2016; American Community Survey 2005-2009 and 2011-2015

Age-adjusted rates were calculated using the 2000 US standard population.

Neighborhood poverty level	2007			2016		
	Count of suicides	Crude rate	Age-adjusted rate	Count of suicides	Crude rate	Age-adjusted rate
Low poverty						
Overall	136	5.4	4.8	143	6.5	5.7
Female	46	3.4	2.9	57	4.9	4.3
Male	90	7.6	6.9	86	8.3	7.3
Medium poverty						
Overall	138	5.8	5.5	142	5.6	5.2
Female	38	3.1	2.8	49	3.7	3.4
Male	100	8.8	8.5	93	7.6	7.2
High poverty						
Overall	77	5.0	5.0	96	5.3	5.0
Female	19	2.3	2.3	27	2.9	2.7
Male	58	7.9	8.2	69	7.8	7.6
Very high poverty						
Overall	75	4.7	5.1	87	4.4	4.5
Female	20	2.3	2.4	22	2.1	2.1
Male	55	7.3	8.6	65	7.0	7.4

Neighborhood poverty based on census tract is defined as the percentage of the population living below the Federal Poverty Line (FPL), per the American Community Survey 2005-2009 and 2011-2015. Neighborhoods are categorized into four groups as follows: "Low poverty" neighborhoods are those with <10% of the population living below the FPL; "Medium poverty" neighborhoods have 10-<20% of the population below FPL; "High Poverty" neighborhoods have 20-<30% of the population living below the FPL; "Very high poverty" neighborhoods have ≥30% of the population living below the FPL.

Rates may differ from prior data briefs, in which neighborhood poverty were based on zip codes.

In 2007, there were 46 non-NYC residents and 5 NYC residents whose neighborhood poverty status (census tract) were unknown. In 2016, there were 57 non-NYC residents.

Table 7. Suicide counts by United Hospital Fund neighborhood in New York City, 2012-2016

Source: NYC DOHMH Bureau of Vital Statistics, 2012-2016 †

United Hospital Fund neighborhood number	United Hospital Fund neighborhood name	Count of suicides (Females)	Count of suicides (Males)
Bronx			
101	Kingsbridge - Riverdale	14	28
102	Northeast Bronx	9	31
103	Fordham - Bronx Park	17	45
104	Pelham - Throgs Neck	23	60
105	Crotona - Tremont	21	42
106	High Bridge - Morrisania	9	51
107	Hunts Point - Mott Haven	7	25
Brooklyn			
201	Greenpoint	11	22
202	Downtown - Heights - Slope	23	38
203	Bedford Stuyvesant - Crown Heights	21	48
204	East New York	7	21
205	Sunset Park	8	27
206	Borough Park	24	58
207	East Flatbush - Flatbush	10	41
208	Canarsie - Flatlands	12	27
209	Bensonhurst - Bay Ridge	22	45
210	Coney Island - Sheepshead Bay	32	59
211	Williamsburg - Bushwick	13	43
Manhattan			
301	Washington Heights - Inwood	31	59
302	Central Harlem - Morningside Heights	18	21
303	East Harlem	13	17
304	Upper West Side	37	69
305	Upper East Side	56	48
306	Chelsea - Clinton	24	69
307	Gramercy Park - Murray Hill	17	34
308	Greenwich Village - Soho	5	15
309	Union Square, Lower East Side	24	52
310	Lower Manhattan	5	12
Queens			
401	Long Island City - Astoria	18	44
402	West Queens	36	94
403	Flushing - Clearview	39	69
404	Bayside - Littleneck	15	17
405	Ridgewood - Forest Hills	31	73
406	Fresh Meadows	7	18
407	Southwest Queens	20	70
408	Jamaica	21	44
409	Southeast Queens	7	31
410	Rockaway	12	20
Staten Island			
501	Port Richmond	5	13
502	Stapleton - St. George	14	20
503	Willowbrook	11	24
504	South Beach - Tottenville	18	45

†Data from multiple years were collapsed due to small counts. Counts are reported due to potentially unreliable rates based on fewer than 20 deaths (relative standard error >22%).

The United Hospital Fund classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes. For more information visit:

<http://www1.nyc.gov/assets/doh/downloads/pdf/ah/zipcodetable.pdf>