

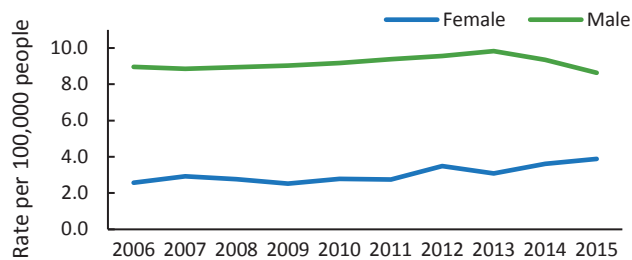
Suicides among Females in New York City, 2006 to 2015

In 2015, 552 suicides were reported in New York City (NYC); approximately two-thirds occurred among males and one-third among females. While the suicide rate among males has been consistently and markedly higher than among females, the gap has narrowed in recent years due to an increase among females and a decrease among males. This report examines trends, demographic characteristics, and methods of suicide among females.

Suicide rates among females are rising

- From 2006 to 2015, the rate of suicide among females in NYC increased (2.6 to 3.9 per 100,000 females), with an average annual increase of 4%. Comparatively, rates among males in NYC increased from 2006 to 2013 (9.0 to 9.8 per 100,000 males), but decreased thereafter (8.6 per 100,000 males in 2015).

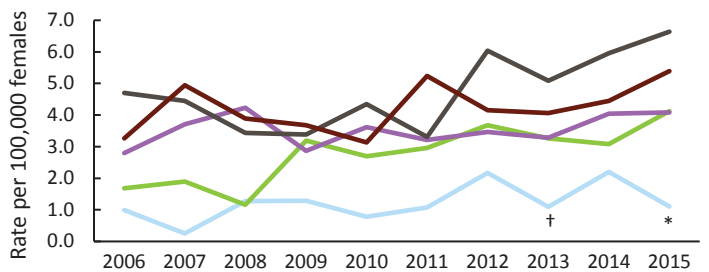
Suicide rate, by sex, New York City, 2006-2015



Source: NYC DOHMH Bureau of Vital Statistics, 2006-2015

- Nationally, the suicide rate among females has increased,¹ but the rate in NYC has remained lower than the national rate (3.9 vs. 6.0 per 100,000 females in 2015).
- In 2015, suicide rates among females in NYC were highest among those ages 45 to 64, consistent with national data.² In this age group, the rate increased from 4.7 in 2006 to 6.6 in 2015 (per 100,000 women), with an average annual increase of 6%.
- Women ages 18 to 24 had the greatest average annual increase in suicide rate from 2006 to 2015 (9%), compared with other age groups; the rate increased from 1.7 to 4.1 per 100,000 women during this time period.
- Among women ages 18 and older, 48% of those who died by suicide in 2015 were single (compared with 39% in NYC overall), 27% were married or in a domestic relationship (compared with 38% in NYC overall), 24% were separated, widowed, or divorced (compared with 23% in NYC overall), and 1% were of unknown relationship status.

Suicide rate among females, by age group, New York City, 2006-2015



Age group (years) — 10-17 — 18-24 — 25-44 — 45-64 — 65+

* Interpret rates with caution due to the small number of events.

† Rare event of a 9 year old who died by suicide in 2013, which was excluded in rate calculation.

Source: NYC DOHMH Bureau of Vital Statistics, 2006-2015

- In 2015, among women ages 18 and older who died by suicide, 20% had a post-graduate degree, compared with 13% of women in NYC overall.
- According to incident level information available through the New York Violent Death Reporting System, nearly one-quarter (24%) of females who died by suicide in 2015 had prior history of suicide attempts.

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.

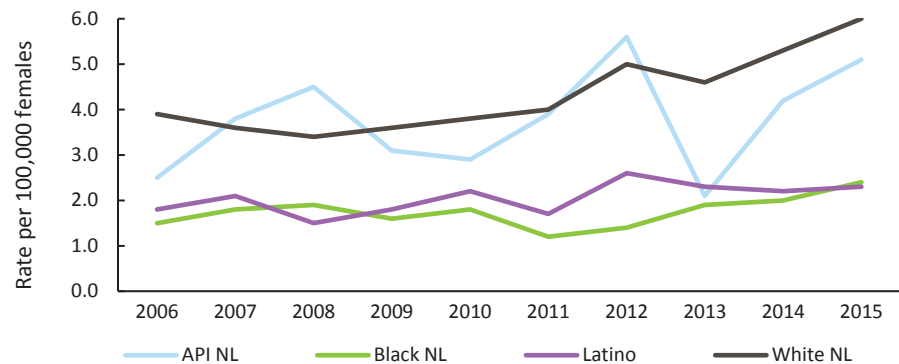
Neighborhood: United Hospital Fund classifies New York City into 42 neighborhoods, comprised of contiguous zip codes.

Neighborhood poverty: Based on ZIP code 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 and zip codes are based on the decedent's residence.

Among females, Whites have the highest rate of suicide

- White females made up 32% of all females in NYC in 2015 but accounted for more than half of all female deaths by suicide.
- In 2015, White females had the highest suicide rate among all female New Yorkers. The rate of suicide decreased from 2006 to 2008 and then increased from 3.4 in 2008 to 6.0 per 100,000 White females in 2015, with an average annual increase of 8% between 2008 and 2015.

Suicide rates among females, by race/ethnicity, New York City, 2006-2015



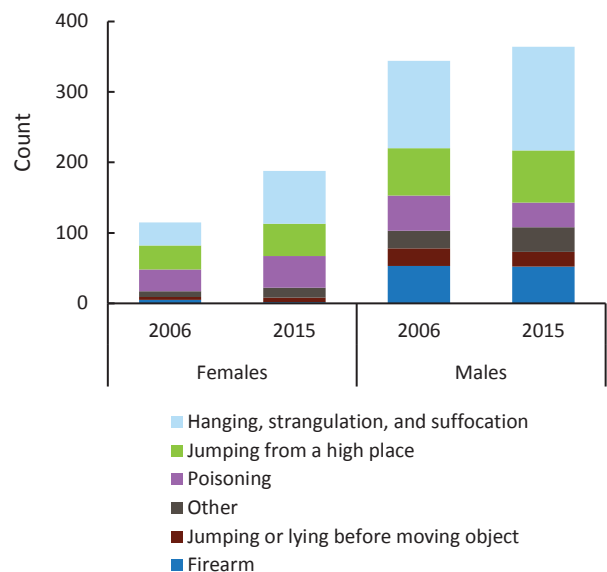
NL = non-Latino; Asian/Pacific Islander (API), Black, and White races exclude Latino ethnicity.
Source: NYC DOHMH Bureau of Vital Statistics, 2006-2015

- While suicide rates among Asian/Pacific Islander females fluctuated between 2006 and 2015, the rate each year was often the highest or the second highest compared with other racial/ethnic groups.
- Data suggest an increasing trend in suicide rates among Black females and Latinas in NYC between 2006 and 2015.

The proportion of suicides involving firearms and poisoning differs among females and males

- In 2015, the two leading methods of suicide among both female and male New Yorkers were 1) hanging, strangulation, and suffocation, and 2) jumping from a high place.
- Suicides due to hanging, strangulation, and suffocation among females increased in both number and percentage, from 33 (29%) in 2006 to 75 (40%) in 2015.
- Jumping from a high place was the most common method (30%) of suicide among NYC females in 2006, but has since decreased (24% of suicides in 2015).
- In 2015, poisoning was the third leading method of suicide among females and was more common among females (24%) compared with males (10%).
- In 2015, use of a firearm was the least prevalent method of suicide among females in NYC (1%), while it was the third leading method among males (14%).
- According to incident level information available through the New York Violent Death Reporting System, in 2015 nearly 68% of the suicides among females occurred in their homes, whereas 54% of the suicides among males occurred in their homes.

Suicides by method, New York City, 2006 and 2015



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, 2006 and 2015

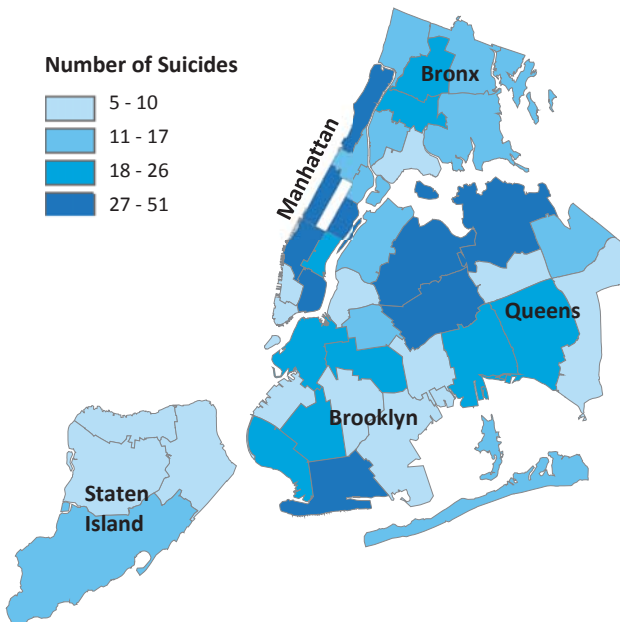
References:

- Curtin SC, Warner M, Hedegaard H. Increase in suicide in the United States, 1999-2014. NCHS Data Brief, No. 241. Hyattsville, MD: National Center for Health Statistics. 2016.
- National Center for Health Statistics. About underlying cause of death, 1999-2015. CDC WONDER online database. <http://wonder.cdc.gov/ucd-icd10.html>. Accessed July 2017.

The rate of female suicides is highest among Manhattan residents

- Within the five boroughs of NYC, the rate of suicide among females was the highest among Manhattan residents and increased from 2006 to 2015 (3.2 to 4.6 per 100,000 females).
- In 2015, residents of medium poverty neighborhoods had the highest rate of suicide (4.3 per 100,000 females). Residents of very high poverty neighborhoods had the lowest rate of suicide (2.7 per 100,000 females).
- In 2011-2015, the three neighborhoods with the highest number of female residents who died by suicide were Upper East Side (51), Flushing-Clearview (35), and West Queens (34).*

Count of female suicides by United Hospital Fund neighborhood, New York City, 2011-2015



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 NYC into 42 neighborhoods, comprised of contiguous ZIP codes.

Source: NYC DOHMH Bureau of Vital Statistics, 2011-2015

Data Sources:

NYC DOHMH Bureau of Vital Statistics 2006-2015: 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 (NVDRS) 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.

NYC Department of Health and Mental Hygiene Population Estimates modified from US Census Bureau intercensal population estimates 2006-2015, updated August 2017, were used for denominators in rate calculations. Rates may differ slightly from other published sources.

American Community Survey (ACS) 2011-2015 was used for estimates of 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.

*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%).

Confidential and free resources

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

Authors: Eve Tang, Angeline Protacio, Christina Norman

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

Suggested citation: Tang, E, Protacio, A, Norman, C. Suicides among Females in New York City, 2006-2015. New York City Department of Health and Mental Hygiene: Epi Data Brief (101); May 2018.

MORE New York City Health Data and Publications at nyc.gov/health/data

Visit EpiQuery – the Health Department’s interactive health data system at nyc.gov/health/EpiQuery

New York City Department of Health and Mental Hygiene





Epi Data Tables

May 2018, No. 101

Suicides among Females in New York City, 2006-2015

Data Tables

- Table 1.** Suicide counts and rates in New York City, 2006-2015
- Table 2.** Suicide counts and rates by age group in New York City, 2006 and 2015
- Table 3.** Suicide counts and rates by race/ethnicity in New York City, 2006 and 2015
- Table 4.** Suicide counts and percentages by method in New York City, 2006 and 2015
- Table 5.** Suicide counts and rates by borough in New York City, 2006 and 2015
- Table 6.** Suicide counts by United Hospital Fund neighborhood in New York City, 2011-2015

Data Sources

NYC DOHMH Bureau of Vital Statistics 2006-2015: 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 2006-2015, updated August 2017, were used for denominators in rate calculations.

American Community Survey 2011-2015: Neighborhood poverty is defined as the percentage of the population living below the Federal Poverty Line (FPL) based on the American Community Survey 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, 2006-2015

Source: NYC DOHMH Bureau of Vital Statistics, 2006-2015; NYC Department of Health and Mental Hygiene Population Estimates, 2006-2015, updated August 2017.

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

Year	Count of suicides (Total)	Count of suicides (Females)	Count of suicides (Males)	Crude rate (Total)	Crude rate (Females)	Crude rate (Males)	Age-adjusted rate (Total)	Age-adjusted rate (Females)	Age-adjusted rate (Males)
2006	459	115	344	5.7	2.7	9.0	5.5	2.6	9.0
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	9.3
2015	552	188	364	6.5	4.2	8.9	6.1	3.9	8.6

Table 2. Suicide counts and rates by age group in New York City, 2006 and 2015

Source: NYC DOHMH Bureau of Vital Statistics, 2006 and 2015; NYC Department of Health and Mental Hygiene Population Estimates, 2006 and 2015

Age group (years)	2006		2015	
	Count of suicides	Crude rate	Count of suicides	Crude rate
10-17				
Overall	10	1.2 *	8	1.1 *
Female	^	^	^	^
Male	6	1.4 *	^	^
18-24				
Overall	34	4.1	60	7.4
Female	7	1.7 *	17	4.1 *
Male	27	6.7	43	10.8
25-44				
Overall	164	6.4	173	6.4
Female	37	2.8	57	4.1
Male	127	10.3	116	8.8
45-64				
Overall	181	9.5	204	9.7
Female	48	4.7	74	6.6
Male	133	15.2	130	13.1
65+				
Overall	70	7.3	107	9.5
Female	19	3.3	36	5.4
Male	51	13.5	71	15.5

*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, 2006 and 2015

Source: NYC DOHMH Bureau of Vital Statistics, 2006 and 2015; NYC Department of Health and Mental Hygiene Population Estimates, 2006 and 2015

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

Race/Ethnicity	2006			2015		
	Count of suicides	Crude rate	Age-adjusted rate	Count of suicides	Crude rate	Age-adjusted rate
Asian/Pacific Islander						
Overall	46	4.7	4.7	75	6.1	5.7
Female	13	2.6	2.5 *	36	5.6	5.1
Male	33	7.0	7.2	39	6.6	6.3
Non-Latino Black						
Overall	72	3.7	3.7	94	4.9	4.7
Female	17	1.6	1.5 *	26	2.5	2.4
Male	55	6.4	6.5	68	7.9	7.7
Latino						
Overall	98	4.4	4.6	97	3.9	3.9
Female	20	1.7	1.8	29	2.3	2.3
Male	78	7.2	7.9	68	5.6	5.9
Non-Latino White						
Overall	233	8.4	7.4	277	10.0	8.8
Female	62	4.3	3.9	96	6.8	6.0
Male	171	12.8	11.3	181	13.5	11.8

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

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 5. Suicide counts and rates by borough in New York City, 2006 and 2015

Source: NYC DOHMH Bureau of Vital Statistics, 2006 and 2015; NYC Department of Health and Mental Hygiene Population Estimates, 2006 and 2015

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

Borough	2006			2015		
	Count of suicides	Crude rate	Age-adjusted rate	Count of suicides	Crude rate	Age-adjusted rate
Bronx						
Overall	61	4.5	4.6	83	5.7	5.7
Female	13	1.8	1.8 *	28	3.6	3.5
Male	48	7.6	8.0	55	8.0	8.2
Brooklyn						
Overall	99	4.0	3.9	131	5.0	4.8
Female	24	1.8	1.8	42	3.0	2.8
Male	75	6.5	6.6	89	7.1	7.1
Manhattan						
Overall	106	6.7	6.3	120	7.3	6.4
Female	28	3.4	3.2	46	5.3	4.6
Male	78	10.5	10.1	74	9.5	8.8
Queens						
Overall	128	5.9	5.5	131	5.6	5.2
Female	34	3.0	2.8	44	3.7	3.3
Male	94	8.9	8.6	87	7.7	7.2
Staten Island						
Overall	23	5.0	4.8	31	6.5	5.8
Female	8	3.4	3.3 *	10	4.1	3.6 *
Male	15	6.8	6.3 *	21	9.1	8.2

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

Table 6. Suicide counts by United Hospital Fund neighborhood in New York City, 2011-2015

Source: NYC DOHMH Bureau of Vital Statistics, 2011-2015 †

United Hospital Fund neighborhood number	United Hospital Fund neighborhood name	Count of suicides (Females)	Count of suicides (Males)
Bronx			
101	Kingsbridge - Riverdale	13 *	26
102	Northeast Bronx	12 *	33
103	Fordham - Bronx Park	18 *	51
104	Pelham - Throgs Neck	17 *	63
105	Crotona - Tremont	21	38
106	High Bridge - Morrisania	11 *	49
107	Hunts Point - Mott Haven	8 *	22
Brooklyn			
201	Greenpoint	10 *	23
202	Downtown - Heights - Slope	21	41
203	Bedford Stuyvesant - Crown Heights	19 *	45
204	East New York	5 *	22
205	Sunset Park	6 *	26
206	Borough Park	26	64
207	East Flatbush - Flatbush	8 *	41
208	Canarsie - Flatlands	10 *	30
209	Bensonhurst - Bay Ridge	20	41
210	Coney Island - Sheepshead Bay	32	65
211	Williamsburg - Bushwick	11 *	42
Manhattan			
301	Washington Heights - Inwood	31	63
302	Central Harlem - Morningside Heights	15 *	22
303	East Harlem	13 *	21
304	Upper West Side	33	64
305	Upper East Side	51	50
306	Chelsea - Clinton	29	68
307	Gramercy Park - Murray Hill	20	35
308	Greenwich Village - Soho	6 *	20
309	Union Square, Lower East Side	27	52
310	Lower Manhattan	8 *	11 *
Queens			
401	Long Island City - Astoria	15 *	48
402	West Queens	34	96
403	Flushing - Clearview	35	73
404	Bayside - Littleneck	11 *	14 *
405	Ridgewood - Forest Hills	30	73
406	Fresh Meadows	7 *	22
407	Southwest Queens	18 *	73
408	Jamaica	19 *	41
409	Southeast Queens	5 *	30
410	Rockaway	13 *	21
Staten Island			
501	Port Richmond	6 *	14 *
502	Stapleton - St. George	10 *	20
503	Willowbrook	10 *	22
504	South Beach - Tottenville	17 *	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 rate's relative standard error (a measure of precision) is between 22% and 50%, making the rate potentially unreliable.

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

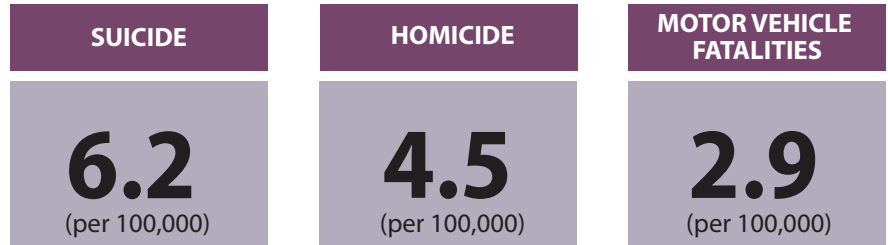
<http://www1.nyc.gov/assets/doh/downloads/pdf/ah/zipcodetable.pdf>

SUICIDES IN NEW YORK CITY, 2015

In New York City,
one person dies by suicide



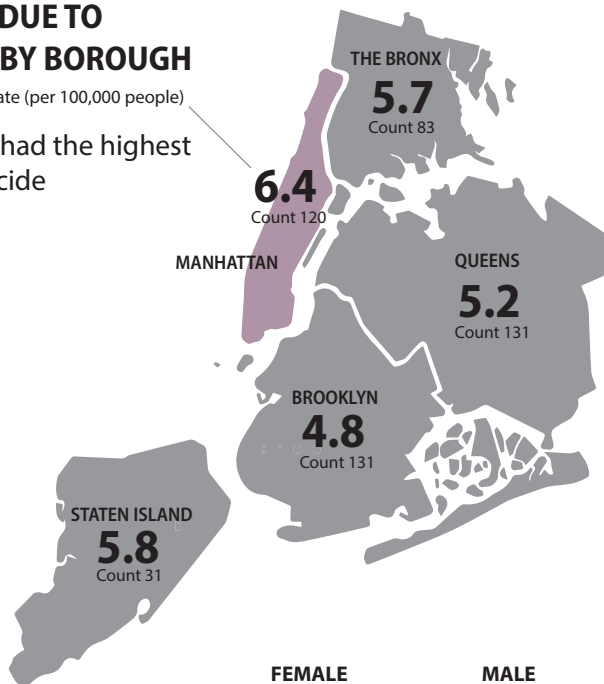
The rate of death due to suicide in NYC exceeds the rates of
death due to homicide and motor vehicle fatalities



DEATHS DUE TO SUICIDE BY BOROUGH

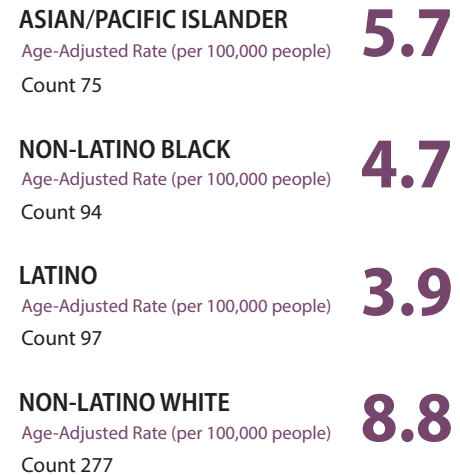
Age-Adjusted Rate (per 100,000 people)

Manhattan had the highest rate of suicide

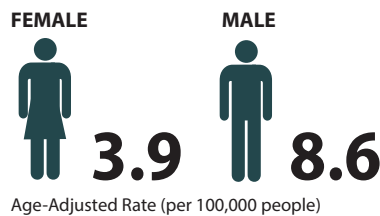


DEATHS DUE TO SUICIDE BY RACE/ETHNICITY

White New Yorkers had the highest rate of suicide (8.8 per 100,000 people).



DEATHS DUE TO SUICIDE BY SEX



DEATHS DUE TO SUICIDE BY AGE GROUP

The greatest burden of death due to suicide occurs among adults ages 45 and older

