The Brooklyn Hospital Center

Keeping Brooklyn Healthy

Community Health Needs Assessment & Community Service Plan for Kings County (Brooklyn) December 2019

Participating Local Health Department (LHD):
New York City Department of Health and Mental Hygiene (NYC DOHMH)
Shale Maulana, MPH, Director of New Initiatives and Acting Executive Director
smaulana@health.nyc.gov

Participating Hospital/Hospital System:
The Brooklyn Hospital Center
Lenny Singletary, Senior Vice President of External Affairs, Strategy & Marketing
lsingletary@tbh.org

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A. Executive Summary

About The Brooklyn Hospital Center

The Brooklyn Hospital Center (TBHC) has been keeping Brooklyn healthy since 1845, and has continued to grow, playing a critical role in the life of Brooklyn and New York City. Today, TBHC is licensed for 464 beds and provides a full range of primary, specialty, and tertiary healthcare services with a team of multi-disciplined healthcare providers.

Located in the heart of downtown Brooklyn, TBHC is a not-for-profit corporation that serves upwards of 300,000 annual visits throughout Brooklyn. TBHC is a fully accredited community teaching hospital that trains more than 280 students in 13 residency and fellowship programs in graduate medical education annually. With this wide range of services and resources, TBHC focuses on preventative healthcare interventions to reduce barriers to health and increase accessibility for the Brooklyn community.

CHNA Methodology

To guide our community benefit and health improvement efforts, TBHC conducted a Community Health Needs Assessment (CHNA) and developed a supporting Community Health Improvement Plan/Community Service Plan. The CHNA included quantitative and qualitative research methods to determine health trends and disparities across Brooklyn. Primary study methods were used to solicit input from key community stakeholders representing the broad interests of the community. Secondary study methods were used to identify and analyze statistical demographic and health trends. Specific CHNA study methods included:

- An analysis of secondary data sources, including public health, demographic, and social measures. A comprehensive list of data references is included in Appendix A.
- A Key Informant Survey with 14 community representatives to solicit feedback on community health priorities, underserved populations, and partnership opportunities.

Community Engagement

The CHNA and corresponding health improvement plan were guided by TBHC's Community Advisory Board (CAB). The CAB comprises a diverse group of individuals with strong ties to the community we serve. Each advisor has a keen understanding of how our hospital works. This knowledge enables us to tailor our programs and services so that TBHC targets the healthcare needs of residents in our neighborhoods. CAB members provided perspectives on health trends, expertise about existing community resources available to meet those needs, and insights into service delivery gaps that contribute to health disparities. TBHC recognizes that collaboration and coordination with an engaged CAB is essential to advance the community's interests and garner local support of services. The CAB meets once a month to provide guidance and direction for TBHC. A list of CAB members is provided in Appendix C.

Prevention Agenda Priorities

To work toward health equity, it is imperative to prioritize resources and activities to address the most pressing health needs. Taking into account CHNA research findings and TBHC's areas of expertise, and in alignment with the New York State Prevention Agenda and Mount Sinai Performing Provider System, TBHC will focus health improvement efforts on the following priority areas.

- Prevent chronic diseases, with a focus on preventive care and management
- Prevent communicable diseases, with a focus on Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV)

The identified priorities are consistent with those identified in 2016, recognizing the positive impact of ongoing initiatives and continued need among residents.

TBHC is a leader in providing chronic disease treatment, particularly for congestive heart failure (CHF) and diabetes, top causes of morbidity and mortality among Brooklyn residents. As part of the health improvement plan, TBHC will continue to promote a multi-faceted and team-based

approach to CHF and diabetes treatment. CHF treatment programs include a designated heart failure clinic; a CardioMEMS program to monitor high-risk patients; and educational programs and protocols for both residents and providers. The CHF programs are aligned with quality measures outlined by the American Heart Association and American College of Cardiology Foundation. The programs aim to decrease readmissions, particularly among Medicaid patients, which comprise more than half of TBHC patients. TBHC partners with Healthfirst, the region's largest managed Medicaid provider, to monitor health outcomes for Medicaid patients.

TBHC's team-based approach to diabetes management brings together endocrinology, primary care, nutrition, pharmacy, and psychiatry providers, among others, to provide comprehensive, integrated care. TBHC promotes protocols to increase patient medication adherence and improve access to diabetes screenings. These initiatives aim to improve diabetes control, targeting both Medicaid and African American patients. Across Brooklyn, African Americans continue to have a disproportionate rate of death due to diabetes compared to White residents.

Brooklyn residents experience more trauma and violence, particularly related to firearms. While firearm violence declined citywide, the highest firearm-related death and injury rates among youth and young adults can be found in areas of Brooklyn, including TBHC's primary service area. TBHC recognizes the impact of trauma and violence on the health needs of residents, including risk for chronic illness. The hospital will explore and prioritize community initiatives to collectively identify sources of trauma and violence and implement protective factors.

TBHC is recognized as a Designated AIDS Center by the New York State Department of Health and operates two PATH (Program for AIDS Treatment and Health) Centers. The PATH Centers collaborate extensively with community-based organizations to improve outcomes among patients. These collaborations include a partnership with the Council on Adoptable Children to

provide high-intensity case management for high-risk patients, and a partnership with the Mount Sinai Performing Provider System to provide free, point-of-care HCV testing.

The PATH Centers implemented a warm handoff program to address the health and social needs of patients, as well as a referral program within the ED for patients who present for repeat HIV testing or STI treatment. Measures to monitor the impact of PATH Centers include the number of patients living with HIV who achieve viral load suppression and have at least two HIV medical visits per year, and the number of patients connected with ancillary services, including behavioral health. Across the health system, TBHC will also monitor the number of patients screened for HCV and those connected with needed services, focusing on patients with HIV.

Behavioral health needs are growing concerns in the Brooklyn community, and recognized priorities by both hospital and community members. While TBHC will not directly address behavioral health as part of the health improvement plan, choosing to focus on the areas where the hospital can best apply its expertise and resources to improve equitable outcomes, TBHC will continue to work with community partners to collectively impact behavioral health and explore opportunities to improve health outcomes for residents.

Board Approval

The TBHC 2019 CHNA Final Report and corresponding Community Health Improvement Plan/Community Service Plan were reviewed and approved by the Board of Directors on December 12, 2019. The report and plan are available for review on the TBHC website. For more information regarding the CHNA, or to submit comments or feedback, contact Lenny Singletary, Senior Vice President of External Affairs, Marketing & Strategy (lsingletary@tbh.org).

B. Community Health Assessment

The Brooklyn Hospital Center Service Area

TBHC is located in the heart of downtown Brooklyn, one of the five boroughs comprising New York City. TBHC serves nearly one million residents, with more than 80% residing in north and central Brooklyn. Service area neighborhoods are shown in the map below.

Brooklyn is NYC's most populous borough. The Office of the Brooklyn Borough President, Eric L. Adams, describes Brooklyn as the melting pot of the nation. "Home to as many as 200 different languages and a population that is nearly 40 percent foreign born, Brooklyn's diversity is a shining example of multi-culturalism at work in the United States. The diversity of our people is mirrored in the diversity of our neighborhoods, economy and ideas, all of which make Brooklyn a hotbed for innovation, culture, and history."

The Brooklyn Hospital Center Service Area

Social determinants of health are factors within the environment in which people live, work, and play that can affect health and quality of life

Analyses of demographic and socioeconomic data is essential in understanding health trends and determining key drivers of health status. Socioeconomic indicators play a significant role in community and individual health. Known as **social determinants of health**, they are defined as factors within the environment in which people live, work, and play that can affect health and quality of life. Social determinants of health are often the root causes of **health disparities**. Healthy People 2020 defines a health disparity as "a particular type of health difference that is closely linked with social, economic, or environmental disadvantage."

Summary of Community Health Challenges

Population Overview

Brooklyn residents are more diverse and younger with 1 in 5 under age 15

The population of the TBHC service area is more diverse than Brooklyn and other NYC boroughs in terms of racial composition, with more than half of residents identifying as African American. Consistent with national trends, the Latinx population is growing, and accounts for nearly one-quarter of the population. Conversely, the African American population in Brooklyn is declining, while the White population is growing as a percentage of the total population. This trend is likely attributed to gentrification, which has had a wide impact on Brooklyn neighborhoods in TBHC service area. TBHC service area residents are younger than other New Yorkers, with a median age of 34.2 versus 38.5.

Overall, TBHC service area residents experience greater economic disparity than other New Yorkers and the nation overall, as evidenced by high poverty (25%), high unemployment (7%), low percentage of homeowners (18.5%), and low educational attainment (17%). When stratified by race, poverty is similar among White, African American, and Asian residents, but African American residents have higher unemployment and lower educational attainment. Latinx residents are the most likely to experience poverty and have the lowest educational attainment of any other demographic group.

Brooklyn residents experience greater economic and health disparity

Economic disparity contributes to notable health disparities among African American and Latinx residents, both in comparison to other population groups in Brooklyn and their peers across NYC and the nation. Latinxs have the highest uninsured rate among Brooklyn residents, followed by African Americans. African Americans have the highest rate of death in Brooklyn, while Latinxs have a higher rate of death compared to Latinxs across NYC and the nation. Both population groups have elevated rates of morbidity and mortality due to chronic disease and poorer birth outcomes than their White counterparts.

Health Data Trends

Nearly half of Brooklyn, including the majority of the TBHC Service Area, is federally designated as a Medically Underserved Area

People living in Brooklyn are just as likely to have health insurance and a regular doctor as residents of other NYC boroughs, but 12% of adults report not getting needed medical care. Nearly 50% of the borough is federally designated as a Medically Underserved Area, lacking access to primary care services. Approximately 28% of insured Brooklyn residents are covered by Medicaid, and nearly all of the borough is a primary care Health Professional Shortage Area for Medicaid-eligible patients. TBHC is designated by the state department of health as a safety net hospital with Medicaid patients making up more than half of its payer mix.

Residents of Brooklyn live longer lives compared to residents of other NYC boroughs, but nearly 1 in 4 adults self-report having “poor” or “fair” health status, indicating lower quality of life. Economic indicators are significant contributors to overall health status, as well as risk factors

such as obesity and lack of physical activity. Approximately 26.5% of Brooklyn adults are obese, the second highest in NYC, and 28% are physically inactive. The percentage of obese youth increased from 10.5% in 2013 to 13% in 2017. The borough has the highest rate of food insecurity in NYC, contributing to obesity rates.

Fewer Brooklyn residents use tobacco than in the other NYC boroughs

The percentage of Brooklyn adults and youth using traditional cigarettes declined, and is consistent with citywide trends. About 15% of students report using e-cigarettes, although it is worth noting that is the lowest proportion in the five boroughs. Lower tobacco use among residents likely contributes to lower rates of lung disease, including lung cancer and chronic lower respiratory disease.

Brooklyn hospitals have a higher than expected rate of adult inpatient admissions for heart failure and hypertension

Heart disease continues to be a top contributor to poor health outcomes for Brooklyn residents. More than 25% of Brooklyn adults have hypertension and/or high cholesterol. Among senior Medicare beneficiaries, nearly one-quarter have heart failure and two-thirds have hypertension, higher than national benchmarks. Brooklyn hospitals experience a higher than expected rate of adult inpatient admissions for both heart failure and hypertension, as reported by the New York State Department of Health Prevention Quality Indicators. The heart disease death rate also continues to be higher in Brooklyn than NYC and the nation despite recent declines.

Brooklyn residents generally report better mental health than other NYC residents, but behavioral health needs are growing among youth

Brooklyn residents generally report better mental health than other residents across NYC and the nation, as evidenced by lower rates of death due to suicide and mental and behavioral disorders. Trends may shift upward as more youth report feelings of depression and attempted suicide. As of 2017, one-third of Brooklyn high school students reported feeling sad or hopeless and 11% had attempted suicide, an increase from previous years.

The national epidemic of opiate use and overdose has impacted Brooklyn, increasing usage among young people and adults, and doubling Brooklyn's drug-induced death rate over the past decade. While the death rate is lower than NYC boroughs and national benchmarks, Brooklyn teens are the most likely to use ecstasy and prescription pain medications of any NYC borough.

Sexually transmitted infections are more prevalent in Brooklyn, and are increasing

Sexually transmitted infections, including chlamydia and gonorrhea, are more prevalent in Brooklyn than the nation in general, and are increasing. The chlamydia rate is more than 250 points higher than the national rate and increased 83 points from 2014 to 2016. HIV/AIDS also has a notable impact on the community, affecting more than 29,000 Brooklyn residents.

Demographic Data Analysis

TBHC Service Area data are presented with Brooklyn, NYC, and national data sets to demonstrate broad trends and areas of strength and opportunity. Demographic analysis by zip code follow the service area analysis to provide a detailed view of population statistics. All reported data were provided by ESRI Business Analyst, 2019 and the US Census Bureau unless otherwise noted.

Population Trends

The 2019 population of the TBHC Service Area is 1,015,337. The population is projected to continue growing through 2024 at a faster rate than Brooklyn or NYC overall.

The TBHC Service Area population is projected to increase at a faster rate than Brooklyn or NYC overall

TBHC Service Area residents are more diverse with more than 50% of residents identifying as African American and 23% of residents identifying as Latinx. Contrary to population trends anticipated across the nation, the African American population as a percentage of the total population is projected to decline in the TBHC Service Area, while the White population is projected to increase.

Approximately 1 in 3 households in the TBHC Service Area report speaking a primary language other than English, lower than Brooklyn or NYC overall, but higher than the nation. Among individuals speaking a language other than English, 10.3% speak an Indo-European language (e.g. Italian, German) and 17.9% speak Spanish.

Contrary to national trends, the White population as a percentage of the total population is increasing in the TBHC Service Area

Population Growth

	2019 Population	Projected Growth 2019-2024
TBHC Service Area	1,015,337	4.4%
Brooklyn	2,674,116	3.0%
New York City	8,627,852	2.4%
United States	332,417,793	3.9%

2019 Population Overview

	White	African American	Asian	Other Unspecified Race	Latinx (any race)	Primary Language Other than English*
TBHC Service Area	28.0%	52.3%	4.7%	9.8%	22.9%	33.2%
Brooklyn	42.3%	31.9%	13.1%	8.6%	19.3%	45.9%
New York City	41.9%	24.4%	15.0%	13.6%	29.6%	49.0%
United States	69.6%	12.9%	5.8%	7.0%	18.6%	21.3%

*Data are reported for 2013-2017 based on availability.

2010-2024 Projected Population Change by Race/Ethnicity

	White		African American		Asian		Latinx	
	2010	2024	2010	2024	2010	2024	2010	2024
TBHC Service Area	26.4%	28.9%	56.8%	50.0%	3.2%	5.9%	22.3%	23.2%
Brooklyn	42.8%	42.0%	34.3%	30.6%	10.5%	14.8%	19.8%	19.0%
New York City	44.0%	40.8%	25.6%	23.7%	12.7%	16.4%	28.6%	30.1%
United States	72.4%	68.1%	12.6%	13.1%	4.8%	6.4%	16.4%	19.9%

New York City has a lower median resident age than the nation. The median age of Brooklyn and TBHC Service Area residents is lower than NYC and the nation, equating to a higher proportion of children and young adults living within the borough.

The TBHC Service Area population is younger with proportionately more youth and young adults

2019 Population by Age

	Under 15	15-24 years	25-34 years	35-54 years	55-64 years	65+ years	Median Age
TBHC Service Area	19.3%	13.7%	18.5%	26.0%	10.6%	12.0%	34.2
Brooklyn	18.9%	13.2%	17.1%	25.4%	11.5%	14.1%	35.6
New York City	17.2%	12.8%	17.0%	26.2%	11.9%	15.0%	37.0
United States	18.4%	13.0%	14.0%	25.1%	13.1%	16.4%	38.5

Economic Measures

Residents of Brooklyn have lower incomes and are more likely to live in poverty than other residents of NYC. Economic distress is more pronounced in the TBHC Service Area, where 1 in 4 residents and more than 1 in 3 children live in poverty, higher than the borough overall.

TBHC Service Area residents have lower median incomes and are more likely to live in poverty than other borough and NYC residents

Contrary to NYC trends, poverty among Whites, African Americans, and Asians living within Brooklyn is similar. African American people living in Brooklyn are less likely to live in poverty compared to their peers nationally. Latinx people living in Brooklyn are the most likely to experience poverty, exceeding NYC and national benchmarks.

2019 Median Household Income and 2013-2017 Poverty/Food Stamp Status

	Median Household Income	People in Poverty	Children in Poverty	Households with Food Stamp/ SNAP Benefits
TBHC Service Area	$52,482	25.0%	35.1%	26.7%
Brooklyn	$58,062	21.9%	30.4%	23.5%
New York City	$62,062	19.6%	27.8%	20.2%
United States	$60,548	14.6%	20.3%	12.7%

2013-2017 Individuals in Poverty by Race and Ethnicity

	Brooklyn	New York City	United States
White	19.6%	14.4%	12.0%
African American	21.9%	22.3%	25.2%
Asian	22.1%	18.5%	11.9%
Latinx	29.5%	27.3%	22.2%

Unemployment in the TBHC Service Area is higher than Brooklyn, NYC, and the nation overall. The TBHC Service Area has a similar proportion of white collar workers compared to other geographic benchmarks. Compensation for white collar workers tends to include benefits like private health insurance more often than it does for blue collar workers.

2019 Occupation and Unemployment Indicators

	White Collar Workforce	Blue Collar Workforce	Unemployment
TBHC Service Area	63.0%	37.0%	7.0%
Brooklyn	61.0%	39.0%	6.1%
New York City	62.0%	38.0%	5.9%
United States	61.0%	39.0%	4.6%

Despite having a similar poverty rate to Whites and Asians, African American residents living in Brooklyn have the highest unemployment rate among all population groups. Latinx residents also have a higher unemployment rate, exceeding the national benchmark.

African Americans living in Brooklyn have a similar poverty rate as Whites and Asians, but the highest unemployment rate among all population groups

2013-2017 Unemployment Rates by Race and Ethnicity

	Brooklyn	New York City	United States
White	6.0%	5.6%	5.5%
African American	11.2%	11.5%	11.9%
Asian	6.6%	5.9%	5.1%
Latinx	9.8%	9.5%	7.6%

Housing Measures

The median home value in the TBHC Service Area is more than $100,000 higher than NYC and more than three times higher than the nation. Less than 20% of residents in the service area own their home.

The median home value in the TBHC Service Area is more than 3 times higher than the national median; less than 20% of residents own their home

Approximately half of all renters and one-third of homeowners in the service area are considered housing cost burdened, spending more than 30% of their household income on rent or mortgage expenses. Despite a higher median home

value, fewer home owners in the service area are cost burdened compared to Brooklyn and NYC overall, indicating that people who own their home can generally afford their mortgage.

2019 Households by Occupancy and Housing Cost Burden

	Renter-Occupied	Cost Burdened Renters*	Owner-Occupied	Median Home Value	Cost Burdened Owners*
TBHC Service Area	81.5%	51.2%	18.5%	$759,635	32.1%
Brooklyn	72.8%	55.2%	27.2%	$711,364	50.6%
New York City	68.9%	53.8%	31.1%	$624,437	45.4%
United States	36.5%	50.6%	63.5%	$234,154	29.5%

*Data are reported for 2013-2017 based on availability.

Education Measures

Education is a strong indicator of community economic stability. Consistent with Brooklyn and NYC overall, the TBHC Service Area has both a higher proportion of residents who have not completed high school and who have completed a bachelor's degree or higher, indicating disparity in educational attainment.

The TBHC Service Area has both a higher proportion of residents who have not completed high school and who have attained a bachelor's degree or higher, indicating educational disparity

When stratified by race and ethnicity, non-White residents living in Brooklyn are less likely than Whites to attain higher education. The percent of African American and Latinx people who attain a bachelor's degree or higher is consistent with NYC and higher than the nation, while the percent of Asian residents attaining a bachelor's degree is lower than both NYC and the nation.

2019 Population (25 Years or Older) by Educational Attainment

	Less than a High School Diploma	High School Graduate/GED	Bachelor's Degree or Higher
TBHC Service Area	17.4%	25.6%	36.6%
Brooklyn	18.4%	25.7%	36.5%
New York City	18.0%	24.1%	37.9%
United States	11.6%	27.0%	32.5%

2013-2017 Population (25 Years or Older) with a Bachelor's Degree or Higher by Race and Ethnicity

	Brooklyn	New York City	United States
White	48.6%	49.1%	32.2%
African American	22.7%	23.6%	20.6%
Asian	33.1%	41.2%	52.7%
Latinx	16.9%	17.4%	15.2%

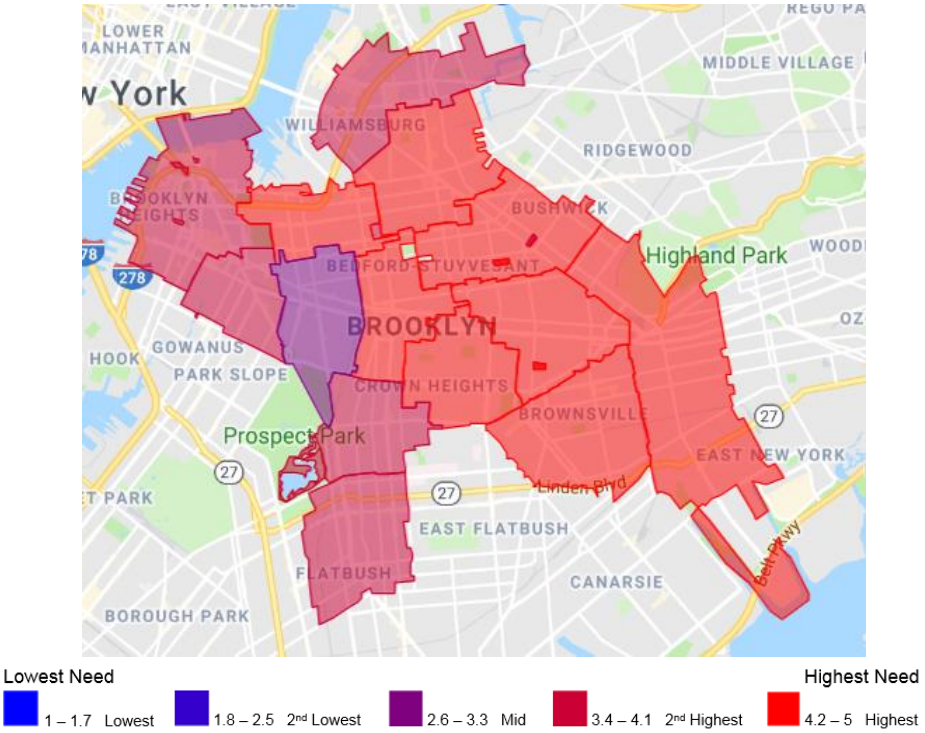
Brooklyn Zip Code Analysis

Zip code of residence is one of the most important predictors of health disparity; where residents live matters in determining their health. The Community Need Index (CNI) was developed by Dignity Health and Truven Health Analytics to illustrate the potential for health disparity at the zip code level. The CNI scores zip codes on a scale of 1.0 (low need) to 5.0 (high need) based on 2015 data indicators for five socio-economic barriers:

- Income: Poverty among elderly households, families with children, and single female-headed families with children
- Culture/Language: Minority populations and English language barriers
- Education: Population over 25 years without a high school diploma
- Insurance coverage: Unemployment rate among population 16 years or over and population without health insurance
- Housing status: Householders renting their home

The weighted average CNI score for the TBHC Service Area is 4.3, indicating higher overall community needs. The CNI score for NYC overall is 3.5.

Community Need Index for Brooklyn



The following tables list the social determinants of health that contribute to zip code CNI scores and are often indicative of health disparities. Social determinant of health indicators are shown for all TBHC Service Area zip codes, and are presented in descending order by CNI score. Cells highlighted in yellow are more than 2% points higher than the borough statistic, but not necessarily statistically significant.

Social Determinants of Health by Zip Code

	HHs in Poverty	HHs with Food Stamps	Children in Poverty	Primary Language Other than English	Unemp-loyment	Less than HS Diploma	Without Health Insurance	CNI Score
Brooklyn	**21.2%**	**23.5%**	**30.4%**	**45.9%**	**6.1%**	**18.4%**	**9.5%**	**4.0**
Zip Code 11206	33.9%	40.0%	52.9%	55.8%	9.1%	26.6%	9.8%	4.8
Zip Code 11207	32.5%	35.9%	39.5%	35.1%	8.6%	22.6%	8.9%	4.6
Zip Code 11212	38.7%	43.8%	44.1%	21.3%	10.9%	22.3%	9.7%	4.6
Zip Code 11213	25.9%	29.8%	30.4%	27.0%	6.4%	17.1%	11.5%	4.6
Zip Code 11221	25.7%	31.2%	31.9%	38.8%	9.4%	23.2%	13.1%	4.6
Zip Code 11233	29.4%	30.0%	39.9%	21.2%	6.6%	21.5%	9.9%	4.6
Zip Code 11205	24.2%	27.8%	43.2%	41.8%	6.1%	16.9%	7.0%	4.4
Zip Code 11216	19.1%	19.7%	23.4%	19.8%	6.4%	13.0%	10.5%	4.2
Zip Code 11211	19.7%	21.5%	43.8%	53.6%	4.2%	15.4%	7.6%	4.0
Zip Code 11225	17.5%	17.9%	28.3%	27.2%	8.2%	12.2%	10.6%	4.0
Zip Code 11226	18.7%	26.6%	23.7%	38.2%	6.5%	16.6%	12.9%	4.0
Zip Code 11201	9.7%	7.8%	16.9%	25.2%	4.8%	6.7%	6.3%	3.4
Zip Code 11217	11.7%	11.1%	14.9%	25.8%	4.2%	9.8%	5.6%	3.4
Zip Code 11238	12.8%	12.7%	11.9%	22.9%	5.0%	8.4%	7.2%	3.2
TBHC Service Area	**23.7%**	**26.7%**	**35.1%**	**33.2%**	**7.0%**	**17.4%**	**9.7%**	**4.3**
New York City	**18.8%**	**20.2%**	**27.8%**	**49.0%**	**5.9%**	**18.0%**	**9.8%**	**3.5**

*Data is reported for 2013-2017. Exception: Unemployment and education percentages reported for 2019.

2019 Demographic Indicators by Zip Code

	White	African American	Latinx	Under 15	15-24	25-34	35-54	55-64	65+
Brooklyn	**42.3%**	**31.9%**	**19.3%**	**18.9%**	**13.2%**	**17.1%**	**25.4%**	**11.5%**	**14.1%**
Zip Code 11206	43.5%	25.2%	42.1%	22.3%	16.3%	20.2%	22.2%	8.5%	10.5%
Zip Code 11207	13.2%	62.0%	37.5%	21.9%	15.2%	16.5%	24.1%	10.9%	11.5%
Zip Code 11212	5.1%	82.6%	17.8%	22.0%	15.3%	14.7%	24.0%	11.4%	12.7%
Zip Code 11213	21.9%	68.8%	10.8%	21.3%	13.8%	16.1%	24.6%	11.3%	12.9%
Zip Code 11221	19.4%	51.2%	41.9%	19.7%	14.2%	17.8%	26.2%	10.7%	11.5%
Zip Code 11233	6.3%	81.8%	15.7%	21.5%	14.1%	15.6%	26.1%	11.4%	11.4%
Zip Code 11205	48.3%	30.0%	20.2%	22.7%	17.5%	20.0%	22.5%	7.5%	9.8%
Zip Code 11216	15.2%	70.5%	11.5%	16.2%	12.2%	19.2%	29.4%	11.3%	11.7%
Zip Code 11211	73.3%	3.8%	28.1%	18.3%	12.5%	27.2%	23.6%	7.9%	10.5%
Zip Code 11225	18.1%	71.3%	11.0%	18.2%	11.8%	16.2%	27.4%	12.3%	14.1%
Zip Code 11226	11.1%	71.1%	18.1%	19.5%	12.4%	15.5%	26.9%	12.4%	13.3%
Zip Code 11201	63.7%	13.5%	12.3%	12.8%	12.4%	21.5%	29.7%	10.3%	13.4%
Zip Code 11217	59.0%	19.2%	18.7%	13.1%	10.4%	22.9%	31.4%	10.3%	11.9%
Zip Code 11238	41.3%	40.2%	11.3%	13.2%	10.3%	23.2%	31.7%	10.0%	11.6%
TBHC Service Area	**28.0%**	**52.3%**	**22.9%**	**19.3%**	**13.7%**	**18.5%**	**26.0%**	**10.6%**	**12.0%**
New York City	**41.9%**	**24.4%**	**29.6%**	**17.2%**	**12.8%**	**17.0%**	**26.2%**	**11.9%**	**15.0%**

Statistical Analysis of Health Indicators

Background

Health indicators were analyzed for a number of health issues, including access to care, health behaviors and outcomes, chronic disease prevalence and mortality, mental health and substance use disorder, and maternal and child health. Data were compiled from secondary sources including the NYC Department of Health and Mental Hygiene, the New York State Department of Health, the Centers for Disease Control and Prevention (CDC), the Community Health Survey, the University of Wisconsin County Health Rankings & Roadmaps program, among other sources. A comprehensive list of data sources is provided in Appendix A.

Health data focus on borough-level reporting which is generally the most recent and most consistent data available. Health data for the boroughs are compared to state and national averages, Take Care New York 2020 (TCNY 2020) and Healthy People 2020 (HP 2020) goals, where applicable, to provide benchmark comparisons. Take Care New York 2020 is the NYC Health Department's blueprint for promoting resident health. Healthy People is a US Department of Health and Human Services health promotion and disease prevention initiative that sets science-based, 10-year national objectives for improving the health of all Americans.

Age-adjusted rates are referenced throughout the reporting to depict a comparable burden of disease among residents. Age-adjusted rates are summary measures adjusted for differences in age distributions so that data from one year to another, or between one geographic area and another, can be compared as if the communities reflected the same age distribution.

The Community Health Survey is a telephone survey of residents age 18 or over conducted annually for all five NYC boroughs (Bronx, Brooklyn, Manhattan, Queens, and Staten Island). Community Health Survey results, as provided by the NYC Department of Health and Mental Hygiene, are shown as available and are age-adjusted.

The most recent data available at the time of this study were used unless otherwise noted.

Access to Healthcare

Brooklyn was ranked #60 out of 62 counties in New York for clinical care and is the third ranked NYC borough, as reported by the 2019 University of Wisconsin County Health Rankings & Roadmaps program. The clinical care ranking is based on several indicators, including health insurance coverage and provider access.

2019 NYC County Health Rankings for Clinical Care out of 62 counties in New York

#4 Manhattan
#27 Staten Island
#60 Brooklyn
#61 Queens
#62 Bronx

Health Insurance Coverage

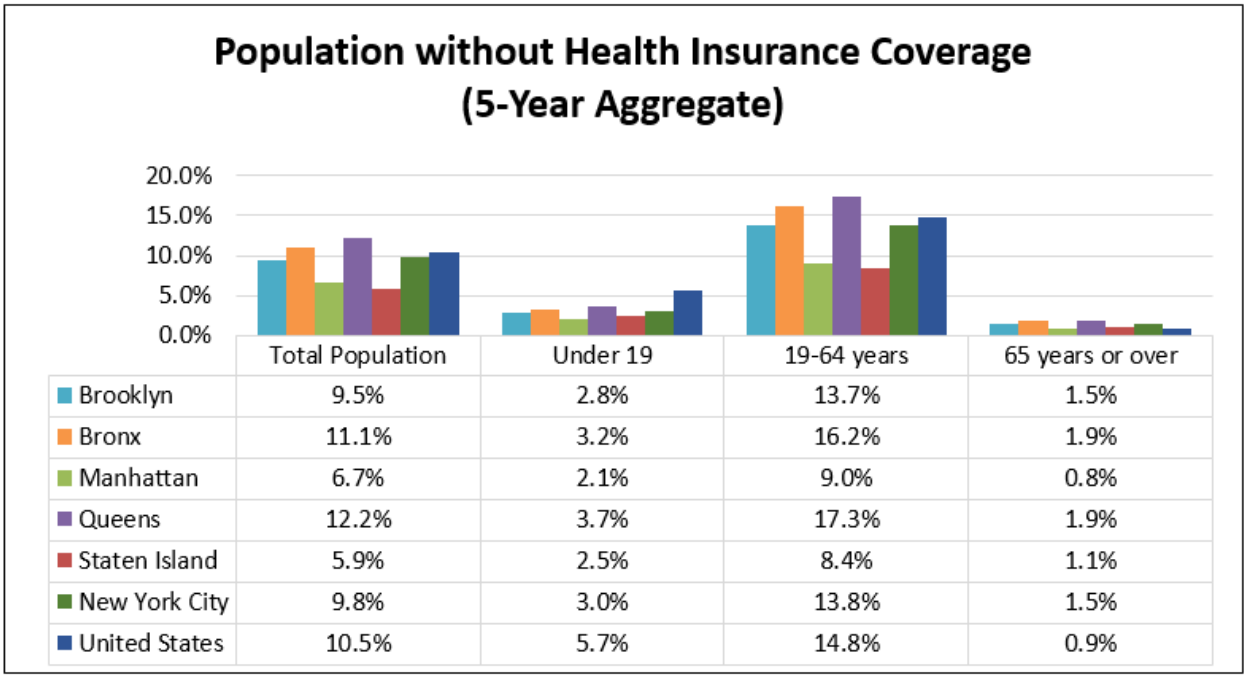
The percent of uninsured New Yorkers is lower than the national average for all age groups, except 65 years or over. Residents of Brooklyn are just as likely as other New Yorkers to have health insurance. Over the past five years, the percentage of uninsured residents declined across NYC and Brooklyn.

Nearly 40% of Brooklyn residents are covered by health insurance provided by their employers, a lower proportion than NYC and the nation. More than 1 in 4 Brooklyn residents (28%) are covered by Medicaid, higher than NYC and nearly double the national percentage. Having health insurance, particularly employer-based insurance, helps remove significant barriers to accessing healthcare.

Brooklyn has a similar percentage of insured residents as other NYC boroughs; but proportionately more Medicaid insured residents

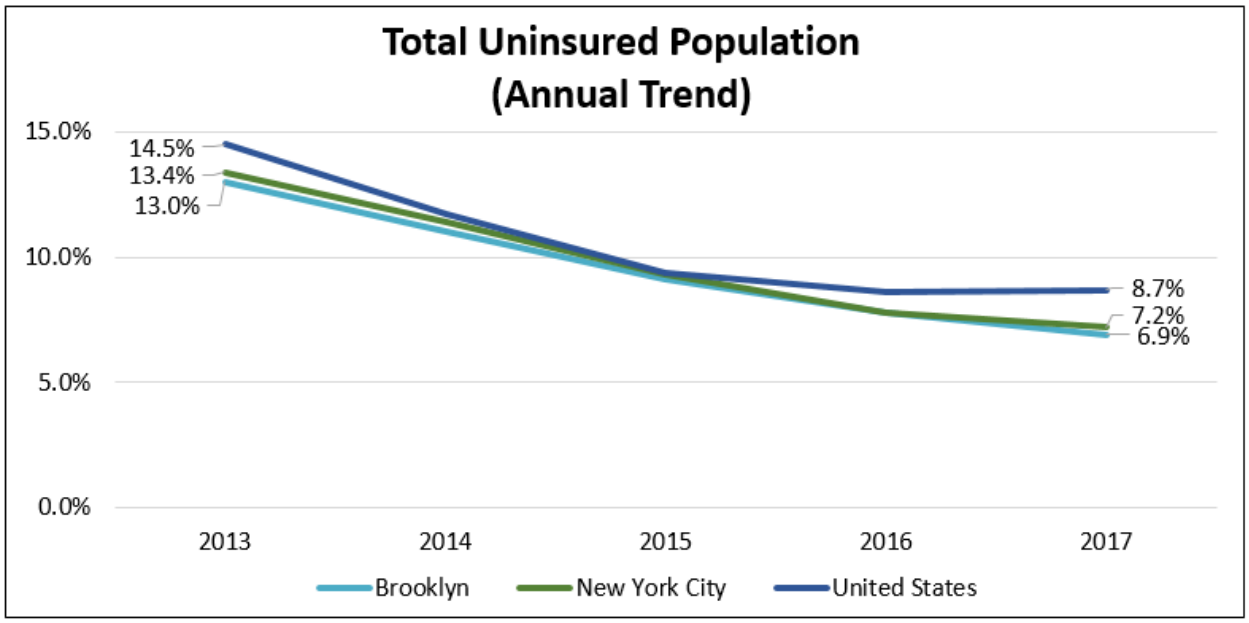
When stratified by race and ethnicity, non-White Brooklyn residents have higher uninsured rates than White residents. Latinx residents have the highest uninsured rate (16.7%), followed by African Americans (9.3%). Latinx residents in Brooklyn are more likely to be uninsured than their peers across NYC.

Latinxs have the highest uninsured rate in Brooklyn, and exceed state and national benchmarks for Latinx residents

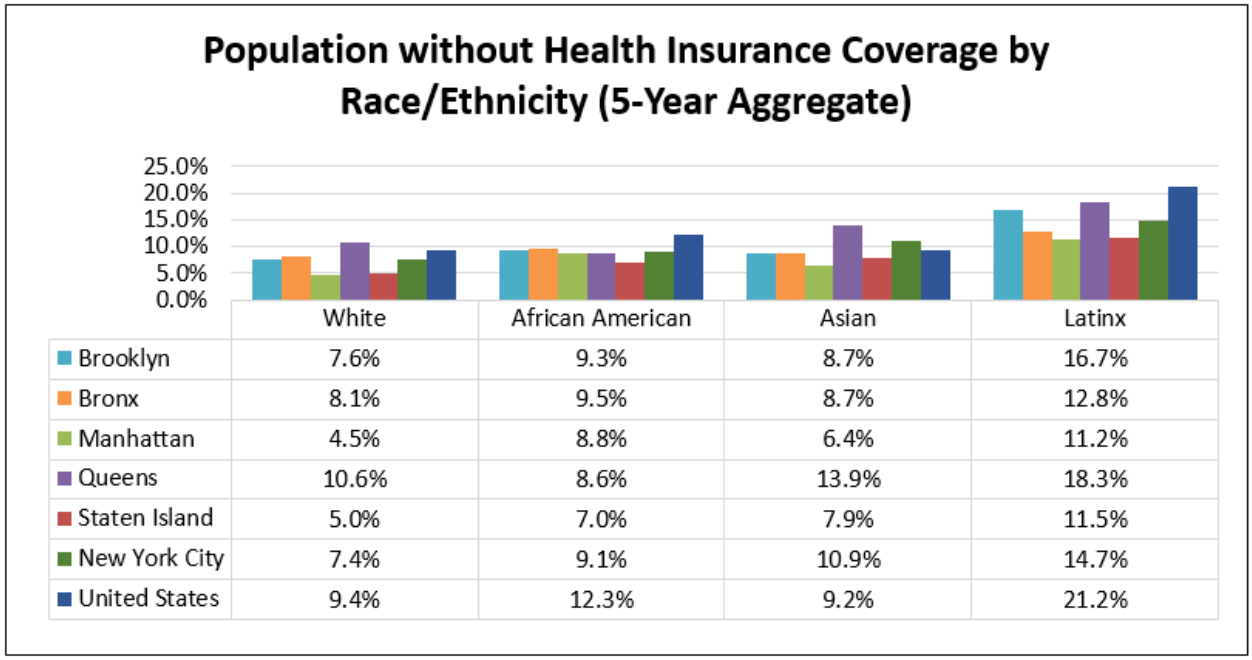


	Total Population	Under 19	19-64 years	65 years or over
Brooklyn	9.5%	2.8%	13.7%	1.5%
Bronx	11.1%	3.2%	16.2%	1.9%
Manhattan	6.7%	2.1%	9.0%	0.8%
Queens	12.2%	3.7%	17.3%	1.9%
Staten Island	5.9%	2.5%	8.4%	1.1%
New York City	9.8%	3.0%	13.8%	1.5%
United States	10.5%	5.7%	14.8%	0.9%

Source: US Census Bureau, 2013-2017

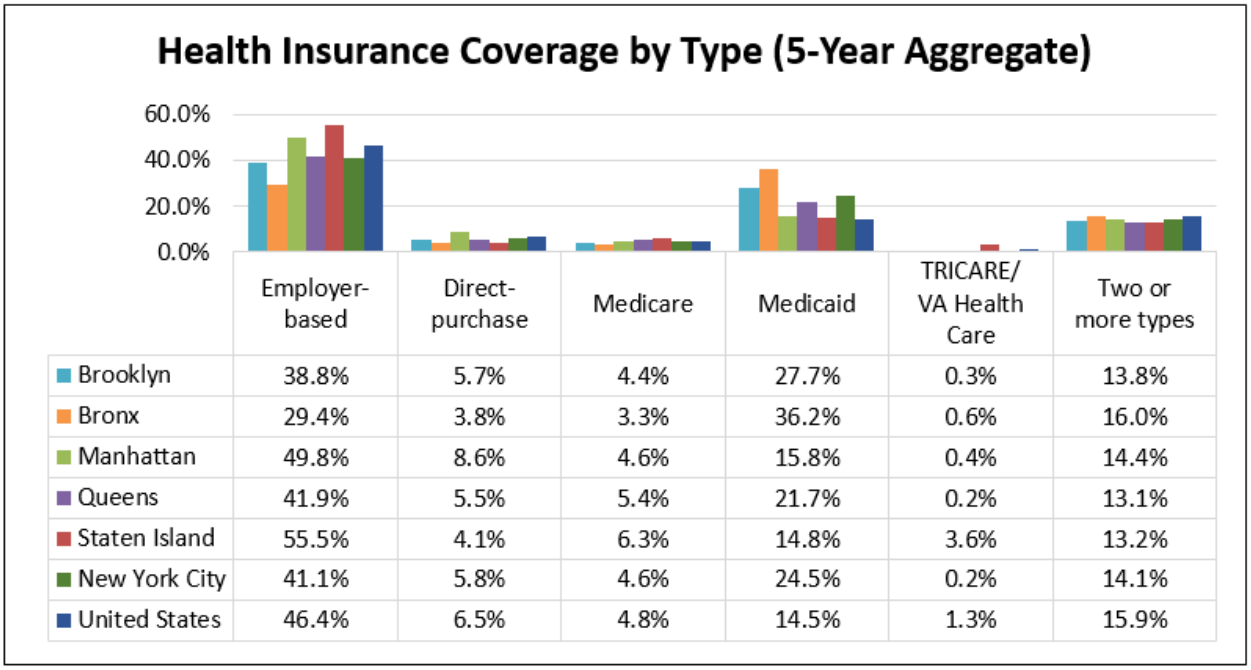


Source: US Census Bureau, 2013-2017



	White	African American	Asian	Latinx
Brooklyn	7.6%	9.3%	8.7%	16.7%
Bronx	8.1%	9.5%	8.7%	12.8%
Manhattan	4.5%	8.8%	6.4%	11.2%
Queens	10.6%	8.6%	13.9%	18.3%
Staten Island	5.0%	7.0%	7.9%	11.5%
New York City	7.4%	9.1%	10.9%	14.7%
United States	9.4%	12.3%	9.2%	21.2%

Source: US Census Bureau, 2013-2017



	Employer-based	Direct-purchase	Medicare	Medicaid	TRICARE/ VA Health Care	Two or more types
Brooklyn	38.8%	5.7%	4.4%	27.7%	0.3%	13.8%
Bronx	29.4%	3.8%	3.3%	36.2%	0.6%	16.0%
Manhattan	49.8%	8.6%	4.6%	15.8%	0.4%	14.4%
Queens	41.9%	5.5%	5.4%	21.7%	0.2%	13.1%
Staten Island	55.5%	4.1%	6.3%	14.8%	3.6%	13.2%
New York City	41.1%	5.8%	4.6%	24.5%	0.2%	14.1%
United States	46.4%	6.5%	4.8%	14.5%	1.3%	15.9%

Source: US Census Bureau, 2013-2017

Provider Access

Provider rates are measured as the number of providers in an area per 100,000 people, and are measured against state and national benchmarks for primary care physicians, dentists, and mental healthcare providers. Primary care physicians include non-federal, practicing physicians under age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics. Mental health providers include psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, mental health providers that treat alcohol and other drug abuse, and advanced practice nurses specializing in mental healthcare.

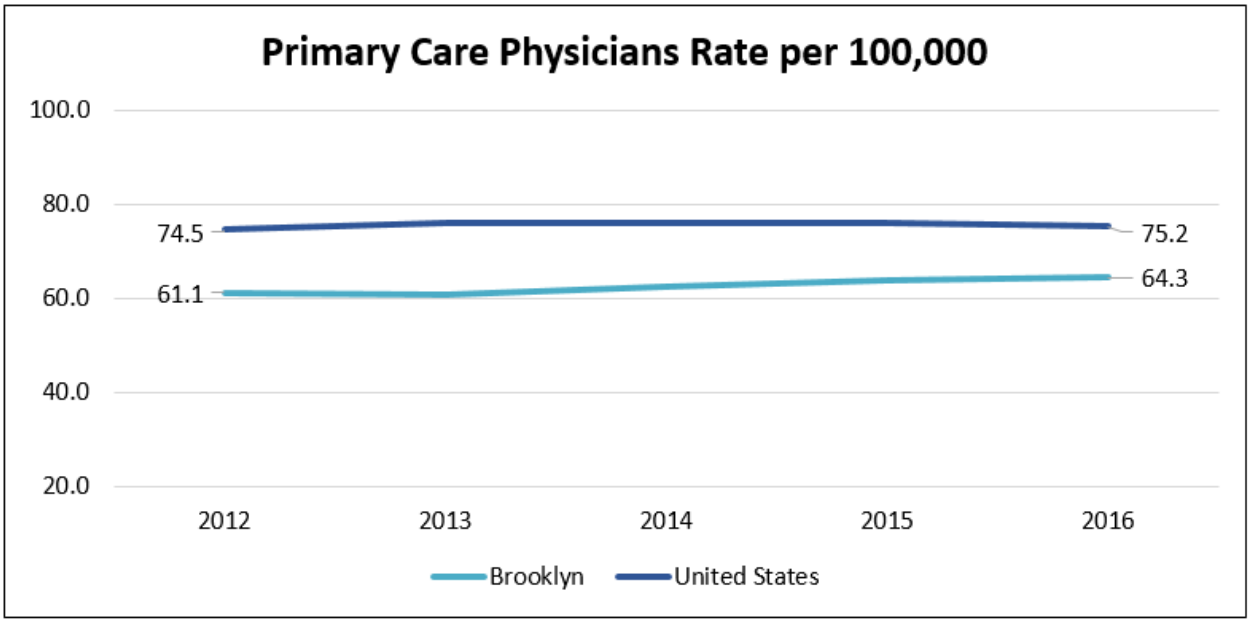
Brooklyn has a lower number of primary care physicians, dentists, and mental health providers than the nation. Primary and dental provider rates increased slightly over the past five years. The mental health provider rate increased 44 points.

Brooklyn has lower availability of primary care physicians, dentists, and mental health providers than the nation

Provider Availability, Rates per 100,000

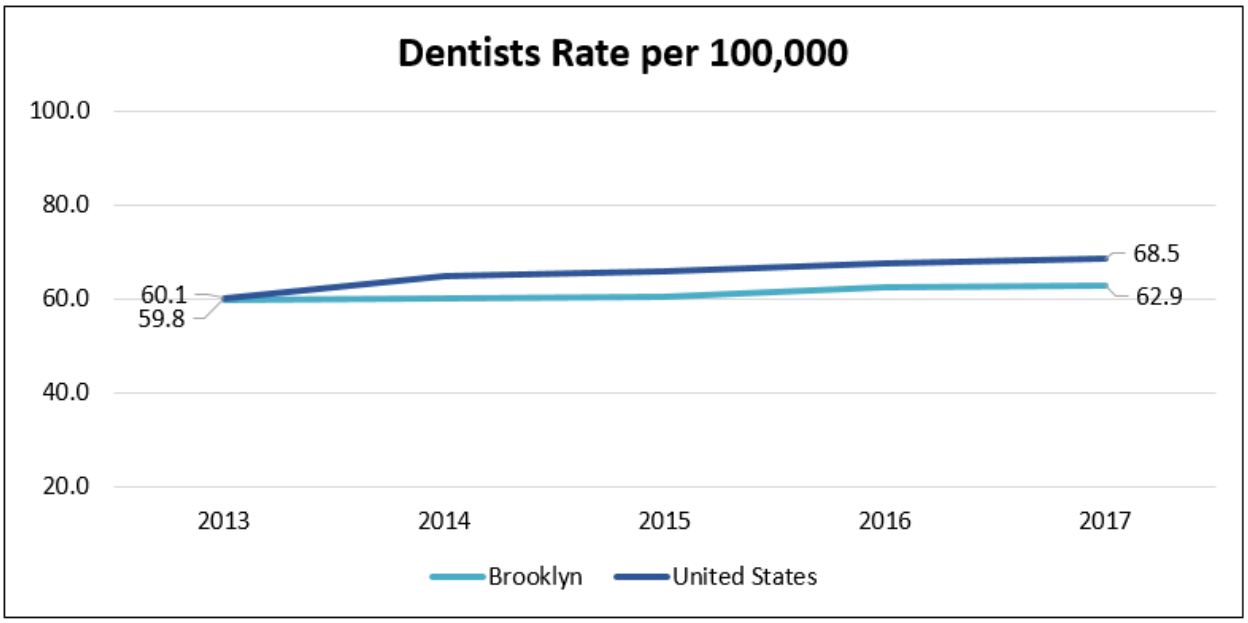
	Primary Care Physicians (2016)	Dentists (2017)	Mental Health Providers (2018)
Brooklyn	64.3	62.9	198.0
Bronx	57.5	49.9	186.5
Manhattan	136.4	176.3	788.7
Queens	63.7	71.7	147.0
Staten Island	98.1	67.4	210.0
United States	75.2	68.5	227.3

Source: Health Resources & Services Administration, 2016, 2017; Centers for Medicare and Medicaid Services, 2018

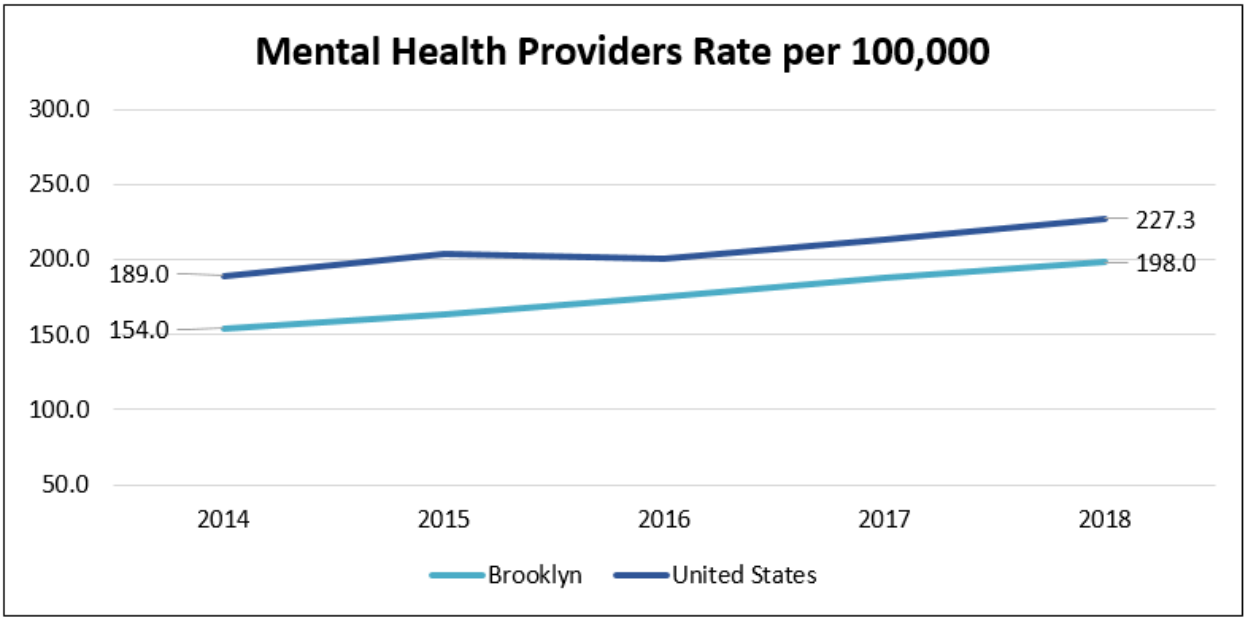


Source: Health Resources & Services Administration, 2012-2016

*Providers are identified based on the county in which their preferred professional mailing address is located. Provider rates do not take into account providers that serve multiple counties or satellite clinics.



Source: Health Resources & Services Administration, 2013-2017



Source: Centers for Medicare and Medicaid Services, 2014-2018

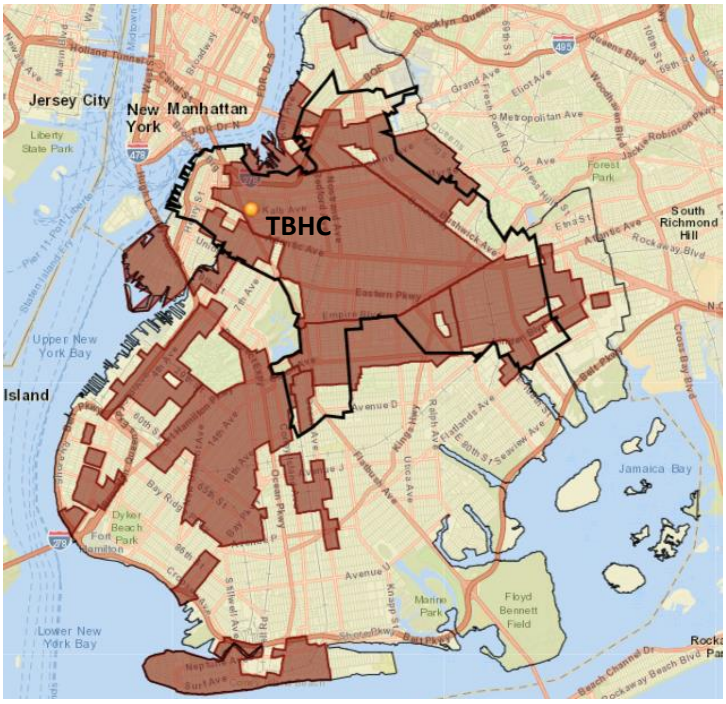
The Health Resources & Services Administration (HRSA) is responsible for designating Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas (MUAs). Shortage areas are determined based on a defined ratio of total health professionals to total population. MUAs identify geographic areas with a lack of access to primary care services.

Of the 760 census tracts in Brooklyn, nearly 50% (369), including the majority of the TBHC Service Area, are MUAs.

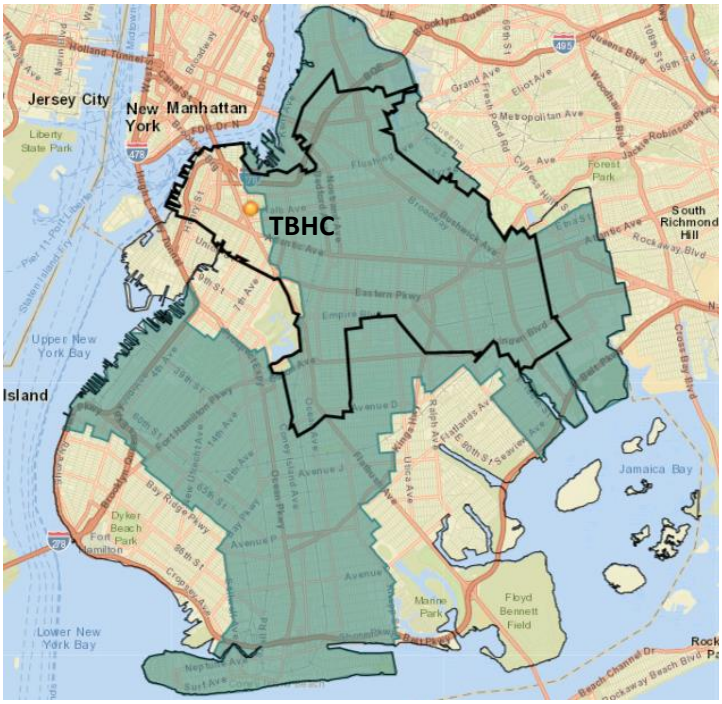
Of the 760 census tracts in Brooklyn, nearly 50% are designated MUAs for Medicaid-eligible patients, including nearly all of the TBHC Service Area

Additionally, nearly all of the TBHC Service Area is a HPSA for primary care and mental healthcare for Medicaid-eligible individuals. There are no geographic HPSAs for dental care in the borough. The following maps show MUAs and HPSAs by census tract.

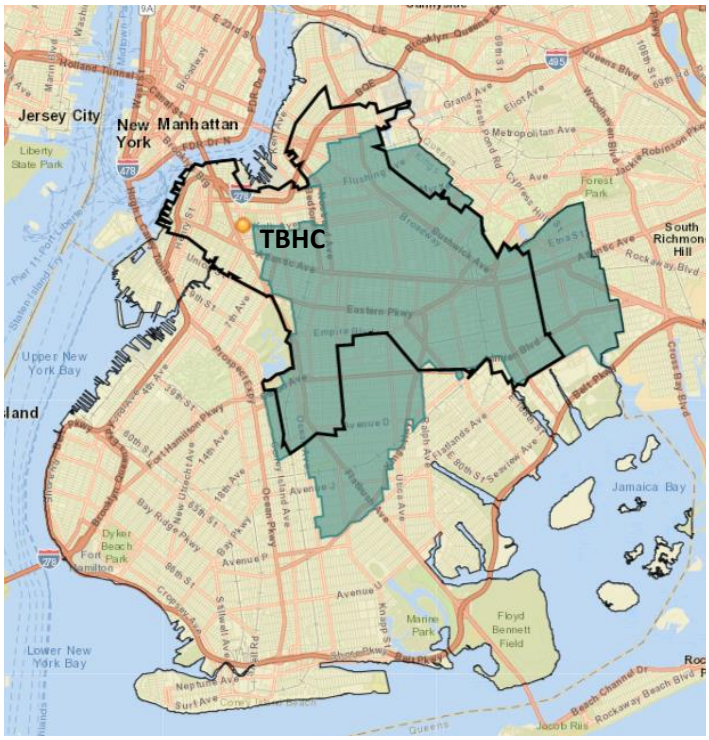
MUAs (Red Shading) within Brooklyn and TBHC Service Area



Primary Care HPSAs (Blue Shading) within Brooklyn and TBHC Service Area



Mental Healthcare HPSAs (Blue Shading)
within Brooklyn and TBHC Service Area



Federally Qualified Health Centers (FQHCs) are defined as “community-based healthcare providers that receive funds from the HRSA Health Center Program to provide primary care services in underserved areas.” Services are provided on a sliding fee scale based on patient ability to pay. FQHCs are critical to serving the healthcare needs of medically underserved populations.

More than 20 healthcare providers operate more than 100 FQHC locations across Brooklyn; 51 of the locations are located in the TBHC Service Area.

Routine Healthcare Access

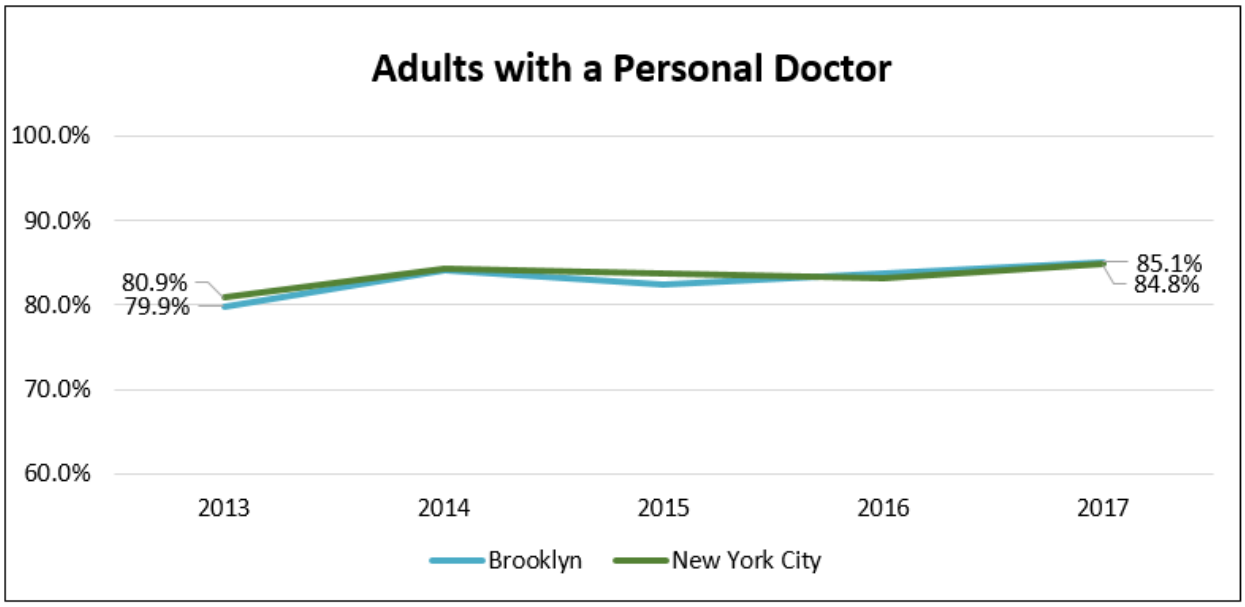
Adults in Brooklyn are just as likely as their NYC peers to have a personal doctor, but more than 1 in 10 adults experience healthcare access barriers

Approximately 85% of Brooklyn adults have a personal doctor, similar to NYC overall. The percentage of adults with a personal doctor increased in 2014, consistent with the expansion of Medicaid in New York. Despite access to a personal doctor, more than 1 in 10 adults report not being able to get needed care. Medical care includes doctor's visits, tests, procedures, prescription medication, and hospitalizations. The reason for not receiving care is not specified, but may include cost, lack of convenient appointment times, and lack of transportation, among others.

Age-Adjusted Adult Healthcare Access

	Did Not Get Needed Medical Care in Past 12 months	Without a Personal Doctor
Brooklyn	11.7%	14.9%
Bronx	13.1%	16.2%
Manhattan	8.7%	15.6%
Queens	8.6%	16.0%
Staten Island	10.5%	8.3%
New York City	10.3%	15.2%

Source: New York City Department of Health and Mental Hygiene, 2017



Source: New York City Department of Health and Mental Hygiene, 2013-2017

Overall Health Status and Health Behaviors

Brooklyn was ranked #17 out of 62 counties in New York for health outcomes and is the third ranked NYC borough, as reported by the 2019 University of Wisconsin County Health Rankings & Roadmaps program. Health outcomes are measured in relation to premature death (before age 75) and quality of life.

Out of 62 counties in New York, Brooklyn was ranked #60 for Clinical Care, but #17 for Health Outcomes

2019 NYC County Health Rankings for Health Outcomes out of 62 counties in New York

#5 Manhattan
#8 Queens
#17 Brooklyn
#28 Staten Island
#62 Bronx

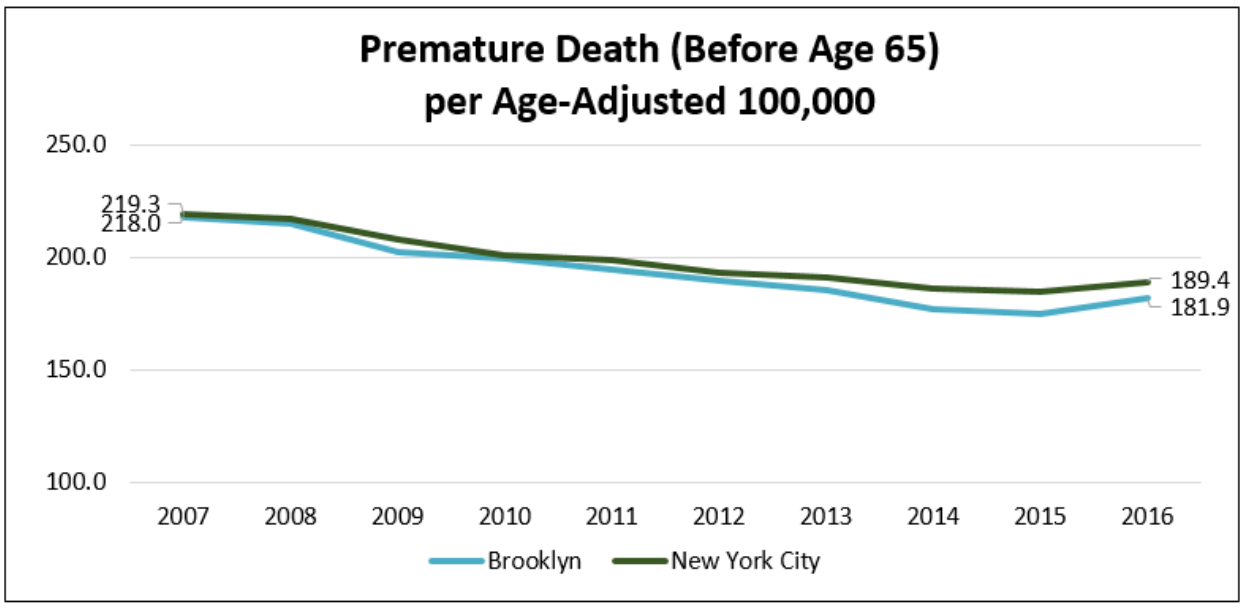
While medical care can treat disease and prolong life, longevity comes from healthy communities and healthy lifestyles. Brooklyn residents live longer than other New Yorkers, but have a slightly higher percentage of adults with self-reported “poor” or “fair” health status. This finding suggests an opportunity to increase the quality of life for individuals living in Brooklyn.

The Brooklyn premature death rate is lower than NYC overall and declined over the past 10 years

Health Outcomes Indicators
(Red = Higher than NYC Benchmark)

	Premature Death (Before Age 65) per Age-Adjusted 100,000	Adults with “Poor” or “Fair” Health Status (Age-Adjusted)
Brooklyn	181.9	23.4%
Bronx	237.3	29.2%
Manhattan	135.1	17.6%
Queens	130.8	24.3%
Staten Island	191.5	20.9%
New York City	189.4	23.2%

Source: New York City Department of Health and Mental Hygiene, 2016, 2017



Source: New York City Department of Health and Mental Hygiene, 2007-2016

Tobacco Use

Smoking is a significant contributor to increased risk for heart disease, cancer, and other chronic diseases. The percentage of Brooklyn adults using traditional cigarettes and e-cigarettes declined over the past three years. The percentage of adults using traditional cigarettes nearly meets the Take Care New York 2020 goal of 12%, and fewer adults use e-cigarettes compared to NYC overall.

The percentage of adult smokers in Brooklyn decreased and nearly meets the Take Care New York 2020 goal of 12%

Age-Adjusted Smoking among Adults, Three-Year Comparison
(Red = Higher than NYC Benchmark by >2 Percentage Points)

	Current Smoker		Current Heavy Smoker		E-Cigarette Smoker	
	2014	2017	2014	2017	2014	2017
Brooklyn	14.1%	13.6%	2.6%	2.5%	8.3%	6.1%
Bronx	16.2%	13.6%	3.1%	2.7%	6.5%	5.4%
Manhattan	12.7%	12.0%	2.4%	2.0%	8.2%	6.8%
Queens	12.6%	12.2%	2.5%	3.2%	8.4%	6.3%
Staten Island	16.6%	24.0%	5.3%	7.5%	11.8%	14.5%
New York City	13.9%	13.4%	2.7%	2.9%	8.2%	6.6%

Source: New York City Department of Health and Mental Hygiene, 2014, 2017

Among current and former adult smokers in Brooklyn, 48.9% report initiating smoking before the age of 18, compared to 52% of adults across NYC. Current data suggests that the proportion of Brooklyn teens who smoke is less than all other NYC boroughs, except The Bronx. Brooklyn also has the

Brooklyn has the lowest percentage of teens using e-cigarettes, but more than 1 in 10 youth report current use

lowest percentage of teens who report using e-cigarettes, but more than 1 in 10 youth report current use.

Smoking among High School Students, Four-Year Comparison*
(Red = Higher than NYC Benchmark by >2 Percentage Points)

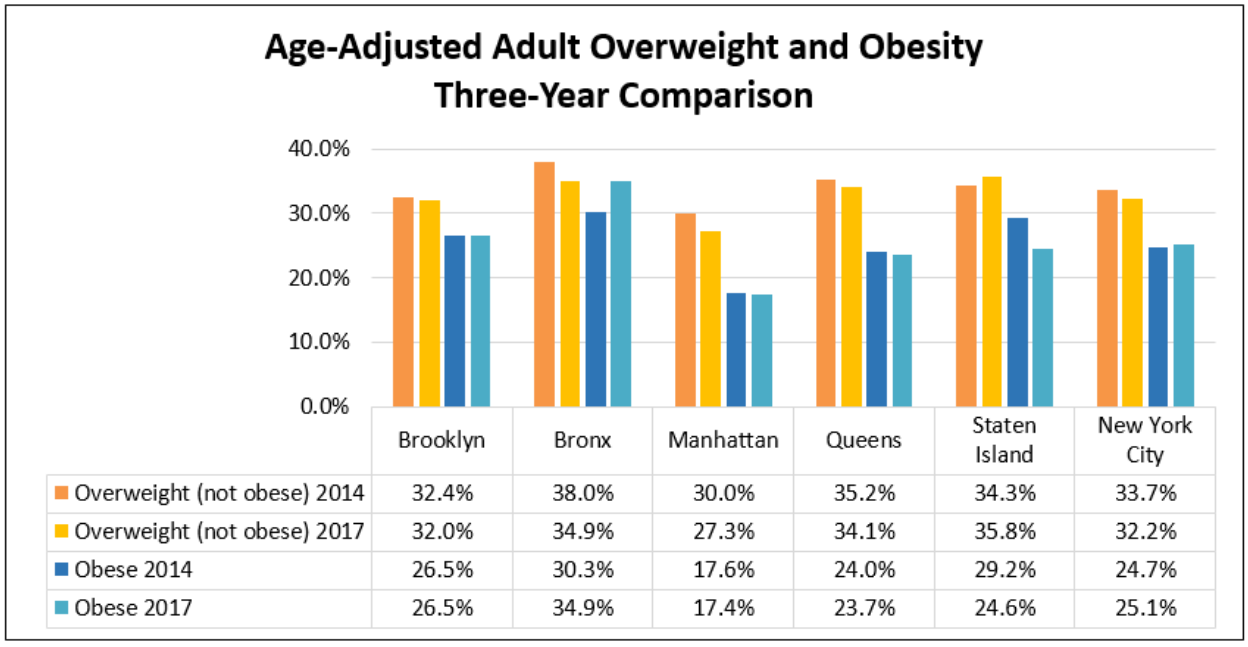
	Current Smoker		Current Heavy Smoker		E-Cigarette Smoker
	2013	2017	2013	2017	2017
Brooklyn	6.8%	4.4%	7.5%	10.0%	15.4%
Bronx	7.0%	3.8%	NA	11.1%	16.9%
Manhattan	7.7%	5.0%	NA	10.8%	17.9%
Queens	10.2%	6.1%	5.6%	15.4%	17.8%
Staten Island	11.8%	6.2%	8.9%	19.7%	22.1%
New York City	8.2%	5.0%	7.0%	12.9%	17.3%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017
*Student data are only collected during odd years. E-cigarette use was not reported in 2013.

Obesity

Being overweight or obese is a risk factor for developing many chronic and life-threatening diseases such as heart disease, diabetes, cancer, and others. The Take Care New York 2020 goal is to reduce the percent of obese adults to less than 23%. Currently, more than 1 in 4 Brooklyn adults is obese, and 1 in 3 adults is overweight, consistent with past trends.

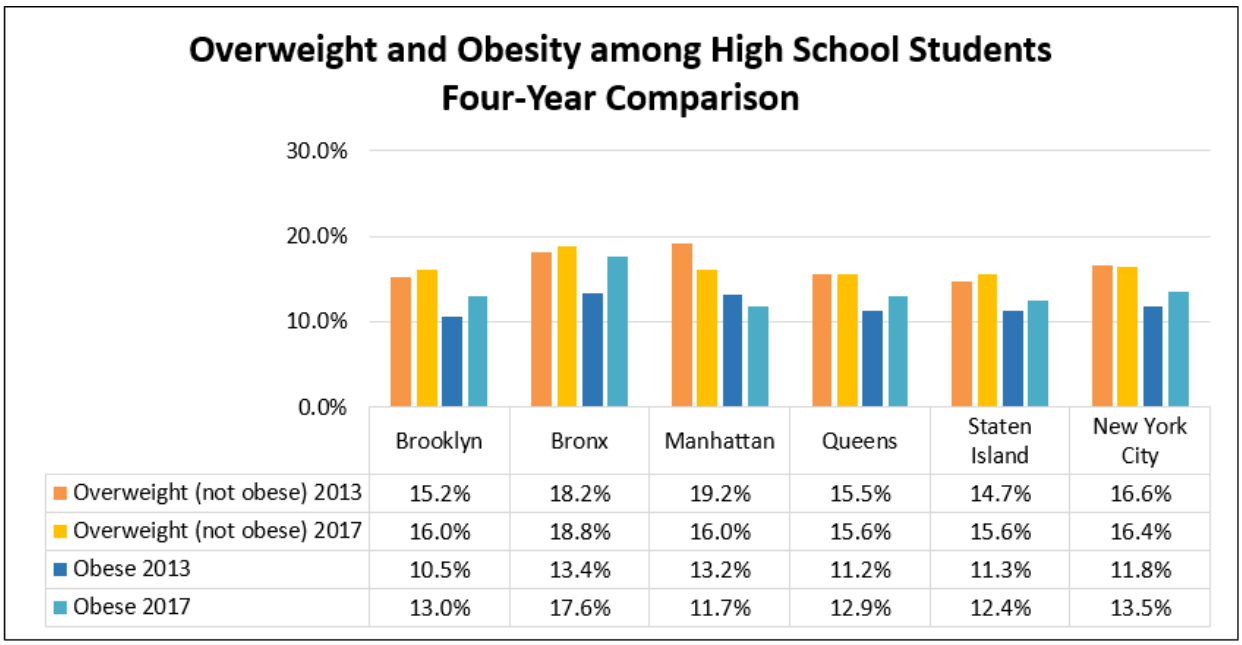
More than 25% of Brooklyn adults are obese, consistent with NYC and past data trends



	Brooklyn	Bronx	Manhattan	Queens	Staten Island	New York City
Overweight (not obese) 2014	32.4%	38.0%	30.0%	35.2%	34.3%	33.7%
Overweight (not obese) 2017	32.0%	34.9%	27.3%	34.1%	35.8%	32.2%
Obese 2014	26.5%	30.3%	17.6%	24.0%	29.2%	24.7%
Obese 2017	26.5%	34.9%	17.4%	23.7%	24.6%	25.1%

Source: New York City Department of Health and Mental Hygiene, 2014, 2017

Brooklyn teens are just as likely to be overweight or obese as teens across NYC. The percentage of overweight and obese teens in Brooklyn increased from 2013.



	Brooklyn	Bronx	Manhattan	Queens	Staten Island	New York City
Overweight (not obese) 2013	15.2%	18.2%	19.2%	15.5%	14.7%	16.6%
Overweight (not obese) 2017	16.0%	18.8%	16.0%	15.6%	15.6%	16.4%
Obese 2013	10.5%	13.4%	13.2%	11.2%	11.3%	11.8%
Obese 2017	13.0%	17.6%	11.7%	12.9%	12.4%	13.5%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017
*Student data are only collected during odd years.

Healthy Eating and Food Insecurity

Food insecurity, defined as being without a regular source of sufficient and affordable nutritious food, negatively impacts the opportunity for healthy eating and healthy weight management.

1 in 5 Brooklyn children are food insecure, the second highest proportion in NYC

Food insecurity decreased for all NYC boroughs from 2014 to 2017. Brooklyn has the highest percentage of food insecure residents, and second highest percentage of food insecure children. Approximately 1 in 5 Brooklyn children are food insecure.

Food Insecure Residents, Three-Year Comparison
(Green = Decrease of >2 Percentage Points from 2014 to 2017)

	All Residents		Children	
	2014	2017	2014	2017
Brooklyn	20.0%	17.1%	24.6%	20.1%
Bronx	18.7%	16.0%	25.6%	22.6%
Manhattan	15.1%	12.6%	19.0%	16.4%
Queens	13.1%	10.5%	19.5%	15.7%
Staten Island	10.3%	8.6%	18.6%	16.0%
United States	15.4%	12.5%	20.9%	17.0%

Source: Feeding America, 2014, 2017

Eligibility for free lunch includes households with an income at or below 130% of the poverty income threshold, while eligibility for reduced price lunch includes households with an income between 130% and 185% of the poverty threshold. More than 70% of all Brooklyn children qualify for free or reduced price lunch, the second highest proportion in NYC.

Children Eligible for Free or Reduced Price Lunch

NYC Borough	Percentage Of Children Eligible For Free or Reduced School Lunch
Brooklyn	71.8%
Bronx	82.1%
Manhattan	64.6%
Queens	68.1%
Staten Island	56.1%

Source: National Center for Education Statistics, 2016-2017

Regular physical activity can reduce the likelihood of obesity and improve overall health outcomes. Access to physical activity includes access to parks, gyms, pools, etc. NYC boasts greater access to opportunities for physical activity than most other places in the nation, yet only about one-third of adults and 20-25% of high school students engage in the recommended amount of physical activity.

Despite wide access to physical activity venues, most Brooklynites and other NYC residents do not get recommended amounts of physical activity.

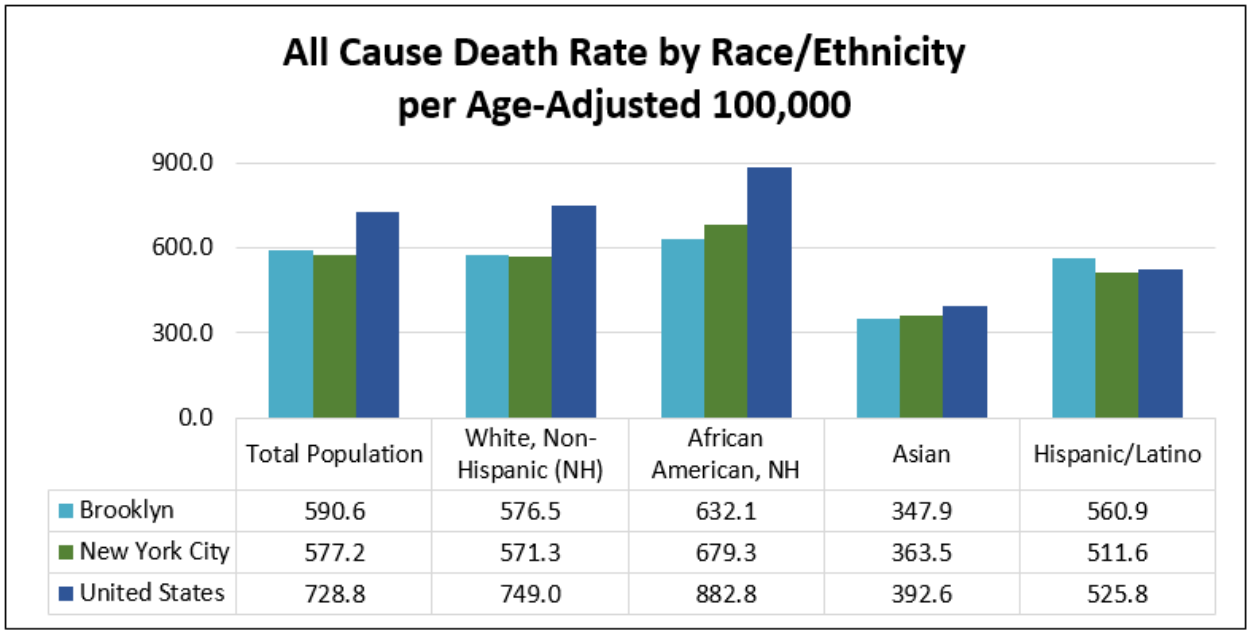
Physical Activity
(Green or Red Highlighting = Higher than NYC or National Benchmark)

	Access to Physical Activity	Adults Physically Inactive in Past 30 Days (Age-Adjusted)	High School Students Without 60 Minutes of Daily Physical Activity
Brooklyn	100.0%	28.3%	80.9%
Bronx	100.0%	30.1%	82.3%
Manhattan	100.0%	16.7%	79.9%
Queens	97.0%	26.0%	76.5%
Staten Island	99.9%	28.8%	73.7%
New York City	NA	25.5%	79.2%
United States	84.0%	NA	NA

Source: Business Analyst, Delorme Map Data, ESRI, & US Census Tigerline Files, 2018; New York City Department of Health and Mental Hygiene, 2017

Mortality

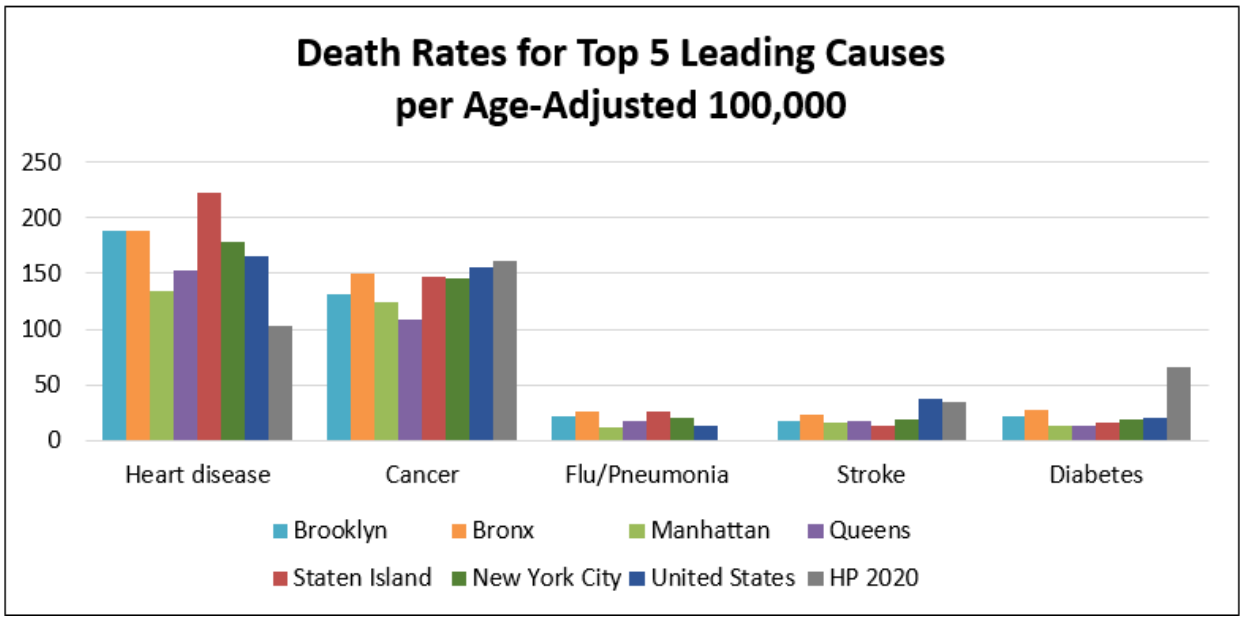
The Brooklyn all cause, age-adjusted death rate is higher than NYC, but lower than the nation. The death rate is highest among Non-Hispanic African Americans, exceeding the Non-Hispanic White death rate by 56 points. While the Brooklyn death rate for African Americans is higher than Whites, it is lower than the general death rate for African Americans across NYC and nationwide. Nonetheless, this racial disparity in Brooklyn reduces the quality of life and health outcomes for all Brooklyn residents.



	Total Population	White, Non-Hispanic (NH)	African American, NH	Asian	Hispanic/Latino
Brooklyn	590.6	576.5	632.1	347.9	560.9
New York City	577.2	571.3	679.3	363.5	511.6
United States	728.8	749.0	882.8	392.6	525.8

Source: Centers for Disease Control and Prevention, 2016

The top five causes of death in NYC, in rank order, are heart disease, cancer, flu/pneumonia, stroke, and diabetes. Healthy People 2020 sets targets for deaths from heart disease, cancer, stroke, and diabetes. Brooklyn meets or exceeds the Healthy People 2020 targets for cancer, stroke, and diabetes. Brooklyn does not meet the target for heart disease, having a higher rate of death than NYC and the nation. Brooklyn also has an elevated rate of death due to flu/pneumonia.



Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Chronic Diseases

Chronic diseases such as heart disease, stroke, and diabetes account for much of the underlying causes of death and disability. Many chronic diseases can be prevented through avoiding or reducing negative health behaviors like smoking and alcohol use, and by increasing physical activity and healthy eating. Most chronic diseases are treatable if detected early, and support is provided to reduce risk behaviors and increase health promoting behaviors.

Heart Disease and Stroke

Heart disease is the leading cause of death in the nation, NYC, and Brooklyn. High blood pressure is a significant contributor to heart disease death. While the proportion of adults diagnosed with high blood pressure in Brooklyn is comparable to NYC, more than 1 in 4 adults in Brooklyn experience this condition.

More than 1 in 4 Brooklyn adults have high blood pressure, consistent with NYC overall

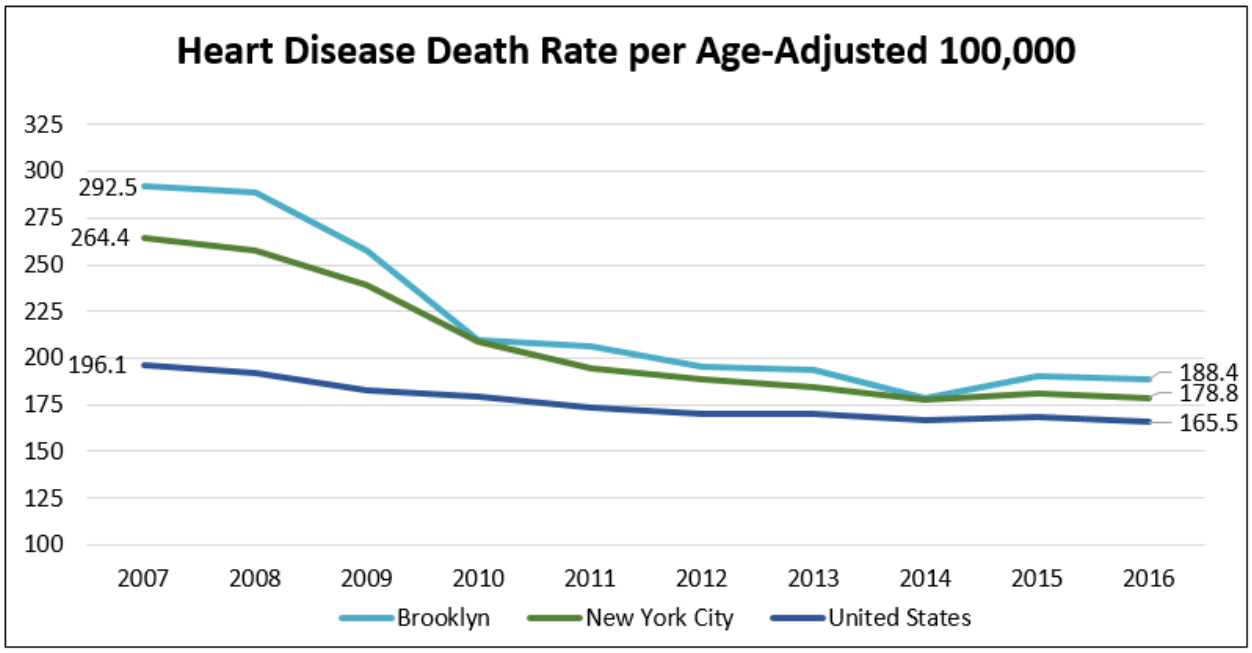
Age-Adjusted High Blood Pressure Prevalence among Adults, Three-Year Comparison (Red = Higher than NYC Benchmark by >2 Percentage Points)

	2014	2017
Brooklyn	28.4%	28.0%
Bronx	33.7%	34.2%
Manhattan	23.2%	23.9%
Queens	27.3%	27.3%
Staten Island	27.8%	28.6%
New York City	27.6%	28.0%

Source: New York City Department of Health and Mental Hygiene, 2014, 2017

The rate of heart disease death in Brooklyn exceeds NYC and national rates, but it is declining. When stratified by race and ethnicity, the rate of death due to heart disease is higher for Latinxs and Non-Hispanic Whites residing in Brooklyn compared to NYC and the nation.

The Brooklyn heart disease death rate is declining, but remains higher than NYC and the nation



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016

Heart Disease Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Brooklyn	188.4	199.6	198.8	93.1	167.8
Bronx	188.7	246.3	203.9	77.2	148.1
Manhattan	134.7	109.9	251.8	90.3	138.0
Queens	153.4	190.2	176.2	96.0	108.2
Staten Island	222.7	229.8	288.7	121.2	169.6
New York City	178.8	194.0	210.9	99.1	143.9
United States	165.5	168.7	210.7	85.2	115.8

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Coronary heart disease (CHD) is characterized by the buildup of plaque inside the coronary arteries. Several types of heart disease, including CHD, are risk factors for stroke.

Healthy People 2020 sets a target for the CHD death rate at 103.4 per 100,000. Brooklyn does not meet the Healthy People 2020 target and has a higher rate of CHD death than most NYC boroughs and the nation.

Brooklyn meets the HP 2020 goal for death due to stroke, but not death due to CHD

Healthy People 2020 sets a target for the stroke death rate at 34.8. Brooklyn meets the Healthy People 2020 target for stroke death, and the death rate is lower than NYC and the nation.

Coronary Heart Disease and Stroke Death Rates
(Green = Lower than NYC and National Benchmarks)

	Coronary Heart Disease Death per Age-Adjusted 100,000	Stroke Death per Age-Adjusted 100,000
Brooklyn	122.2	17.2
Bronx	111.9	23.5
Manhattan	80.7	16.2
Queens	109.6	17.5
Staten Island	145.6	13.8
New York City	115.3	19.3
United States	94.3	37.3
HP 2020	103.4	34.8

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Cancer

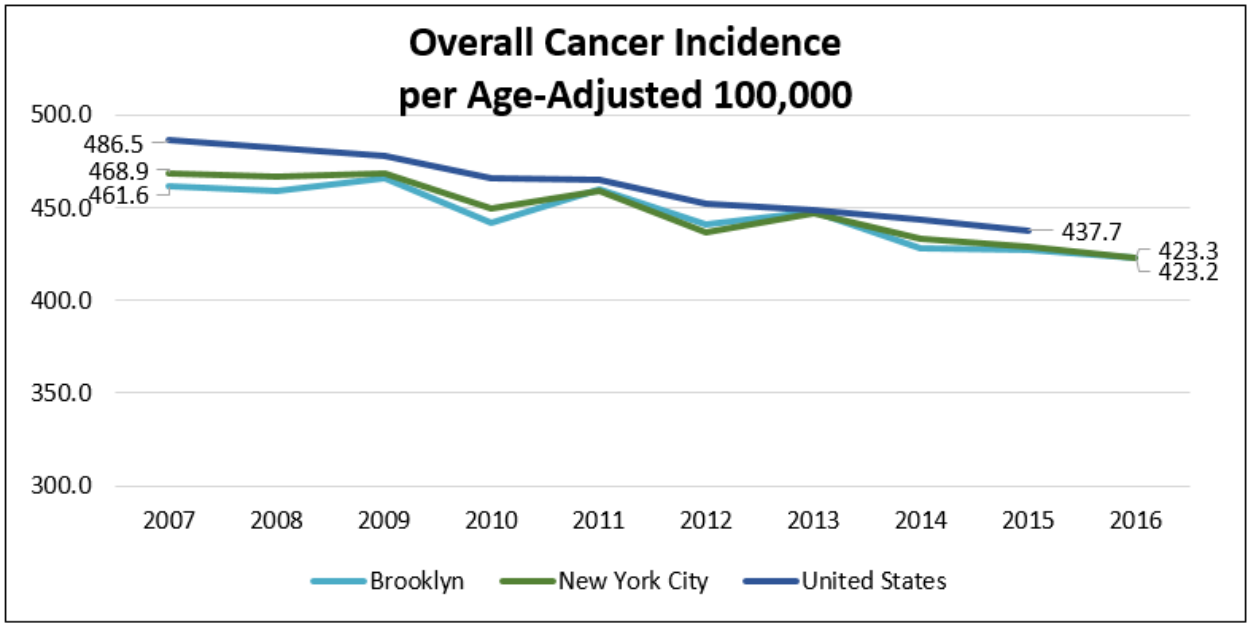
Brooklyn has a similar cancer incidence rate to NYC, and a lower death rate than NYC and the nation

Cancer remains a leading cause of death, but if detected early, can often be effectively treated. The incidence of cancer among Brooklyn residents is comparable to NYC and lower than the nation. The rate of death due to cancer is lower than NYC and the nation, and meets the Healthy People 2020 target. This finding suggests that cancers are less prevalent among Brooklyn residents, and that individuals with cancer are receiving early and effective treatment.

Data for the most commonly diagnosed cancers, including female breast, colorectal, lung, and male prostate, are presented below. Brooklyn cancer incidence rates are similar to or lower than NYC and national rates with the exception of prostate cancer. NYC and all five boroughs have a higher incidence of prostate cancer than the nation, but the citywide death rate due to prostate cancer is similar to the nation. This finding indicates better overall screening and treatment for prostate cancer.

When stratified by race and ethnicity, cancer incidence is higher among Asians living in Brooklyn than their peers citywide and nationally. The cancer death rate among Asians living in Brooklyn is also higher, indicating an opportunity for promotion of cancer screenings and treatment among this population.

Asians living in Brooklyn have a higher cancer incidence and death rate than their peers across NYC and the nation

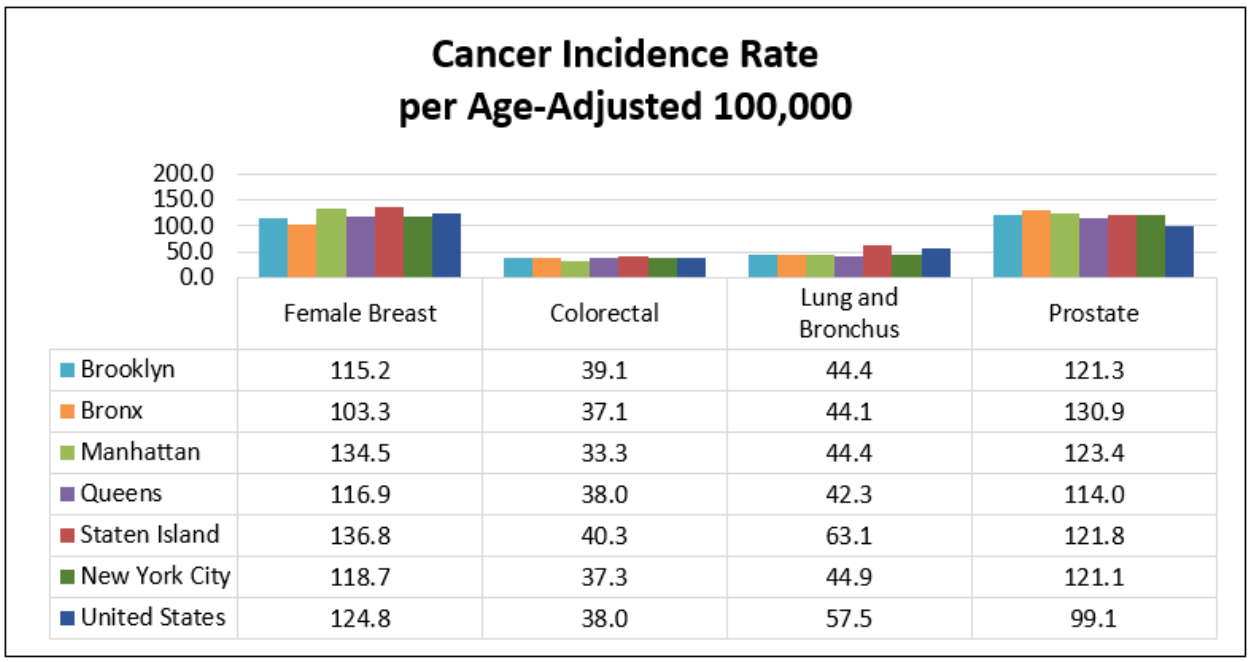


Source: Centers for Disease Control and Prevention, 2007-2015; New York State Department of Health, 2007-2016 *2016 cancer incidence rates for the US are not yet available.

Overall Cancer Incidence per Age-Adjusted 100,000 by Race and Ethnicity*

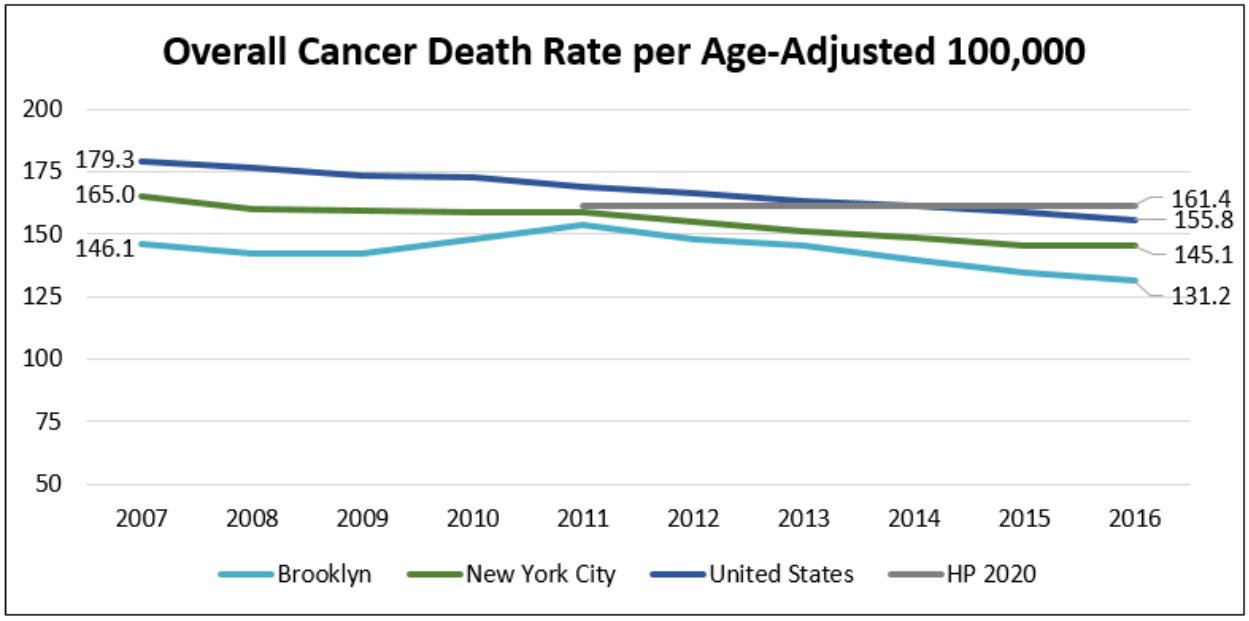
	White, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Brooklyn	484.7	432.6	377.5	362.4
Bronx	540.2	489.9	NA	386.8
Manhattan	478.5	519.1	337.6	362.8
Queens	498.0	430.8	333.2	336.9
Staten Island	560.7	NA	NA	NA
New York City	497.9	456.2	338.8	364.0
United States	464.4	463.5	290.8	346.9

Source: Centers for Disease Control and Prevention, 2011-2015; New York State Department of Health, 2012-2016 *Cancer data by race and ethnicity are reported as a five-year aggregate. NYC data are reported for 2012-2016; US data are reported for 2011-2015 based on availability.



	Female Breast	Colorectal	Lung and Bronchus	Prostate
Brooklyn	115.2	39.1	44.4	121.3
Bronx	103.3	37.1	44.1	130.9
Manhattan	134.5	33.3	44.4	123.4
Queens	116.9	38.0	42.3	114.0
Staten Island	136.8	40.3	63.1	121.8
New York City	118.7	37.3	44.9	121.1
United States	124.8	38.0	57.5	99.1

Source: Centers for Disease Control and Prevention, 2015; New York State Department of Health, 2016
*NYC data are reported for 2016; US data are reported for 2015 based on availability.

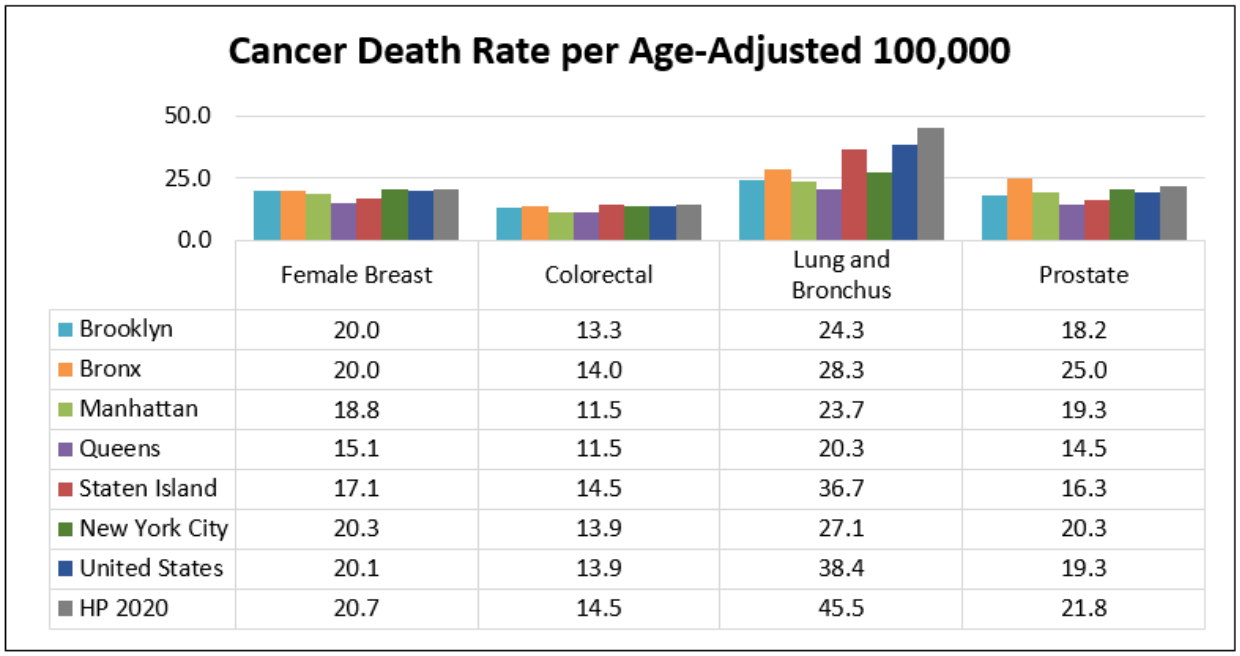


Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016

Cancer Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	White, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Brooklyn	132.1	145.0	109.6	111.4
Bronx	176.1	173.0	95.4	124.3
Manhattan	115.2	207.5	90.0	103.9
Queens	133.8	119.1	85.2	78.0
Staten Island	157.0	153.9	75.3	100.3
New York City	164.6	164.7	100.5	112.6
United States	160.8	182.9	97.1	110.0

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016



	Female Breast	Colorectal	Lung and Bronchus	Prostate
Brooklyn	20.0	13.3	24.3	18.2
Bronx	20.0	14.0	28.3	25.0
Manhattan	18.8	11.5	23.7	19.3
Queens	15.1	11.5	20.3	14.5
Staten Island	17.1	14.5	36.7	16.3
New York City	20.3	13.9	27.1	20.3
United States	20.1	13.9	38.4	19.3
HP 2020	20.7	14.5	45.5	21.8

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Age-Adjusted Adult Cancer Screenings
(Green = Higher than NYC Benchmark by >2 Percentage Points)

	Colon Cancer Screening in Past 10 Years (50+)	Cervical Cancer Screening in Past 3 Years
Brooklyn	68.0%	83.7%
Bronx	66.2%	87.0%
Manhattan	75.0%	87.0%
Queens	69.7%	81.8%
Staten Island	72.7%	91.9%
New York City	69.9%	84.7%

Source: New York City Department of Health and Mental Hygiene, 2017

Chronic Lower Respiratory Disease

Chronic lower respiratory disease (CLRD) encompasses diseases like chronic obstructive pulmonary disorder (COPD), emphysema, and asthma, all of which contribute to lower quality of life and increased risk of early death. Smoking and secondhand smoke are key risk factors for CLRD.

Brooklyn has a slightly lower prevalence of asthma among both adults and high school students than NYC in general. The prevalence of asthma among high school students in Brooklyn decreased.

Brooklyn adults and youth are less likely to have asthma than their peers citywide

Asthma Prevalence Trended
(Green = Lower than NYC Benchmark by >2 Percentage Points)

	Age-Adjusted Adult Asthma Diagnosis (Current)		High School Student Asthma Diagnosis (Ever)*	
	2014	2017	2013	2017
Brooklyn	3.0%	3.7%	23.8%	22.7%
Bronx	4.7%	6.8%	29.9%	27.7%
Manhattan	4.1%	4.6%	28.8%	26.2%
Queens	3.2%	3.9%	21.7%	21.4%
Staten Island	5.0%	1.7%	23.6%	23.0%
New York City	3.7%	4.3%	25.4%	23.9%

Source: New York City Department of Health and Mental Hygiene, 2013 & 2014, 2017
*Student data are only collected during odd years.

Brooklyn has a lower rate of death due to CLRD than NYC and the nation. When stratified by race and ethnicity, the death rate is also lower for Whites and African Americans. Latinxs have the highest rate of death due to CLRD in the borough, and a higher rate of death than their peers citywide and nationally.

CLRD Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Brooklyn	15.3	13.8	16.6	12.7	19.0
Bronx	22.0	33.4	23.5	NA	17.8
Manhattan	14.5	13.0	21.8	10.3	14.8
Queens	13.9	19.5	14.2	8.2	8.6
Staten Island	27.5	28.6	35.3	NA	NA
New York City	17.7	19.6	19.3	10.3	15.4
United States	40.6	45.8	30.0	11.7	17.1

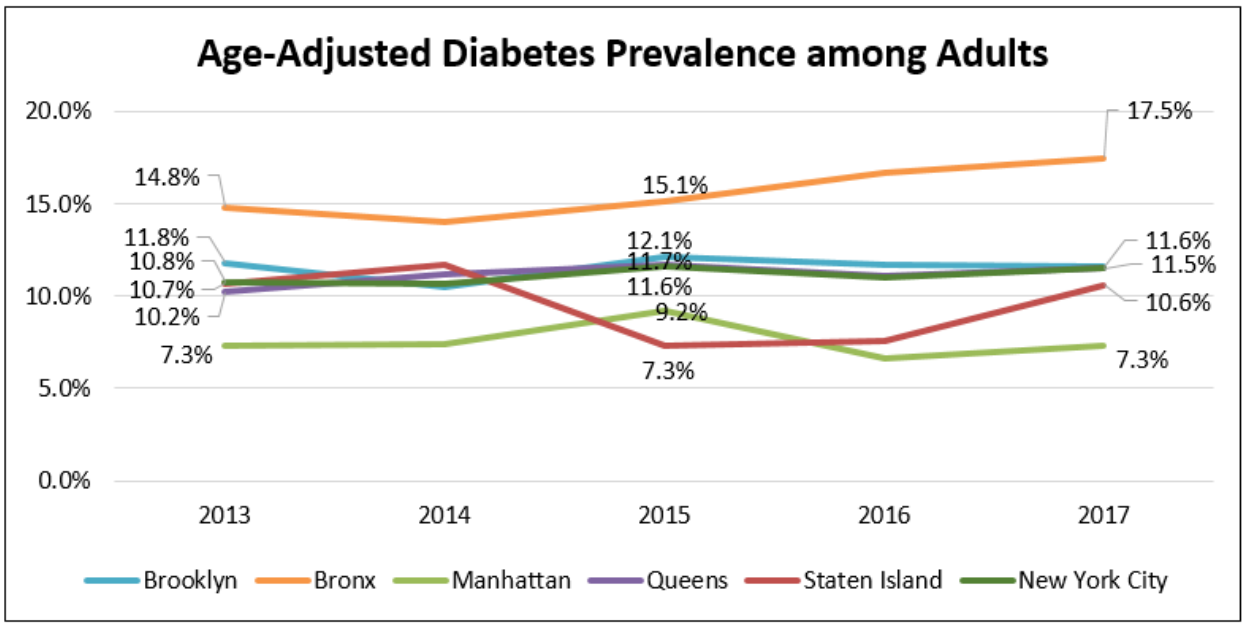
Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Diabetes

Diabetes is among the top 10 causes of death in the nation. According to the American Diabetes Association, diabetes and prediabetes affect more than 110 million Americans and cost $322 billion per year. Diabetes can cause a number of serious complications. Type II diabetes, the most common form, is preventable, and if diagnosed early, can often be treated through improved diet and increased exercise.

Adult diabetes prevalence in Brooklyn has been stable and consistent with NYC overall

Approximately 12% of adults in Brooklyn have a diabetes diagnosis, consistent with NYC overall. Adult diabetes prevalence in the borough has been stable over the past five years.



Source: New York City Department of Health and Mental Hygiene, 2013-2017

The overall rate of death due to diabetes in Brooklyn is consistent with NYC and the nation. When stratified by race and ethnicity, the rate of death due to diabetes is nearly three times higher among African Americans than Whites, and nearly two times higher among Latinxs. This finding is consistent with citywide and national trends.

The rate of death due to diabetes is nearly 3 times higher among African Americans and 2 times higher among Latinxs compared to Whites

Diabetes Death Rate per Age-Adjusted 100,000 by Race and Ethnicity

	Total Population	White, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Brooklyn	22.0	12.5	36.1	11.2	24.4
Bronx	27.3	22.9	31.1	NA	26.7
Manhattan	12.9	4.2	35.7	11.6	20.3
Queens	13.8	9.8	27.1	11.9	12.2
Staten Island	16.2	13.0	54.0	NA	NA
New York City	19.2	11.4	34.2	12.7	21.4
United States	21.0	18.6	37.8	15.5	24.7

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

Prevention Quality Indicators

According to the New York State Department of Health, “The Prevention Quality Indicators (PQIs) are a set of measures developed by the federal Agency for Healthcare Research and Quality (AHRQ) for use in assessing the quality of outpatient care for ‘ambulatory care sensitive conditions' (ACSCs). ACSCs are conditions for which good outpatient care can potentially prevent the need for hospitalization, or for which early intervention can prevent complications or more severe disease.”

The following table depicts adult inpatient admission rates to Brooklyn hospitals for 11 PQIs, in descending order by rate difference (observed rate of admission – expected rate of admission). Brooklyn has higher observed rates of admission for four PQIs: heart failure, long-term complications of diabetes, lower-extremity amputation among patients with diabetes, and hypertension.

Brooklyn Hospital Inpatient PQIs for Adult Discharges
(Red = Higher Observed Versus Expected Rate of Admission)

	Observed Rate per 100,000	Expected Rate per 100,000	Rate Difference
Heart Failure	395.22	380.29	14.93
Long-Term Complications of Diabetes	106.05	98.03	8.02
Lower-Extremity Amputation among Patients with Diabetes	27.29	24.63	2.66
Hypertension	75.8	75.57	0.23
Uncontrolled Diabetes	68.07	68.23	-0.16
Short-Term Complications of Diabetes	39.55	47.61	-8.06
Dehydration	119.99	135.52	-15.53
Asthma in Younger Adults	43.81	60.8	-16.99
Urinary Tract Infection	116.69	134.85	-18.16
Bacterial Pneumonia	133.73	166.57	-32.84
COPD or Asthma in Older Adults	471.67	518.56	-46.89

Source: New York State Department of Health, 2016

Senior Health

Seniors face a growing number of challenges related to health and well-being as they age. People over 65 are more prone to chronic disease, social isolation, and disability. The following sections highlight key health indicators for the region's senior population.

According to the CDC, "Among Medicare fee-for-service Beneficiaries, people with multiple chronic conditions account for 93% of total Medicare spending." The following tables note the percentage of NYC Medicare Beneficiaries who have been diagnosed with a chronic condition. Cells highlighted in red represent percentages that are higher than national benchmarks.

Senior Medicare Beneficiaries in Brooklyn have a higher prevalence of chronic conditions compared to the nation, particularly related to heart disease and diabetes.

Senior Medicare beneficiaries in Brooklyn are more likely to have 6 or more chronic conditions compared to the nation

Number of Chronic Conditions among Medicare Beneficiaries 65 Years or Older (Red = Higher Than National Benchmark by >2 Percentage Points)

	Brooklyn	Bronx	Manhattan	Queens	Staten Island	United States
0 to 1 condition	23.8%	29.3%	36.5%	27.2%	25.8%	31.1%
2 to 3 conditions	23.7%	25.3%	28.7%	27.0%	28.1%	29.6%
4 to 5 conditions	23.5%	22.4%	19.5%	23.6%	25.4%	21.8%
6 or more conditions	29.0%	23.0%	15.3%	22.2%	20.8%	17.4%

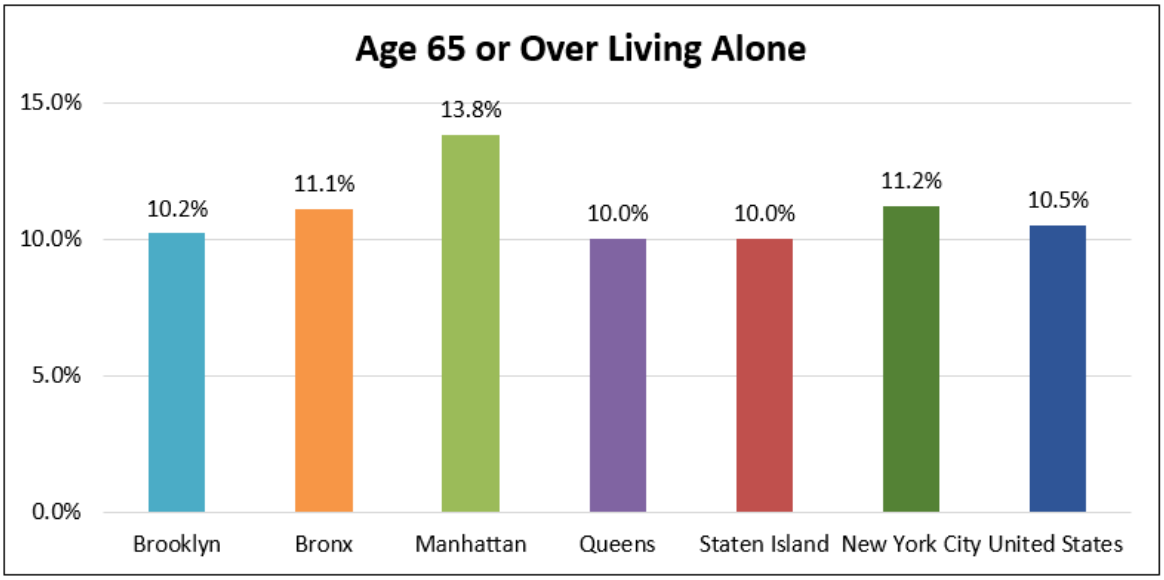
Source: Centers for Medicare & Medicaid Services, 2017

Chronic Condition Diagnoses Among Medicare Beneficiaries 65 Years or Older (Red = Higher Than National Benchmark by >2 Percentage Points)

	Brooklyn	Bronx	Manhattan	Queens	Staten Island	United States
Alzheimer's Disease	19.3%	17.8%	13.2%	16.3%	13.1%	12.1%
Arthritis	39.8%	31.9%	33.9%	34.6%	35.3%	34.2%
Asthma	6.0%	7.6%	5.1%	5.8%	4.4%	4.6%
Cancer	9.5%	9.4%	10.7%	9.7%	10.9%	9.2%
COPD	11.0%	10.0%	8.0%	9.9%	11.4%	11.6%
Depression	15.9%	15.2%	15.1%	13.4%	13.0%	15.4%
Diabetes	48.4%	41.8%	26.1%	41.3%	43.1%	27.4%
Heart Failure	24.4%	19.1%	12.6%	17.6%	17.1%	14.5%
High Cholesterol	47.5%	37.9%	34.6%	45.8%	49.4%	43.0%
Hypertension	67.0%	62.6%	47.6%	62.7%	62.6%	59.9%
Ischemic Heart Disease	43.2%	30.8%	28.9%	35.6%	35.6%	28.8%
Stroke	5.5%	5.2%	4.0%	5.1%	4.0%	4.0%

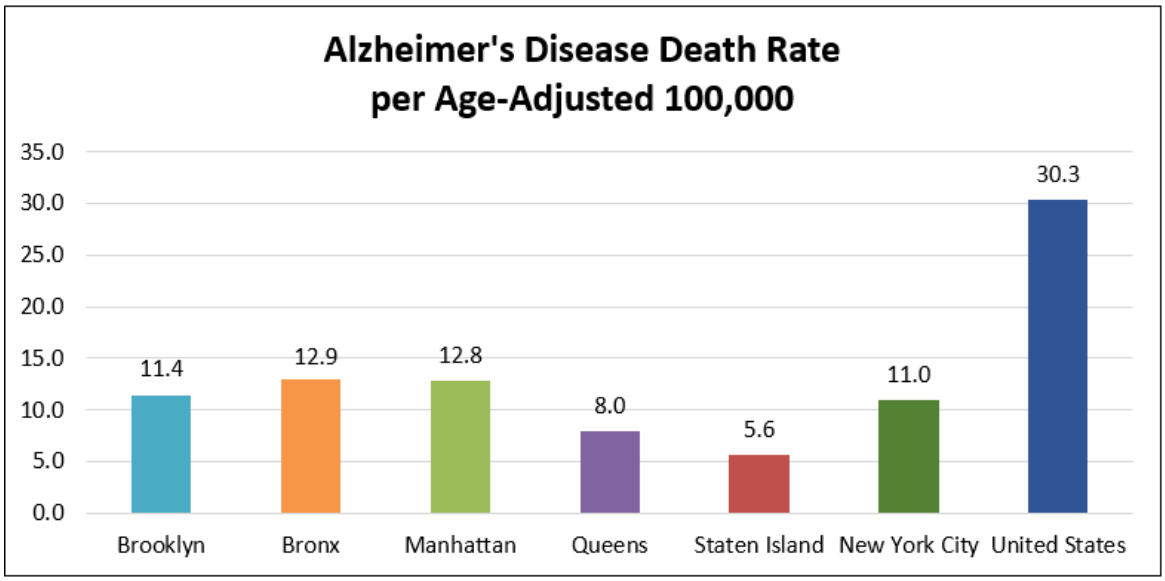
Source: Centers for Medicare & Medicaid Services, 2017

As seniors age, they are at risk for isolation due to physical limitations and decreasing social circles. One indicator of isolation is the percentage of seniors age 65 or over who live alone. Approximately 1 in 10 Brooklyn seniors live alone, comparable to NYC and national averages.



Source: US Census Bureau, 2013-2017

Alzheimer's disease is currently the sixth leading cause of death in the United States. According to the National Institute on Aging, "Alzheimer's disease is an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and, eventually, the ability to carry out the simplest tasks. In most people with Alzheimer's, symptoms first appear in their mid-60s." Brooklyn has a similar rate of death due to Alzheimer's disease as NYC, and both have a lower rate of death than the nation.



Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016

The Advisory Committee on Immunization Practices recommends all individuals age six months or older receive the flu vaccine, but the vaccine is a priority for older adults. Pneumococcal disease continues to be a leading cause of serious illness among older adults. According to the CDC, approximately 20%–25% of pneumococcal cases are potentially preventable with proper vaccination.

Healthy People 2020 sets a target of 90% of all adults over 65 having received a current flu vaccine and pneumonia vaccine. Brooklyn has not met the Healthy People 2020 target, and older adults are less likely to receive vaccinations compared to NYC overall.

Fewer Brooklyn seniors receive recommended vaccinations

Vaccination Rates among Older Adults 65+
(Green = Higher than NYC Benchmark by >2 Percentage Points)

	Had a Flu Vaccination in the Past 12 Months	Ever Received a Pneumonia Vaccination
Brooklyn	56.3%	51.2%
Bronx	76.0%	64.1%
Manhattan	71.0%	68.8%
Queens	67.8%	62.8%
Staten Island	64.5%	66.1%
New York City	66.1%	61.1%
HP 2020	90.0%	90.0%

Source: New York City Department of Health and Mental Hygiene, 2016, 2017

Behavioral Health

Mental Health

Mental and behavioral health disorders are significant contributors to decreased quality of life, but if properly diagnosed, have many effective treatments. Nearly 1 in 10 Brooklyn adults experience depression symptoms, consistent with NYC overall, but only two-thirds of individuals with depression symptoms receive counseling or treatment services.

While fewer Brooklyn adults experience depression, individuals with depression are less likely to receive needed counseling or treatment

Age-Adjusted Adult Mental Health Measures
(Green or Red Highlighting = Higher than NYC Benchmark by >2 Percentage Points)

	Symptoms of Depression in Past Two Weeks	Individuals with Depression Symptoms who Received Counseling or Treatment in Past 12 Months
Brooklyn	8.4%	38.8%
Bronx	13.4%	39.1%
Manhattan	9.8%	55.0%
Queens	7.7%	40.9%
Staten Island	9.3%	36.5%
New York City	9.3%	42.7%

Source: New York City Department of Health and Mental Hygiene, 2017

When compared to their peers across NYC, Brooklyn teens are slightly more likely to report feeling sad or hopeless and/or to attempt suicide. Consistent with NYC findings, the percentage of teens who report feeling sad or hopeless and/or attempting suicide increased from 2013 to 2017.

Nearly 1 in 3 Brooklyn teens report feeling sad or hopeless and 1 in 10 report attempting suicide, an increase from previous years

Mental Health Measures among High School Students, Four-Year Comparison*
(Green = Lower than NYC Benchmark by >2 Percentage Points)

	Felt Sad or Hopeless		Attempted Suicide	
	2013	2017	2013	2017
Brooklyn	25.5%	32.3%	7.4%	11.3%
Bronx	26.2%	32.8%	9.4%	11.5%
Manhattan	29.2%	32.7%	6.6%	9.3%
Queens	29.1%	30.0%	9.1%	12.6%
Staten Island	26.6%	29.3%	8.8%	6.9%
New York City	27.4%	31.6%	8.1%	11.0%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017
*Student data are only collected during odd years.

Healthy People 2020 sets a target for the suicide death rate at no more than 10.2 per 100,000 people. Brooklyn has a suicide death rate of 4.4, far lower than the Healthy People 2020 target, and lower than NYC and the nation overall. The suicide rate has been stable in NYC and Brooklyn over the past decade, contrary to national trends.

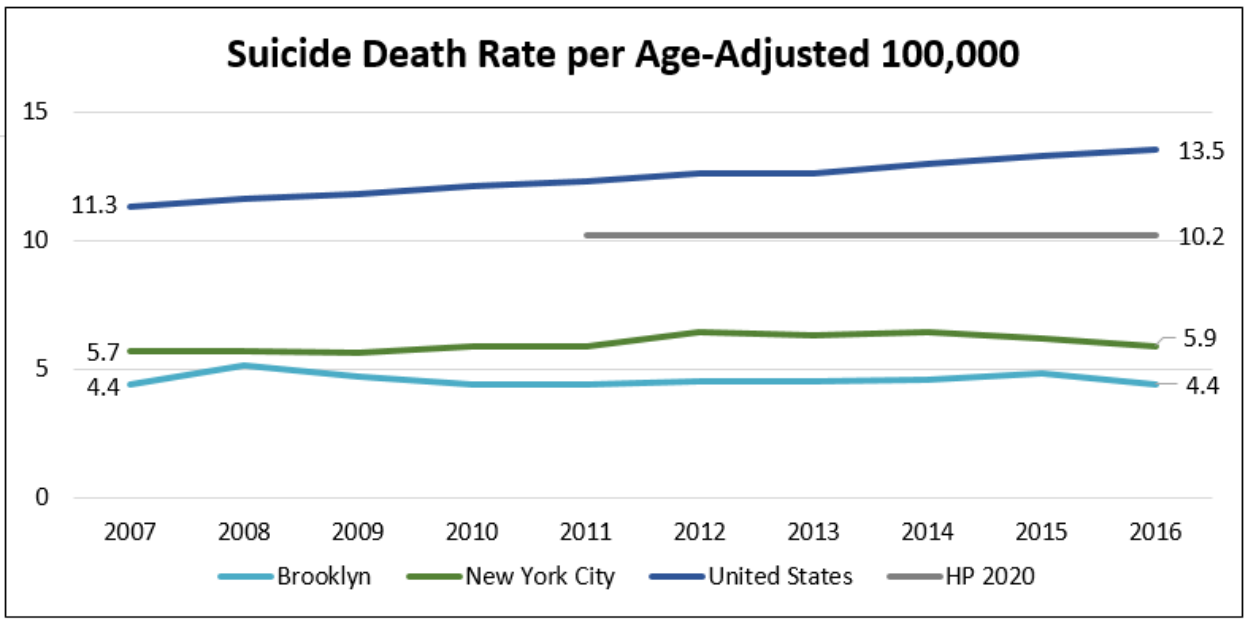
Brooklyn has lower rates of death due to suicide and mental & behavioral disorders than NYC and the nation

Mental and behavioral disorders span a wide range of disorders, including disorders due to psychoactive substance use, anxiety disorders, Schizophrenia and other delusional disorders, and mood or personality disorders. The disorders are not induced by alcohol and other psychoactive substances, but they may result from long-term substance abuse. The Brooklyn death rate due to mental and behavioral disorders is lower than NYC and national rates, and currently declining.

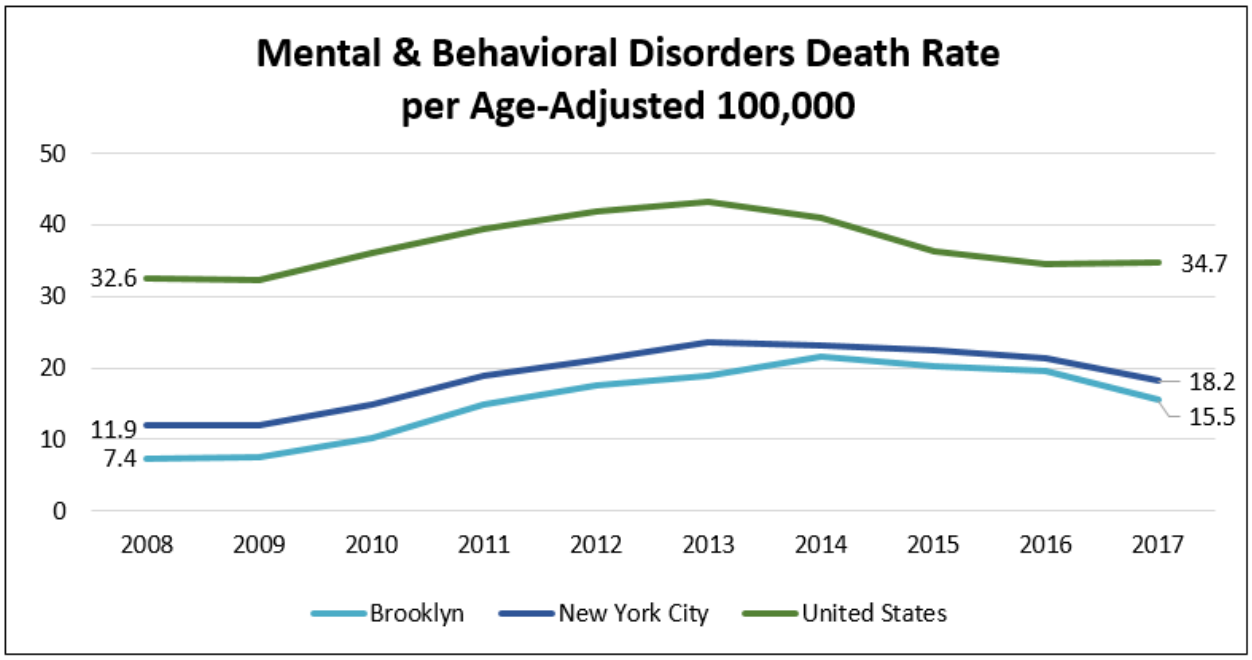
Mental Health-Related Mortality per Age-Adjusted 100,000
(Green = Lower than NYC and National Benchmarks)

	Suicide (2016)	Mental & Behavioral Disorders (2017)
Brooklyn	4.4	15.5
Bronx	5.6	23.8
Manhattan	6.0	22.3
Queens	5.4	15.0
Staten Island	5.4	16.9
New York City	5.9	18.2
United States	13.5	34.7
HP 2020	10.2	NA

Source: Centers for Disease Control and Prevention, 2016, 2017; New York City Department of Health and Mental Hygiene, 2016, 2017



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016



Source: Centers for Disease Control and Prevention, 2008-2017

Substance Use Disorder

The category of substance use disorder includes alcohol and drug use, including the use of prescription drugs outside of the prescribed use.

Heavy drinking is defined as two or more drinks per day for men and one or more drinks per day for women. Binge drinking is defined as five or more drinks on one occasion for men and four or more drinks on one occasion for women. Brooklyn adults are less likely to report heavy drinking or binge drinking compared to other New Yorkers, but prevalence increased slightly from 2014 to 2017.

Brooklyn adults are less likely to drink excessively than their peers citywide

Age-Adjusted Adult Alcohol Abuse Measures, Three-Year Comparison
(Red = Higher than NYC Benchmarks by >2 Percentage Points)

	Heavy Drinking		Binge Drinking	
	2014	2017	2014	2017
Brooklyn	4.2%	4.7%	14.7%	15.5%
Bronx	4.6%	4.6%	14.6%	13.9%
Manhattan	7.9%	10.6%	24.1%	25.1%
Queens	4.6%	5.1%	14.6%	15.1%
Staten Island	4.3%	3.7%	14.1%	18.5%
New York City	5.1%	6.0%	16.5%	17.3%
TCNY 2020	NA	NA	17.0%	17.0%

Source: New York City Department of Health and Mental Hygiene, 2014, 2017

Alcohol use among NYC teens decreased in all five boroughs over the last three years. Brooklyn teens are the least likely among all NYC teens to report using alcohol. Consistent with the findings among adults, teens in Brooklyn are also less likely to binge drink than their peers across NYC.

Alcohol Use in Past 30 Days among High School Students, Four-Year Comparison*

	Drinking (Any Amount)		Binge Drinking
	2013	2017	2017
Brooklyn	24.5%	16.1%	3.7%
Bronx	25.8%	18.3%	5.2%
Manhattan	27.3%	20.2%	5.7%
Queens	21.0%	17.5%	5.2%
Staten Island	28.5%	19.1%	6.5%
New York City	24.7%	17.9%	5.0%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017
*Student data are only collected during odd years. The definition of female binge drinking changed in 2017; data are not comparable to past years.

While alcohol use trends decreased among Brooklyn high school students, use marijuana, heroin, ecstasy, and pain medications increased from 2013 to 2017. Marijuana is the most commonly used drug. About 16% of high school students surveyed reported using marijuana in the past 30 days, an increase of 1.7 percentage points from 2013. Cocaine use decreased slightly while use of heroin increased by 1.6 points, ecstasy by 1.8 points, and prescription pain medication by .9 points. Ecstasy and pain medication misuse among Brooklyn high school students is the highest in the five boroughs.

Drug use by Brooklyn teens increased from 2013 to 2017. Marijuana and heroin use jumped almost 2%.

Substance Use among High School Students
(Green = Decrease of >2 Percentage Points from 2013 to 2017)

	Marijuana (Past 30 Days)		Cocaine (Ever)		Heroin (Ever)		Ecstasy (Ever)		Pain Meds Without Rx (Past Year)	
	2013	2017	2013	2017	2013	2017	2013	2017	2013	2017
Brooklyn	14.0%	15.7%	4.2%	4.0%	2.4%	4.0%	4.5%	5.3%	7.8%	8.7%
Bronx	17.4%	17.3%	5.2%	4.7%	4.1%	4.4%	5.4%	4.9%	7.8%	8.5%
Manhattan	17.8%	17.4%	4.5%	3.6%	1.4%	2.6%	4.7%	2.9%	6.8%	7.4%
Queens	15.3%	15.6%	4.4%	4.0%	2.7%	4.3%	4.2%	5.1%	6.6%	7.0%
Staten Island	20.4%	14.1%	6.4%	4.1%	4.7%	4.3%	7.6%	4.3%	8.2%	6.6%
New York City	16.2%	16.2%	4.7%	4.1%	2.8%	3.9%	4.8%	4.6%	7.3%	7.8%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017

Drug-induced deaths include all deaths for which drugs are the underlying cause, including drug overdoses and deaths from medical conditions resulting from chronic drug use. Healthy People 2020 sets a target of no more than 11.3 per 100,000 deaths due to drugs.

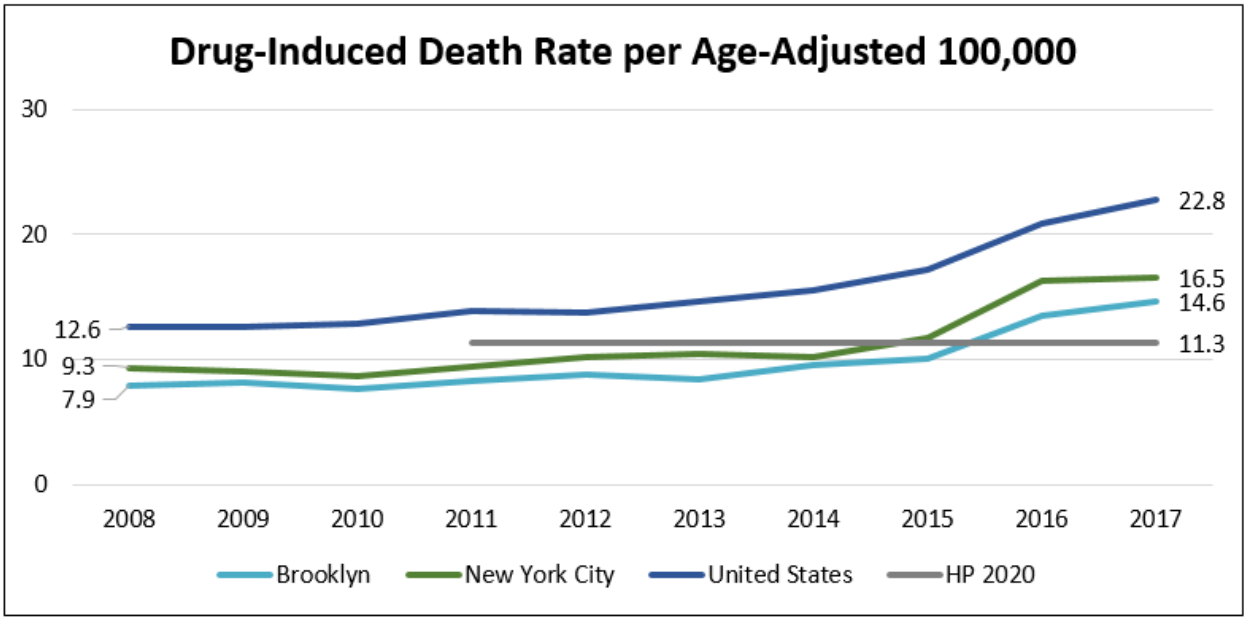
The Brooklyn drug-induced death rate is lower than NYC and national benchmarks, but nearly doubled over the past decade

The Brooklyn drug-induced death rate is lower than NYC and national benchmarks, but nearly doubled over the past decade and does not meet the Healthy People 2020 target.

Drug-Induced Death Rate per Age-Adjusted 100,000
(Red = Higher than NYC and National Benchmarks)

	Drug-Induced Death
Brooklyn	14.6
Bronx	26.7
Manhattan	16.0
Queens	11.9
Staten Island	25.0
New York City	16.5
United States	22.8
HP 2020	11.3

Source: Centers for Disease Control and Prevention, 2017



Source: Centers for Disease Control and Prevention, 2008-2017

A significant contributor to the number of drug-induced deaths across the nation is opioid overdose. According to the National Institute on Drug Abuse, "In 2017, there were 3,224 overdose deaths involving opioids in New York—a rate of 16.1 deaths per 100,000 persons compared to the average national rate of 14.6 deaths per 100,000 persons." Drug overdose deaths involving prescription opioids increased dramatically in recent years. Prescription opioids also contribute to addiction to illegal substances, including heroin and fentanyl.

When compared to NYC overall, Brooklyn consistently has lower rates of overdose-related emergency department visits and hospitalizations for opioids and heroin. Rates have been variable over the past year as demonstrated in the tables below.

Brooklyn consistently has lower overdose-related emergency department visits and hospitalizations when compared to NYC overall

Opioid Overdose-Related Emergency Department Visits per 100,000
(Red = Higher than NYC Benchmark)

	April-June 2017		July-Sept 2017		Oct-Dec 2017		Jan-March 2018		April-June 2018	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Brooklyn	162	6.2	166	6.3	126	4.8	82	3.1	118	4.5
Bronx	140	9.6	159	10.9	171	11.7	121	8.3	165	11.3
Manhattan	103	6.3	105	6.4	125	7.6	85	5.2	99	6.0
Queens	98	4.2	123	5.3	61	2.6	71	3.0	56	2.4
Staten Island	68	14.3	76	16.0	64	13.4	56	11.8	86	18.1
New York City	571	6.7	629	7.4	547	6.4	415	4.9	524	6.1

Source: New York State Department of Health, April-June 2017 - April-June 2018

Heroin Overdose-Related Emergency Department Visits per 100,000
(Red = Higher than NYC Benchmark)

	April-June 2017		July-Sept 2017		Oct-Dec 2017		Jan-March 2018		April-June 2018	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Brooklyn	99	3.8	91	3.5	66	2.5	49	1.9	64	2.4
Bronx	83	5.7	107	7.4	106	7.3	68	4.7	90	6.2
Manhattan	60	3.7	55	3.3	73	4.4	49	3.0	63	3.8
Queens	55	2.4	82	3.5	37	1.6	47	2.0	31	1.3
Staten Island	42	8.8	39	8.2	44	9.2	39	8.2	48	10.1
New York City	339	4.0	374	4.4	326	3.8	252	3.0	296	3.5

Source: New York State Department of Health, April-June 2017 - April-June 2018

Opioid Overdose-Related Hospitalizations per 100,000
(Red = Higher than NYC Benchmark)

	April-June 2017		July-Sept 2017		Oct-Dec 2017		Jan-March 2018		April-June 2018	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Brooklyn	70	2.7	64	2.4	61	2.3	58	2.2	75	2.9
Bronx	121	8.3	122	8.4	135	9.3	109	7.5	132	9.1
Manhattan	71	4.3	77	4.7	74	4.5	54	3.3	82	5.0
Queens	51	2.2	47	2.0	34	1.5	38	1.6	29	1.2
Staten Island	14	2.9	16	3.4	22	4.6	22	4.6	21	4.4
New York City	327	3.8	326	3.8	326	3.8	281	3.3	339	4.0

Source: New York State Department of Health, April-June 2017 - April-June 2018

Heroin Overdose-Related Hospitalizations per 100,000
(Red = Higher than NYC Benchmark)

	April-June 2017		July-Sept 2017		Oct-Dec 2017		Jan-March 2018		April-June 2018	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Brooklyn	25	1.0	21	0.8	23	0.9	20	0.8	33	1.3
Bronx	50	3.4	54	3.7	68	4.7	49	3.4	64	4.4
Manhattan	29	1.8	23	1.4	23	1.4	16	1.0	25	1.5
Queens	18	0.8	20	0.9	10	0.4	12	0.5	11	0.5
Staten Island	NA	NA	NA	NA	9	1.9	NA	NA	8	1.7
New York City	125	1.5	120	1.4	133	1.6	102	1.2	141	1.7

Source: New York State Department of Health, April-June 2017 - April-June 2018

The tables below depict the number of unique clients admitted to New York State Office of Alcoholism and Substance Abuse Services (OASAS) certified chemical dependence treatment programs for any opioid and heroin. The number of unique clients admitted to treatment programs decreased in Brooklyn and all other boroughs from 2016 to 2018.

Unique Clients Admitted to OASAS* Certified Chemical Dependence Treatment Programs for Any Opioid (Including Heroin)

	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017	Oct-Dec 2017	Jan-March 2018	April-June 2018
Brooklyn	2,212	2,146	2,124	2,177	2,039	1,981	1,968	1,926
Bronx	2,376	2,292	2,265	2,370	2,285	2,310	2,275	2,328
Manhattan	2,371	2,297	2,294	2,235	2,325	2,059	2,038	2,146
Queens	1,088	1,076	1,114	1,115	1,086	1,014	978	1,080
Staten Island	746	699	758	750	744	687	658	654

Source: New York State Department of Health, July-Sept 2016 - April-June 2018
*New York State Office of Alcoholism and Substance Abuse Services

Unique Clients Admitted to OASAS* Certified Chemical Dependence Treatment Programs for Heroin

	July-Sept 2016	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017	Oct-Dec 2017	Jan-March 2018	April-June 2018
Brooklyn	2,028	1,964	1,951	1,994	1,873	1,790	1,805	1,779
Bronx	2,234	2,156	2,120	2,200	2,130	2,152	2,103	2,157
Manhattan	2,208	2,145	2,123	2,071	2,155	1,942	1,875	1,986
Queens	960	939	971	972	949	879	841	936
Staten Island	598	574	613	614	588	556	528	538

Source: New York State Department of Health, July-Sept 2016 - April-June 2018
*New York State Office of Alcoholism and Substance Abuse Services

The following table depicts the number of unique naloxone administrations by Emergency Medical Services (EMS). Naloxone administration generally declined in Brooklyn, Queens, and Staten Island from 2016 to 2018, but increased in the Bronx and Manhattan.

Emergency Medical Services (EMS) Naloxone Administration

	Oct-Dec 2016	Jan-March 2017	April-June 2017	July-Sept 2017	Oct-Dec 2017	Jan-March 2018	April-June 2018	July-Sept 2018
Brooklyn	524	426	543	485	371	322	382	460
Bronx	517	444	477	574	452	372	563	577
Manhattan	475	497	582	645	494	417	572	626
Queens	314	253	281	340	254	195	226	284
Staten Island	132	110	113	92	126	99	109	103
New York City	1,962	1,730	1,996	2,136	1,697	1,405	1,852	2,050

Source: New York State Department of Health, Oct-Dec 2016 – July-Sept 2018

Firearm-Related Deaths and Injuries

The firearm-related death rate declined in NYC and is less than half the national rate

In a research brief published in 2013, the NYC Department of Health and Mental Hygiene reported that firearm-related deaths in NYC declined and the death rate was less than half the national rate. When compared to the 25 most populous cities in the nation, NYC had one of the lowest firearm homicide rates and the lowest firearm suicide rate. While the firearm homicide rate is low, homicides accounted for 84% of all firearm-related deaths in NYC compared to 35% of all firearm-related deaths nationwide.

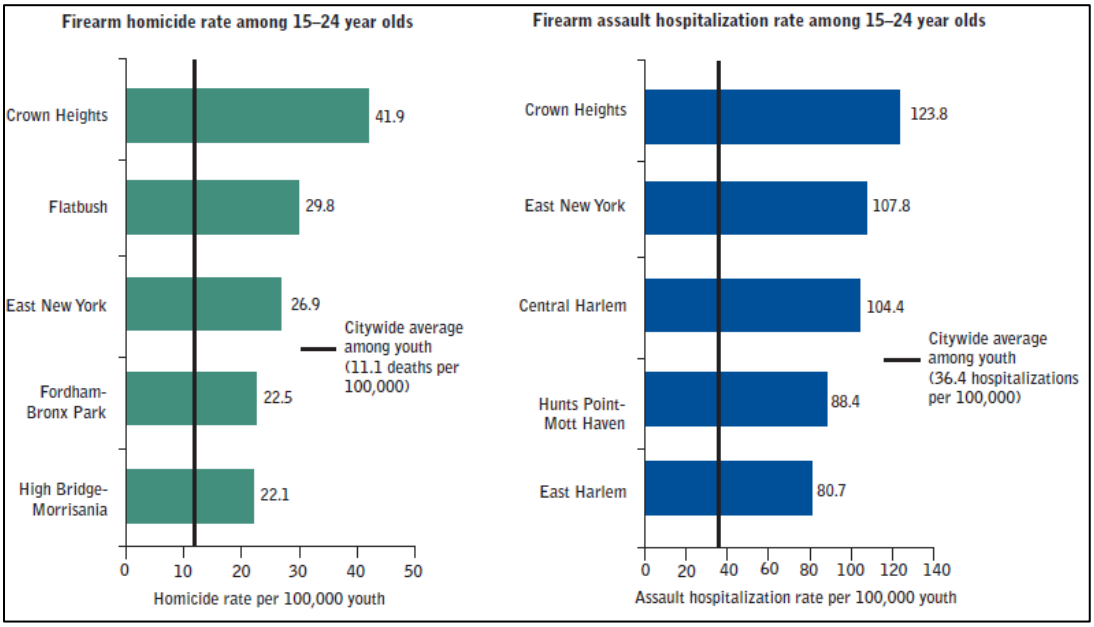
Firearm-Related Deaths per 100,000

	Overall Death Rate	Homicide Death Rate	Suicide Death Rate	Percent of Deaths - Homicide	Percent of Deaths - Suicide
New York City	4.3	3.6	0.7	84%	16%
United States	10.0	3.6	6.1	35%	62%

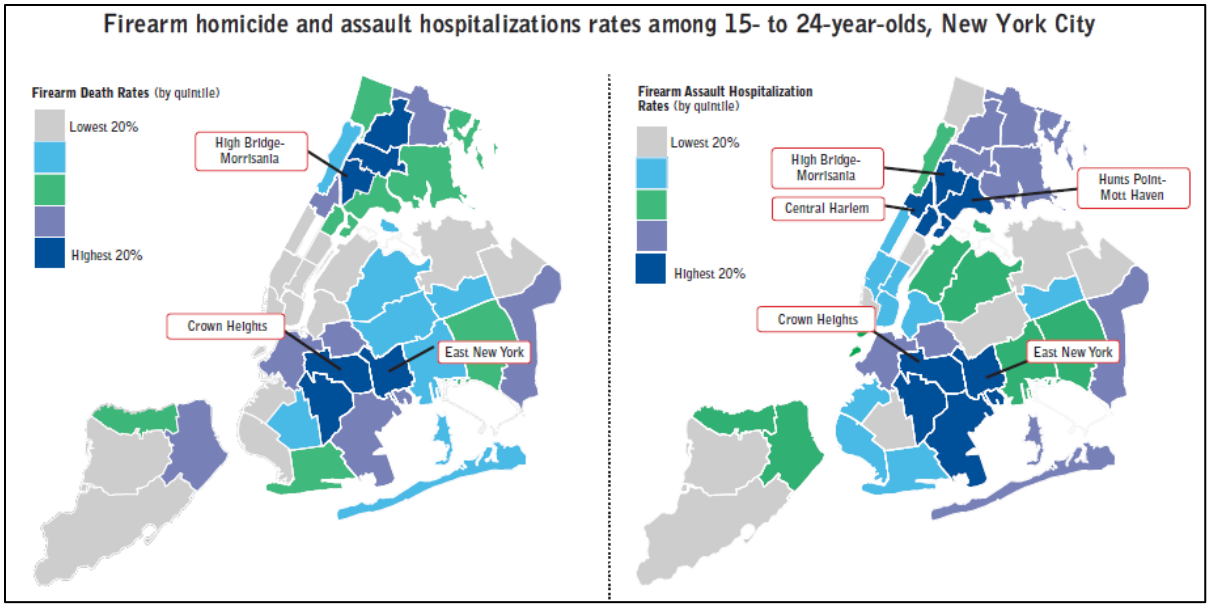
Source: New York City Department of Health and Mental Hygiene, 2011

Despite declines, firearm violence is more common in certain areas of NYC, including areas of Brooklyn. The NYC neighborhoods with the highest firearm-related death and injury rates among youth age 15 to 24 are East New York, Crown Heights, Central Harlem, and other parts of Brooklyn and the Bronx. The NYC Department of Health and Mental Hygiene reported, “Rates in these neighborhoods were at least twice the City’s average. Consistent with research that shows neighborhoods of high violence also face economic stresses, these neighborhoods have some of the highest poverty rates in the City.”

Brooklyn neighborhoods, including Crown Heights, Flatbush, and East New York, experience the most firearm-related deaths and injuries among young adults in NYC



Source: New York City Department of Health and Mental Hygiene & New York State Department of Health, 2010



Source: New York City Department of Health and Mental Hygiene & New York State Department of Health, 2010

African American men and young adults have the highest rates of death due to firearm-related violence, while men age 45 years have the highest rate of death due to firearm-related suicide.

Firearm-Related Death and Injury per 100,000*

	Homicide Death Rate	Assault Hospitalization Rate	Suicide Death Rate
Male	6.7	18.4	1.3
Female	0.7	1.5	0.2
Under 10 years	0.0	0.4	0.0
10-14 years	0.4	3.0	0.0
15-24 years	10.5	36.4	1.0
25-34 years	7.4	17.6	0.6
35-44 years	4.2	8.0	0.8
45-54 years	1.8	2.0	1.5
55-64 years	0.8	1.2	0.7
65 years or over	0.4	1.0	0.6
Non-Hispanic African American	11.4	NA	0.6
Non-Hispanic White	0.6	NA	1.1
Hispanic	2.6	NA	0.5
Asian/Pacific Islander	0.3	NA	0.0
Bronx	5.8	14.4	0.7
Brooklyn	4.4	14.0	0.6
Manhattan	2.0	6.0	0.6
Queens	2.1	4.0	0.5
Staten Island	1.6	2.7	1.2

Source: New York City Department of Health and Mental Hygiene & New York State Department of Health, 2010

*All rates are age-adjusted, with the exception of age-specific rates.

The percentage of high school students who report carrying a weapon increased in Brooklyn and Queens from 2013 to 2017, and declined in other boroughs. Approximately 8% of Brooklyn teens report carrying any weapon and 4% report carrying a gun, consistent with NYC averages.

The percentage of Brooklyn teens who report carrying a weapon increased from 2013 to 2017

Carrying of Weapons among High School Students, Four-Year Comparison*

	Carried a Weapon Such as a Gun, Knife, or Club on One or More of the Past 30 Days		Carried a Gun on One or More Days During the Past 12 Months
	2013	2017	2017
Brooklyn	7.6%	8.2%	3.9%
Bronx	10.6%	9.4%	4.7%
Manhattan	7.4%	6.9%	3.1%
Queens	7.9%	8.7%	5.3%
Staten Island	9.3%	7.3%	3.7%
New York City	8.3%	8.2%	4.3%

Source: New York City Department of Health and Mental Hygiene, 2013, 2017
*Student data are only collected during odd years. Data for carrying a gun are not available prior to 2017.

Maternal and Infant Health

The overall birth rate in Brooklyn is higher than any other borough. Among births in Brooklyn, nearly half were to Non-Hispanic White mothers and roughly one-quarter were to African American mothers. The remaining births were relatively evenly split between Asian and Latina mothers. The findings are consistent with the underlying population in general.

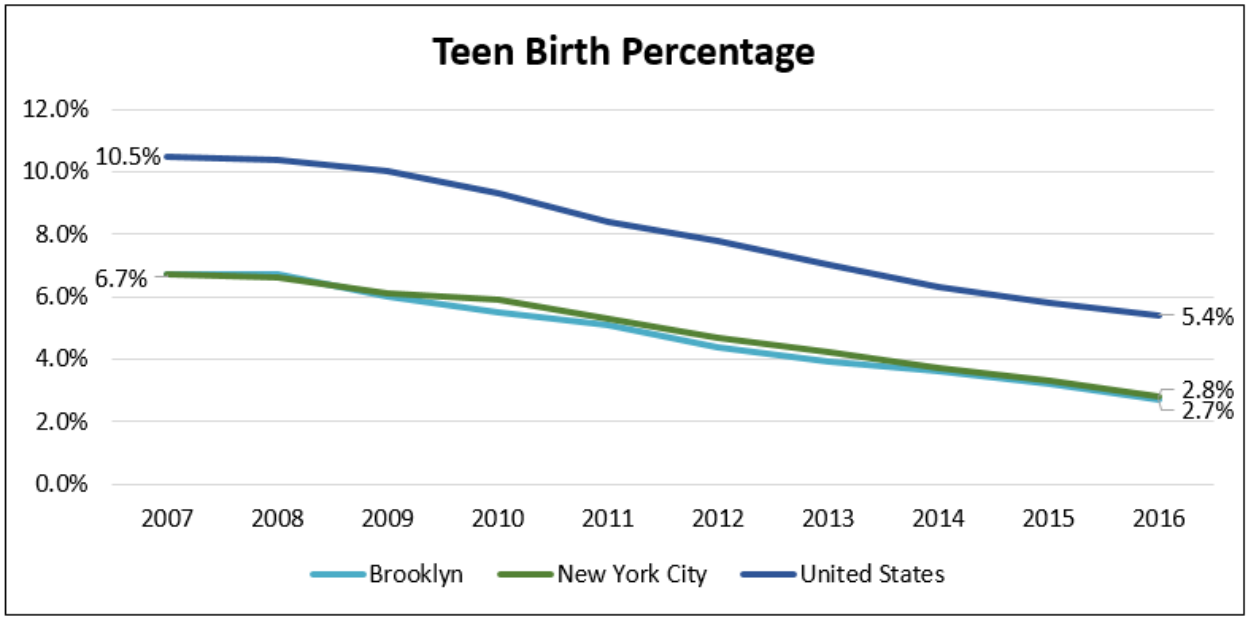
The percentage of births to teenagers has been declining nationally. The percentage of births to teens in Brooklyn has been consistent with NYC and lower than the nation.

The Brooklyn teen birth percentage continues to decline and is lower than the nation

2016 Births by Race and Ethnicity

	Total Births	Birth Rate per 1,000	Births to Whites, Non-Hispanic	Births to African Americans, Non-Hispanic	Births to Asians	Births to Latinas
Brooklyn	40,125	15.3	43.6%	22.4%	15.7%	17.1%
Bronx	19,474	13.4	6.1%	28.8%	5.0%	59.2%
Manhattan	17,199	10.5	45.8%	11.3%	15.7%	25.6%
Queens	26,794	11.5	19.2%	14.4%	34.0%	30.9%
Staten Island	5,357	11.3	53.6%	11.6%	9.6%	23.5%
New York City	120,367	14.1	33.8%	18.7%	17.9%	28.3%

Source: New York City Department of Health and Mental Hygiene, 2016



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016

Maternal and child health indicators are presented in the table below by borough and racial and ethnic group. Year-over-year trending of these indicators follows the table to show areas of improvement and opportunity.

Brooklyn currently meets Healthy People 2020 targets for low birth weight and preterm births, but does not meet the target for first trimester prenatal care. Approximately 41% of Brooklyn infants are breastfed at the time of hospital discharge, consistent with NYC overall.

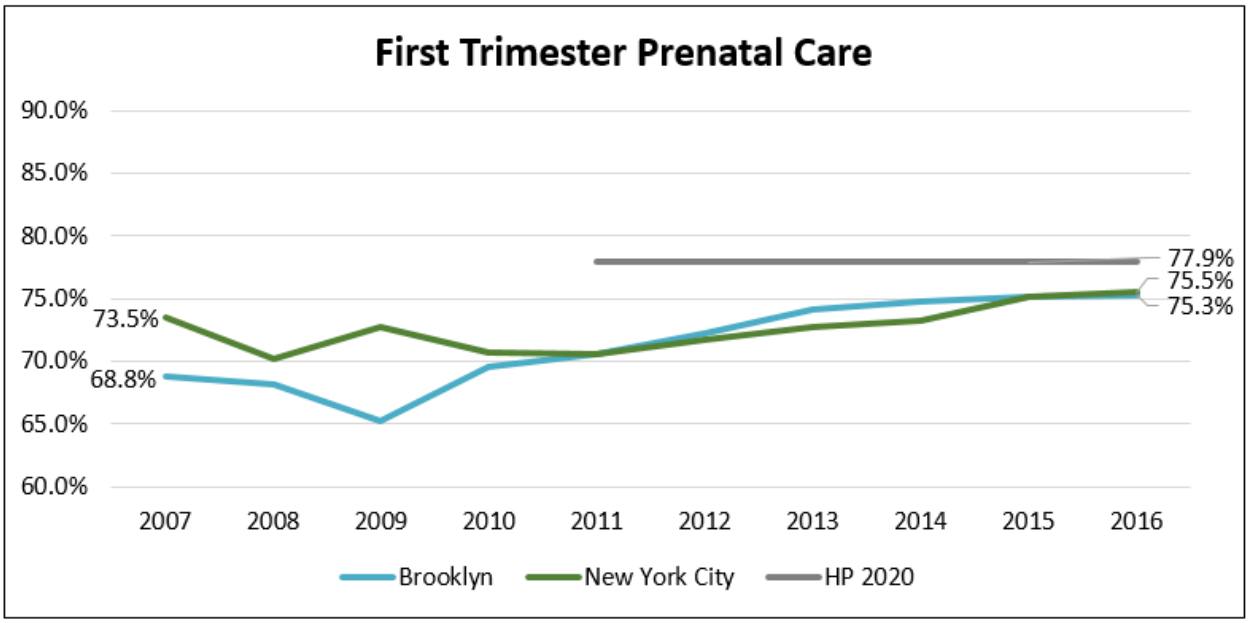
African American mothers are the least likely to access early prenatal care and the most likely to deliver low birth weight or preterm babies

When reviewed by race and ethnicity, there is a marked disparity in maternal and child health outcomes among African Americans compared to other demographic groups. African American women are the least likely to access early prenatal care and are the most likely to deliver low birth weight or preterm babies. African American mothers are also the least likely to exclusively breastfeed and percentages for all non-White mothers are lower than for White mothers.

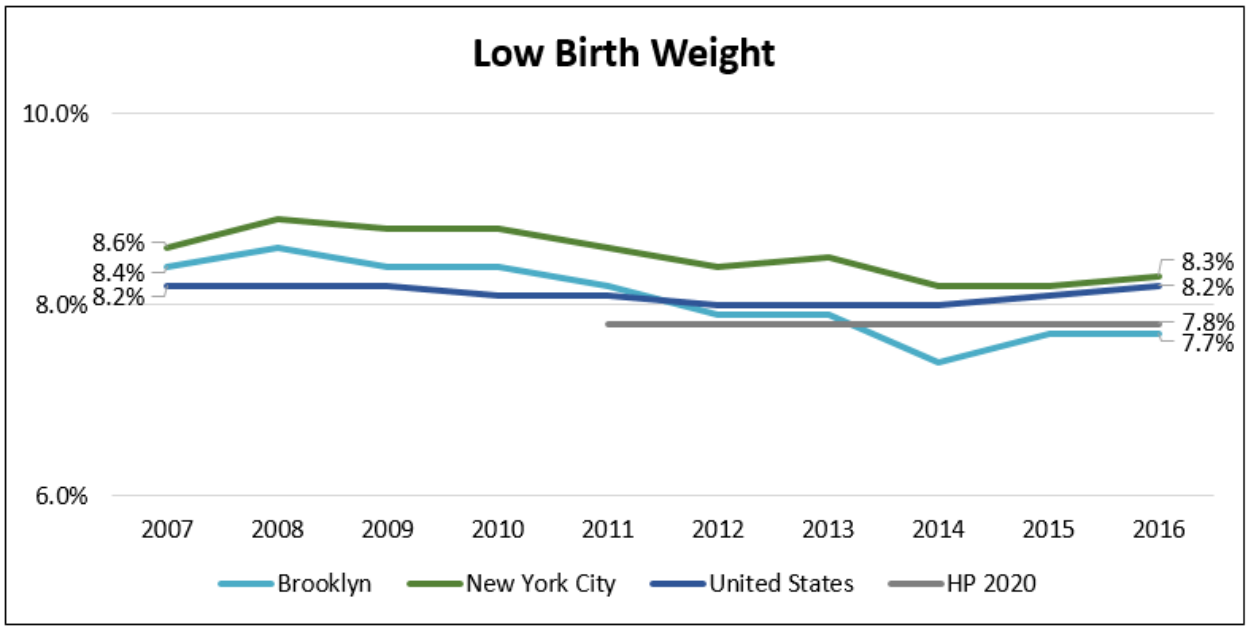
Maternal and Child Health Measures
(Green = Higher than NYC Benchmark by >2 Percentage Points)

	First Trimester Prenatal Care	Low Birth Weight	Preterm Birth	Exclusively Breastfed
Brooklyn	75.3%	7.7%	8.5%	41.0%
Bronx	59.6%	9.4%	9.6%	25.4%
Manhattan	78.9%	7.9%	8.4%	56.6%
Queens	72.4%	8.3%	8.6%	39.2%
Staten Island	85.5%	7.4%	8.8%	30.9%
New York City	75.5%	8.3%	8.9%	40.3%
White, NH	84.4%	6.2%	7.3%	53.9%
African American, NH	63.9%	12.2%	12.2%	32.4%
Asian/Pacific Islander	77.7%	8.4%	7.9%	35.8%
Latina	71.0%	8.0%	9.3%	31.8%
United States	77.1%	8.2%	9.9%	NA
HP 2020	77.9%	7.8%	9.4%	NA

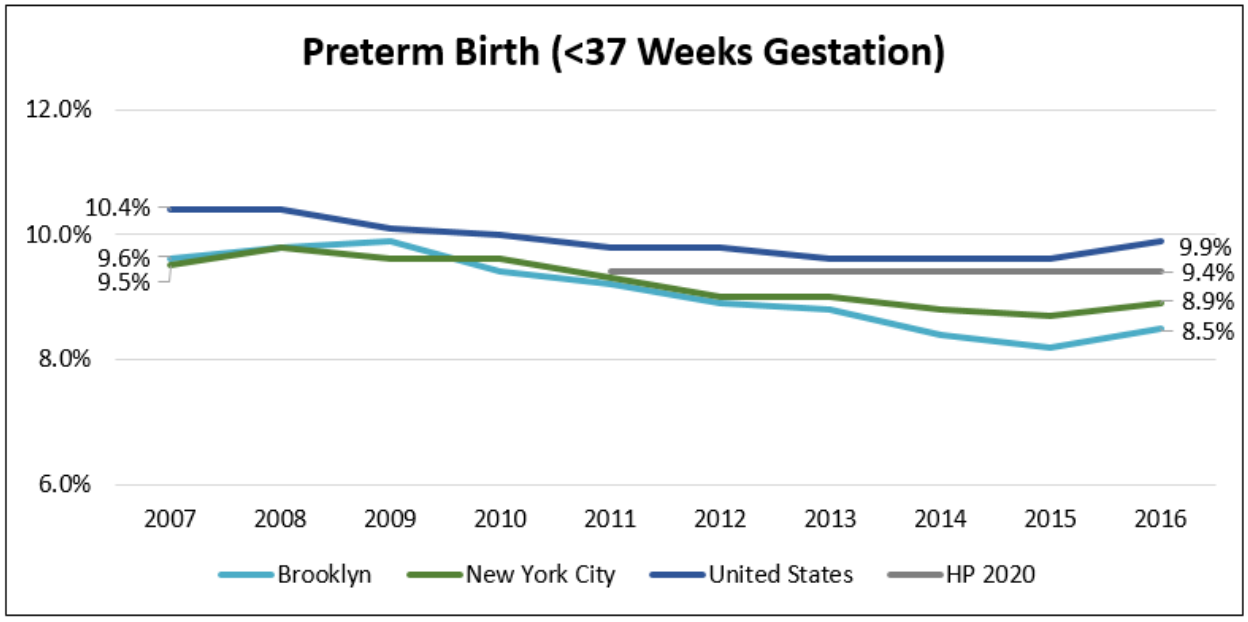
Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016



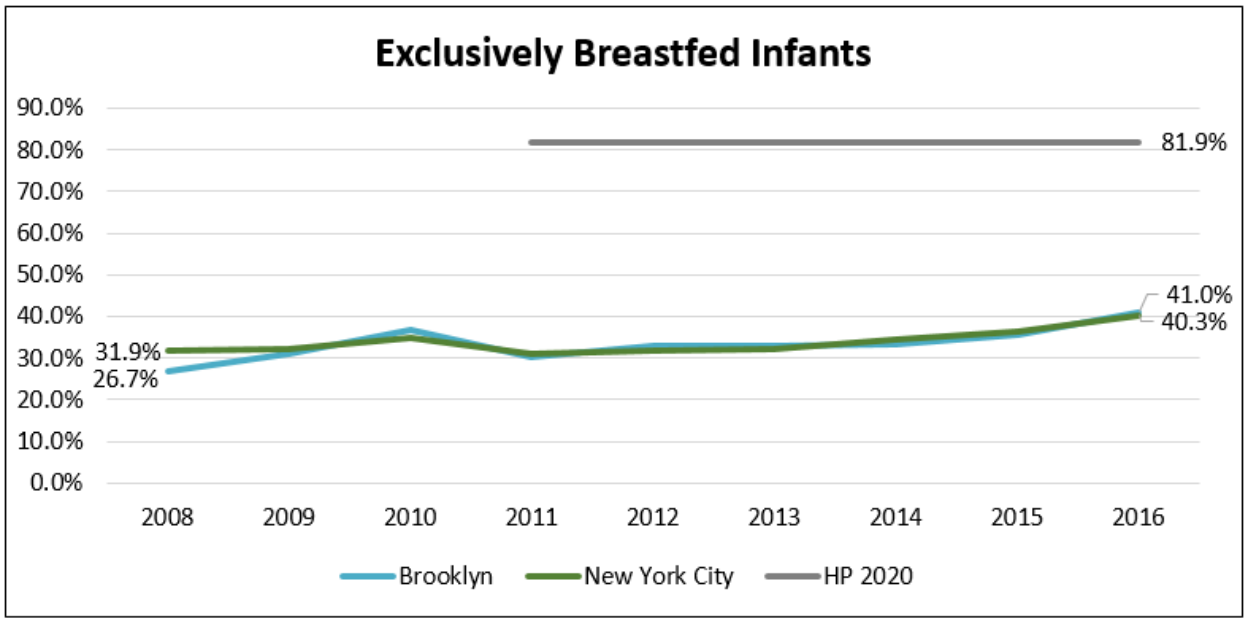
Source: New York City Department of Health and Mental Hygiene, 2007-2016
*Starting in 2016, all of the US reported data based on the 2003 US Certificate of Live Birth, providing national indicators for timing of prenatal care. Data prior to 2016 are not reported.



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016



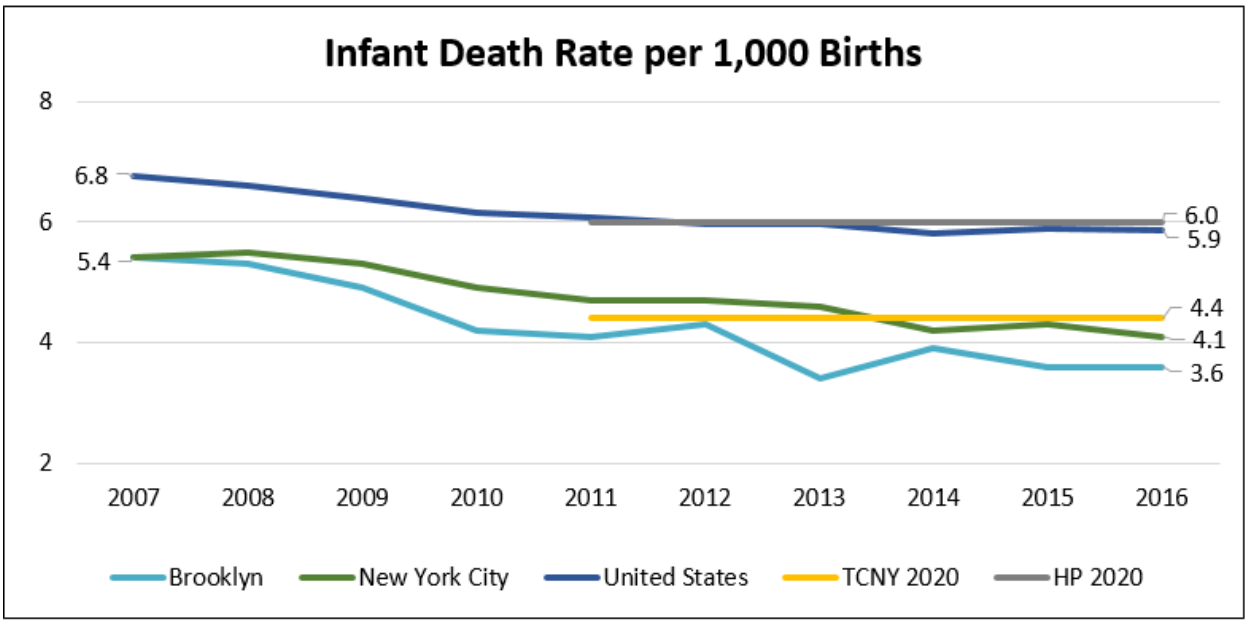
Source: New York City Department of Health and Mental Hygiene, 2008-2016
*Data are not reported prior to 2008.

The infant mortality rate is an important indicator of maternal and child health and an important contributor to a community's life expectancy. While the Brooklyn infant mortality rate has historically been variable, it is generally trending downwards, and currently lower than all state and national benchmarks.

Infant Mortality per 1,000 Live Births

	Infant Mortality
Brooklyn	3.6
Bronx	4.4
Manhattan	2.8
Queens	4.1
Staten Island	3.0
New York City	4.1
United States	5.9
TCNY 2020	4.4
HP 2020	6.0

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016



Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016

Sexually Transmitted Infections

Sexually transmitted infections (STIs) that require reporting to the CDC and state and local health bureaus upon detection include chlamydia, gonorrhea, and HIV/AIDS.

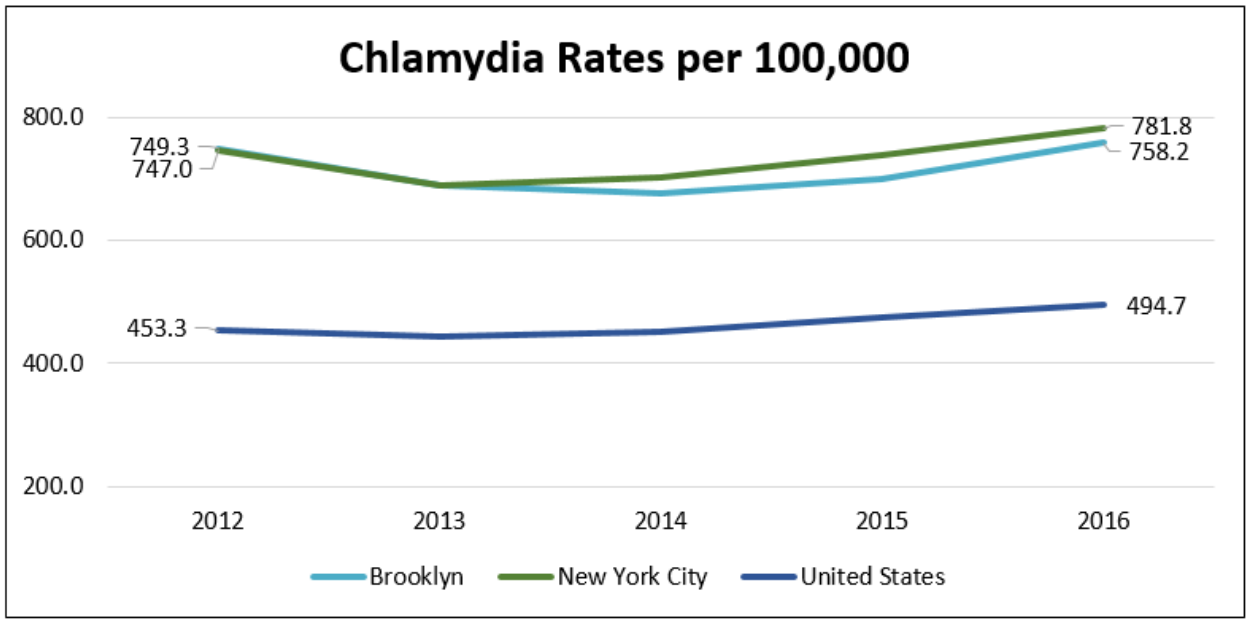
Brooklyn has similar rates of chlamydia and gonorrhea infection as NYC overall, but notably higher rates than the nation

Chlamydia and gonorrhea are both preventable and treatable, but when left untreated can lead to serious complications and decreased quality of life. Chlamydia and gonorrhea infection rates in Brooklyn have been consistent with overall NYC rates, and higher than national rates. The chlamydia infection rate currently exceeds the national rate by more than 250 points.

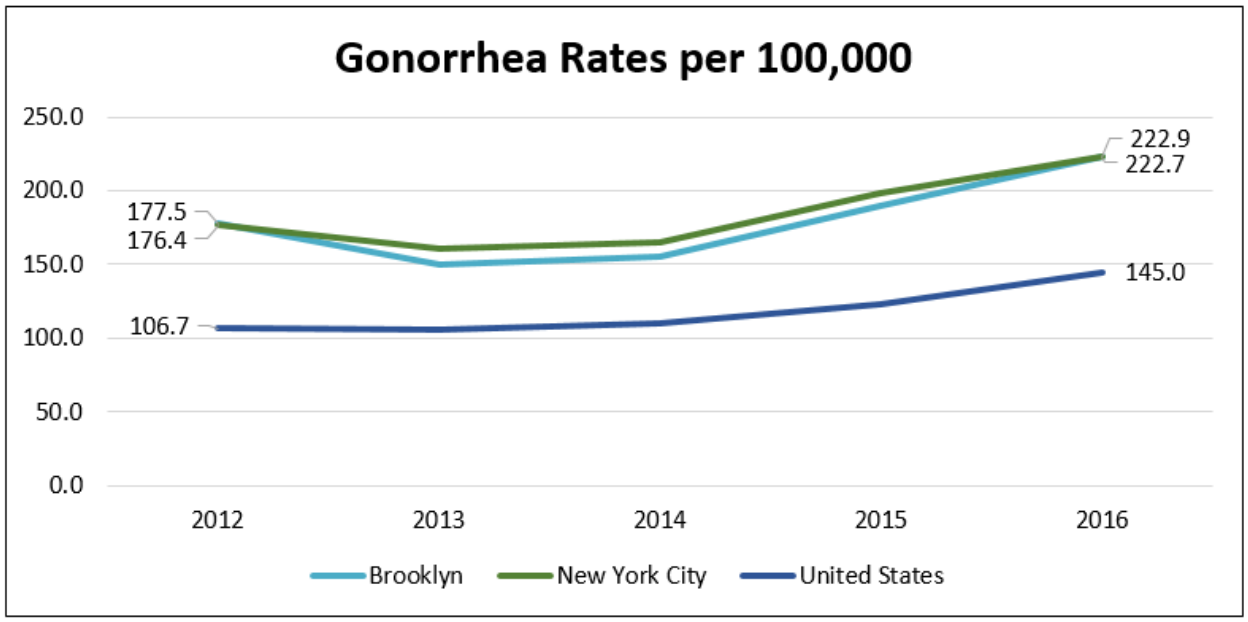
Sexually Transmitted Infection Rates per 100,000
(Green = Lower than NYC and National Benchmarks)

	Chlamydia	Gonorrhea
Brooklyn	758.2	222.7
Bronx	1171.9	253.9
Manhattan	927.5	386.0
Queens	554.3	120.4
Staten Island	330.9	67.9
New York City	781.8	222.9
United States	494.7	145.0

Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016



Source: Centers for Disease Control and Prevention, 2012-2016; New York City Department of Health and Mental Hygiene, 2012-2016



Source: Centers for Disease Control and Prevention, 2012-2016; New York City Department of Health and Mental Hygiene, 2012-2016

HIV prevalence is the number of people living with HIV infection at a given time. According to the CDC, “At the end of 2016, an estimated 1.1 million persons aged 13 and older had HIV infection in the United States, including an estimated 162,500 (14%) persons whose infections had not been diagnosed.” While there is no cure for HIV yet, it is preventable and treatable as a chronic disease if diagnosed.

Roughly two-thirds of Brooklyn adults have ever been tested for HIV, slightly fewer than NYC overall. Nearly 1 in 5 Brooklyn teens have also been tested for HIV, consistent with NYC.

HIV Testing, Trended
(Green = Higher than NYC Benchmark by >2 Percentage Points)

	Age-Adjusted Adult HIV Testing (Ever)		High School Student HIV Testing*	
	2014	2017	2013	2017
Brooklyn	62.8%	64.2%	19.4%	17.3%
Bronx	77.4%	78.7%	29.9%	25.0%
Manhattan	66.6%	71.8%	18.9%	18.3%
Queens	56.5%	58.2%	17.8%	14.8%
Staten Island	50.7%	52.1%	14.2%	15.3%
New York City	63.4%	65.7%	20.3%	18.0%

Source: New York City Department of Health and Mental Hygiene, 2013 & 2014, 2017
*Student data are only collected during odd years.

The following table shows the number of people living with HIV/AIDS by NYC borough. There are currently more than 29,000 people living with HIV/AIDS in Brooklyn, equating to 1.1% of the total population.

People Living with HIV/AIDS by New York City Borough

	Total Number of People Living with HIV/AIDS	People Living with HIV/AIDS as a Percent of the Total Population
Brooklyn	29,332	1.1%
Bronx	29,089	2.0%
Manhattan	32,041	1.9%
Queens	17,891	0.8%
Staten Island	2,366	0.5%

Source: New York City Department of Health and Mental Hygiene, 2015

Secondary data findings were analyzed as part of the 2019 CHNA to inform health priorities for Brooklyn. Secondary data is valuable for tracking and benchmarking community health status indicators, as well as for identifying emerging community needs. Additional research collected as part of the 2019 CHNA are summarized in the following report sections.

Key Informant Survey Results

Background

A Key Informant Survey was conducted with community representatives within Susquehanna County to solicit information about health needs among residents. A total of 14 individuals responded to the survey, including health and social service providers; community and public health experts; civic and social leaders; and others representing underserved or vulnerable populations. A list of the represented community organizations and the key informants' respective titles is included in Appendix B. Key informant names are withheld for confidentiality.

These "key informants" were asked a series of questions about their perceptions of community health including health drivers, barriers to care, community infrastructure, and missing resources within the community. A summary of findings from their responses is included below.

Summary of Findings

- When asked to rate community dimensions impacting social determinants of health, respondent mean scores were between 3.14 and 3.72 out of 5, indicating mostly "average" or "good" ratings. Neighborhood and built environment and education were seen as the strongest dimensions.
- When asked if various community and healthcare services are available in the area, respondent mean scores were between 2.54 and 3.46 out of 5, indicating overall neutral perspectives. Key informants were least likely to agree that there are enough healthcare providers to meet the needs of the community, and that the healthcare system works well in the community.
- The top community health concerns, in rank order according to key informants, are diabetes, heart disease, and affordability of healthcare. The top contributing factors to identified health concerns, in rank order, are healthcare costs, health habits, and attitudes/perceptions toward health.
- Key informants identified preventive care and education and affordable healthcare services as the most needed community resources. Informants saw opportunity for TBHC and other providers to bring these services directly to the community to increase access and convenience and to engage residents in their health.

Survey Participants

More than half of key informants indicated that they served residents of northwestern Brooklyn, including downtown Brooklyn where TBHC is located. Approximately 40% of informants served residents of the entire borough. “Other” geographies served by informants included all of the United States and the law enforcement community.

Geographies Served by Key Informants

	Percent of Informants*	Number of Informants
Northwestern Brooklyn	57.1%	8
All of Brooklyn	42.9%	6
Other	11.8%	2
Northern Brooklyn	7.1%	1

*Key informants were able to select multiple populations. Percentages do not add up to 100%.

Nearly two-thirds of key informants indicated that they served poor/low-income individuals and families. More than half of informants served diverse populations including underserved and vulnerable residents. “Other” populations served by informants included all residents, first responders, and those served by the Brooklyn Community Board 2.

Populations Served by Key Informants

	Percent of Informants*	Number of Informants
Poor/Low income	9	64.3%
Families	9	64.3%
Black/African American	8	57.1%
Hispanic/Latinx	8	57.1%
Immigrant/Refugee	8	57.1%
Uninsured/Underinsured	8	57.1%
Children/Youth	8	57.1%
Women	8	57.1%
Seniors/Elderly	8	57.1%
Emotionally or Physically Disabled	7	50.0%
Men	7	50.0%
LGBTQ	6	42.9%
Homeless	5	35.7%
Asian/Pacific Islander	4	28.6%
Veteran	4	28.6%
Other	4	28.6%
American Indian/Alaska Native	2	14.3%

*Key informants were able to select multiple populations. Percentages do not add up to 100%.

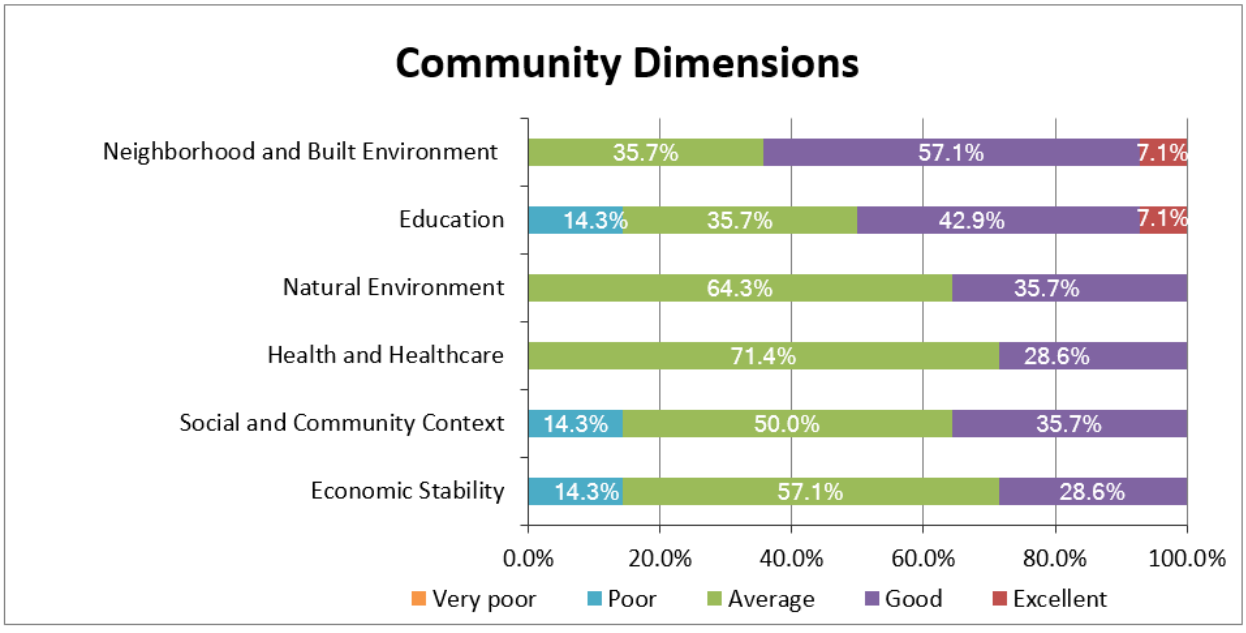
Community Dimensions

Healthy People 2020 defines social determinants of health as conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, function, and quality of life outcomes and risks. Informants were asked to rate six community dimensions that most highly impact social determinants of health: economic stability; education; health and healthcare; natural environment; neighborhood and built environment; and social and community context using a scale of (1) “very poor” to (5) “excellent.”

The mean score for each dimension is listed in the table below in rank order, followed by a graph showing the scoring frequency. Mean scores were between 3.14 and 3.71 out of 5, with the majority of respondents rating the listed dimensions as “average” or “good.” Neighborhood and built environment was seen as the strongest community dimension, while economic stability was seen as the weakest community dimension.

Ranking of Community Dimensions in Descending Order by Mean Score

Ranking	Community Dimension	Mean Score
1	**Neighborhood and Built Environment**: transportation, neighborhood safety, blight, bike and pedestrian paths, parks and recreation, fresh food availability	3.71
2	**Education**: quality, graduation rates, higher education attainment, community investment	3.43
3	**Natural Environment**: air/water quality, pollution, conservation efforts	3.36
4	**Health and Healthcare**: availability, quality, affordability	3.29
5	**Social and Community Context**: social cohesion, civic participation, perceptions of discrimination and equity, community appreciation/pride	3.21
6	**Economic Stability**: employment opportunities, poverty, food security, housing stability	3.14



Community Access

Key informants were asked to rate their agreement to statements pertaining to access to care and other health related indicators using a scale of (1) “strongly disagree” to (5) “strongly agree.” Their responses are outlined in the table below.

The ability of residents to receive healthcare, including specialty care, when they need it received the highest mean scores among access indicators, although key informants had differing perspectives. Approximately 62% of informants “agreed” that residents receive care when they need it, while 46% of informants “agreed” that residents receive specialty care when they need it.

Despite overall agreement that residents receive care when they need it, more than half of informants “disagreed” that there are enough healthcare providers to meet the needs of the community. More than three-quarters of informants “disagreed” or “neither agreed nor disagreed” that the healthcare system works well in the community. Informants also largely disagreed that residents know how to get help with health and social services when needed.

Community Access Indicators in Descending Order by Mean Score

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	**Mean Score**
Residents can receive healthcare when they need it.	0.0%	15.4%	23.1%	61.5%	0.0%	**3.46**
Residents can receive specialty medical care when they need it.	0.0%	15.4%	38.5%	46.2%	0.0%	**3.31**
Residents have health insurance.	0.0%	23.1%	61.5%	15.4%	0.0%	**2.92**
I would describe my community as healthy.	0.0%	35.7%	42.9%	21.4%	0.0%	**2.86**
Residents have a regular primary care provider for healthcare.	0.0%	38.5%	46.2%	15.4%	0.0%	**2.77**
Residents see their health as a priority.	7.7%	30.8%	46.2%	7.7%	7.7%	**2.77**
Residents know how to get help with health or social services when they need it.	7.7%	38.5%	30.8%	23.1%	0.0%	**2.69**
The healthcare system works well in our community.	7.7%	30.8%	46.2%	15.4%	0.0%	**2.69**
There are enough healthcare providers to meet the health needs of this community.	0.0%	53.8%	38.5%	7.7%	0.0%	**2.54**

Health Perceptions

Choosing from a wide-ranging list of health issues, key informants were asked to rank order what they perceived as the top five health concerns impacting the population(s) they serve. An option to “write in” any issue not included on the list was provided. The top responses are

depicted in the table below. The table is rank ordered by the percentage of respondents that selected the issue within the top five health concerns. The number of informants that selected the issue as the #1 health concern is also shown.

Diabetes was the top ranked health concern with 75% of informants selecting it among their top five choices. Heart disease and affordability of healthcare were also selected as top health concerns with more than half of informants selecting them among their top five choices. Affordability of healthcare was chosen as a top (#1) health concern by 42% of informants.

Top Five Health Concerns Affecting Residents

Ranking	Health Concern	Informants Selecting as a Top 5 Health Concern		Informants Selecting as the Top (#1) Health Concern	
		Percent*	Count	Percent	Count
1	Diabetes	75.0%	9	8.3%	1
2	Heart disease	66.7%	8	8.3%	1
3	Affordability of healthcare	58.3%	7	41.7%	5
4	Mental health	50.0%	6	8.3%	1
5	Obesity	41.7%	5	8.3%	1

*Key informants were able to select multiple health concerns. Percentages do not add up to 100%.

Key informants were asked to similarly rank order what they perceived as the top five contributing factors to the health concerns they had indicated in the previous question. An option to “write in” any contributing factor not included on the list was provided. The top responses are depicted in the table below. The table is rank ordered by the percentage of respondents that selected the issue within the top five contributing factors. The number of informants that selected the issue as the #1 contributing factor is also shown.

Approximately two-third of informants chose healthcare costs and health habits (e.g. diet, physical activity) among the top five contributing factors to community health concerns. Healthcare costs was also chosen as a top (#1) contributor by 25% of informants. Attitudes/perceptions towards health were selected as a top five contributing factor by 58% of informants, and 25% of informants also selected it as the #1 contributing factor.

Top Five Contributing Factors to Community Health Concerns

Ranking	Contributing Factor	Informants Selecting as a Top 5 Contributor		Informants Selecting as the Top (#1) Contributor	
		Percent*	Count	Percent	Count
1	Healthcare costs	66.7%	8	25.0%	3
2	Health habits	66.7%	8	0.0%	0
3	Attitudes/perceptions toward health	58.3%	7	25.0%	3
4	Lack of preventive healthcare	58.3%	7	8.3%	1
5	Health literacy	50.0%	6	8.3%	1

*Key informants were able to select multiple contributing factors. Percentages do not add up to 100%.

Community Resources

Informants were asked to share open-ended feedback related to available and needed community resources. Their responses are included below, grouped by question.

The Brooklyn community is making strides to prioritize health and increase access to healthcare. Key informants saw TBHC and other healthcare providers as conducting more community outreach and partnering with social service providers to improve resident health. Needed community resources identified by key informants primarily addressed preventive care and education and affordable healthcare services. Informants saw opportunity to bring these services directly to the community to increase access and convenience, and to engage community members as health champions or facilitators of programs.

What community programs/initiatives/partnerships are helping residents improve their health?

- *"Brooklyn Hospital seems to be doing an increasing amount of outreach. For example, I saw a table outside of BAM giving out information during the marathon."*
- *"Green markets, bike lanes, faith based health outreach."*
- *"Health fairs and screenings within the community are helpful."*
- *"Healthcare partnering with CBO's [Community-Based Organizations]."*
- *"Mayor's Action Plan."*
- *"The Brooklyn Hospital Foundation, Brooklyn Community Foundation, Brooklyn Borough Hall."*

What resources does the community need to help improve health for residents?

- *"Better and cheaper health insurance such as Medicare for all."*
- *"Education - our residents do not know what they need. I am particularly concerned by the lack of mental health services."*
- *"Education and awareness, facilitated access to screening and preventive medicine, improved access to mental health and addiction services."*
- *"Greater availability of comprehensive healthcare resources."*
- *"Healthcare representatives reaching out to the residents closest to their facility."*
- *"Mental health and hygiene, quality of life, drug prevention, education (GED), affordable health insurance and co pays (prescription)."*
- *"More outreach/education from health professionals, hospitals, etc. to the community year-round."*
- *"Provide programs on healthy living through nutrition. Perhaps partner with Wegmans/Whole Foods/Trader Joes."*

What could The Brooklyn Hospital Center do better to optimize health in the community?

- *"Engage with the tenant association and residents, hold resource fairs in our community, accessibility for residents to discuss their needs for a better quality of life."*
- *"Evening hours."*
- *"1.Create/host/support free groups for various health issues; offer free educational material/health tips via a media platform (text, email, links, etc.) to the community. 2. Invite community members to participate in community health via share your experience talks/coat drives/educational sessions/spoken word/sing or dance alongs/sharing their story talks/reading a book sessions/volunteering etc. to engage them in sharing their talents with other members of the community. 3. Facilitate/expedite access to follow up appointments and referrals to specialists in a timely manner. 4. Put the community at work for the community. Many people want to help but do not know how to. Offer them a platform."*
- *"Faster and more efficient care."*
- *"Increase ambulatory presence in the community."*
- *"Focus on mental health comparably to physical health. We cannot have a high functioning community without it. Better utilize the CAB - share your organizational goals so the CAB can be equipped to better support you."*
- *"Exercise programs; programs highlighting the various services procedures i.e. heart/gastroenterology/stroke/robotics etc. performed by the hospital. Include all departments."*
- *"Provide ongoing workshops on health issues to the community. Improve marketing."*
- *"Reaching out to the immediate community surrounding the facility and improving how the staff treats those that use the facility."*

Key Informant Survey findings were considered in conjunction with statistical secondary data to determine health priorities for Brooklyn. Key Informant Survey data is valuable in informing community strengths and gaps in services, as well as wider community context for secondary data findings.

Available Assets and Resources to Address Identified Health Issues

Community assets and resources, including organizations, people, policies, and physical spaces, elevate the quality of life of residents. Identifying the assets that exist within Brooklyn is an important component of the CHNA, both to mobilize and employ resources to address identified health issues, as well as to address existing gaps.

The following section highlights available assets and resources within Brooklyn to address the priorities of Prevent Chronic Diseases, with a focus on preventive care and management, and Prevent Communicable Diseases, with a focus on HIV and HCV. The list is not intended to be all encompassing of the providers, community-based organizations, and services available to residents.

Priority Need: Prevent Chronic Diseases, Focus on Preventive Care and Management

- The Brooklyn Hospital Center
  - The Brooklyn Heart Center, a partnership with Mount Sinai Heart, providing comprehensive cardiovascular treatment services and the full continuum of care. Services range from primary and preventive care to diagnostic testing, percutaneous coronary interventions, and electrophysiology procedures.
  - Division of Endocrinology, offering expert treatment and education of metabolic disorders, hormonal conditions, and other diseases.

- Mount Sinai Performing Provider System
  - Barbershop community health education initiatives, providing workshops around prostate health, hypertension, and overall men's health in an effort to raise awareness, build rapport, and educate the community.
  - City Health Works, providing eligible patients with diabetes, hypertension, asthma, and congestive heart failure, with locally hired health coaches for six months. Health coaches provide patients with health education, care coordination, and support to help patients manage their conditions.
  - Community Paramedicine Program, providing personalized and coordinated care to patients in their homes to avoid unnecessary hospital admissions.
  - God's Love We Deliver, a meal delivery service piloted among high-risk Medicaid patients with diabetes to provide nutritional meals and counseling.
  - Multi-Faith Initiative on Community and Health (MICAH) Project HEAL, providing church leaders known as Community Heal Advisors with basic health education curriculum training and health provider resources to promote screenings.

- New York City Department of Health
  - Brownsville Neighborhood Health Action Center, bringing together health care providers, New York City agencies, and community-based organizations and programs under one roof. The Action Centers make connecting to programs and services more efficient by providing a one-stop shop for community residents.
  - Colonoscopy Patient Navigator Program, providing patient navigators who guide patients referred for colorectal cancer screening through the process, helping them access healthcare, connect with hospital personnel, and track health interventions and outcomes.
  - Diabetes Action Kit, providing clinical tools, provider resources, and patient education materials.
  - Free colon cancer screenings for uninsured New York patients referred from primary care sites.

Priority Need: Prevent Communicable Diseases, Focus on HIV and HCV

- The Brooklyn Hospital Center
  - PATH Center, a New York State Designated AIDS Center, providing coordinated HIV care and education, counseling, and self-management options.

- NYC Department of Health and Mental Hygiene
  - Hep Free NYC, a coalition of providers, researchers, community-based organizations, and advocates committed to addressing hepatitis-related issues in NYC.
  - HIV Testing Provider Tool Kit, providing resources for HIV testing and linking HIV-positive individuals to care.
  - New York Knows, the nation's largest HIV testing initiative, providing voluntary HIV testing for every NYC resident who has never been tested. Testing is conducted in partnership with community-based organizations and healthcare providers.
  - Hepatitis B and C – Reporting and Care, providing screening and reporting requirements, and training and support.

- New York State Department of Health
  - AIDS Institute, overseeing and coordinating state programs, services and activities relating to HIV/AIDS, sexually transmitted diseases (STDs), and hepatitis C.
  - AIDS General Resource Guide for Brooklyn.
  - Viral Hepatitis Strategic Plan 2016-2020, outlining a coordinated, comprehensive, and systematic approach to decrease the incidence and reduce the morbidity and mortality of viral hepatitis.

Evaluation of Impact from 2016 Community Health Improvement Plan

In 2016, TBHC completed a CHNA and developed a supporting three-year Community Health Improvement Plan to address identified New York State Prevention Agenda priorities. Priorities included chronic disease and HIV/STIs. TBHC sought to address health disparities related to the social determinants of health and improve overall life expectancy, targeting underserved and at-risk communities.

The Community Health Improvement Plan outlined specific strategies to address priority health needs. The plan leveraged resources across the hospital and the community, drawing on existing partnerships. The following section highlights TBHC's approach to addressing identified needs, and outcomes from the implemented action items.

Brooklyn is Getting Healthier

Proactive public health initiatives throughout Brooklyn are paying off with significant improvements in health outcomes. These improvements run corollary to the many initiatives undertaken by TBHC. While it is difficult to prove cause and effect, the TBHC community impact is undeniable.

TBHC participates in value and quality based contracts with the region's largest managed Medicaid provider, Healthfirst. Many of the demonstrated outcomes are for the Healthfirst patient population. The screening and outreach statistics for the other TBHC populations served are directionally similar, but less robust data is available for reporting.

Prevent Chronic Disease

While TBHC strategies to prevent chronic disease focused on heart disease, the leading cause of death for Brooklyn residents, efforts were also made to improve quality of life for individuals with cancer and diabetes, among other chronic conditions.

Congestive Heart Failure

Congestive heart failure (CHF) remains a major quality and economic crisis for Brooklyn and all US cities. CHF accounts for 25% of all hospital readmissions. More than three million admissions each year list heart failure as a contributing factor. Total medical costs for CHF are expected to double to $70 billion by 2030.

TBHC developed a multi-faceted approach for treating heart failure including:

- Establishment of a heart failure clinic as an alternative to expensive ER visits and hospitalizations
- Development of a CardioMEMS program to implant heart failure monitors in high-risk patients, avoiding unnecessary hospitalizations and improving quality of life for patients
- Identification and recruitment of dedicated heart failure specialists
- Provision of educational programs and protocols

The following table depicts adult inpatient admission rates to Brooklyn hospitals for health failure, as reported by the NYS Department of Health PQI inpatient database. Observed rates of heart failure are trending lower (positive) in the majority of zip codes constituting the TBHC primary service area.

Change in Observed Rate per 100,000 People for Heart Failure

TBHC Service Area Zip Code	Change in Observed Rate 2012 to 2016
Zip 11201 (primary service area)	-228.77
Zip 11205 (primary service area)	-108.46
Zip 11238 (primary service area)	-93.97
Zip 11226 (primary service area)	-69.01
Zip 11233 (primary service area)	-65.74
Zip 11206 (primary service area)	-41.18
Zip 11221 (primary service area)	8.74
Zip 11216 (primary service area)	9.48
Zip 11213 (secondary service area)	31.94
Zip 11207 (secondary service area)	60.53
Zip 11217 (secondary service area)	85.87
Zip 11225 (secondary service area)	99.23
Zip 11211 (secondary service area)	106.95
Zip 11212 (secondary service area)	175.83

*Note: Green highlighting denotes a positive trend, red highlighting denotes a negative trend.

Cancer

The most recent cancer data reported by the NYC Department of Health for Brooklyn show that death rates are down in every community, with the exception of Coney Island.

Brooklyn Overall Cancer Death by Neighborhood, Trended 2012 to 2016 (per 100,000)

Brooklyn Neighborhood	2012	2013	2014	2015	2016	Rate Change 2012 to 2016*
Bedford Stuyvesant/Crown Heights	172.9	174.8	154	166.2	149.7	-23.2
Coney Island	144.1	141.1	139.6	136	145.4	1.3
Sunset Park	154.3	157	140.8	109	143.4	-10.9
East New York/New Lots	153.1	164.7	148.4	149.6	139.7	-13.4
Canarsie and Flatlands	139.5	141.8	149.1	129.9	134.7	-4.8
Williamsburg/Bushwick	159.3	155.9	139.1	141.4	131.8	-27.5
Bay Ridge/Bensonhurst	146.4	128.9	139.2	118.7	123.9	-22.5
Borough Park	140.8	149.4	129.9	119.6	120.7	-20.1
Flatbush	135.5	128	132.7	128.5	120.7	-14.8
Greenpoint	129.1	147.2	129	119.5	118	-11.1
Downtown Brooklyn/Heights/Slope	157.2	126.6	137.5	139	104.3	-52.9

*Note: Green highlighting denotes a positive trend, red highlighting denotes a negative trend.

Helping to achieve these outcomes, TBHC initiated the following efforts to identify and treat cancers earlier, while reducing cancer deaths.

- Offered low cost lung cancer screenings to the community through a partnership with a large community group practice
- Offered smoking education programs, including prescriptions for Nicotine Replacement Therapies, in partnership with TBHC ambulatory providers
- Recruited cancer specialists to TBHC to improve access and outcomes, including:

- Three urologists to treat prostate cancer
- Two GI providers to expand diagnostic, treatment, and screening programs for colon cancer
- Hematology providers to expand hematology and oncology services
- One endocrine surgeon to expand thyroid and head and neck cancer services
- One gynecologist to treat various GYN cancers

Three-year (2016-2018) cancer screening averages for Healthfirst patients show the following outcomes:

> 84% of patients managed by TBHC complied with Breast Cancer screening protocols
> 81% of patients managed by TBHC participated in Cervical Cancer screening protocols
> 73% of patients managed by TBHC participated in Colorectal Cancer screening protocols

Diabetes Management

There have been significant improvements in mitigating the long-term complications from diabetes in the TBHC service area. Outcomes for all fourteen zip codes in the TBHC service area are shown below, as reported by the NYS Department of Health PQI inpatient database.

Change in Observed Rate per 100,000 People for Long-Term Complications of Diabetes

TBHC Service Area Zip Code	Change in Observed Rate 2012 to 2016
Zip 11233	-232.34
Zip 11221	-222.74
Zip 11212	-210.36
Zip 11213	-166.27
Zip 11226	-154.72
Zip 11238	-142.8
Zip 11216	-142.77
Zip 11205	-129.75
Zip 11206	-123.76
Zip 11225	-120.43
Zip 11201	-116.82
Zip 11207	-84.02
Zip 11211	-49.98
Zip 11217	-40.34

* Note: Green highlighting denotes a positive trend

TBHC implemented several programs and protocols to improve diabetes management, including:

> Acquisition of a retinal camera to conduct screenings in the ambulatory clinic and primary care practices
> Establishment of a multi-disciplinary team approach, including endocrinology, primary care, nutrition, pharmacy, and psychiatry
> Initiation of 90-day prescriptions (vs. 30-day) for all patients with chronic diseases to support better medication adherence

Three-year (2016-2018) improvements in diabetes complication rates for Healthfirst patients include the following:

- 64% of TBHC patients received a diabetes care eye exam
- 85% of TBHC patients received HbA1c testing
- 90% of TBHC patients received nephropathy screenings

Access to Care

Access to quality preventive and specialty care services is needed to prevent and manage chronic conditions. TBHC implemented several care access initiatives, outlined below.

Rubicom/Fast Track Specialist Access

Rubicom is an app based e-physician specialist consult service. TBHC primary care providers deploy this app to generate access to more than 120 different specialists from across the world. In addition to same day specialist access, typically within four hours, Rubicom offers intelligent "best practice" algorithms and analytics. TBHC has 34 provider licenses for electronic consult services via RubicomMD.

Rubicom outcomes show improvement in 72% of treatment plans and savings of 19 days on average for specialist appointment wait times. Rubicom is especially helpful in high-need specialties, such as dermatology and endocrinology, and in reducing unnecessary specialty care and ER visits, as well as testings and procedures.

Psychiatric Services

In 2019, TBHC added three psychiatric nurse practitioners to support emergency services and hospital-based practices. Access to psychiatric care is a challenge in the TBHC service area, especially for the underserved. Psychiatric care was documented in the 2016 TBHC medical staff survey as the most needed specialty service. Dedicated nurse practitioners offer fast access to consults and first line treatment and referral.

WIC Centers

TBHC is the largest provider of Women, Children and Infant Program Centers (WIC) in Brooklyn, with seven locations throughout the region. These sites provide nutrition, education, breastfeeding, and healthcare services to women and infants under age five. More than 23,000 participants were enrolled in the TBHC WIC program annually from 2016 to 2018.

The 2016 CHNA showed a high correlation between the communities of greatest need for women and infant health services and the location of TBHC WIC sites. These communities include Sunset Park, Crown Heights, Williamsburg, and Flatbush.

Percutaneous Cardiac Intervention Services

Prior to 2017, 6 out of 10 Brooklyn patients needing percutaneous cardiac interventions (PCI) to treat heart disease were treated outside of the borough. Today, TBHC is providing PCI services for local residents, allowing faster access and better outcomes delivered close to home.

Since late 2016, TBHC has provided lifesaving PCI to more than 264 patients. TBHC PCI outcomes exceed NY benchmarks for quality and speed to intervention.

Community Prevention, Education and Screening Programs

From 2016 to 2018, TBHC participated in more than 400 events and activities to improve the health and wellness of community members. Many of these programs were offered in collaboration with community groups and neighbors, including the following:

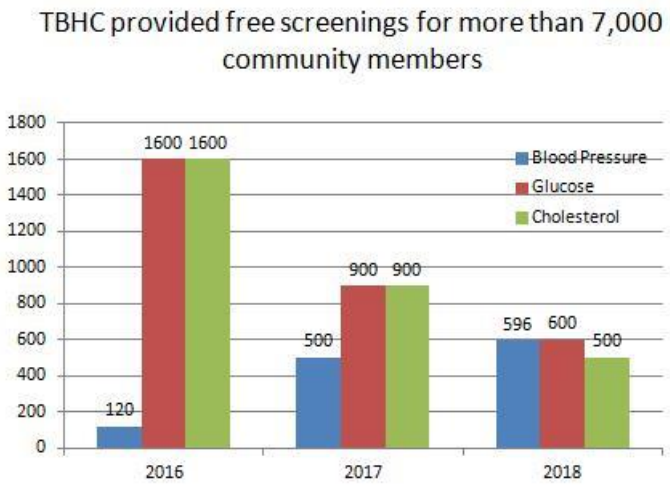
- Adult Learning Center
- Arab America Association
- Assemblyman- Felix Ortiz
- BAM
- Brooklyn Borough Hall
- Brooklyn Library
- Brooklyn Perinatal Network, Inc.
- CAMBA
- Caribbean Women's Health Association
- Churches & Mosques
- Clinton Hill Block Festival
- Colleges & Schools
- Community Based Organizations (CBOs)
- CON ED
- Community of People Organization (COPO)
- Daycare Centers
- Dodge YMCA
- Fort Greene Children & Family Services
- Local 1120- JFK MCU
- National Night- 88 Percent
- New Directions Alcoholism and Substance Abuse Treatment Program
- NYC Children Services
- NYC Department of Education
- NYC Department of Probation
- NYC Employees Retirement System
- NYCHA
- Police Precinct
- Seniors Centers
- Sonny Archer Law Enforcement Scholarship Foundation
- Street fairs
- The Brooklyn Plaza Medical Center
- U.S. District Court (District Attorney office)
- YMCA of Greater Brooklyn

The types of programs provided encompassed broad health topics.

Health Fairs and Screenings	Health Lectures/ Education	Kids Health
• AIDS/HIV testing • Blood pressure • BMI • Cholesterol • Dental • Eye sight • Glucose • Hearing • Nutrition Education • Podiatry • Respiratory/Asthma Ambulance Services • Vascular health	• Colon cancer • Heart disease prevention • HIV prevention • Hospice care • Lunch and Learn sessions • Men's health: prostate cancer • Sexual health/ contraceptives • Smoking cessation • Weight loss- bariatric surgery • Women health: OB/GYN, mammograms, breast health • Wound care	• Asthma • Dental care • General health • Nutrition • Vaccines/Immunization • WIC

While TBHC was not able to fully implement the *Keep Our First Respondents Healthy* pilot program, as outlined in the 2016 Implementation Plan/Community Service Plan, the organization prioritized health and wellness events and screenings for local policeman and first responders.

From 2016 to 2018, TBHC provided free screenings to more than 7,000 community members. These screenings included, but were not to blood pressure, cholesterol and glucose.



Prevent Communicable Disease

TBHC operates two PATH (Programs for AIDS Treatment and Health) Centers. One center is located on the TBHC campus. The second location opened in 2017 in Flatbush-Ditmus Park. From 2016 to present, the following outcomes were observed at the PATH Centers.

- TBHC has not seen any HIV positive births in 10 years.
  - The PATH Center meets on a monthly basis with members of the OB-GYN department to discuss all pregnant HIV positive patients to ensure cross-departmental collaboration.
- TBHC continues to actively collaborate in the Mount Sinai Performing Provider System.
  - The collaboration allowed for the implementation of Point-of Care HCV (Hepatitis C Virus) testing, allowing for free testing for patients.
  - TBHC aims to provide HCV testing to 75 patients per year and identify at least four previously undiagnosed individuals.
- Approximately 89% of Healthfirst patients engaged in HIV care at TBHC have achieved Viral Load Suppression; they aim to achieve 92% by 2022. To support this goal, TBHC implemented a warm handoff program with HIV Care Coordinators and Patient Navigators for patients who struggle with medication adherence or appointments, or who are newly diagnosed.
- TBHC partners with the Council on Adoptable Children (COAC) to provide high-intensity case management services to high-needs patients. These services include accompaniment to medical and social services, reminder calls and scheduling, and daily observed therapy whereby a staff member will observe patients taking their medications.

- TBHC continued the PrEP (pre-exposure prophylaxis) program with the goal of engaging at least 50 new patients each year. PATH Centers are partnering with emergency department staff to ensure patients who present for repeat HIV testing or STI treatment are connected with the PATH program for PrEP services.
- TBHC provides supportive health and social services to improve health outcomes among patients living with HIV. The following metrics outline available services and actual and target number of Healthfirst patients served. Note: Actual counts are as of August 31, 2019.
    - Healthfirst patients engaged in substance use treatment:
        - 2022 Target: 225
        - Actual: 150
    - Healthfirst patients receiving services from a Registered Dietician:
        - 2022 Target: 268
        - Actual: 288
    - Patients receiving on-site mental health treatment:
        - 2022 Target: 222
        - Actual: 192
    - Healthfirst patients with at least 2 HIV medical visits per year, with at least 60 days between visits:
        - 2022 Target: 92% of patients
        - Actual: 82% of patients
    - Healthfirst patients age 50+ receiving a colonoscopy screening:
        - 2022 Target: 65% of patients
        - Actual: 62% of patients

TBHC is committed to providing screenings for other STIs, particularly chlamydia, the most common STI among Brooklyn residents. More than 80% of Healthfirst TBHC patients age 16 to 24 were screened for chlamydia during the 2016-2018 cycle. TBHC physician residents provide weekly screenings for chlamydia and other STIs at the Brooklyn Tillary Shelter.

C. Community Health Improvement Plan / Community Service Plan

Prioritization Process and Identified Priority Areas

TBHC leadership reviewed findings from the CHNA research, including public health and socioeconomic measures and input received from community stakeholders, to determine priority health needs for Brooklyn and to focus community health improvement efforts. Leadership representatives considered the CHNA research findings, as well as existing community and hospital services, programs, and areas of expertise. Discussion culminated in the identification of the following priorities to be addressed during the next three-year cycle. The priorities are aligned with the New York State Prevention Agenda.

- Priority Area: Prevent Chronic Diseases
  - Focus Area: Preventive Care and Management

- Priority Area: Prevent Communicable Diseases
  - Focus Area #1: Human Immunodeficiency Virus (HIV)
  - Focus Area #2: Hepatitis C Virus (HCV)

The rationale and criteria used to select these priorities included:

- Scope: How many people are affected?
  - Is the issue widespread or affecting few individuals?
  - Are there inequities or disparities among residents?

- Severity: How critical is the issue?
  - What is the cost or burden of the issue on the community?
  - Are there negative outcomes or harm caused?

- Ability to Impact: Can we achieve the desired outcome?
  - Are there known practices to address the issue?
  - Are resources readily available?
  - Can we measure short-, medium-, or long-term outcomes?

- Community Readiness: Is the community prepared to take action?
  - Are there supportive leaders or policy makers?
  - What is the prevailing attitude of the community toward the issue?
  - Do we have community capacity to take on the issue?

Behavioral health needs are growing concerns in the Brooklyn community, and recognized priorities by both hospital and community members. While TBHC will not directly address behavioral health as part of the health improvement plan, choosing to focus on the areas where the hospital can best apply its expertise and resources to improve equitable outcomes, TBHC will continue to work with community partners to collectively impact behavioral health and explore opportunities to improve health outcomes for residents.

Plan for Community Health Improvement

TBHC developed a health improvement plan to guide their community benefit activities across Brooklyn. As determined through the prioritization process, TBHC will devote resources and expertise to address chronic disease, with a focus on preventive care and management, and communicable disease, with a focus on HIV and HCV. Improving access to care and eliminating health disparities are cross-cutting strategies for TBHC.

The plan builds upon previous health improvement activities and takes into consideration the evaluation of impact from the previous Implementation Plan cycle, while recognizing new health needs and a changing healthcare delivery environment identified in the 2019 CHNA.

Priority Area: Prevent Chronic Diseases
Focus Area: Preventive Care and Management

Goal #1: Promote the use of evidence-based care to manage chronic diseases, with a focus on congestive heart failure (CHF) and diabetes.

Goal #2: Increase protective factors against trauma and support a trauma-free community to improve resident health outcomes.

Objectives:

- Decrease the inpatient readmission rate for adult members with CHF from 27% (2019) to 26.5% (2022).
- Increase the percentage of adult Medicaid members with diabetes who receive HbA1c testing from 85% (2019) to 86.5% (2022).
- Increase the percentage of adult Medicaid members with diabetes who receive nephropathy screening from 90% (2019) to 91.5% (2022).
- Increase participation in TBHC-operated WIC programs from 23,000 (2019) to 24,500 (2022), with 42% of members enrolled in the first trimester.
- Explore programs to reduce child and family trauma contributing to poor health outcomes.

Implementation Plan:

Interventions/Strategies	Process Measures	Community Partners
Provide The Brooklyn Heart Center, including a heart failure program, in partnership with Mount Sinai Heart. The center is centrally located to residents of downtown and north central Brooklyn, where the majority of residents are insured by Medicaid and there is greater need for cardiac treatment.	• Number of patients with CHF referred to The Brooklyn Heart Center • Hospital readmission rate among CHF patients	• Healthfirst to monitor health outcomes among Medicaid patients • Mount Sinai Health System as the partner provider for The Brooklyn Heart Center
Provide the CardioMEMS program for high-risk patients with CHF to better monitor and manage their condition.	• Number of patients enrolled in the CardioMEMS program • Number of patients with reported better control of their condition • Hospital readmission rate among CHF patients	• Healthfirst to monitor health outcomes among Medicaid patients • The Brooklyn Heart Center for patient referrals and monitoring

Implementation Plan cont'd:

Interventions/Strategies	Process Measures	Community Partners
Implement a multi-disciplinary team approach to diabetes care and management, including endocrinology, primary care, nutrition, pharmacy, and psychiatry providers.	• Number of patients receiving regular diabetes visits and recommended screenings • Number of patients with reported better control of their condition	• Healthfirst to monitor health outcomes among Medicaid patients
Provide diabetes classes, including education, nutrition, and support, to improve diabetes management among patients.	• Number of classes and participants • Change in knowledge and/or disease management among participants	• Community health and social service partners to promote services • TBHC providers for program referrals
Provide community education and outreach that promotes chronic disease prevention.	• Number of programs and screenings and participants • Change in knowledge and/or awareness of chronic disease risk factors among program participants	• Community health and social service partners to host events
Provide *Rubicom*, an app-based e-physician specialist consult service to increase access to specialty providers.	• Number of TBHC patients served by Rubicom • Average wait time for specialty care services provided by Rubicom	• TBHC primary care physicians to deploy Rubicom and track outcomes
Explore partnership opportunities with the Center for Health Equity's Neighborhood Health Action Center in Brownsville to provide social service referrals and health and wellness classes to advance patient health outcomes.	• Identified partnerships, program collaboration • Number of TBHC patients referred to the Neighborhood Health Action Center	• NYC DOHMH, Center for Health Equity's Neighborhood Health Action Center
Explore partnership opportunities with the Mount Sinai Performing Provider System to provide chronic disease management programs to TBHC patients (e.g. Community Paramedicine, City Health Works).	• Identified partnerships, program collaboration • Number of TBHC patients referred to disease management programs • Number of participants with reported better control of their condition	• Mount Sinai Performing Provider System
Provide the Women, Infants and Children (WIC) program to improve healthy lifestyles and nutritional intake among at-risk women and children.	• Number of WIC participants • Changes in health outcomes among participants, 2022 targets: ○ 93.7% breastfeeding initiation ○ 8.8% low birth weight ○ 84.8% consuming fruits, vegetables ○ 97.3% with nutrition education ○ 8.6% child obesity	• TBHC WIC program • Community health and social service partners to promote services
Explore new strategies, partnerships, and funding opportunities to provide evidence-based prevention programs targeting child and family trauma	• Identified programs, partnerships, and/or funding opportunities • Engagement by community partners • Development of programs in partnership with community agencies	• Brooklyn Community Board 2 • TBHC Community Advisory Board • NYC DOHMH

Prevention Agenda Priority: Prevent Communicable Diseases
Focus Area #1: Human Immunodeficiency Virus (HIV)

Goal #1: Decrease HIV morbidity (new HIV diagnoses) and improve outcomes for patients living with HIV.

Goal #2: Increase viral suppression.

Objectives:

- Ensure prenatal HIV testing for 100% of pregnant HIV positive patients.
- Increase the number of Emergency Department (ED) patients seen for HIV testing who are referred for PrEP services. Target: Engage at least 50 new patients per year.
- Increase the number of Medicaid patients with HIV who receive at least two medical visits per year from 82% to 92% by 2022.
- Increase the number of Medicaid patients with HIV who receive supportive health and social services. 2022 Targets: 225 patients engaged in substance use treatment; 222 patients engaged in mental health treatment; 268 patients receiving services from a registered dietician; and 65% of patient age 50+ receiving a colonoscopy screening.
- Increase the percentage of Medicaid patients living with diagnosed HIV infection who receive care with suppressed viral load from 89% (2019) to 92% (2022), with a focus on African Americans and Latinx.

Implementation Plan:

Interventions/Strategies	Process Measures	Community Partners
Host monthly meetings between PATH Center staff and OB-GYN providers to identify and address the needs of pregnant HIV positive women.	• Number of HIV positive mothers receiving prenatal HIV testing • Maintain zero HIV positive births	• PATH Centers • OB-GYN providers • WIC providers for wrap-around services, as applicable
Provide a warm handoff program in partnership with HIV Care Coordinators and Patient Navigators to improve patient medication and appointment adherence and to provide education and care management.	• Number of newly diagnosed patients connected to treatment services • Number of patients who receive at least two HIV medical visits per year • Number of patients achieving viral load suppression	• AIDS Institute, overseeing and coordinating state HIV/AIDS programs and services
Provide high-intensity case management services, including accompaniment to medical and social services, reminder calls and scheduling, and daily observed therapy, for high-risk patients.	• Number of patients who receive at least two HIV medical visits per year • Number of patients achieving viral load suppression	• Council on Adoptable Children to provide case management
Partner with TBHC Emergency Department staff to refer patients seen for repeat HIV testing or STI treatment to the PATH Centers for PrEP services.	• Number of ED patients referred to PATH for PrEP services • Number of patients diagnosed with HIV and connected to treatment services	• PATH Centers • TBHC Emergency Department

Implementation Plan cont'd:

Interventions/Strategies	Process Measures	Community Partners
Provide community education and outreach that promotes HIV prevention and screening.	• Number of programs and screenings and participants • Change in knowledge and/or awareness of HIV among program participants	• Community health and social service partners to host events • New York Knows, HIV testing initiative
Connect patients with supportive health and social services to improve health outcomes, including mental health and substance use disorder treatment, dietary services, and colonoscopy screenings.	• Number of patients identified as needing supportive services and connected to services • Number of patients reporting improved health outcomes, including viral load suppression	• TBHC dietary and cancer screening services • Community mental health and substance use disorder providers

Prevention Agenda Priority: Prevent Communicable Diseases
Focus Area #2: Hepatitis C Virus (HCV)

Goal: Increase the number of people treated for HCV.

Objectives:

> Increase the number of patients screened for HCV and connected with appropriate treatment services, with a focus on patients also at risk for HIV infection. Target: Provide testing to at least 75 patients per year and identify at least four previously undiagnosed individuals.

Implementation Plan:

Interventions/Strategies	Process Measures	Community Partners
Partner with the Mount Sinai Performing Provider System to provide free, point-of-care HCV testing for patients.	• Number of patients tested for HCV • Number of HCV-positive patients connected with appropriate treatment services	• Mount Sinai Performing Provider System
Partner with the Mount Sinai Performing Provider System to provide free, point-of-care HCV testing among patients receiving rapid HIV testing.	• Number of patients tested for HCV • Number of HCV-positive patients connected with appropriate treatment services	• Mount Sinai Performing Provider System
Provide community education and outreach that promotes HCV prevention and screening.	• Number of programs and screenings • Number of participants • Change in knowledge and/or awareness of HCV among program participants	• Community health and social service partners to host events • Hep Free NYC, providing community education and advocacy • NYS Department of Heath Viral Hepatitis Strategic Plan to decrease incidence and morbidity

Community and Partner Engagement

TBHC will continue to be an active partner in the *Good Neighbors* campaign and Mount Sinai Performing Provider System to maintain engagement with local health providers and improvement initiatives. The hospital will also continue to convene the Community Advisory Board monthly to provide guidance and direction for TBHC on health improvement plans. The TBHC CHNA Steering Committee will meet regularly to review process measures related to the health improvement strategies identified for each priority health need and make corrections as needed.

Executive Summary and Report Dissemination Plan

The TBHC 2019 CHNA Final Report and corresponding Community Health Improvement Plan/Community Service Plan were reviewed and approved by the Board of Directors on December 12, 2019. The report and plan are available for review on the TBHC website: https://www.tbh.org/community-affairs.

TBHC will electronically disseminate the full CHNA and Executive Summary directly to all Community Advisory Board members, among other community partners. TBHC will maintain a printed copy of the CHNA at the hospital at all times for public inspection upon request.

For more information regarding the CHNA, or to submit comments or feedback, contact Lenny Singletary, Senior Vice President of External Affairs, Marketing & Strategy (lsingletary@tbh.org).

Appendix A: Public Health Secondary Data References

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Appendix B: Key Informant Survey Participants

Key Informant Organization	Key Informant Title/Role
Brooklyn Community Board 2	Asst. District Manager
Community Board 2	District Manager
Emmanuel Baptist Church	Director of Volunteer Services
Ingersoll Tenant Association, Inc.	President
Planned Parenthood Federation of America	Managing Director of Development
Sonny Archer Law Enforcement Foundation Inc.	President
TBHC CAB Member	Member
TBHC CAB Member	Secretary
TBHC CAB Member	Vice Chair
The Brooklyn Hospital Center	Chair
The Brooklyn Hospital Center	Chair - Emergency Medicine
The Brooklyn Hospital Center	Chairman of Dentistry
The Brooklyn Hospital Center	Chief Information Officer
The Brooklyn Hospital Center	Vice President

Appendix C: Community Advisory Board Members

One of the ways that TBHC keeps connected to the community is through our Community Advisory Board (CAB). The CAB is a diverse group of individuals with strong ties to the community we serve. Each advisor has a keen understanding of how our hospital works. This knowledge enables us to tailor our programs and services so that TBHC targets the healthcare needs of residents in our neighborhoods.

TBHC's CAB members are committed to:

- Assist in assessing and identifying the health needs of the community.
- Offer guidance in identifying local strengths, weaknesses, opportunities and potential threats to THBC.
- Cultivate and maintain relationships with community leaders, community-based organizations and civic groups to strengthen the hospital's link to the community.
- Assist hospital administration in its community outreach efforts.
- Organize community forums of mutual interest to TBHC and the community.
- Monitor TBHC's patient satisfaction process to ensure that issues are addressed and resolved appropriately.
- Communicate how our community views TBHC.

The Community Advisory Board meets the third Tuesday of each month, except in July, August and December. If you are interested in becoming a CAB member, please contact 718.250.8391.

2018-2019 Community Advisory Board Members
Kim Best, PhD, Chair
Loretta Patton-Greenidge, MD, Vice Chair
Deborah Benson, Secretary
Gary G. Terrinoni, TBHC CEO and President

Michael Banach
Eva Berrios-Colon, PharmD, MPH, BCPS, CACP
Renee Collymore
Amanda de Geneste-Archer
Samuel Dunston
Fulvia Forbes
Deborah Garcia
Rev. Earl Jones
Pearl Jones
Habib Joudeh
JoAnn Joyner, PhD
Ray Knights
Mohammad Sadique
Mavis Veronica Yon