Richmond University Medical Center

Community Health Needs Assessment & Community Service Plan for Richmond County (Staten Island) December 2019

Participating Local Health Department (LHD):
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Table of Contents

A. Executive Summary

Richmond University Medical Center (RUMC) is a 470+ bed healthcare facility and teaching institution serving borough residents as a leader in the areas of acute, medical, and surgical care. RUMC is committed to understanding and addressing the most pressing health and wellness concerns for Staten Island. To ensure our services are aligned with the healthcare needs of our community, we conduct a Community Health Needs Assessment (CHNA) every three years. This study helps us to determine and portray health status, gather stakeholder perspectives, define existing community assets, and ultimately better serve our community.

CHNA Leadership

RUMC representatives led the 2019 CHNA and oversaw research and stakeholder engagement. Steering Committee members are listed below, along with the consultant team members. Community health consultants assisted in all phases of the CHNA, including project management, data collection and analysis, and report writing.

Richmond University Medical Center CHNA Steering Committee

- Sara Gardner, MPH, Board Member & Executive Director, Fund for Public Health NYC
- Alex Lutz, Director of Public Relations and Marketing
- Krista Desiderio, Senior Public Relations and Marketing Specialist
- Lorraine Scanni, Community Specialist

Consulting Team

- Colleen Milligan, MBA, Director, Community and Stakeholder Research
- Catherine Birdsey, MPH, CHNA Research Manager
- Jessica Losito, BA, Research Consultant

CHNA Methodology

The 2019 CHNA was conducted from February to June 2019 and included quantitative and qualitative research methods to determine health trends and disparities within Staten Island. 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 22 community representatives to solicit feedback on community health priorities, underserved populations, and partnership opportunities. A list of participating representatives is included in Appendix B.

Community Engagement

In assessing the health needs of the community, RUMC solicited and received input from persons who represent the broad interests of the community. These individuals 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.

RUMC is an active partner in the Staten Island community. Our community partners were invited to participate in the CHNA as key informants, and are important stakeholders in our initiatives to address priority health needs. The Community Health Improvement Plan on page 77 details ways in which we will work with local partners to address identified health needs. Our community partnerships include, but are not limited to, the following:

- RUMC is a member of Staten Island Partnership for Community Wellness (SIPCW) which brings together partners, stakeholders, and community members to focus on Staten Islanders in need, especially those facing health burdens or inequities.
- RUMC co-leads the Staten Island Performing Provider System (SI PPS) with Staten Island University Hospital, which fosters collaboration among more than 70 community-based Staten Island partners.

Prevention Agenda Priorities

To work toward health equity, it is imperative to prioritize resources and activities to address the most pressing health needs within Staten Island. Using feedback from community stakeholders

and taking into account the medical center's expertise and resources, RUMC will focus efforts on these two New York State Prevention Agenda priorities.

- Prevent Chronic Diseases
- Promote Well-Being and Prevent Mental and Substance Use Disorders

Specifically, through its community benefit and health improvement activities, RUMC will emphasize tobacco prevention, preventive care and disease management, and increasing access to prevention and treatment services for mental and substance use disorders.

RUMC will employ evidence-based initiatives to address the identified priority areas, and leverage resources and partnerships across the community to improve outcomes for residents. The following section highlights select programs from RUMC's approach to address chronic disease, mental health, and substance use disorder. To measure program success, RUMC will track participation and outcomes, as outlined in the Evaluation of Impact section on page 70.

Tobacco Prevention Strategies and Initiatives

- Tobacco Cessation Program: RUMC offers a community tobacco cessation program two times per year, as well as a Certified Tobacco Treatment Specialist providing cessation counseling and health education specifically targeting youth vaping.
- Tobacco Use Disorder Treatment: RUMC provides treatment for tobacco use disorders within our Center for Integrative Behavioral Medicine. The program was implemented with support from the NYC Tobacco Cessation Training & Technical Assistance Center.

Preventive Care and Management Strategies and Initiatives

- New York State Department of Health Cancer Services Program (CSP): As a partner agency in the CSP, RUMC provides free breast, cervical, and colorectal screenings and diagnostic services to eligible women and men who live in New York.
- Breast Health Patient Navigation Initiative: Supported by a grant from the NYC Affiliate of Susan G. Komen for the Cure®, RUMC provides navigation services to increase access to mammography and breast healthcare, targeting underserved women.

- Care Transitions Program: RUMC supports this program in collaboration with the Visiting Nurse Association to reduce 30-day readmission rates within the Medicaid population.
- Medicaid Accelerated Exchange (MAX): RUMC supports this program as part of the SI PPS to improve outcomes and reduce unnecessary care for Emergency Department (ED) super-utilizers.
- Diabetes Management Program: RUMC supports this program as part of the SI PPS to ensure use of evidence-based protocols for diabetes management in the clinical setting, and improve patient outcomes through care management incentives and services.
- Bariatric and Metabolic Institute: RUMC opened the institute in August 2018 to offer diverse surgical and non-surgical care to assist residents struggling with obesity.

Prevent Mental and Substance Use Disorders Strategies and Initiatives

- Behavioral Health Infrastructure Project: RUMC serves on the steering committee for this SI PPS-based project, which focuses on reducing unnecessary hospitalizations and increasing access to quality behavioral health services on Staten Island.
- Peer Counselor Warm Handoff Program: RUMC provides this program in partnership with community providers to connect patients seen in the ED for a substance use disorder with timely and appropriate withdrawal management and treatment services.
- Relay: RUMC provides Relay Peers to provide follow-up consultation for patients seen in the ED for a nonfatal overdose. The program was implemented in partnership with the NYC DOHMH and Community Health Action of Staten Island (CHASI).
- Opioid Overdose Prevention Program: As a registered Opioid Overdose Prevention Program, the RUMC Silberstein Clinic provides training to community members, patients, and professionals on how to recognize, respond, and give Naloxone.
- Tackling Youth Substance Abuse: RUMC is a partner in the SIPCW Tackling Youth Substance Abuse program to educate the community, reduce stigma, share data, and provide opportunities for youth and community engagement, among other services.

Board Approval

The RUMC 2019 CHNA Final Report and corresponding Implementation Plan/Community Service Plan were reviewed and approved by the Board of Directors on October 29, 2019. The report and plan are available for review and comment on the RUMC website: https://www.rumcsi.org/.

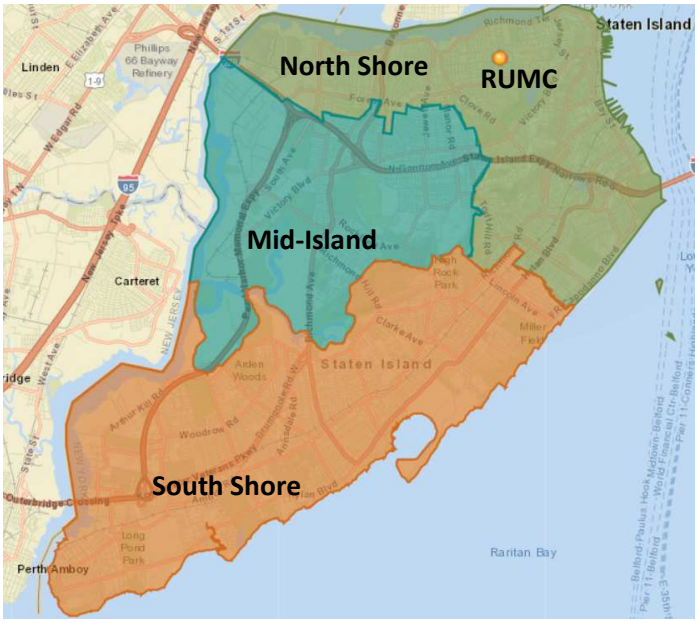
B. Community Health Assessment

Richmond University Medical Center Service Area

RUMC serves residents of Staten Island, one of the five boroughs comprising NYC. Staten Island is divided geographically into three areas: North Shore, Mid-Island, and South Shore. RUMC is located within the North Shore and primarily serves residents of this area.

The population of the North Shore is uniquely diverse. A recent report by the Citizen's Committee for Children of New York stated, "The North Shore is one of only 10 community districts in the city where no racial/ethnic group represents more than 40% of the population. However, across the seven neighborhoods that make up the North Shore, the demographic characteristics of the population and outcomes vary greatly. For example, Caucasian residents make up more than 70% of the population in Westerleigh, while African American and Latino residents make up more than 70% of the population in Grymes Hill-Park Hill." Economic indicators for the North Shore are also unique with notable differences in income across neighborhoods, and a high proportion of residents both living in poverty and affluence.

Richmond University Medical Center Service Area



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."

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

Summary of CHNA Research Findings

Population Overview

The population of Staten Island is more similar to the nation than the other NYC boroughs in terms of racial composition, with Caucasians representing the majority, but current population projections anticipate increasing diversity in years to come. Latinx residents are among the fastest growing demographic in Staten Island. Related to age, Staten Island residents are slightly older than other New Yorkers, as evidenced by a median age of 39.5 versus 36.8.

As a whole, Staten Island has strong economic indicators, but disparities exist among racial groups

Strong financial indicators are associated with a high quality of life and support positive health outcomes. Staten Islanders are generally more financially comfortable than most other New Yorkers. This finding is evidenced by a high median income ($82,540), low poverty (13%), low unemployment (3.6%), and high percentage of homeowners (64.9%). However, when stratified by race, African Americans and Latinxs are more likely to live in poverty than other demographic groups in Staten Island. When reviewed at the zip code level, Staten Island zip codes that are more racially diverse and have a younger population tend to experience greater socioeconomic need.

Education is a strong indicator of community economic stability, quality of life, and health outcomes. Staten Islanders are more likely to complete high school than their peers across NYC and the nation, and roughly 1 in 3 adults have completed a bachelor's degree or higher. When stratified by race, African Americans and Latinxs in Staten Island are more likely to have completed a bachelor's degree or higher than their peers in NYC, but less likely when compared to other demographic groups within Staten Island.

Health Data Trends

Staten Island residents have better access to healthcare, including health insurance and providers

People living in Staten Island are more likely to have health insurance and a regular doctor than most other people in NYC. Health insurance coverage rates are also higher when stratified by age, race, and ethnicity. Staten Island has more primary care physicians per 100,000 population than the nation, and equivalent rates of dentists and mental health providers. These findings suggest that Staten Island residents have better access to medical care.

While access to medical care is essential in effectively treating illness and injury, positive health behaviors can help prevent illness and disease, improve longevity, and enhance quality of life. People in Staten Island are more likely to have access to medical care, but they do not live as long as most of their NYC peers, as evidenced by a slightly higher premature death rate. Health behavior and outcomes data findings that may contribute to premature death are outlined below.

Staten Island residents are more likely to smoke and use e-cigarettes, contributing to poor health outcomes

Adults and youth in Staten Island are more likely to be smokers and to use electronic cigarettes than other New Yorkers. Tobacco use is a significant risk factor for the development of disease, such as cancer and heart disease, and a contributor to

early death. Preventing young people from starting smoking and electronic cigarette use and providing cessation support would serve to increase longevity and reduce the high rates of death due to respiratory disease, cancer, and heart disease seen in Staten Island.

Overdose deaths decreased citywide from 2017 to 2018, but increased 18% in Staten Island

Nationwide there has been an increase in the number of overdoses due to opioids and other drugs. Staten Island has not escaped this growing problem, and has the second highest rate of death due to overdose in NYC. While the number and rate of overdose deaths declined citywide from 2017 to 2018, Staten Island saw an 18% increase. Residents of South Beach-Tottenville, Stapleton-St. George, and Port Richmond had among the highest death rates of all NYC neighborhoods. The overdose death trend should continue to be monitored as Staten Island teens continue to report a slightly higher rate of heroin use (4.3%) than NYC overall (3.9%), while use of other substances among teens is lower.

Staten Islanders are less likely than other New Yorkers to be heavy drinkers, but they are more likely to engage in binge drinking. This is true for both adults and teens in Staten Island. Binge drinking is a risk factor for a variety of diseases and injury, and can have a negative impact on mental health for individuals and their families.

Substance use disorder is a risk factor for a wide range of health problems including early death. The disorder affects not only the individual impacted, but their families and communities as well. While substance use disorder does not cause mental illness, it does exacerbate underlying disease, and is a significant contributor to episodic mental health crises. Addressing the underlying factors contributing to the extent of substance use disorder in Staten Island, including alcohol use, would improve quality of life and wellness and extend longevity.

People in Staten Island report generally low incidence of poor mental health days, and experience fewer mental health diagnoses than other New Yorkers and the nation. The rate of death due to mental and behavioral health disorders and suicide is lower in Staten Island than in most other locations. These are positive indicators that contribute to a healthy community. However, care must be taken to ensure that these protective factors are supported, particularly in relation to the growing negative outcomes associated with substance use disorder.

More North Shore residents experience health disparity, primarily driven by socioeconomic distress

North Shore residents experience greater health disparity. The premature death rate in this region is the highest in the borough and higher than NYC overall. Health disparity among residents is primarily driven by socioeconomic distress and lack of services. Within the North Shore, there is one grocery store for every 17,400 residents, nearly half the citywide rate, and select neighborhoods are designated as Medically Underserved Areas. These factors contribute to poor health outcomes and high healthcare utilization, as evidenced by ED visit rates and hospitalizations for manageable conditions.

Staten Island Demographic Data Analysis

Staten Island data are presented with NYC and national data sets to demonstrate broad trends and areas of strength and opportunity. Demographic analysis by zip code follow the county level analysis to provide a detailed view of population statistics. All reported data were provided by ESRI Business Analyst, 2018 and the US Census Bureau unless otherwise noted.

The 2018 population of Staten Island is 485,143; approximately 42% of residents live in the North Shore. The North Shore experienced the greatest population growth of the three Staten Island regions from 2010 to 2018 (2.7%) and is projected to experience the greatest growth through 2023 (2.7%). Staten Island overall is projected to experience 2.4% population growth by 2023 compared to 3.3% across NYC.

Although Staten Island is one of NYC's five boroughs, its racial composition more closely mirrors the US. In Staten Island, the majority of residents are Caucasian (70.1%), with roughly 1 in 5 residents Latinx of any race. Population projections predict that by 2023, Staten Island will be more diverse than today, consistent with trends anticipated in the nation in general. The population in Staten Island is slightly older than NYC and the nation in general.

Nearly 1 in 3 households in Staten Island report speaking a language other than English at home, more than the nation, but lower than NYC overall. Among individuals speaking a language other than English, 40.5% speak an Indo-European language (e.g. Italian, German) and 34.5% speak Spanish. This finding is consistent with the ethnic and ancestral makeup of Staten Island.

31% of Staten Island residents speak a primary language other than English, higher than the nation

2018 Population Overview

	Caucasian	African American	Asian	Latinx (any race)	Language Other than English Spoken at Home*
Staten Island	70.1%	10.9%	8.9%	19.1%	31.0%
New York City	42.1%	24.5%	14.7%	29.6%	49.0%
United States	70.0%	12.9%	5.7%	18.3%	21.1%

*Data is reported for 2012-2016 based on availability.

2010-2023 Population Change by Race/Ethnicity

	Caucasian		African American		Asian		Latinx	
	2010	2023	2010	2023	2010	2023	2010	2023
Staten Island	72.9%	67.9%	10.6%	11.1%	7.5%	10.0%	17.3%	20.7%
New York City	44.0%	41.0%	25.6%	23.7%	12.7%	16.3%	28.6%	30.2%
United States	72.4%	68.2%	12.6%	13.0%	4.8%	6.4%	16.4%	19.8%

2018 Population by Age

	Under 15	15-24 years	25-34 years	35-54 years	55-64 years	65+ years	Median Age
Staten Island	17.8%	12.4%	13.8%	26.4%	13.3%	16.3%	39.5
New York City	17.3%	13.0%	17.0%	26.2%	11.9%	14.6%	36.8
United States	18.6%	13.3%	13.9%	25.3%	13.0%	16.0%	38.3

Residents of Staten Island have higher incomes and are less likely to live in poverty than other residents of NYC. While the median income in Staten Island is noticeably greater than the nation in general, the proportion of adults and children experiencing poverty is similar, suggesting income disparity within Staten Island.

The median household income in Staten Island exceeds the nation by nearly $25,000, but more than 1 in 10 individuals live in poverty

2018 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
Staten Island	$82,540	12.9%	17.9%	12.3%
New York City	$57,810	19.6%	27.8%	20.2%
United States	$58,100	14.6%	20.3%	12.6%

When stratified by race, the percent of African American and Latinx people living in poverty in Staten Island is similar to NYC or the nation in general. Caucasian people and Asian people in State Island are less likely to experience poverty than their peers in NYC. This finding suggests that race and ethnicity has an effect on the economic disparity seen in Staten Island.

Consistent with NYC and the nation, approximately one-quarter of African American and Latinx residents in Staten Island live in poverty

2013-2017 Poverty Rates by Race and Ethnicity

	Staten Island	New York City	United States
Caucasian	9.7%	14.4%	12.0%
African American	26.1%	22.3%	25.2%
Asian	12.6%	18.5%	11.9%
Latinx	23.7%	27.3%	22.2%

Unemployment in Staten Island is low. Residents of all races and ethnicities are less likely to be unemployed than their peers in NYC and throughout the nation. Workers living in Staten Island are more likely to have white collar jobs than blue collar jobs, but in proportions consistent with NYC and the nation as a whole.

Staten Island unemployment is low at 4%, and similar among reported racial and ethnic groups

2018 Occupation and Unemployment Indicators

	White Collar Workforce	Blue Collar Workforce	Unemployment
Staten Island	63.0%	37.0%	3.6%
New York City	62.0%	38.0%	5.1%
United States	61.0%	39.0%	4.8%

2013-2017 Unemployment Rates by Race and Ethnicity

	Staten Island	New York City	United States
Caucasian	5.2%	5.6%	5.5%
African American	7.6%	11.5%	11.9%
Asian	4.7%	5.9%	5.1%
Latinx	6.1%	9.5%	7.6%

Residents of Staten Island are more than twice as likely as other New Yorkers to own their homes. While the median home value in Staten Island is nearly $100,000 less than NYC in general, it is still more than two times greater than the national median. The proportion of renters and homeowners in Staten Island is similar to the nation, but homeowners in Staten Island are more likely to be cost burdened by their home than homeowners across the nation.

Residents are just as likely to own their home as residents across the nation, although they are more cost burdened

2018 Households by Occupancy and Housing Cost Burden

	Renter-Occupied	Cost Burdened Renters*	Owner-Occupied	Median Home Value	Cost Burdened Owners*
Staten Island	35.2%	54.5%	64.9%	$480,013	44.3%
New York City	69.1%	53.9%	30.9%	$578,299	46.8%
United States	36.9%	51.1%	63.1%	$218,492	30.8%

*Data is reported for 2012-2016 based on availability.

Education is a strong indicator of community economic stability. Staten Island residents have more years of education than other New Yorkers and most Americans. When viewed as a whole, 1 in 3 Staten Island residents has completed a bachelor's degree or higher, while roughly 1 in 10 did not complete high school. Both of these indicators represent better outcomes than NYC or the nation.

The percentage of residents with less than a high school diploma decreased from the 2016 CHNA report (11.3%)

2018 Population (25 Years or Over) by Educational Attainment

	Less than a High School Diploma	High School Graduate/GED	Bachelor's Degree or Higher
Staten Island	10.6%	30.9%	32.8%
New York City	18.4%	23.7%	37.6%
United States	12.3%	27.0%	31.8%

When stratified by race, educational attainment in Staten Island differs from NYC and the nation. African American and Latinx residents are less likely to complete a bachelor's degree compared to Caucasian or Asian residents, but more likely to complete a bachelor's degree than their peers in NYC or across the nation. Roughly 1 in 3 Caucasian residents have completed a bachelor's degree, which is commensurate with the US in general, but fewer than the nearly half of Caucasian NYC residents who have completed a bachelor's degree.

2013-2017 Bachelor's Degree or Higher by Race and Ethnicity

	Staten Island	New York City	United States
Caucasian	32.3%	49.1%	32.2%
African American	26.4%	23.6%	20.6%
Asian	43.6%	41.2%	52.7%
Latinx	18.2%	17.4%	15.2%

Staten Island Zip Code Analysis

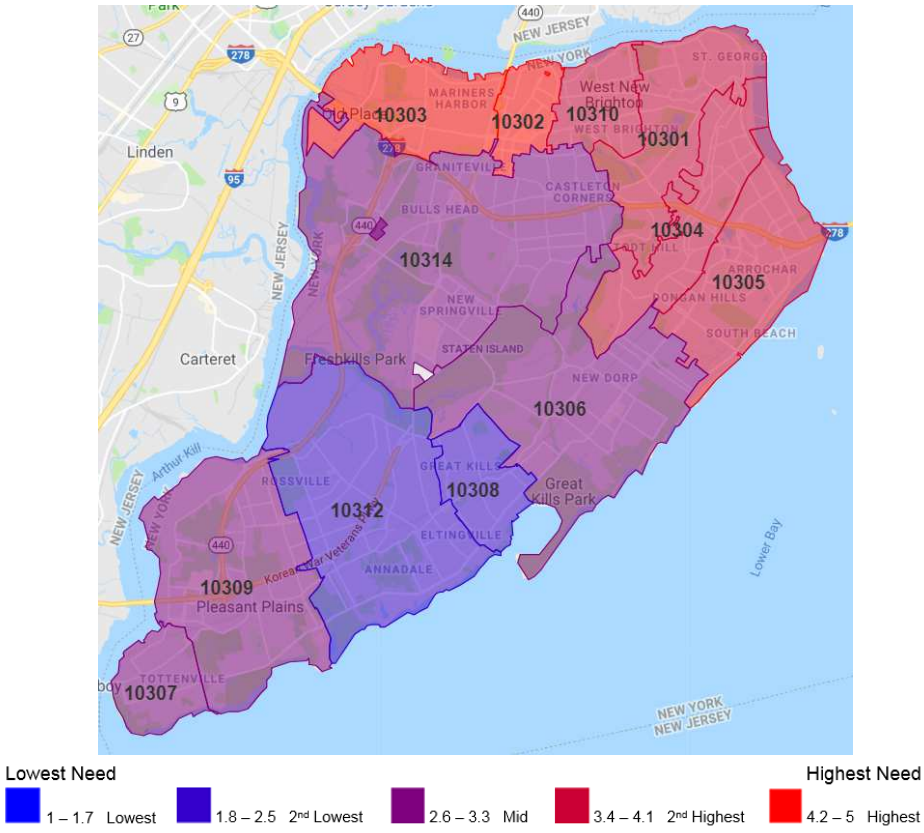
Zip code of residence is one of the most important predictors of health disparity; where residents live matters in determining their health. The Community Need Index (CNI) was developed by Dignity Health and Truven Health Analytics to illustrate the potential for health disparity at the zip code level. The CNI scores zip codes on a scale of 1.0 (low need) to 5.0 (high need) based on data indicators for five socioeconomic 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 Staten Island is 3.2, indicating moderate overall community needs. The CNI score for NYC overall is 3.5. North Shore zip codes have the highest CNI scores in Staten Island, 3.6 (zip code 10305) to 4.4 (zip code 10303).

The CNI score for Staten Island is 3.2, indicating moderate overall community need, but the CNI score for North Shore zip codes is higher (3.6 - 4.4)

Community Need Index for Staten Island



The following tables list the social determinants of health contributing to zip code CNI scores. Social determinant of health indicators are shown for all Staten Island zip codes and presented in descending order by CNI score to allow RUMC to focus its health improvement efforts where it can have the greatest impact. Cells highlighted in yellow are more than 2% points *higher* than the Staten Island statistics. Note: The 2% point difference does not represent statistical significance.

This data suggests that the zip codes with the greatest proportion of poverty and uninsured are also the zip codes that tend to have more young people and are more racially and ethnically diverse. Among the zip codes that are predominately Caucasian, there are larger proportions of people over age 65 than in the other zip codes. Unemployment is relatively low in all zip codes, indicating that employment is not a notable factor contributing to low levels of insurance and higher proportions of people receiving food stamps.

Social Determinants of Health by Zip Code

	HHs in Poverty	HHs Receiving Food Stamps/ SNAP	Children in Poverty	Language Other than English Spoken at Home	Unemp-loyment	Less than HS Diploma	Without Health Insurance	CNI Score
Staten Island	**13.6%**	**12.5%**	**17.6%**	**31.0%**	**3.6%**	**10.6%**	**6.6%**	**3.2**
Zip Code 10303	27.6%	25.0%	31.5%	44.2%	3.9%	17.3%	9.4%	4.4
Zip Code 10302	24.5%	22.0%	33.5%	40.6%	3.2%	14.6%	13.4%	4.2
Zip Code 10304	23.5%	25.2%	31.3%	38.6%	4.3%	16.9%	10.7%	4.0
Zip Code 10310	16.8%	19.2%	24.4%	30.1%	6.0%	12.7%	9.3%	4.0
Zip Code 10301	19.5%	19.7%	37.1%	30.2%	3.7%	13.7%	8.3%	3.8
Zip Code 10305	13.0%	14.4%	13.5%	46.4%	3.8%	11.8%	8.2%	3.6
Zip Code 10306	10.8%	9.2%	9.4%	31.4%	3.6%	9.1%	5.1%	3.2
Zip Code 10314	11.4%	9.0%	10.9%	32.0%	3.1%	9.2%	5.7%	3.0
Zip Code 10307	8.9%	6.0%	10.2%	13.8%	3.4%	7.9%	5.7%	2.6
Zip Code 10309	7.8%	6.2%	10.2%	23.6%	2.4%	6.7%	3.7%	2.6
Zip Code 10308	7.6%	5.5%	8.0%	22.7%	3.8%	7.4%	4.4%	2.4
Zip Code 10312	7.2%	4.7%	8.1%	19.3%	3.5%	6.9%	3.3%	2.0
New York City	**19.2%**	**20.4%**	**29.0%**	**49.0%**	**5.1%**	**18.4%**	**11.0%**	**3.5**

*Data is reported for 2012-2016. Exception: Unemployment and education percentages reported for 2018.

2018 Demographic Indicators by Zip Code

	Caucasian	African American	Latinx	Under 15	15-24	25-34	35-54	55-64	65+
Staten Island	**70.1%**	**10.9%**	**19.1%**	**17.8%**	**12.4%**	**13.8%**	**26.4%**	**13.3%**	**16.3%**
Zip Code 10303	32.4%	36.6%	38.9%	22.2%	16.2%	15.3%	26.0%	10.9%	9.4%
Zip Code 10302	46.1%	21.5%	44.3%	21.8%	14.5%	15.7%	25.6%	10.9%	11.5%
Zip Code 10304	44.1%	29.2%	26.8%	19.5%	14.3%	14.7%	24.9%	12.5%	14.1%
Zip Code 10310	51.6%	23.6%	32.0%	21.5%	14.2%	14.3%	24.8%	12.3%	12.9%
Zip Code 10301	51.1%	25.2%	26.6%	17.2%	14.9%	14.3%	25.6%	12.9%	15.1%
Zip Code 10305	72.6%	4.9%	19.6%	16.5%	12.1%	14.4%	27.0%	13.6%	16.4%
Zip Code 10306	86.0%	2.1%	13.7%	16.1%	11.0%	12.8%	26.5%	14.5%	19.1%
Zip Code 10314	72.3%	4.4%	14.5%	16.7%	11.0%	13.2%	25.9%	13.9%	19.4%
Zip Code 10307	92.2%	0.7%	9.4%	18.2%	11.9%	14.3%	29.4%	13.4%	13.0%
Zip Code 10309	89.4%	2.5%	9.0%	17.9%	11.5%	14.2%	29.0%	13.3%	14.2%
Zip Code 10308	91.9%	0.6%	9.4%	16.2%	11.4%	12.7%	26.2%	14.4%	19.3%
Zip Code 10312	89.0%	1.1%	9.3%	16.9%	10.8%	13.0%	27.3%	13.8%	18.3%
New York City	**42.1%**	**24.5%**	**29.6%**	**17.3%**	**13.0%**	**17.0%**	**26.2%**	**11.9%**	**14.6%**

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 New York City 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 NYC and national averages and 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 boroughs of NYC (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.

Access to Healthcare

Staten Island was ranked #14 out of 62 counties in New York for clinical care and is the second ranked NYC borough, as reported by the 2018 University of Wisconsin County Health Rankings & Roadmaps program. Staten Island was ranked #16 as of the 2016 CHNA, indicating it improved its rank. The clinical care ranking is based on several indicators, including health insurance coverage and provider access.

2018 NYC County Health Rankings for Clinical Care

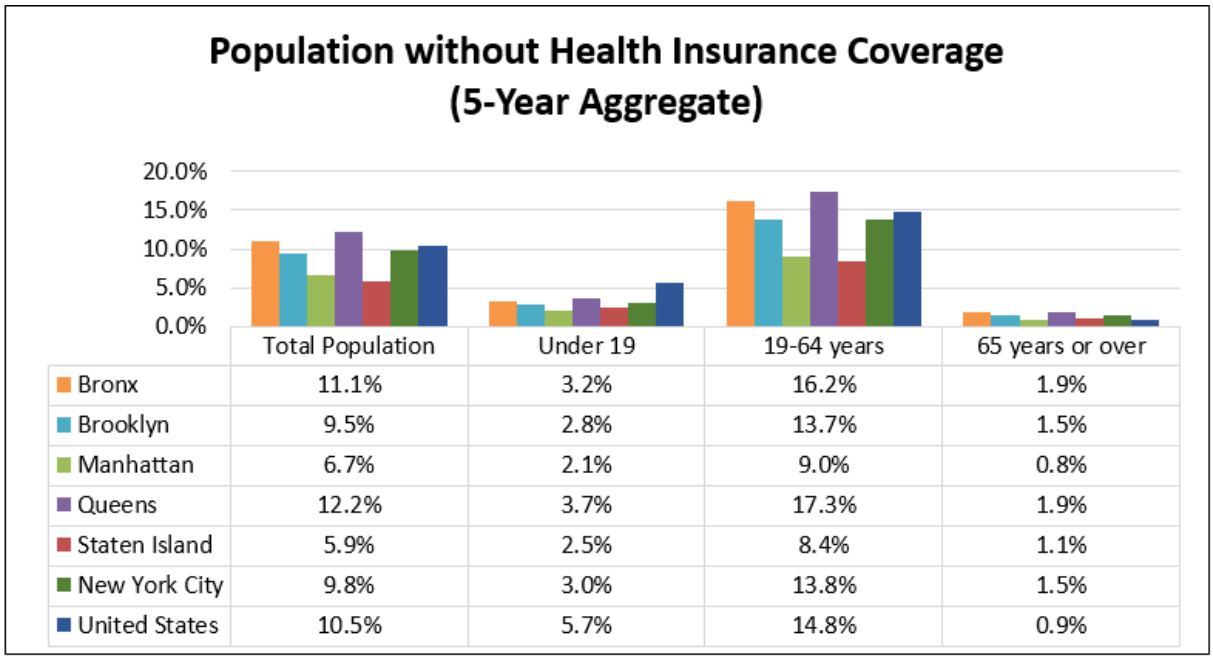
#5 Manhattan
#14 Staten Island
#52 Brooklyn
#61 Queens
#62 Bronx

The percent of uninsured New Yorkers is lower than the national average for all age groups, except 65 years and over. Residents of Staten Island are more likely than nearly all other New Yorkers to have health insurance. More than half of Staten Island residents are covered by health insurance provided by their employers, a greater proportion than NYC and the nation. Having health insurance, particularly employer-based insurance, helps remove significant barriers to accessing healthcare.

Staten Island has fewer uninsured than the other NYC boroughs; the percent uninsured declined 5 percentage points from 2013 to 2017

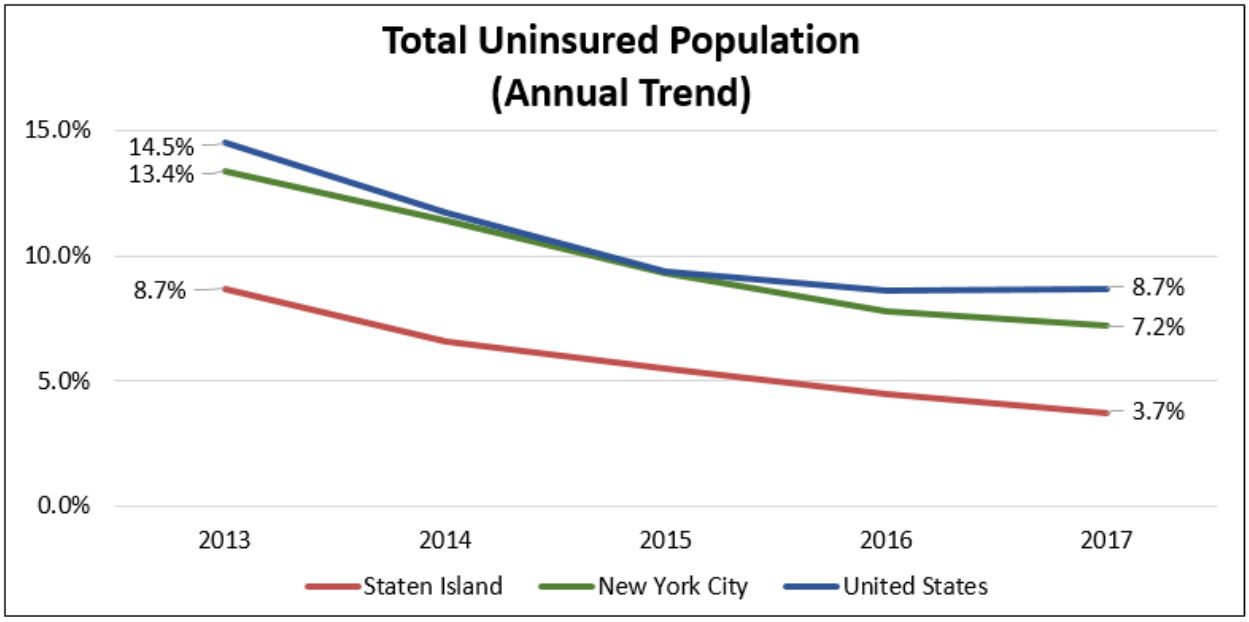
When stratified by race and ethnicity, Staten Island residents are more likely to be insured than their peers in NYC and the nation in all categories. However, Latinxs are more than two times as likely to be uninsured than Caucasians, with more than 1 in 10 Latinxs of all ages without insurance.

More than twice as many Latinx residents are uninsured than Caucasians



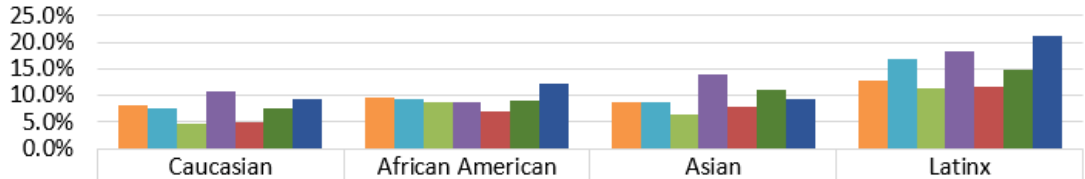
	Total Population	Under 19	19-64 years	65 years or over
Bronx	11.1%	3.2%	16.2%	1.9%
Brooklyn	9.5%	2.8%	13.7%	1.5%
Manhattan	6.7%	2.1%	9.0%	0.8%
Queens	12.2%	3.7%	17.3%	1.9%
Staten Island	5.9%	2.5%	8.4%	1.1%
New York City	9.8%	3.0%	13.8%	1.5%
United States	10.5%	5.7%	14.8%	0.9%

Source: US Census Bureau, 2013-2017



Source: US Census Bureau, 2013-2017

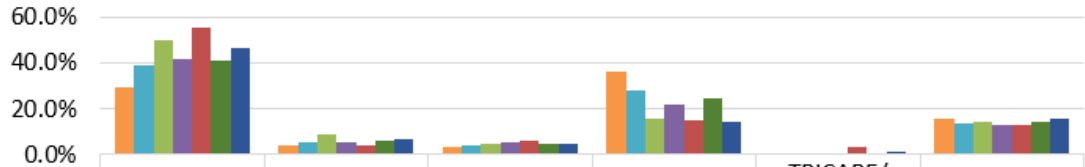
Population without Health Insurance Coverage by Race/Ethnicity



	Caucasian	African American	Asian	Latinx
Bronx	8.1%	9.5%	8.7%	12.8%
Brooklyn	7.6%	9.3%	8.7%	16.7%
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

Health Insurance Coverage by Type



	Employer-based	Direct-purchase	Medicare	Medicaid	TRICARE/ VA Health Care	Two or more types
Bronx	29.4%	3.8%	3.3%	36.2%	0.6%	16.0%
Brooklyn	38.8%	5.7%	4.4%	27.7%	0.3%	13.8%
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

Another significant factor in ensuring access to care is the number of healthcare providers available in the area. Staten Island has more primary care physicians per 100,000 than the nation and all other NYC boroughs except Manhattan. While Manhattan also has more dentists and mental health providers

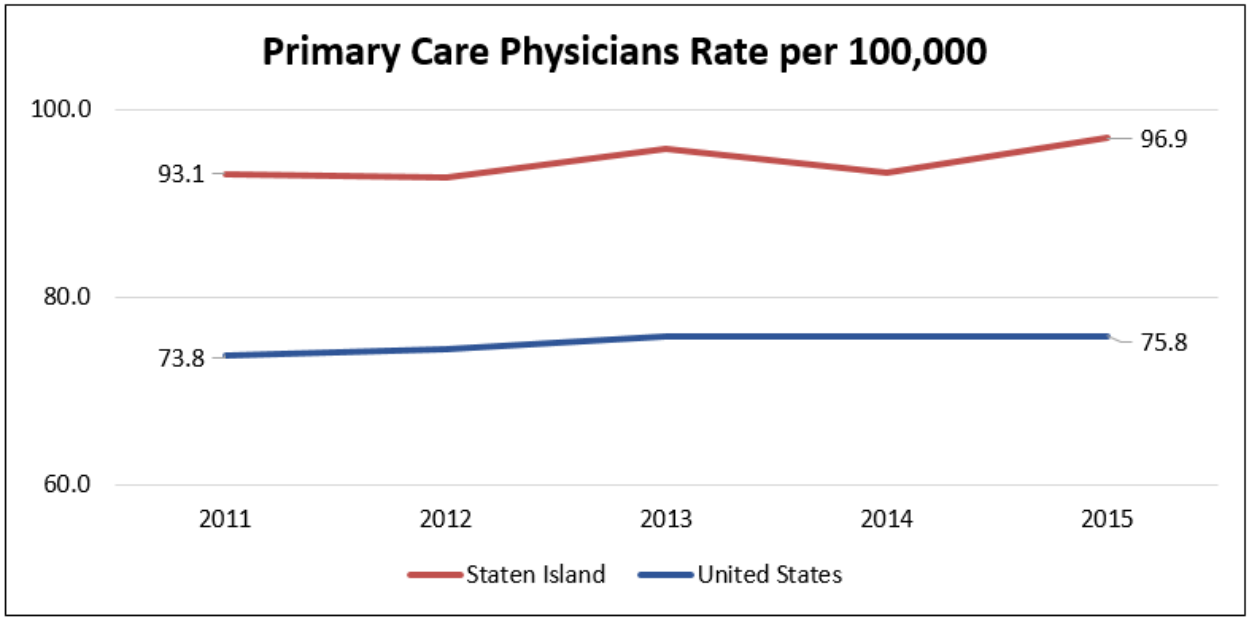
The Staten Island primary care physician rate exceeds the national rate by 20 points

per capita than Staten Island, the rates for these specialties in Staten Island is greater than most other NYC boroughs, and is comparable to the nation in general.

Provider Rates per 100,000

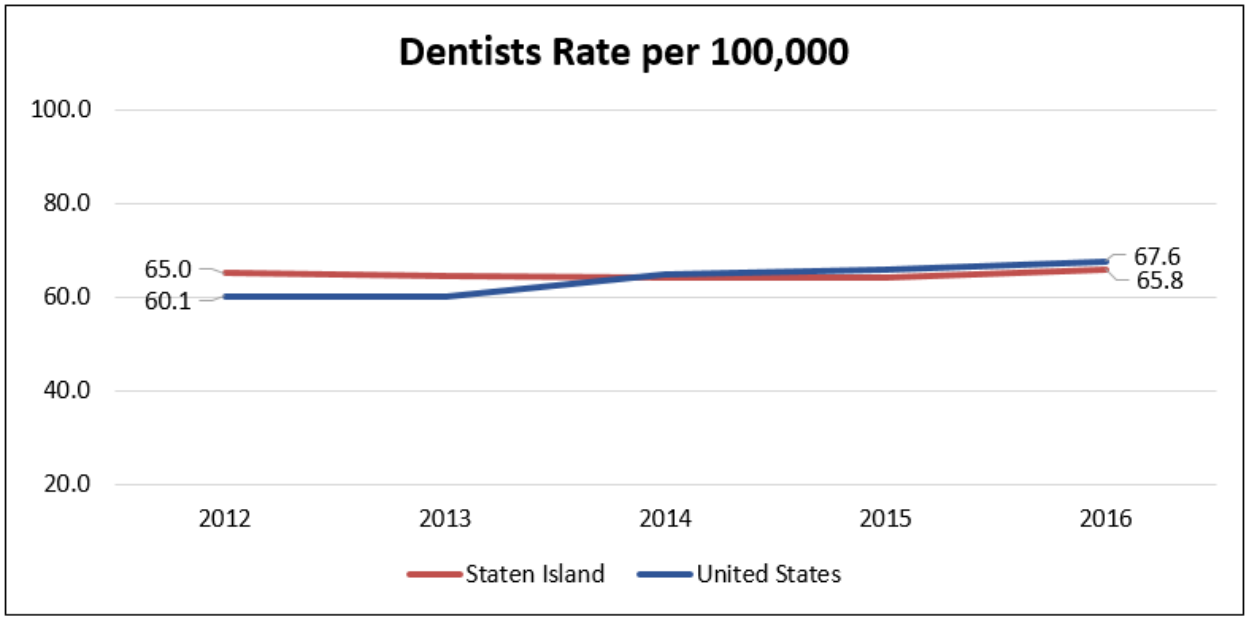
	Primary Care Physicians (2015)	Dentists (2016)	Mental Health Providers (2017)
Bronx	55.6	49.2	179.5
Brooklyn	63.6	62.4	187.9
Manhattan	136.7	176.4	764.2
Queens	64.4	72.1	140.2
Staten Island	96.9	65.8	202.7
United States	75.8	67.6	212.8

Source: Health Resources & Services Administration, 2015, 2016; Centers for Medicare and Medicaid Services, 2017

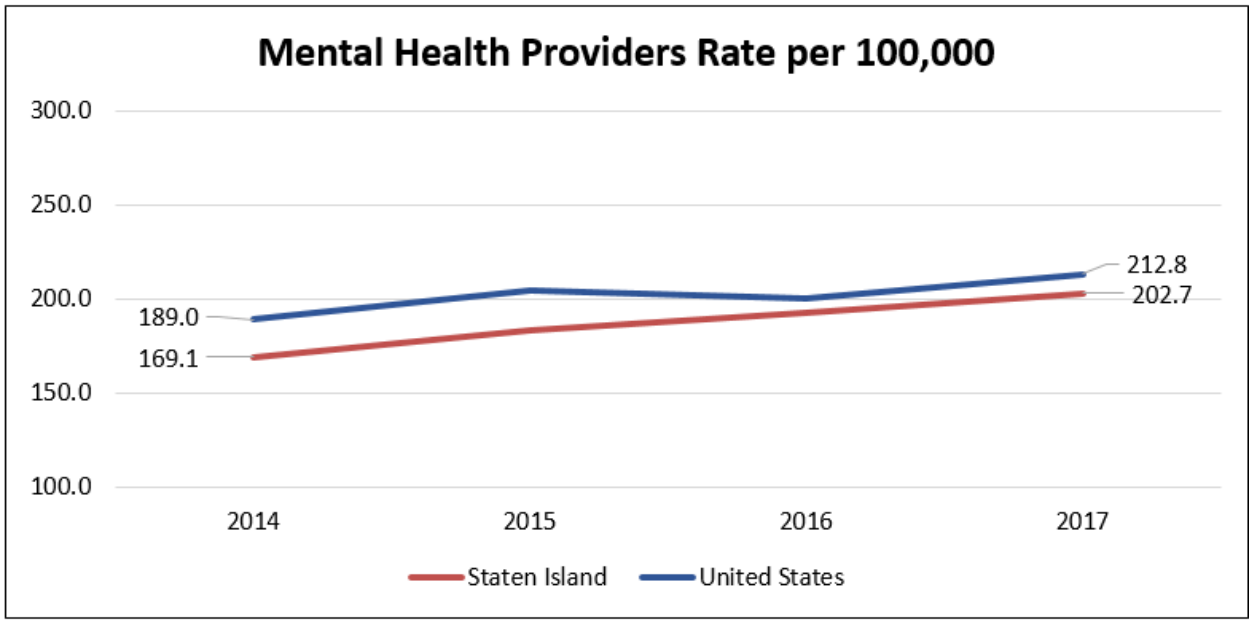


Source: Health Resources & Services Administration, 2011-2015

*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, 2012-2016



Source: Centers for Medicare and Medicaid Services, 2014-2017
*An error occurred in the County Health Rankings method for identifying mental health providers in 2013. Data prior to 2014 is not shown.

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. Medically underserved areas identify geographic areas with a lack of access to primary care services. There are no HPSAs in Staten Island. Five North Shore census tracts located in the Mariner's Harbor neighborhood, and shown on the map below, are considered MUAs.

Federally Qualified Health Centers (FQHCs) are defined as "community-based healthcare providers that receive funds from HRSA to provide primary care services in underserved areas." Services are provided on a sliding fee scale based on patient ability to pay. Staten Island has 16 FQHC locations, listed in Appendix C and shown on the map below.

Medically Underserved Areas in Staten Island (Red Shading) and FQHC Locations (Orange Pins)

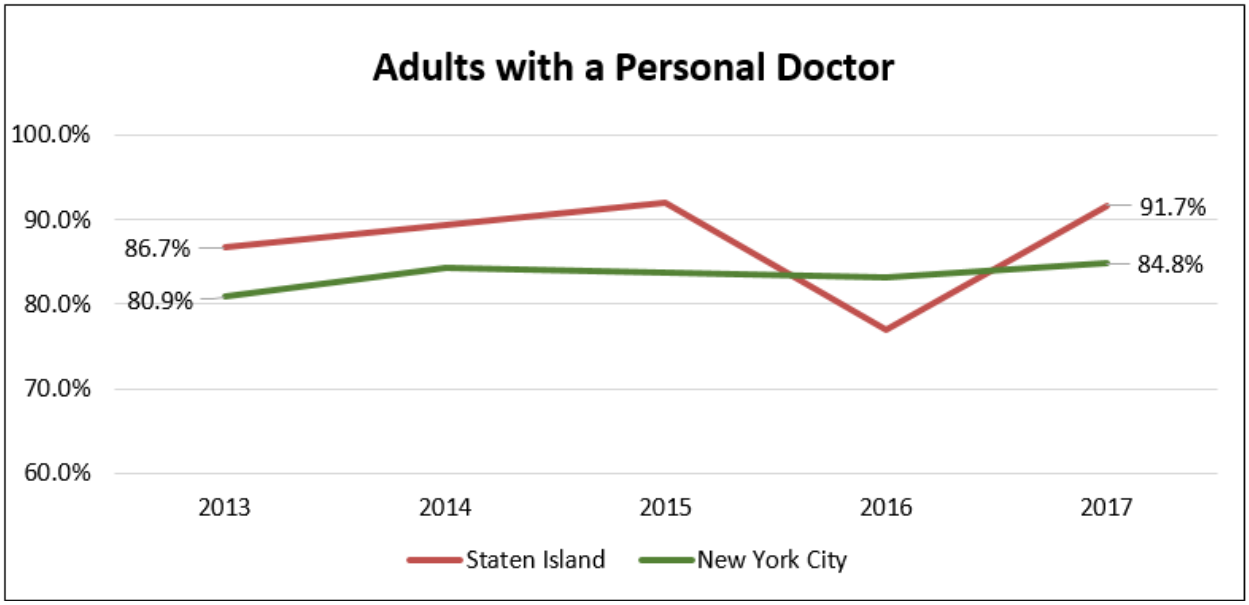
Residents of Staten Island are more likely than their peers throughout NYC to get needed medical care and have a personal doctor. These indicators suggest that in general, Staten Island residents are able to access the medical care they need when they need it.

Adults in Staten Island are the most likely of any NYC borough to have a personal doctor

Age-Adjusted Adult Healthcare Access (Highlighting = Lower than NYC Benchmark by >2 Percentage Points)

	Did Not Get Needed Medical Care in Past 12 months	Without a Personal Doctor
Bronx	13.1%	16.2%
Brooklyn	11.7%	14.9%
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

Staten Island was ranked #32 out of 62 counties in New York for health outcomes and is the fourth ranked NYC borough, as reported by the 2018 University of Wisconsin County Health Rankings & Roadmaps program. Staten Island was ranked #26 as of the 2016 CHNA. Health outcomes are measured in relation to premature death (before age 75) and quality of life.

Out of 62 counties in New York, Staten Island was ranked #14 for Clinical Care, but #32 for Health Outcomes

2018 NYC County Health Rankings for Health Outcomes

#7 Manhattan
#11 Queens
#24 Brooklyn
#32 Staten Island
#62 Bronx

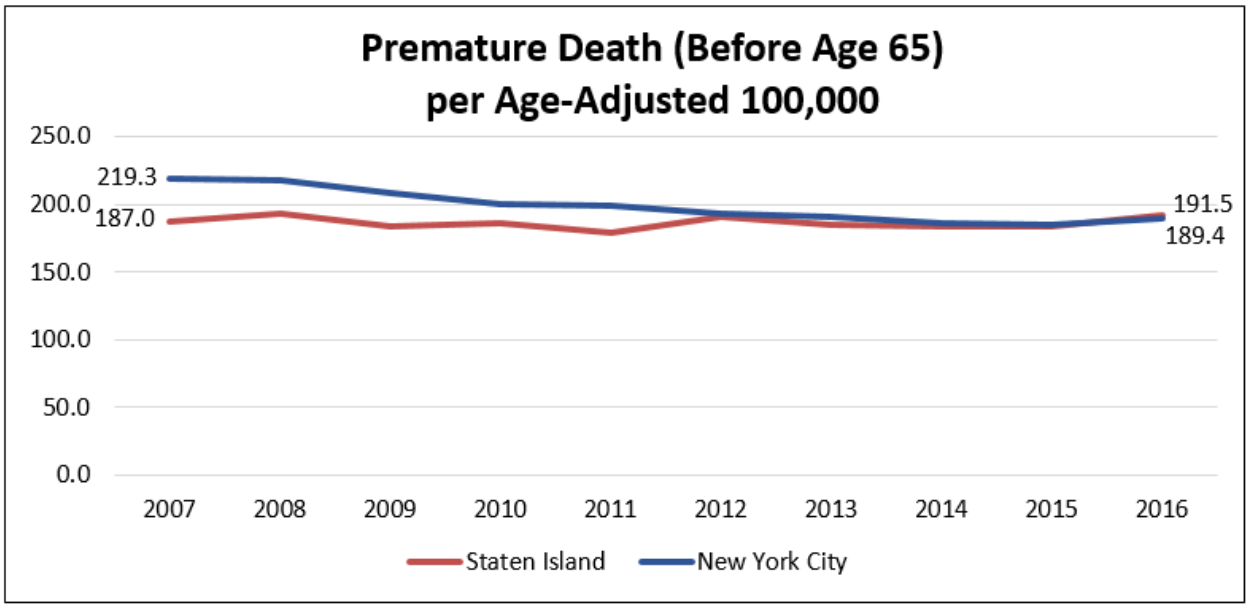
While medical care can treat disease and prolong life, longevity comes from healthy communities and healthy lifestyles. Despite having health insurance and access to medical care, Staten Island residents are not living as long as other New Yorkers. This finding suggests an opportunity to increase health promotion activities in Staten Island to encourage healthy living and disease prevention.

The premature death rate in Staten Island is slightly higher than NYC overall, and highest in the North Shore

Health Outcomes Indicators
(Red = Higher than NYC Benchmark)

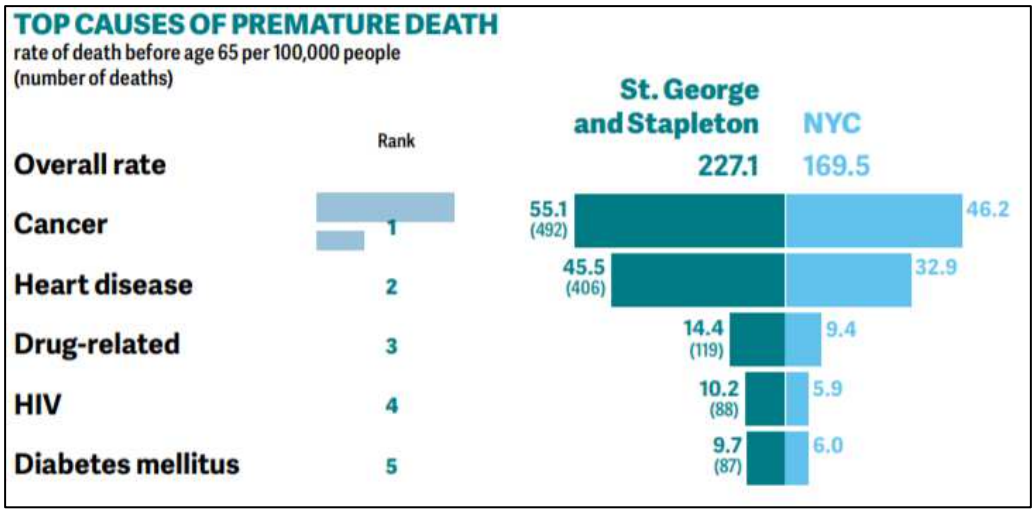
	Premature Death (Before Age 65) per Age-Adjusted 100,000	Adults with "Poor" or "Fair" Health Status (Age-Adjusted)
Bronx	237.3	29.2%
Brooklyn	181.9	23.4%
Manhattan	135.1	17.6%
Queens	130.8	24.3%
Staten Island	191.5	20.9%
New York City	189.4	23.2%

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



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

According to the NYC Department of Health and Mental Hygiene, the premature death rate for the North Shore exceeds the death rate for Staten Island and NYC overall. Cancer and heart disease are the leading causes of premature death, similar to all of NYC. All of the top five leading causes of death in NYC can be reduced by supporting health promotion activities at the community level, and encouraging healthy living choices.



Source: New York City Department of Health and Mental Hygiene, 2011-2015
*The North Shore is comprised of St. George and Stapleton

Smoking is a significant contributor to increased risk for heart disease, cancer, and other chronic diseases. Take Care New York 2020 set a goal for 12% or fewer of adults to be current smokers. The percentage of current smokers in Staten Island is double the goal, with heavy smokers comprising nearly 8%, the most of any NYC borough. The percentage of adult smokers was declining, but it increased sharply from 2016 to 2017, a move in the wrong direction.

The percentage of adult smokers in Staten Island increased from the 2016 CHNA and is double the TCNY 2020 goal

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

	Current Smoker		Current Heavy Smoker		E-Cigarette Smoker	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	16.2%	13.6%	3.1%	2.7%	6.5%	5.4%
Brooklyn	14.1%	13.6%	2.6%	2.5%	8.3%	6.1%
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 Staten Island, 64.9% report initiating smoking before the age of 18, compared to 52% of adults across NYC. Current data suggests that the proportion of Staten Island teens who smoke is greater than any other NYC borough, and 1 in 5 teen smokers are heavy smokers. Additionally, nearly 1 in 4 teens report using e-cigarettes, higher than NYC overall.

The percentage of high school students who smoke decreased, but 1 in 5 smokers are heavy smokers and 1 in 5 students use e-cigarettes

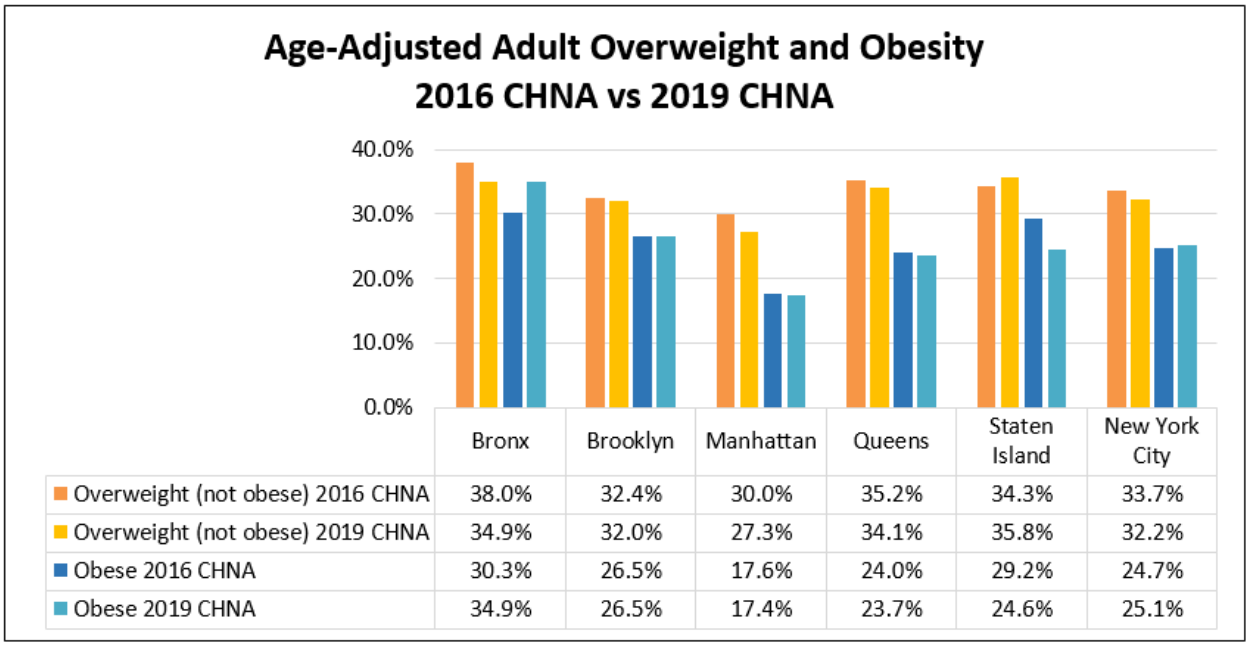
Smoking among High School Students
(Red = Higher than NYC Benchmark by >2 Percentage Points)

	Current Smoker		Current Heavy Smoker		E-Cigarette Smoker
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA	2019 CHNA
Bronx	7.0%	3.8%	NA	11.1%	16.9%
Brooklyn	6.8%	4.4%	7.5%	10.0%	15.4%
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
*E-cigarette use among high school students was not reported for the 2016 CHNA.

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, 1 in 4 Staten Island adults is obese, and more than 1 in 3 adults are overweight. Obesity among adults in Staten Island declined from the 2016 CHNA, but these indicators suggest additional opportunity for improvement.

Approximately 25% of Staten Island adults are obese, consistent with NYC; adult obesity declined in Staten Island from the 2016 CHNA

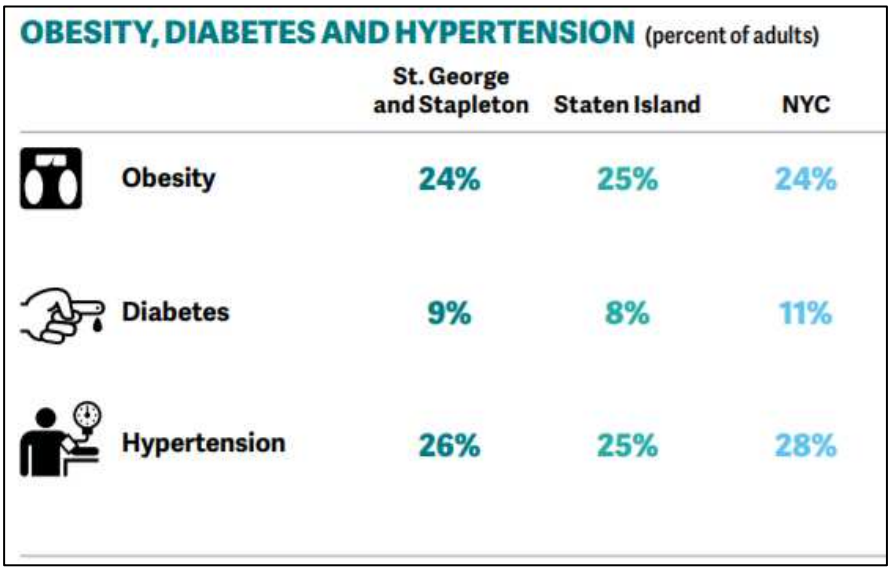


	Bronx	Brooklyn	Manhattan	Queens	Staten Island	New York City
Overweight (not obese) 2016 CHNA	38.0%	32.4%	30.0%	35.2%	34.3%	33.7%
Overweight (not obese) 2019 CHNA	34.9%	32.0%	27.3%	34.1%	35.8%	32.2%
Obese 2016 CHNA	30.3%	26.5%	17.6%	24.0%	29.2%	24.7%
Obese 2019 CHNA	34.9%	26.5%	17.4%	23.7%	24.6%	25.1%

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

Data reported by the NYC Department of Health and Mental Hygiene for 2015-2016 indicates that 24% of North Shore adults are obese, consistent with Staten Island and NYC overall. Roughly 1 in 10 adults across NYC has been diagnosed with diabetes, slightly more than Staten Island and the North Shore. While Staten Island also has a slightly smaller percentage of adults

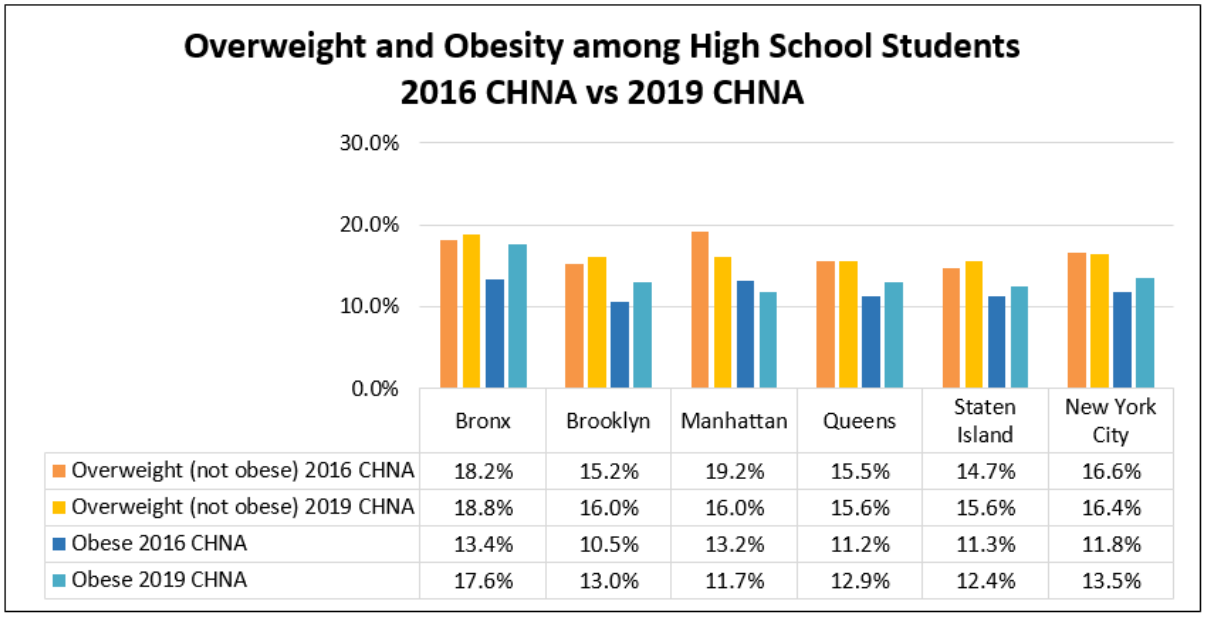
diagnosed with hypertension than NYC in general, 1 in 4 Staten Island adults still experience high blood pressure.



Source: New York City Department of Health and Mental Hygiene, 2015-2016
*The North Shore is comprised of St. George and Stapleton

Staten Island teens are slightly less likely to be overweight or obese than their NYC peers. However, the percentage of overweight and obese teens in Staten Island increased since the 2016 CHNA.

The percentage of overweight and obese students increased from the 2016 CHNA, but remains lower than NYC overall



	Bronx	Brooklyn	Manhattan	Queens	Staten Island	New York City
Overweight (not obese) 2016 CHNA	18.2%	15.2%	19.2%	15.5%	14.7%	16.6%
Overweight (not obese) 2019 CHNA	18.8%	16.0%	16.0%	15.6%	15.6%	16.4%
Obese 2016 CHNA	13.4%	10.5%	13.2%	11.2%	11.3%	11.8%
Obese 2019 CHNA	17.6%	13.0%	11.7%	12.9%	12.4%	13.5%

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

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. Food insecurity decreased for all boroughs and the nation since the 2016 CHNA.

Food insecurity decreased in all NYC boroughs from the 2016 CHNA

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. While fewer Staten Island children qualify for free or reduced price lunch than children in the other NYC boroughs, more than half of all children do qualify for the programs.

Food Insecure Residents
(Green = Decrease of >2 Percentage Points from 2016 CHNA)

	All Residents		Children	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	18.7%	16.1%	25.6%	23.4%
Brooklyn	20.0%	18.2%	24.6%	21.1%
Manhattan	15.1%	13.3%	19.0%	16.3%
Queens	13.1%	10.9%	19.5%	16.5%
Staten Island	10.3%	9.0%	18.6%	16.2%
United States	15.4%	12.9%	20.9%	17.5%

Source: Feeding America, 2014, 2016

Children Eligible for Free or Reduced Price Lunch

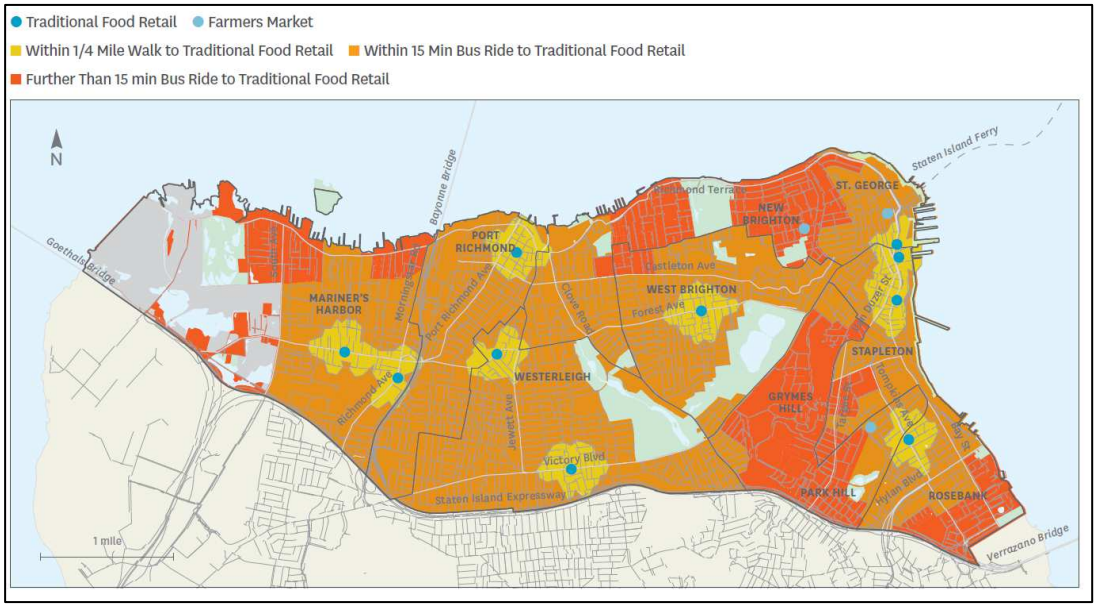
	Percent
Bronx	76.9%
Brooklyn	64.5%
Manhattan	56.7%
Queens	66.8%
Staten Island	53.6%

Source: National Center for Education Statistics, 2015-2016

Healthy eating is a key component of a healthy lifestyle. Therefore, access to healthy food, both by the availability of retailers with healthy food options and affordability of healthy food, contributes to healthy living. The Citizen's Committee for Children of New York reported that, "There are 10 large grocery stores located throughout the North Shore, equivalent to about one grocery store for every 17,400 residents. This is nearly half the citywide rate of one grocery store for every 9,300 residents. As the map shows, much of the North Shore is not within walking distance of a grocery store." The lack of availability of grocery stores in the North Shore is a barrier to healthy eating.

The rate of grocery stores per resident in the North Shore is nearly half the citywide rate

North Shore Food Retail



Source: Citizen's Committee for Children of New York, 2018

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 America, and Staten Island is better than most NYC boroughs. However, Staten Island adults are less likely to engage in physical activity during their leisure time than other New Yorkers.

While Staten Island high school students are more likely than most of their NYC peers to exercise 60 minutes daily, nearly 3 out of 4 Staten Island teens still do not get 60 minutes of exercise daily.

Nearly 3 in 4 Staten Island teens do not get 60 minutes of daily 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
Bronx	99.8%	30.1%	82.3%
Brooklyn	100.0%	28.3%	80.9%
Manhattan	100.0%	16.7%	79.9%
Queens	98.4%	26.0%	76.5%
Staten Island	99.9%	28.8%	73.7%
New York City	NA	25.5%	79.2%
United States	83.0%	NA	NA

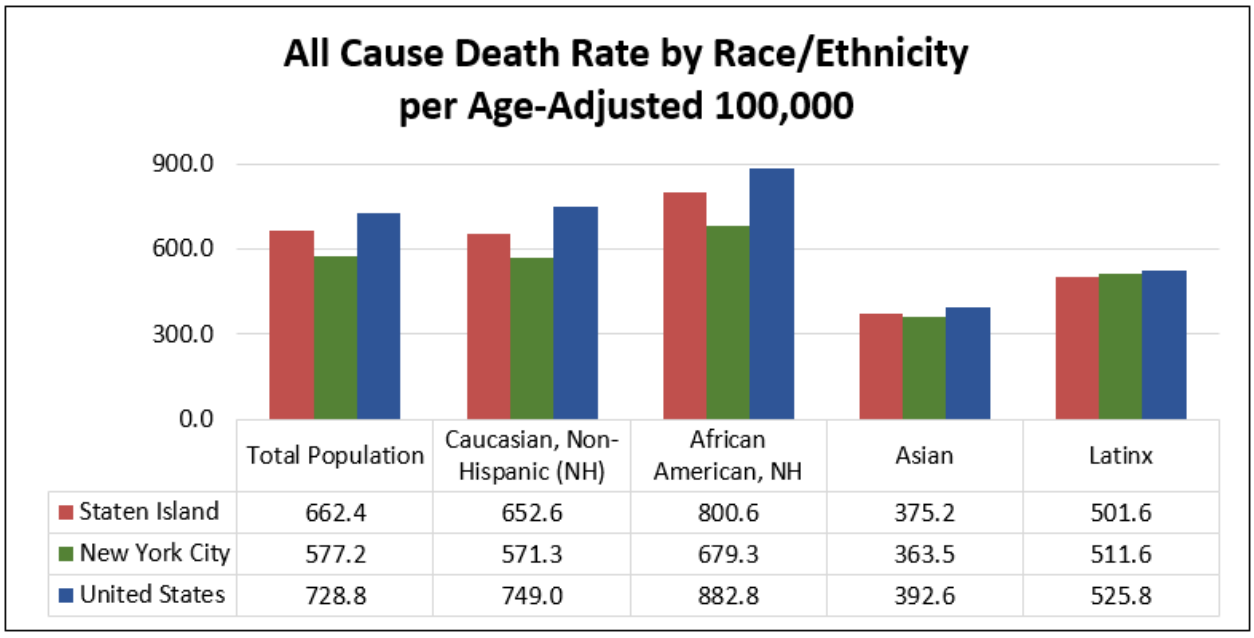
Source: Business Analyst, Delorme Map Data, ESRI, & US Census Tigerline Files, 2016; New York City Department of Health and Mental Hygiene, 2017

Mortality

African Americans have a higher rate of death than any other reported population group

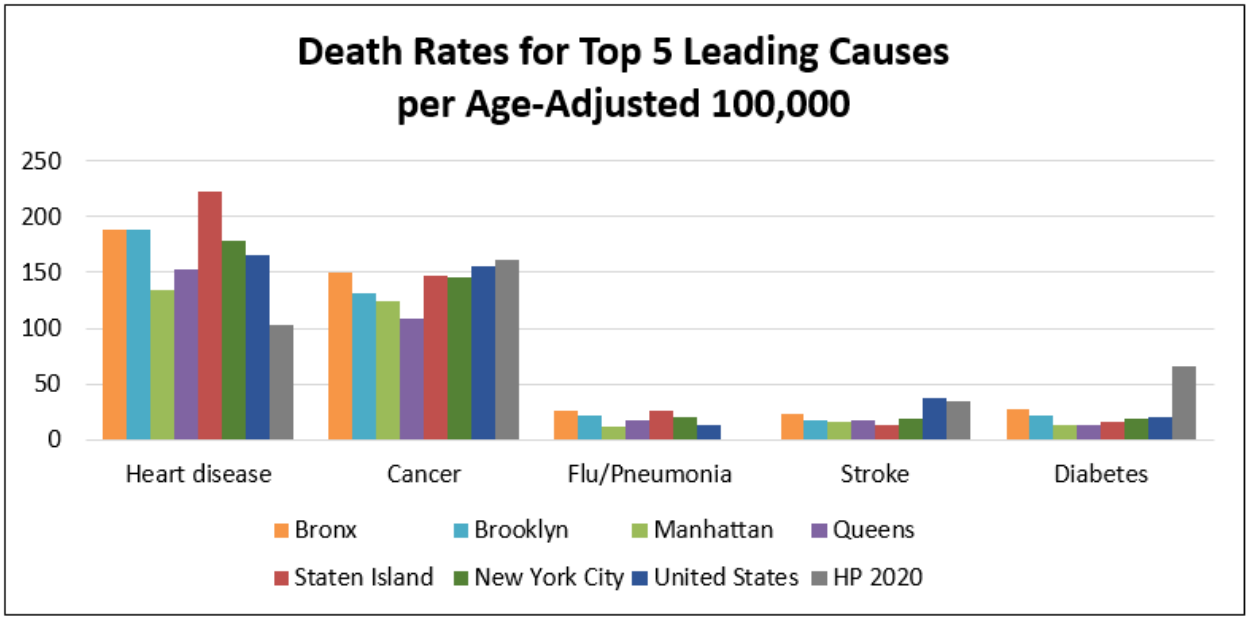
The all cause age-adjusted death rate in Staten Island is higher than NYC, but lower than the nation. The death rate is highest among Non-Hispanic African Americans, exceeding the Non-Hispanic Caucasian death rate by 148 points. While the death rate for Non-Hispanic African Americans is higher than Caucasians, it is still lower than the general death rate for African Americans nationwide. Nonetheless, this racial disparity in Staten Island reduces the quality of life and health outcomes for all Staten Island residents.

The top five causes of death in NYC, in rank order, are heart disease, cancer, flu/pneumonia, stroke, and diabetes. Healthy People 2020 set targets for deaths from heart disease, cancer, stroke, and diabetes. Staten Island meets or exceeds the Healthy People 2020 targets for cancer, stroke, and diabetes. However, Staten Island has a long way to go to meet the target for heart disease, having a higher rate of death due to heart disease than any NYC borough and the nation. Staten Island also has an elevated rate of death due to flu/pneumonia.



	Total Population	Caucasian, Non-Hispanic (NH)	African American, NH	Asian	Latinx
Staten Island	662.4	652.6	800.6	375.2	501.6
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



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

Nearly 1 in 3 Staten Island adults have high blood pressure, consistent with the 2016 CHNA and NYC overall

Heart disease is the leading cause of death in the nation, NYC, and Staten Island. High blood pressure is a significant contributor to heart disease death. While the proportion of adults diagnosed with high blood pressure in Staten Island is generally comparable to NYC in general, nearly 1 in 3 adults in Staten Island experience high blood pressure.

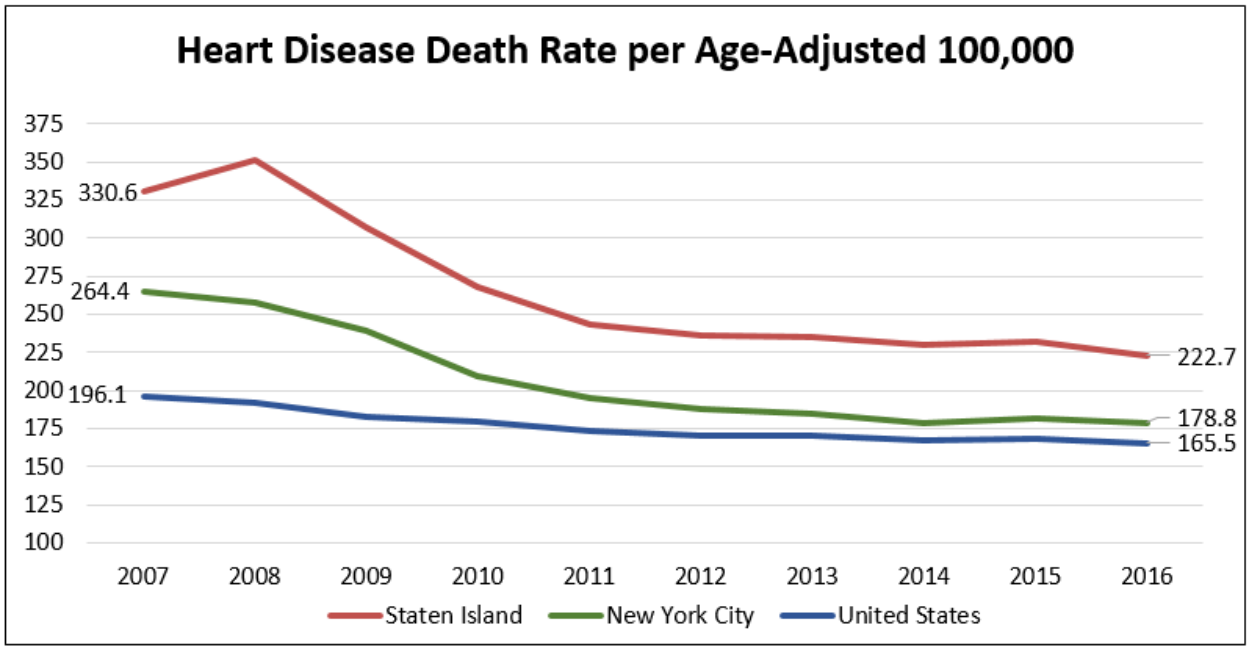
Age-Adjusted High Blood Pressure Prevalence among Adults
(Red = Higher than NYC Benchmark by >2 Percentage Points)

	2016 CHNA	2019 CHNA
Bronx	33.7%	34.2%
Brooklyn	28.4%	28.0%
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 Staten Island exceeds the NYC and national rates. When stratified by race, the rate of death due to heart disease in Staten Island is higher for all races than their peers in NYC and the nation.

The Staten Island 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	Caucasian, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Bronx	188.7	246.3	203.9	77.2	148.1
Brooklyn	188.4	199.6	198.8	93.1	167.8
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 set a target for the CHD death rate at 103.4 per 100,000. Staten Island does not meet the Healthy People 2020 target and has a higher rate of CHD death than all NYC boroughs and the nation.

Staten Island does not meet the HP 2020 goal for CHD, but the death rate declined 10 points from the 2016 CHNA

Healthy People 2020 set a target for the stroke death rate at 34.8. Staten Island meets the Healthy People 2020 target for stroke death, and has the lowest death rate from stroke than any NYC borough.

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

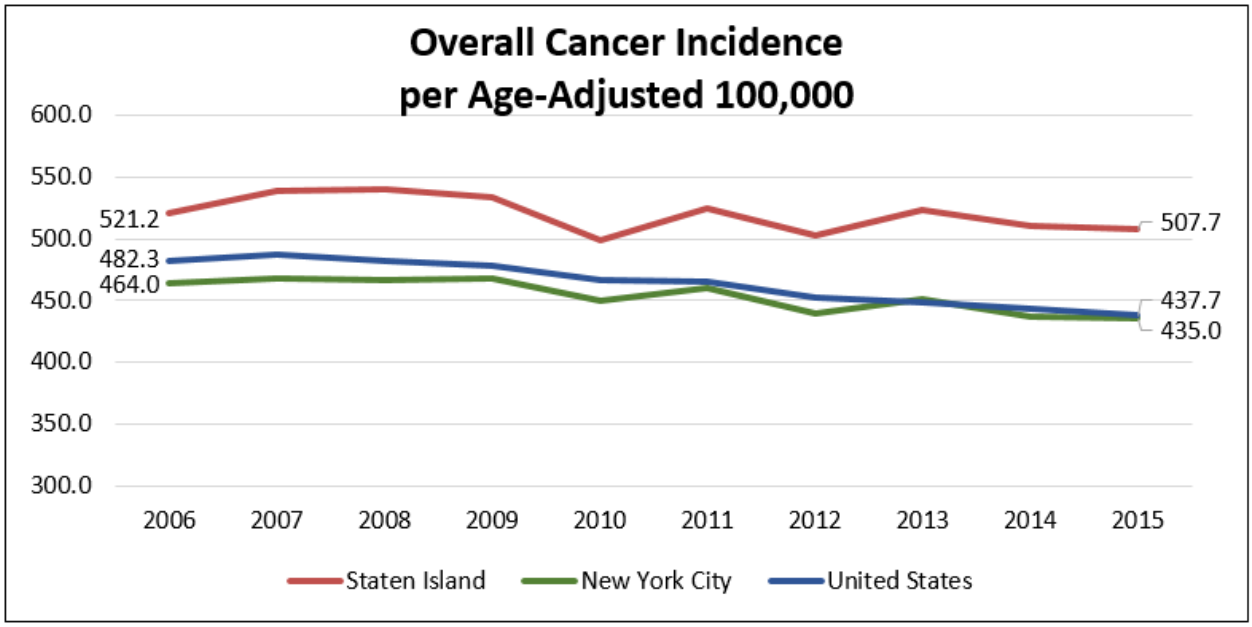
	Coronary Heart Disease Death per Age-Adjusted 100,000	Stroke Death per Age-Adjusted 100,000
Bronx	111.9	23.5
Brooklyn	122.2	17.2
Manhattan	80.7	16.2
Queens	109.6	17.5
Staten Island	145.6	13.8
New York City	115.3	19.3
United States	94.3	37.3
HP 2020	103.4	34.8

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

Cancer

Cancer remains a leading cause of death, but if detected early, can often be effectively treated. Therefore, the incidence of cancer indicates both the detected presence of the disease in the community and an opportunity to treat the disease. The incidence of all cancers is higher in Staten Island than NYC and the nation. Although there are proportionately more incidents of cancer diagnosed in Staten Island than NYC, the rate of death due to cancer is similar in Staten Island as NYC and lower than the national rate. This finding suggests that in Staten Island cancers are being identified and effectively treated.

Staten Island has a higher overall cancer incidence rate than NYC, but a similar death rate, indicating early detection and effective treatment



Source: Centers for Disease Control and Prevention, 2006-2015; New York State Department of Health, 2006-2015

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

	Caucasian, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Bronx	563.6	503.1	NA	394.7
Brooklyn	500.8	441.9	384.1	368.4
Manhattan	487.2	525.4	350.1	379.4
Queens	511.0	440.2	342.1	343.9
Staten Island	564.2	NA	NA	NA
New York City	510.6	466.0	347.3	373.2
United States	464.4	463.5	290.8	346.9

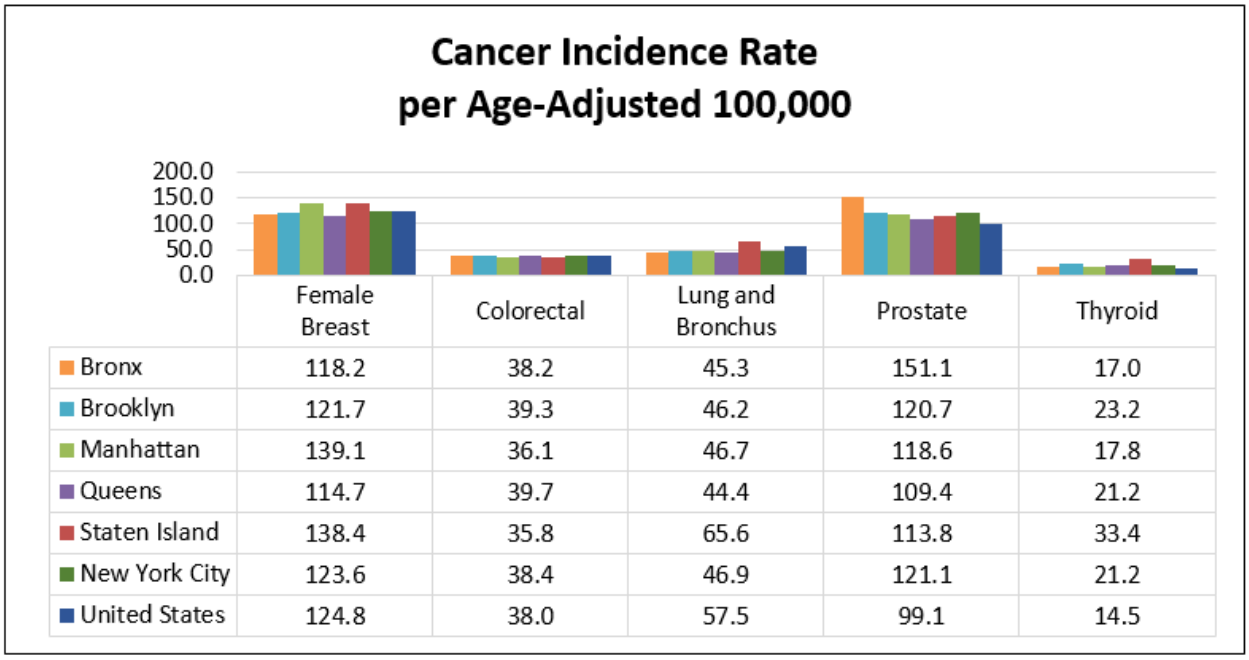
Source: Centers for Disease Control and Prevention, 2011-2015; New York State Department of Health, 2011-2015

Between 2007 and 2011, Staten Island thyroid cancer rates were 69% higher than NYC overall

Data for the most commonly diagnosed cancers, including female breast, colorectal, lung, and male prostate, is presented below. Thyroid cancer data is also reported in recognition of higher incidence in Staten Island. The Health Department reported that between 2007 and 2011, thyroid cancer rates were 69% higher than NYC overall. The Health Department and Department of Environmental Conservation are in the process of conducting a study to determine the reason for higher overall cancer incidence in Staten Island, including thyroid cancer.

The Staten Island lung cancer incidence rate is the highest among NYC boroughs, and exceeds the national incidence rate. The finding is consistent with higher smoking rates among Staten Island adults and youth. Staten Island also has the highest lung cancer death rate among NYC boroughs, although it is lower than the national rate and meets the Healthy People 2020 target.

Consistent with having higher smoking rates, Staten Island has the highest incidence and death rate due to lung cancer among NYC boroughs

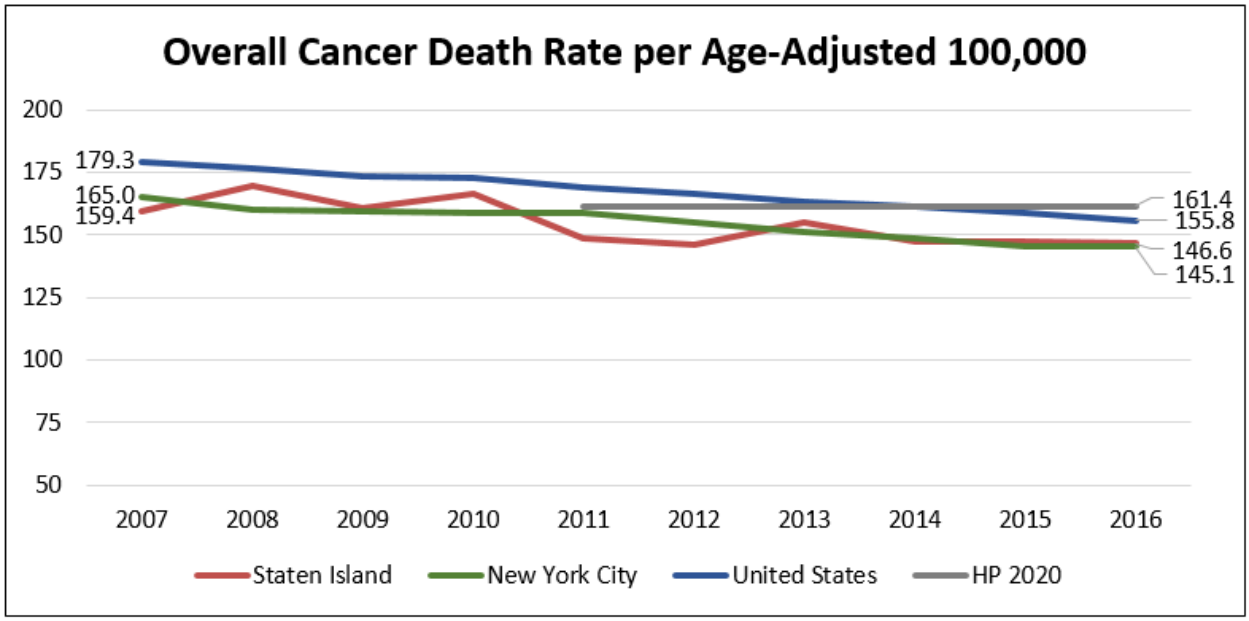


	Female Breast	Colorectal	Lung and Bronchus	Prostate	Thyroid
Bronx	118.2	38.2	45.3	151.1	17.0
Brooklyn	121.7	39.3	46.2	120.7	23.2
Manhattan	139.1	36.1	46.7	118.6	17.8
Queens	114.7	39.7	44.4	109.4	21.2
Staten Island	138.4	35.8	65.6	113.8	33.4
New York City	123.6	38.4	46.9	121.1	21.2
United States	124.8	38.0	57.5	99.1	14.5

Source: Centers for Disease Control and Prevention, 2015; New York State Department of Health, 2015

Healthy People 2020 sets a target of no more than 161.4 cancer deaths per 100,000 people. Staten Island and NYC have met this target, and have lower rates of death than the nation overall. When stratified by race and ethnicity, the rate of death due to cancer in Staten Island is lower for people of all demographic groups than NYC and the nation.

Death due to cancer is lower for people of all races and ethnicities in Staten Island than NYC or the nation

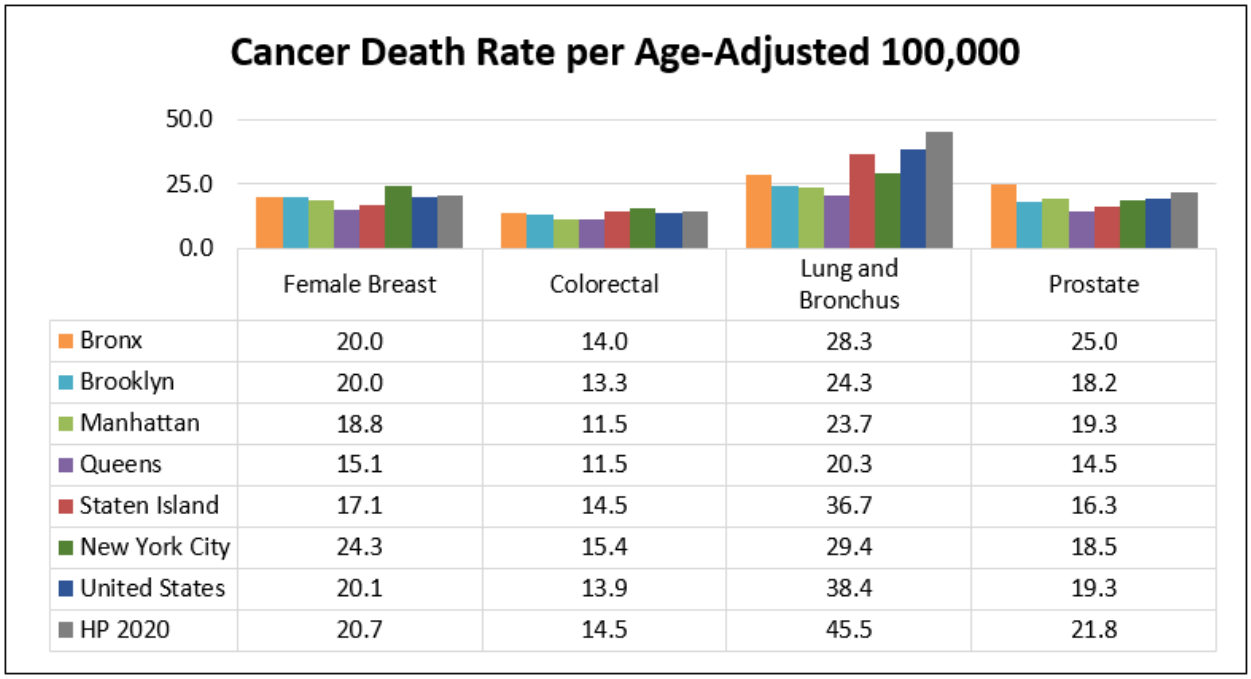


Source: Centers for Disease Control and Prevention, 2007-2016; New York City Department of Health and Mental Hygiene, 2007-2016

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

	Caucasian, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Bronx	176.1	173.0	95.4	124.3
Brooklyn	132.1	145.0	109.6	111.4
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
Bronx	20.0	14.0	28.3	25.0
Brooklyn	20.0	13.3	24.3	18.2
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	24.3	15.4	29.4	18.5
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

Early detection of cancer leads to more effective treatments and better long-term outcomes. Adults in Staten Island are more likely to receive regular cancer screenings than their peers citywide.

Staten Island adults are more likely to receive cancer screenings than adults citywide

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

	Colon Cancer Screening in Past 10 Years (50+)	Cervical Cancer Screening in Past 3 Years
Bronx	66.2%	87.0%
Brooklyn	68.0%	83.7%
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.

Despite reporting higher smoking rates, Staten Island has a lower prevalence of asthma among adults and high school students than NYC in general. Additionally, the prevalence of asthma among adults and teens in Staten Island decreased since the 2016 CHNA.

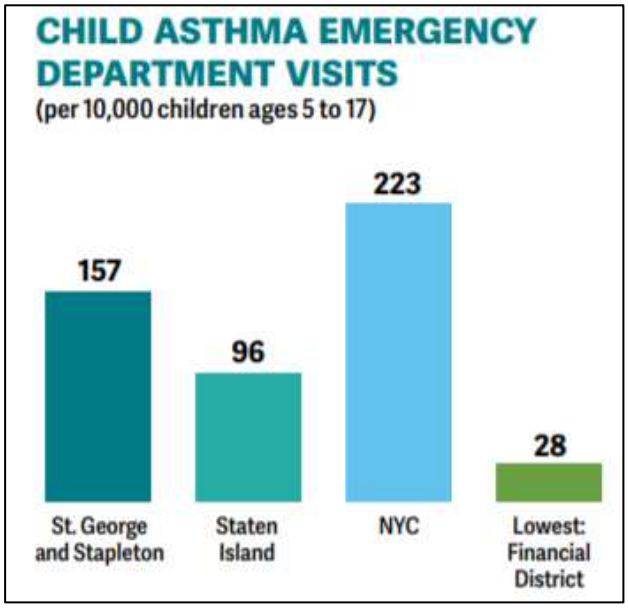
Staten Island meets the TCNY 2020 goal to have fewer than 210 asthma ED visits per 10,000 children. The North Shore also meets the TCNY 2020 goal, however, the rate of ED visits in the North Shore is 60% higher than the rate for Staten Island overall.

Children in the North Shore are more likely to have asthma-related ED visits than other Staten Islanders

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

	Age-Adjusted Adult Asthma Diagnosis (Current)		High School Student Asthma Diagnosis (Ever)	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	4.7%	6.8%	29.9%	27.7%
Brooklyn	3.0%	3.7%	23.8%	22.7%
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



Source: New York City Department of Health and Mental Hygiene, 2015-2016
*The North Shore is comprised of St. George and Stapleton

Staten Island has higher rates of death due to CLRD than NYC for people of all races and ethnicities. This finding may be related to the greater numbers of smokers in Staten Island. While the rate of death due to CLRD is higher in Staten Island than NYC, it is still lower than the national rate.

Staten Island has a higher CLRD death rate than NYC, likely impacted by higher smoking rates

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

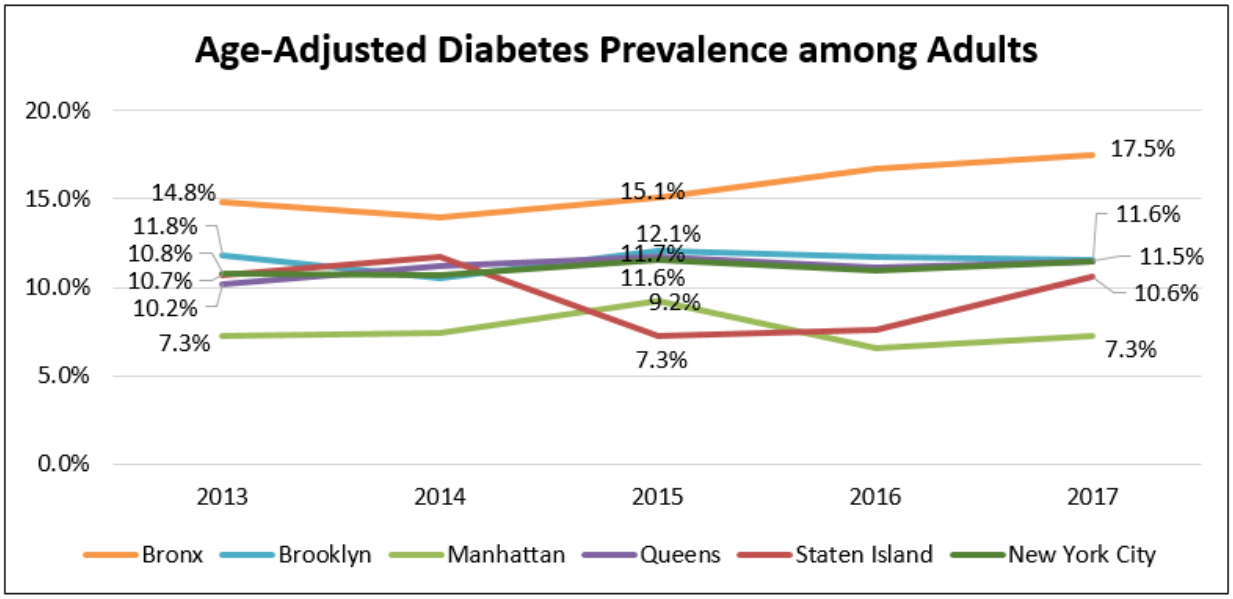
	Total Population	Caucasian, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Bronx	22.0	33.4	23.5	NA	17.8
Brooklyn	15.3	13.8	16.6	12.7	19.0
Manhattan	14.5	13.0	21.8	10.3	14.8
Queens	13.9	19.5	14.2	8.2	8.6
Staten Island	27.5	28.6	35.3	NA	NA
New York City	17.7	19.6	19.3	10.3	15.4
United States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

Adult diabetes prevalence in Staten Island has been variable, but generally lower than NYC overall

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.



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

The overall rate of death due to diabetes in Staten Island is lower than NYC and the nation. When stratified by race and ethnicity, the rate of death due to diabetes among Caucasian Staten Islanders exceeds the NYC rate, but is lower than the national rate. Among African American Staten Islanders, the rate of death due to diabetes is much higher than NYC or the nation, and more than three times the Caucasian rate. This difference between races is a notable health disparity.

The Staten Island African American death rate due to diabetes is more than 3 times higher than the Caucasian death rate

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

	Total Population	Caucasian, Non-Hispanic	African American, Non-Hispanic	Asian	Latinx
Bronx	27.3	22.9	31.1	NA	26.7
Brooklyn	22.0	12.5	36.1	11.2	24.4
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 Staten Island hospitals for 11 PQIs, in descending order by rate difference (observed rate of admission – expected rate of admission). Staten Island has higher observed rates of admission for all PQIs, except dehydration, short-term complications of diabetes, and bacterial pneumonia.

Staten Island 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
COPD or Asthma in Older Adults	583.5	414.0	169.4
Long-Term Complications of Diabetes	130.0	75.5	54.4
Asthma in Younger Adults	91.4	44.3	47.1
Heart Failure	350.1	317.6	32.6
Urinary Tract Infection	153.5	129.4	24.0
Hypertension	68.6	47.1	21.5
Uncontrolled Diabetes	62.7	44.3	18.4
Lower-Extremity Amputation among Patients with Diabetes	21.3	19.1	2.3
Dehydration	123.2	125.4	-2.2
Short-Term Complications of Diabetes	30.8	34.7	-3.9
Bacterial Pneumonia	156.2	170.9	-14.8

Source: New York State Department of Health, 2016

North Shore zip codes 10301, 10302, 10304, 10305, and 10310 have higher observed rates of admission for nine or more of the 11 PQIs. All North Shore zip codes have higher observed rates for asthma in younger adults, COPD or asthma in older adults, long-term complications of diabetes, heart failure, and uncontrolled diabetes. These all demonstrate opportunities for improvement.

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. Identifying and providing regular monitoring and treatment of chronic conditions can improve quality of life and promote longevity. 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." Senior Medicare Beneficiaries in Staten Island are more likely to have 4 or more diagnosed chronic conditions than their peers nationwide.

Senior Medicare Beneficiaries in Staten Island are more likely to have 4 or more chronic conditions compared to the nation

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

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	United States
0 to 1 condition	30.5%	24.8%	35.9%	27.7%	26.9%	32.3%
2 to 3 conditions	24.8%	23.2%	28.9%	26.8%	28.4%	30.0%
4 to 5 conditions	22.8%	25.0%	20.5%	24.7%	25.8%	21.6%
6 or more conditions	21.9%	27.1%	14.7%	20.8%	19.0%	16.2%

Source: Centers for Medicare & Medicaid Services, 2015

The following table depicts the prevalence of chronic conditions among senior Medicare Beneficiaries in NYC boroughs compared to the nation. Seniors in all boroughs except Manhattan are more likely to have a diagnosis of diabetes, hypertension, and ischemic heart disease.

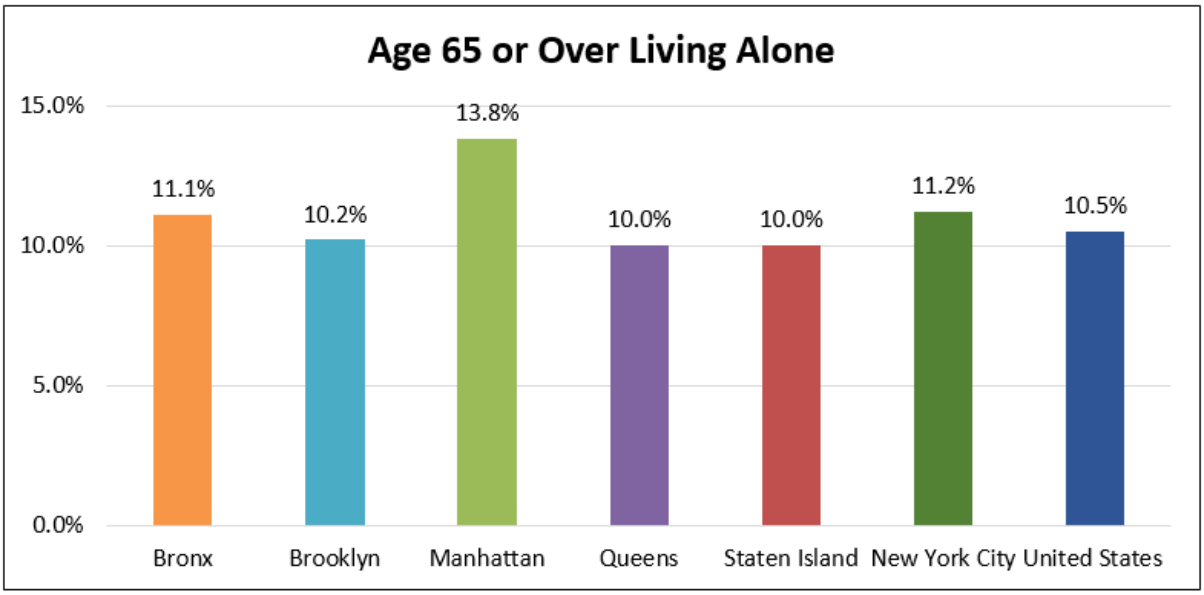
40% or more of senior Medicare Beneficiaries in all boroughs except Manhattan have diabetes compared to 27% nationwide

Chronic Condition Diagnoses among Medicare Beneficiaries 65 Years or Over (Red = Higher than National Benchmark by >2 Percentage Points)

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	United States
Alzheimer's Disease	16.8%	16.6%	11.8%	14.3%	10.4%	11.3%
Arthritis	30.9%	38.4%	31.9%	32.2%	32.8%	31.3%
Asthma	9.5%	8.8%	7.0%	7.8%	6.9%	7.6%
Cancer	9.0%	9.1%	10.5%	9.5%	10.4%	8.9%
COPD	9.5%	10.3%	7.6%	9.4%	9.9%	11.2%
Depression	13.9%	14.3%	13.9%	12.0%	12.1%	14.1%
Diabetes	40.1%	46.1%	26.3%	40.6%	41.0%	26.8%
Heart Failure	20.0%	25.7%	13.2%	18.6%	16.3%	14.3%
High Cholesterol	43.7%	54.1%	42.2%	53.4%	56.2%	47.8%
Hypertension	60.9%	64.8%	47.1%	61.0%	60.5%	58.1%
Ischemic Heart Disease	32.0%	44.4%	30.2%	37.6%	36.0%	28.6%
Stroke	5.1%	4.8%	4.0%	4.7%	3.9%	4.2%

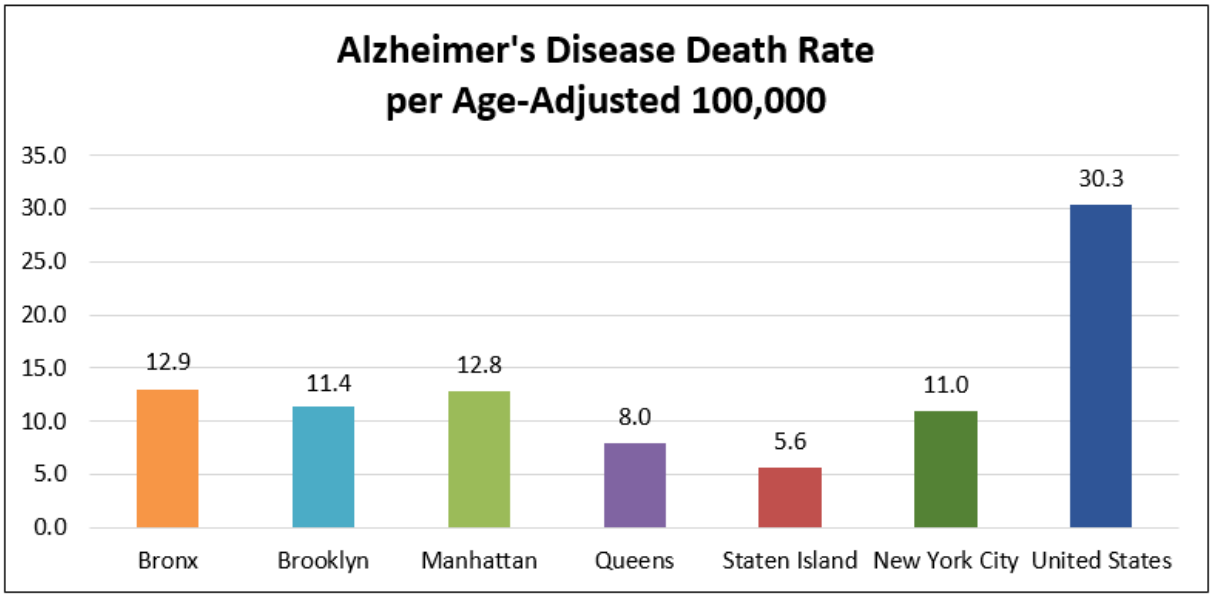
Source: Centers for Medicare & Medicaid Services, 2015

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. Staten Island seniors are less likely to live alone than other seniors across NYC and the nation, which contributes to greater health and improved quality of life.



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. Estimates vary, but experts suggest that more than 5.5 million Americans, most of them age 65 or older, may have dementia caused by Alzheimer's." The Staten Island Alzheimer's disease death rate is lower than NYC and all other boroughs, and is 80% lower than the national rate.



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. Staten Island has not met the Healthy People 2020 target, but older adults are just as likely or more likely to receive vaccinations compared to NYC overall.

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

	Had a Flu Vaccination in the Past 12 Months	Ever Received a Pneumonia Vaccination
Bronx	76.0%	64.1%
Brooklyn	56.3%	51.2%
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

Staten Island adults are just as likely to report depression symptoms as other New Yorkers, but fewer individuals with symptoms receive counseling or treatment

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 Staten Island adults experience depression symptoms, consistent with NYC overall. However, only two-thirds of individuals with depression symptoms received counseling or treatment services.

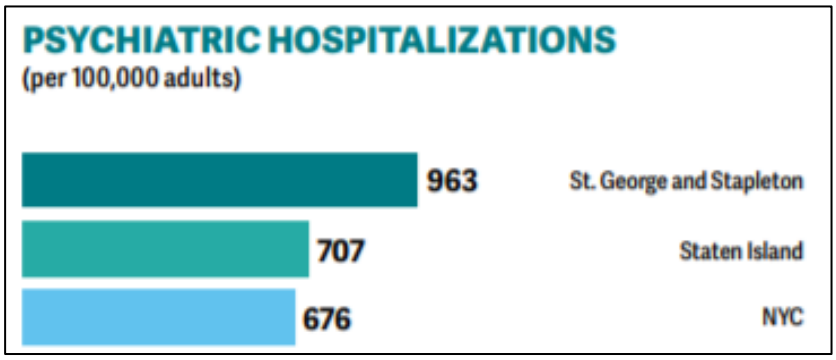
Age-Adjusted Adult Mental Health Measures
(Green or Red Highlighting = Higher than NYC Benchmark by >2 Percentage Points)

	Symptoms of Depression in Past Two Weeks	Individuals with Depression who Received Counseling or Treatment in Past 12 Months
Bronx	13.4%	39.1%
Brooklyn	8.4%	38.8%
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

According to the NYC Department of Health, "High psychiatric hospitalization rates likely reflect the challenges residents in underresourced neighborhoods face, including difficulty accessing preventive services and early care, greater exposure to stressors and interruptions in health insurance coverage." The rate of psychiatric hospitalizations among adults in the North Shore is higher than Staten Island and NYC overall.

Adults residing in the North Shore are more likely to be hospitalized for a psychiatric condition



Source: New York City Department of Health and Mental Hygiene, 2015-2016
*The North Shore is comprised of St. George and Stapleton

When compared to their peers in the other four boroughs, Staten Island teens are less likely than all others to report feeling sad or hopeless and/or to attempt suicide. While the prevalence of these mental health measures is lower among Staten Island teens, the impact is still notable. Nearly 1 in 3 teens report feeling sad or hopeless, an increase from the 2016 CHNA, and nearly 1 in 10 teens report attempting suicide.

Staten Island high school students are the least likely of any NYC borough to report feeling sad or hopeless or attempting suicide

Mental Health Measures among High School Students
(Green = Lower than NYC Benchmark by >2 Percentage Points)

	Felt Sad or Hopeless		Attempted Suicide	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	26.2%	32.8%	9.4%	11.5%
Brooklyn	25.5%	32.3%	7.4%	11.3%
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

Healthy People 2020 sets a target for the suicide death rate at no more than 10.2 per 100,000 people. Staten Island has a suicide death rate of 5.4, far lower than the Healthy People 2020 target, and lower than NYC and the nation overall. The suicide rate has been relatively stable in NYC and Staten Island over the past decade, contrary to national trends.

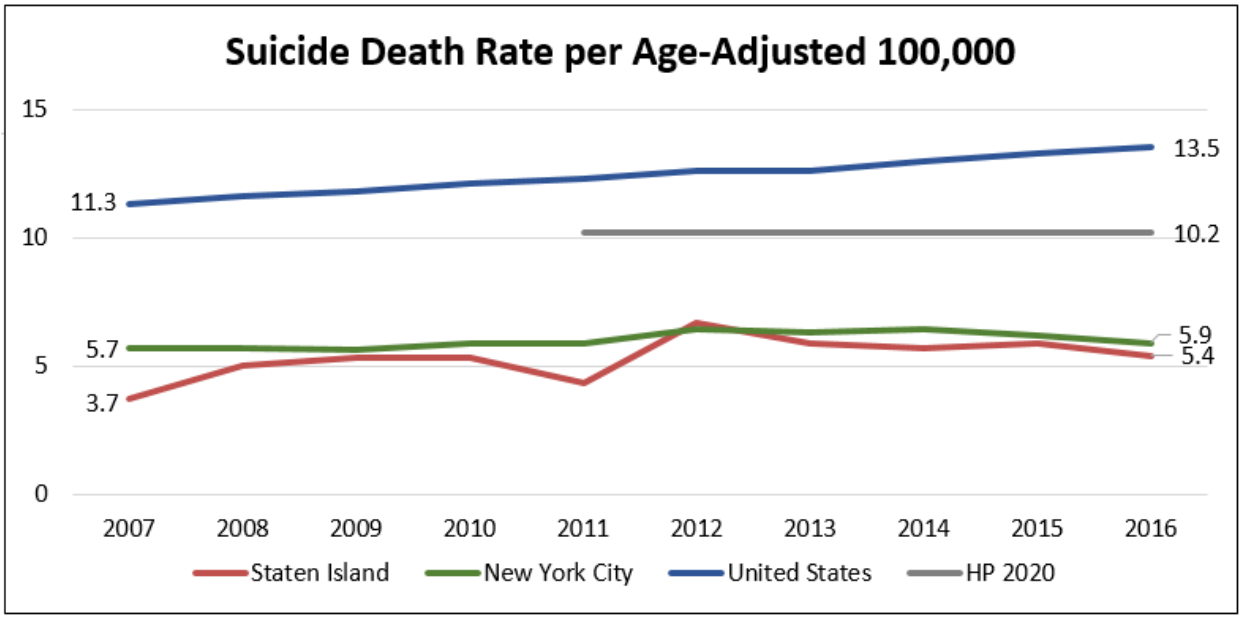
Staten Island has lower rates of death due to suicide and mental & behavioral disorders than NYC and the nation

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 Staten Island death rate due to mental and behavioral disorders is lower than NYC and national rates, but generally increasing.

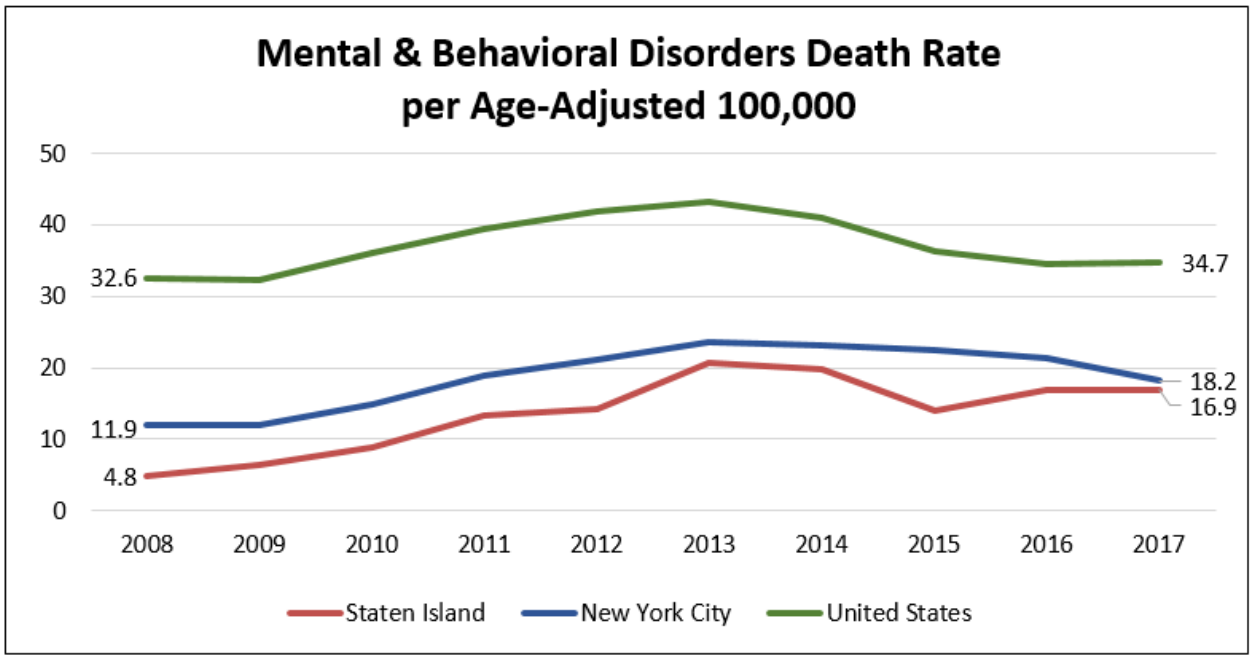
Mental Health Mortality per Age-Adjusted 100,000
(Green = Lower than NYC and National Benchmarks)

	Suicide		Mental & Behavioral Disorders	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	4.6	5.6	31.7	23.8
Brooklyn	4.6	4.4	21.6	15.5
Manhattan	7.6	6.0	27.2	22.3
Queens	5.8	5.4	17.7	15.0
Staten Island	5.7	5.4	19.8	16.9
New York City	6.4	5.9	23.1	18.2
United States	13.0	13.5	40.9	34.7
HP 2020	10.2	10.2	NA	NA

Source: Centers for Disease Control and Prevention, 2014, 2016, 2017; New York City Department of Health and Mental Hygiene, 2014, 2016



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. Staten Island residents are less likely than other New Yorkers to be heavy drinkers, but more likely to be binge drinkers.

Staten Island adults and teens are more likely to binge drink than their peers citywide

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

	Heavy Drinking		Binge Drinking	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	4.6%	4.6%	14.6%	13.9%
Brooklyn	4.2%	4.7%	14.7%	15.5%
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 from the 2016 CHNA. While the percent of Staten Island teens who drink alcohol decreased, the percent is still higher than NYC in general. Consistent with the findings among adults, teens in Staten Island are more likely to binge drink than their peers in the other boroughs of NYC.

The percent of Staten Island high school students who report using illegal substances decreased, but heroin usage remains slightly higher than NYC overall

Alcohol Use in Past 30 Days among High School Students
(Green = Decrease from 2016 CHNA of >2 Percentage Points)

	Drinking (Any Amount)		Binge Drinking*
	2016 CHNA	2019 CHNA	2019 CHNA
Bronx	25.8%	18.3%	5.2%
Brooklyn	24.5%	16.1%	3.7%
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
*The definition of female binge drinking changed in 2017; data is not comparable to past years.

Substance use among teens in Staten Island decreased from the 2016 CHNA. Staten Island teens are less likely to use marijuana, cocaine, ecstasy, or pain meds without a prescription than NYC in general. While the use of heroin among Staten Island teens decreased, it is still higher than NYC in general.

Substance Use among High School Students
(Green = Decrease from 2016 CHNA of >2 Percentage Points)

	Marijuana (Past 30 Days)		Cocaine (Ever)		Heroin (Ever)		Ecstasy (Ever)		Pain Meds Without Rx (Past Year)	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	17.4%	17.3%	5.2%	4.7%	4.1%	4.4%	5.4%	4.9%	7.8%	8.5%
Brooklyn	14.0%	15.7%	4.2%	4.0%	2.4%	4.0%	4.5%	5.3%	7.8%	8.7%
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.

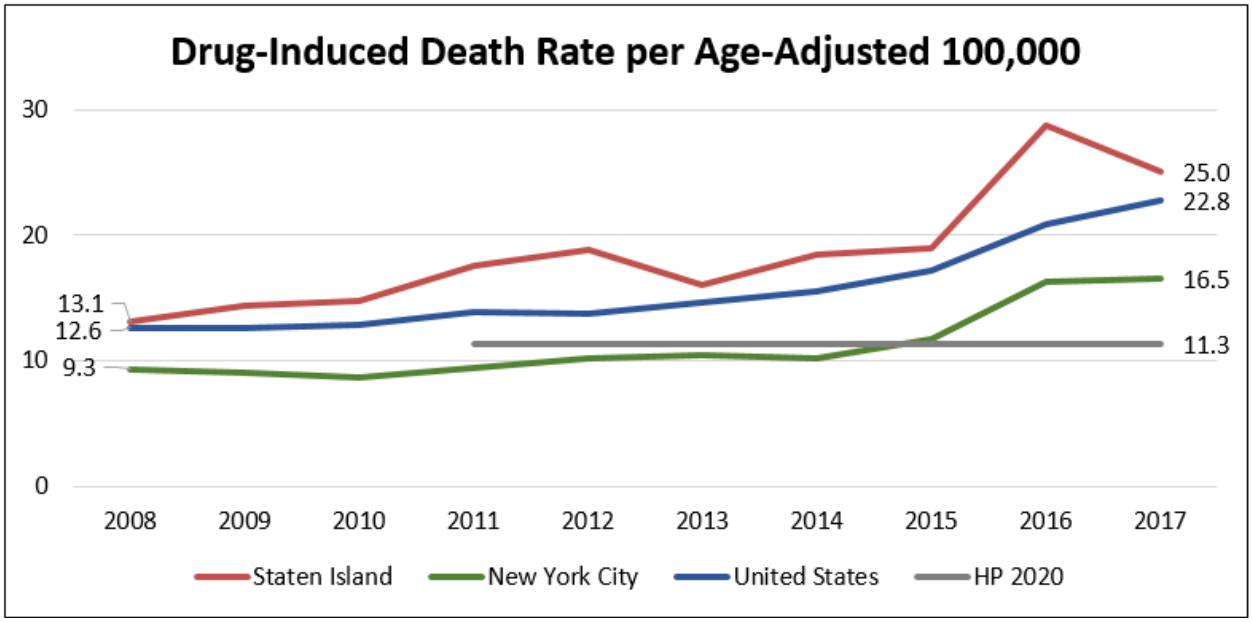
Staten Island has the second highest drug-induced death rate in NYC; the death rate increased nearly 40% from the 2016 CHNA

The Staten Island drug-induced death rate is greater than NYC and the nation and more than double the Healthy People 2020 target. The death rate in Staten Island increased nearly 40% from the 2016 CHNA.

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

	2016 CHNA	2019 CHNA
Bronx	14.7	26.7
Brooklyn	9.6	14.6
Manhattan	10.9	16.0
Queens	6.5	11.9
Staten Island	18.5	25.0
New York City	10.2	16.5
United States	15.5	22.8
HP 2020	11.3	11.3

Source: Centers for Disease Control and Prevention, 2014, 2017



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

A significant contributor to the number of drug-induced deaths is unintentional overdose, particularly opioid overdose. In a data brief released in August 2019, the NYC Department of Health reported that the number and rate of overdose deaths decreased 3% in NYC in 2018, after seven consecutive years of increases. The rate of overdose death decreased from 21.1 per 100,000 (n=1,482) in 2017 to 20.5 per 100,000 (n=1,444) in 2018. Opioids were involved in 80% of overdose deaths in 2018, with fentanyl being the most common substance.

While the number and rate of overdose deaths declined citywide, Staten Island saw an increase in overdoses and had the second highest rate of overdose death among NYC boroughs. The overdose death rate per 100,000 residents increased 18%, from 26.8 in 2017 to 31.5 in 2018. From 2015 to 2018, the number of overdose deaths increased from 68 to 114.

Overdose deaths decreased citywide from 2017 to 2018, but increased 18% in Staten Island

When analyzed by neighborhood, residents of South Beach-Tottenville in Staten Island had the fifth highest rate of overdose death (37.1) in NYC. Residents of Stapleton-St. George and Port Richmond had the sixth and seventh highest rates of death (35.8 and 34.6 respectively).

Across NYC, the demographics of overdose deaths are changing. The NYC Department of Health reported the following demographic findings for all of NYC:

Across NYC, the demographics of overdose deaths are changing, impacting Latinxs, females, and older adults at a higher rate

- In 2018, Latinx New Yorkers had the highest rate of overdose death; the rate increased 5% from 2017. The rate among White New Yorkers decreased for the second consecutive year. The rate among Black New Yorkers also decreased by 13% from 2017 to 2018.
- Overdose rates remained highest among New Yorkers ages 35 to 54, but decreased 4% from 2017 to 2018. The rate also decreased among New Yorkers ages 15 to 24 by 15%. Among New Yorkers ages 55 to 84, the rate increased by 11%.
- The overdose death rate among females increased by 7% from 2017 to 2018, compared with a 6% decrease among males.
- Residents of very high poverty neighborhoods had a higher rate of overdose death than residents of high, medium, and low poverty neighborhoods (19.7, 13.6, and 13.0 per 100,000 respectively).

Maternal and Infant Health

More than 50% of births in Staten Island are to Caucasian mothers compared to 34% citywide

The overall birth rate in Staten Island is slightly lower than most other boroughs. Among the births in Staten Island, more than half (53.6%) were to Non-Hispanic Caucasian mothers, a greater proportion than in any other borough, but consistent with the demographics of the area. Roughly one-quarter of births in Staten Island were to Latina mothers, and the remaining quarter were relatively evenly split between African American and Asian mothers, consistent with the underlying population in general.

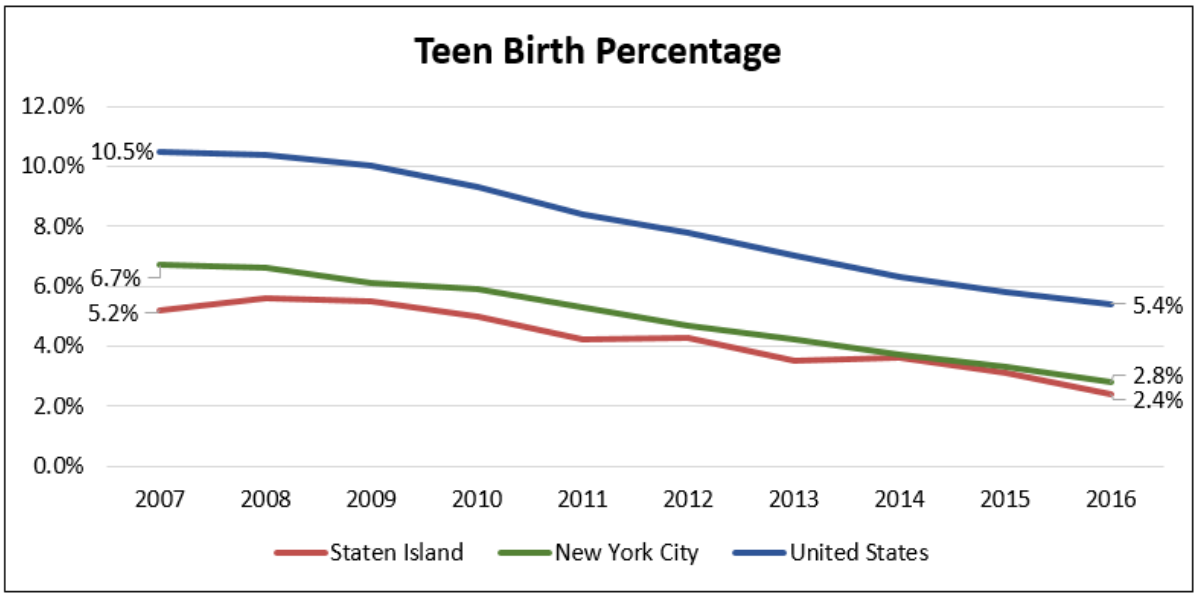
2016 Births by Race and Ethnicity

	Total Births	Birth Rate per 1,000	Births to Caucasians, Non-Hispanic	Births to African Americans, Non-Hispanic	Births to Asians	Births to Latinas
Bronx	19,474	13.4	6.1%	28.8%	5.0%	59.2%
Brooklyn	40,125	15.3	43.6%	22.4%	15.7%	17.1%
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

The percentage of births to teenagers has been declining nationally. The percent of births to teens in Staten Island has been consistently lower than NYC and the nation, and is decreasing each year.

The teen birth percentage continues to decline and is lower 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

Maternal and child health indicators are presented in the table below by borough and racial and ethnic group across NYC. Year-over-year trending of these indicators follows the table to show areas of improvement and opportunity. Staten Island currently meets Healthy People 2020 targets for prenatal care, low birth weight, and preterm birth, but only 31% of Staten Island infants are breastfed at the time of discharge from the hospital.

Staten Island meets HP 2020 goals for first trimester prenatal care, low birth weight, and preterm birth

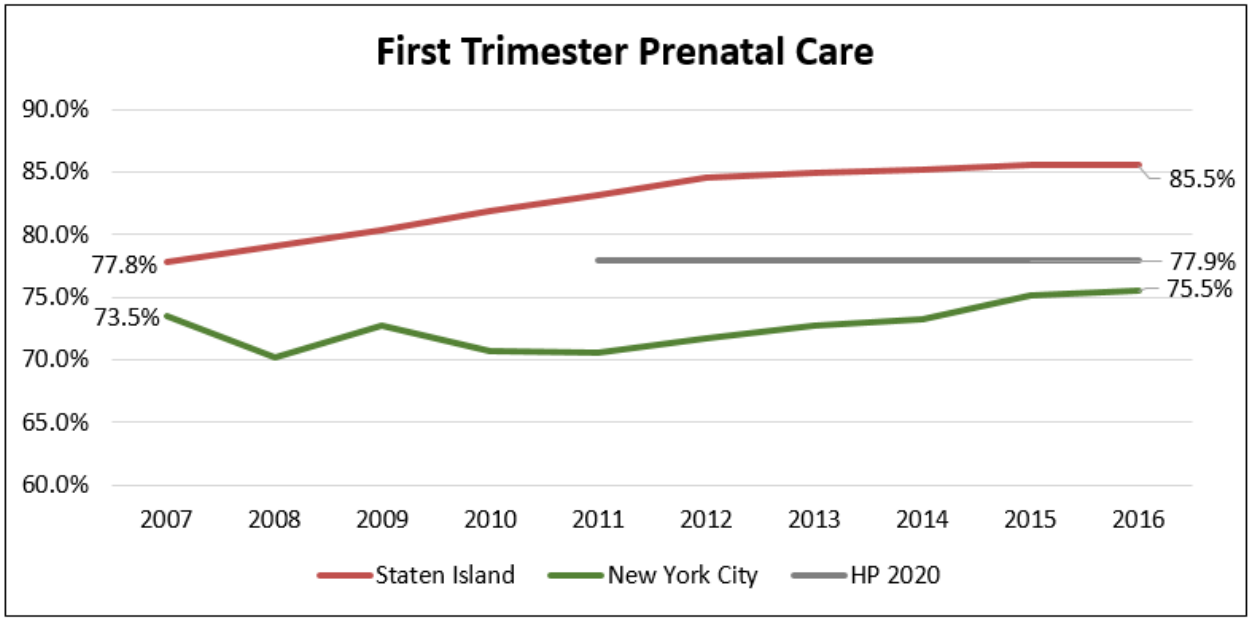
When reviewed by race, there is a marked disparity among African Americans compared to other racial and ethnic groups. African American mothers are the least likely to access early prenatal care and the most likely to deliver low birth weight or preterm babies. African American and Latina mothers are also the least likely to breastfeed exclusively.

Only 31% of Staten Island infants are exclusively breastfed at the time of hospital discharge compared to 40% citywide

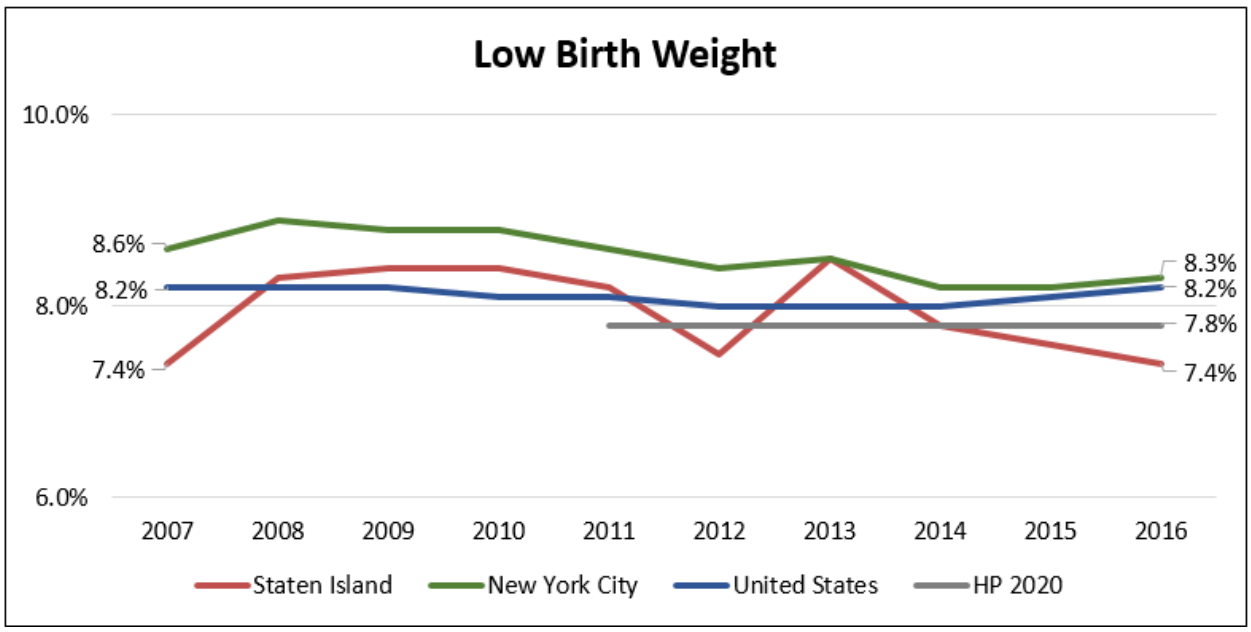
Maternal and Child Health Measures
(Green = Higher than NYC Benchmark by >2 Percentage Points)

	First Trimester Prenatal Care	Low Birth Weight	Preterm Birth	Exclusively Breasted
Bronx	59.6%	9.4%	9.6%	25.4%
Brooklyn	75.3%	7.7%	8.5%	41.0%
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%
Caucasian, NH	84.4%	6.2%	7.3%	53.9%
African American, NH	63.9%	12.2%	12.2%	32.4%
Asian/PI	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

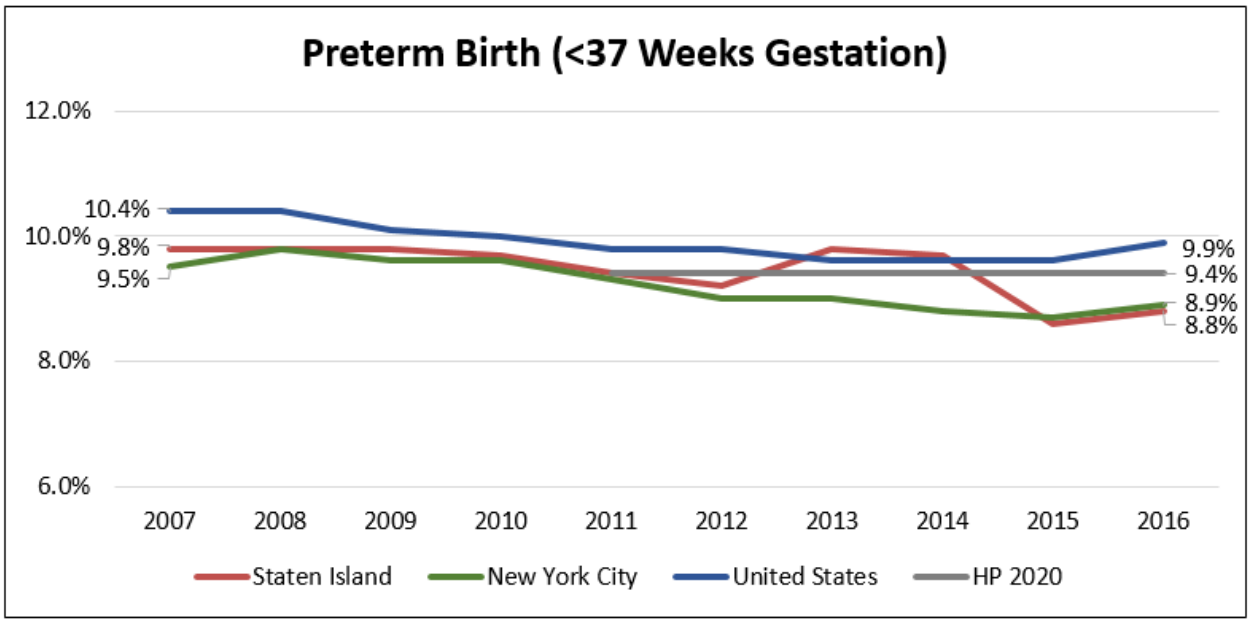
Source: Centers for Disease Control and Prevention, 2016; New York City Department of Health and Mental Hygiene, 2016



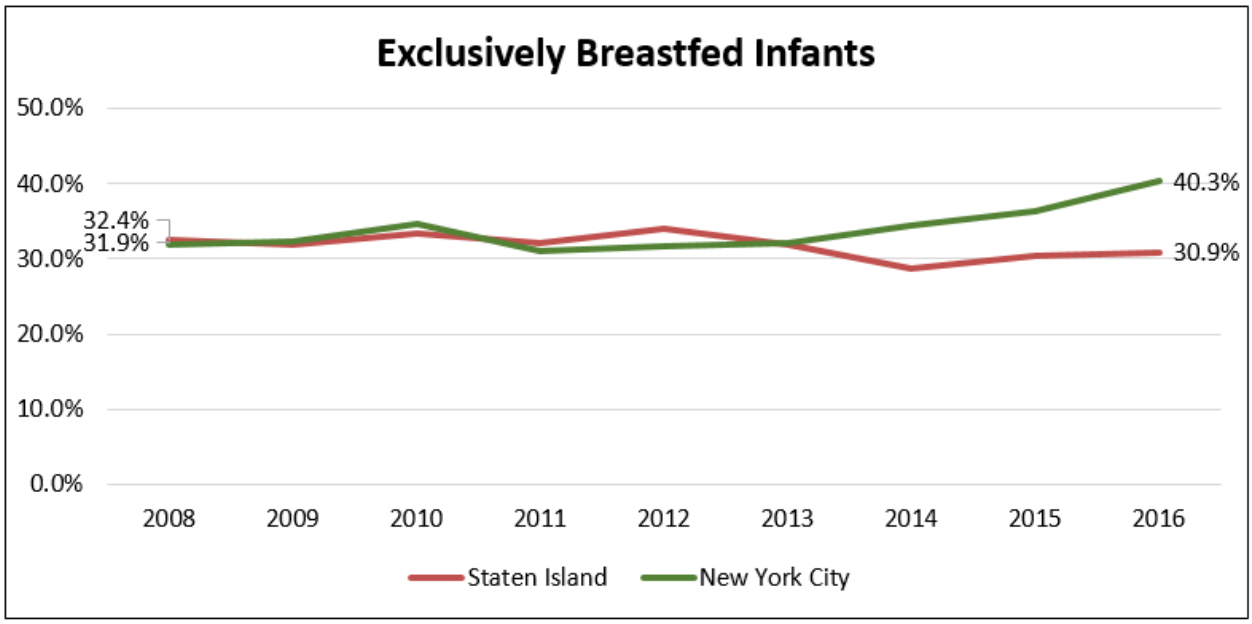
Source: New York City Department of Health and Mental Hygiene, 2007-2016
*Starting in 2016, all of the US reported data are based on the 2003 US Certificate of Live Birth, providing national indicators for timing of prenatal care and tobacco use during pregnancy. Data prior to 2016 is not reported.



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



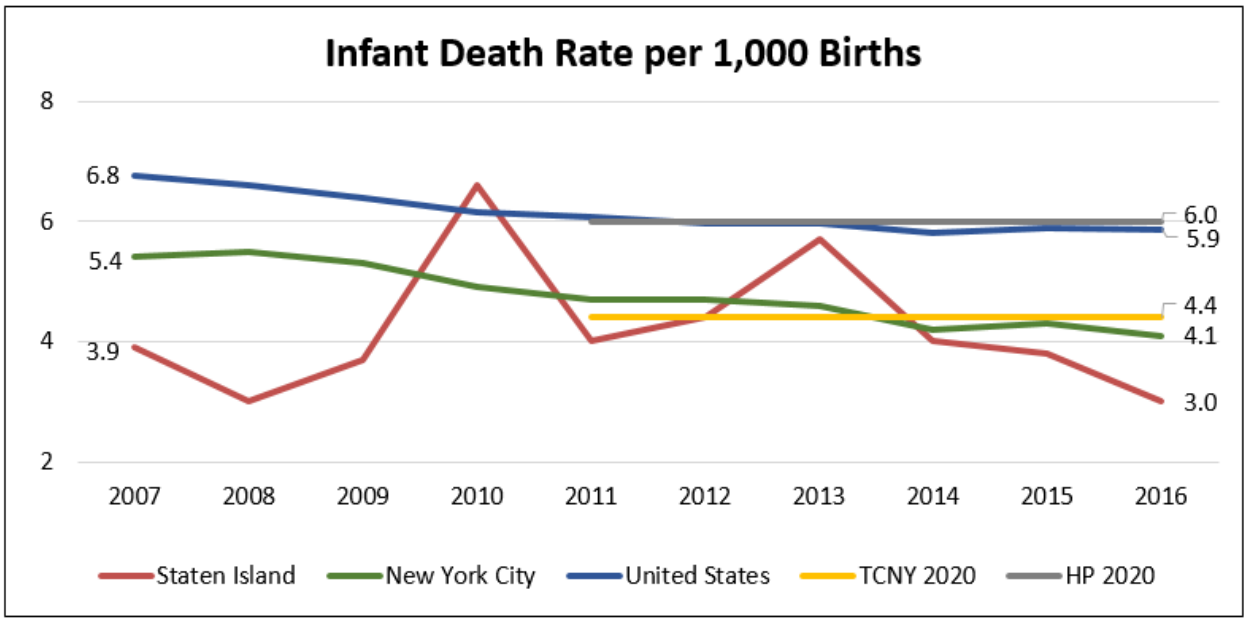
Source: New York City Department of Health and Mental Hygiene, 2008-2016
*Data is not reported prior to 2008.

The infant mortality rate is an important contributor to a community's life expectancy, and an important indicator of maternal and child health. While there has been variability over time, the infant mortality rate in Staten Island is generally trending downwards, and is lower than every borough except Manhattan. The infant mortality rate in Staten Island is also below the TCNY and Healthy People 2020 targets.

Infant Mortality

	Infant Death Rate per 1,000 Live Births	
	2016 CHNA	2019 CHNA
Bronx	4.7	4.4
Brooklyn	3.9	3.6
Manhattan	3.4	2.8
Queens	3.9	4.1
Staten Island	4.0	3.0
New York City	4.2	4.1
United States	5.8	5.9
TCNY 2020	4.4	4.4
HP 2020	6.0	6.0

Source: Centers for Disease Control and Prevention, 2014, 2016; New York City Department of Health and Mental Hygiene, 2014, 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.

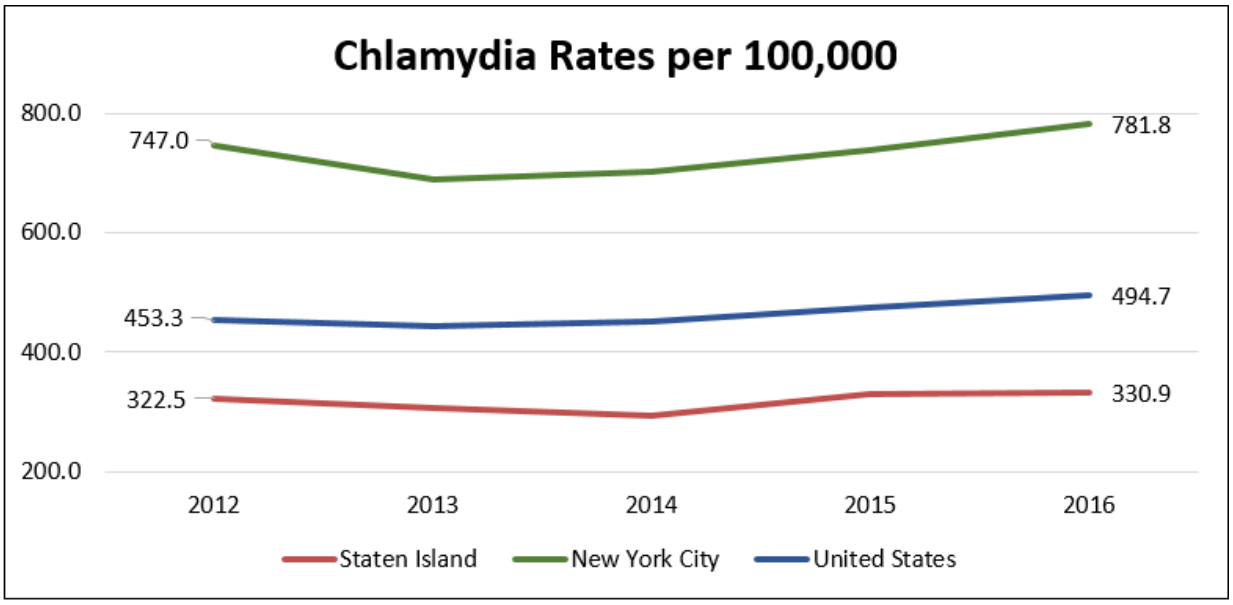
Staten Island residents are less likely to have a chlamydia or gonorrhea infection compared to NYC and the nation

Chlamydia and gonorrhea are both preventable and treatable, but when left untreated can lead to serious complications and decreased quality of life. The rate of chlamydia and gonorrhea infection in Staten Island has been consistently lower than NYC and the nation over time.

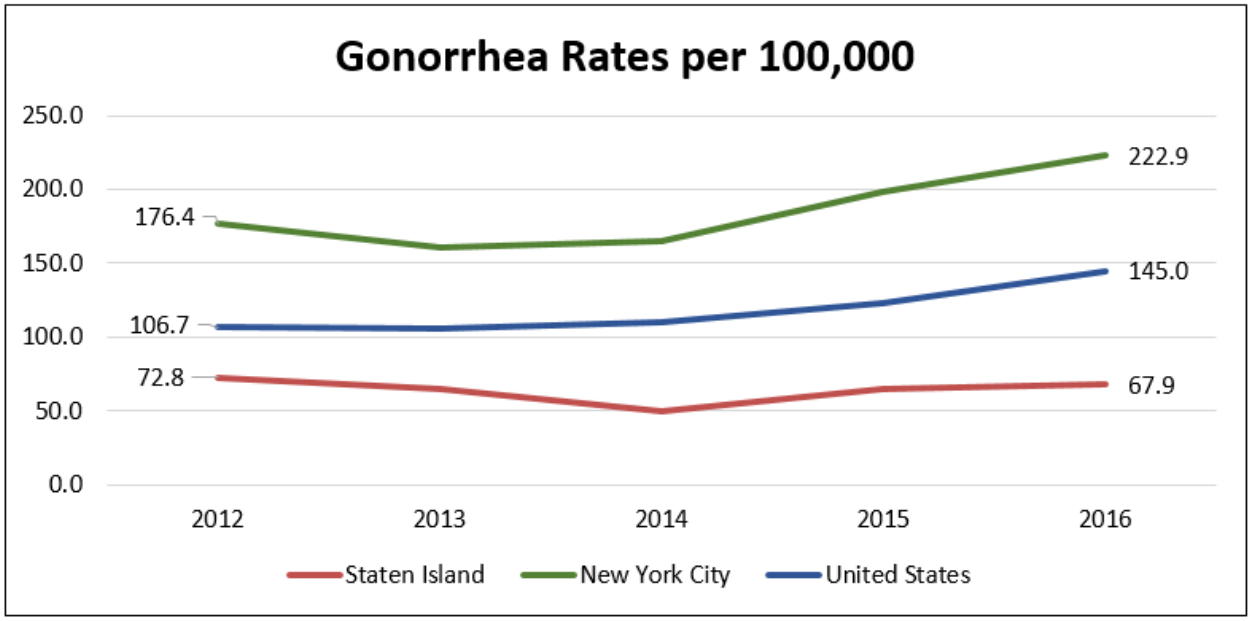
Sexually Transmitted Infection Rates per 100,000
(Green = Lower than NYC and National Benchmarks)

	Chlamydia		Gonorrhea	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	1147.7	1171.9	249.3	253.9
Brooklyn	696.2	758.2	152.0	222.7
Manhattan	708.7	927.5	235.7	386.0
Queens	490.4	554.3	86.4	120.4
Staten Island	308.0	330.9	65.4	67.9
New York City	696.9	781.8	161.9	222.9
United States	446.6	494.7	106.1	145.0

Source: Centers for Disease Control and Prevention, 2013, 2016; New York City Department of Health and Mental Hygiene, 2013, 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

Staten Island adults and students are less likely to be tested for HIV; fewer residents have been identified as living with HIV/AIDS

HIV prevalence is the number of people living with HIV infection at a given time. According to the CDC, "At the end of 2015, an estimated 1.1 million persons aged 13 and older were living with HIV infection in the US, including an estimated 162,500 (15%) 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 half of Staten Island adults have ever been tested for HIV, fewer than in all other boroughs. Additionally, fewer Staten Island teens are getting tested for HIV than their peers in the other boroughs of NYC.

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

	Age-Adjusted Adult HIV Testing (Ever)		High School Student HIV Testing	
	2016 CHNA	2019 CHNA	2016 CHNA	2019 CHNA
Bronx	77.4%	78.7%	29.9%	25.0%
Brooklyn	62.8%	64.2%	19.4%	17.3%
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

The number of people currently living with HIV in Staten Island is small, noticeably smaller than in the other boroughs. This finding suggests that testing rates are low either due to lack of HIV prevalence, or lack of testing contributes to underreported HIV cases. This area represents an opportunity for further exploration to determine the burden of HIV in Staten Island.

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
Bronx	29,089	2.0%
Brooklyn	29,332	1.1%
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 Staten Island. 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 Staten Island to solicit information about health needs among residents. A total of 22 individuals responded to the survey, including health and social service providers; community and public health experts; civic, religious, and social leaders; policy makers and elected officials; and others representing diverse populations including minority, low-income, and other 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

- Nearly 67% of informants "disagreed" or "strongly disagreed" that Staten Island overall is a healthy community and 55% "disagreed" or "strongly disagreed" that residents prioritize their health.
- The top community health concerns, in rank order according to key informants, are substance use disorder, cancers, and heart disease and stroke.
- The top contributing factors to community health concerns, in rank order according to key informants, are drug/alcohol use, health habits, and the ability to afford healthcare.
- Low-income/poor, minority populations, and residents of the North Shore were seen as the most impacted by community health concerns.
- When asked if various community and healthcare services are available in Staten Island, respondent mean scores were between 2.36 and 3.41 out of 5, indicating overall disagreement or neutral perspectives. Public transportation, affordable, safe housing, and affordable, nutritious foods were considered the least available services.
- Approximately 43% of informants "agreed" or "strongly agreed" that residents can get help with social needs when they need it.
- When asked to rate community dimensions impacting social determinants of health, respondent mean scores were between 2.89 and 3.17 out of 5, indicating overall "average" or "good" ratings. Education and social and community context were seen as the strongest dimensions.
- Nearly 60% of informants rated affordable housing, healthy food options, and transportation options as the top missing resources in the community. Mental health services were chosen as a missing resource by 53% of informants while adult education was chosen by 47% of informants.

Survey Participants

Nearly half of key informants indicated that they served all populations within Staten Island. The most commonly served special population groups were seniors/elderly, African American, families, and low income/poor. “Other” populations served included individuals with substance use disorder and/or HIV, and victims of domestic violence.

Populations Served by Key Informants

	Percent of Informants*	Number of Informants
Seniors/Elderly	45.5%	10
Not Applicable (serve all populations)	45.5%	10
African American	40.9%	9
Families	40.9%	9
Low Income/Poor	40.9%	9
Disabled	36.4%	8
Latinx	36.4%	8
Men	36.4%	8
Women	36.4%	8
LGBTQ+ Community	31.8%	7
Children/Youth	27.3%	6
Other	27.3%	6
American Indian/Alaska Native	22.7%	5
Asian/Pacific Islander	22.7%	5
Uninsured/Underinsured	22.7%	5
Homeless	18.2%	4
Immigrant/Refugee	18.2%	4
Migrant Workers	18.2%	4

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

Health Perceptions

Choosing from a wide-ranging list of health issues, key informants were asked to rank order what they perceived as the top three 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 three health concerns. The number of informants that selected the issue as the #1 health concern is also shown.

Three-quarters of informants chose substance use disorder within the top three health concerns, and 40% of informants selected it as the #1 health concern. Cancers and heart disease and stroke were selected as top three health concerns by approximately 4 in 10 informants, but 10% or fewer of informants selected them as the top health concern. It is worth noting that overweight/obesity was selected as the #1 health concern by 20% of informants.

Top Health Concerns Affecting Residents

Ranking	Health Concern	Informants Selecting as a Top 3 Health Concern		Informants Selecting as the Top (#1) Health Concern	
		Percent*	Count	Percent	Count
1	Substance use disorder	75.0%	15	40.0%	8
2	Cancers	45.0%	9	5.0%	1
3	Heart disease and stroke	40.0%	8	10.0%	2
4	Overweight/Obesity	35.0%	7	20.0%	4
5	Respiratory disease	30.0%	6	NA	NA
6	Diabetes	20.0%	4	5.0%	1
7	Alzheimer's disease/dementia	15.0%	3	5.0%	1
7	Mental health conditions	15.0%	3	NA	NA
9	Domestic violence	10.0%	2	10.0%	2
10	Infectious disease	5.0%	1	NA	NA
10	Suicide	5.0%	1	5.0%	1
10	Tobacco use	5.0%	1	NA	NA

*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 three 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 three contributing factors. The number of informants that selected the issue as the #1 contributing factor is also shown.

More than half of informants chose drug/alcohol use and health habits (diet, physical activity) as top contributing factors to community health concerns. Approximately 30% of informants also selected drug/alcohol use as the #1 contributing factor, while only 5% selected health habits. Ability to afford healthcare (doctor visits, prescriptions, deductibles, etc.) was the third ranked contributing factor by 40% of informants; 25% selected it as the #1 contributing factor.

Top Contributing Factors to Community Health Concerns

Ranking	Contributing Factor	Informants Selecting as a Top 3 Contributor		Informants Selecting as the Top (#1) Contributor	
		Percent*	Count	Percent	Count
1	Drug/alcohol use	55.0%	11	30.0%	6
1	Health habits (diet, physical activity)	55.0%	11	5.0%	1
3	Ability to afford healthcare (doctor visits, prescriptions, deductibles, etc.)	40.0%	8	25.0%	5
4	Environmental quality	25.0%	5	5.0%	1
4	Stress (work, family, school, etc.)	25.0%	5	NA	NA
6	Inadequate or no health insurance	15.0%	3	5.0%	1
7	Lack of preventive healthcare (screenings, annual check-ups)	10.0%	2	5.0%	1
7	Number of healthcare providers available in community	10.0%	2	NA	NA
7	Poverty	10.0%	2	10.0%	2
7	Racial/Ethnic disparities	10.0%	2	NA	NA
7	Religious or spiritual values	10.0%	2	NA	NA

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

Informants were asked to share their perceptions about the populations that are most impacted by community health concerns. Low-income/poor and minority populations were the most commonly identified populations. Informants identified affordable housing, access to care, stigma, access to fast food, and lack of access to recreation as specific health concerns among these populations.

Community Access

Key informants were asked to rate their agreement to statements pertaining to access to care and other community services 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 specialty medical care when needed received the highest mean score among access indicators. Residents accessing a regular primary care provider received the next highest mean score, however, nearly 40% of informants had neutral perceptions of this indicator, indicating they “neither agree nor disagree.”

Nearly 67% of informants “disagreed” or “strongly disagreed” that Staten Island overall is a healthy community and 55% “disagreed” or “strongly disagreed” that residents prioritize their health. Informants noted the negative impact of social determinants of health on residents, with more than 60% “disagreeing” or “strongly disagreeing” that residents can easily access public transportation and have access to affordable, safe housing.

Approximately 43% of informants “agreed” or “strongly agreed” that residents can get help with social needs when they need it. Approximately half of informants “disagreed” or had neutral perceptions.

Community Access Indicators in Descending Order by Mean Score

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	**Mean Score**
Residents can receive specialty medical care (i.e. Cancer, Cardiovascular, Neuroscience, Orthopedics, etc.) when they need it.	4.5%	13.6%	18.2%	63.6%	0.0%	**3.41**
Residents have a regular primary care provider for healthcare.	4.8%	14.3%	38.1%	42.9%	0.0%	**3.19**
Residents feel safe in their neighborhoods.	10.0%	15.0%	25.0%	50.0%	0.0%	**3.15**
Residents can get help with social needs when they need it.	4.8%	23.8%	28.6%	38.1%	4.8%	**3.14**
Residents experience equity related to race, ethnicity, gender, cultural, and religious preferences.	9.5%	23.8%	42.9%	14.3%	9.5%	**2.90**
Staten Island residents prioritize their health and wellness.	5.0%	50.0%	15.0%	25.0%	5.0%	**2.75**
Residents are able to regularly access and afford nutritious foods.	19.0%	28.6%	23.8%	28.6%	0.0%	**2.62**
I would describe Staten Island as healthy.	4.8%	61.9%	23.8%	4.8%	4.8%	**2.43**
Safe housing is affordable and available.	23.8%	38.1%	14.3%	23.8%	0.0%	**2.38**
Residents can easily use public transportation to get to places in our community, e.g. stores, work, medical appointments, pharmacy, etc.	22.7%	40.9%	18.2%	13.6%	4.5%	**2.36**

Informants provided the following comments related to community access.

- *"Access to fresh food is scarce. Transportation hinders mobility. Childhood obesity is on the rise."*
- *"Large disparities exist between the North Shore and South Shore of Staten Island. Social needs, housing, safety, transportation, and access to healthy, nutritious foods are all issues largely on the North Shore."*
- *"Residents can get help if they seek it as there are many organizations available to assist them."*
- *"Some areas of Staten Island do not have sufficient transportation access. The walk to the bus or train is usually too far for the elderly or disabled."*

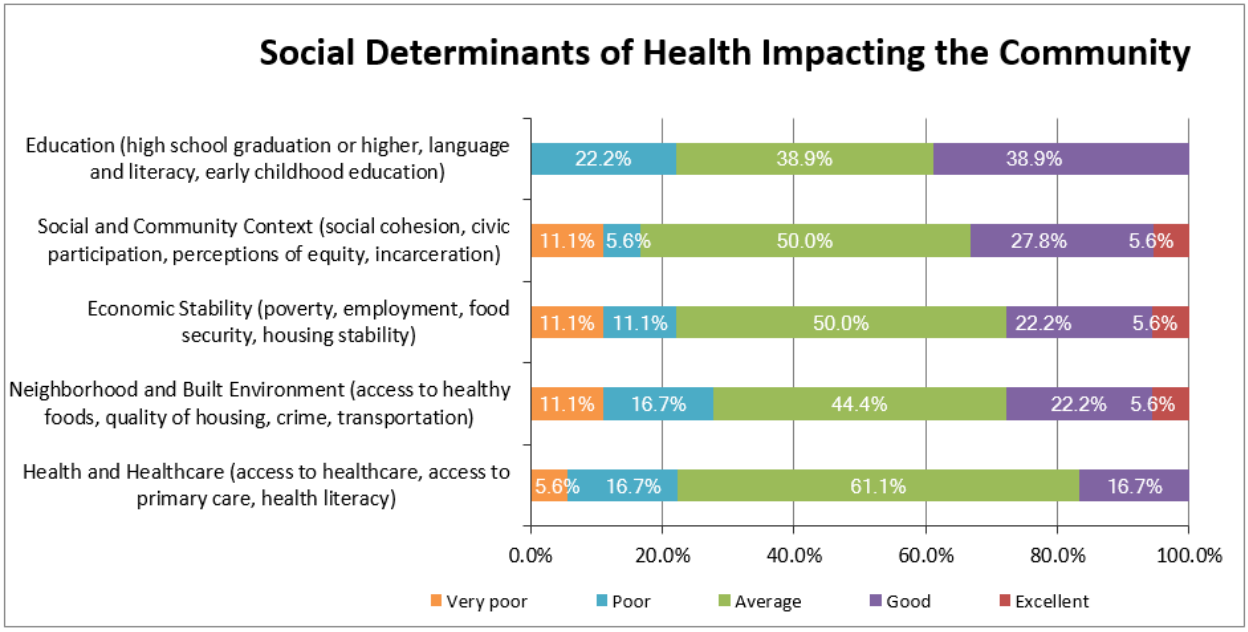
Social Determinants of Health

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 five community dimensions that most highly impact social determinants of health: economic stability; education; health and healthcare; 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 2.89 and 3.17 out of 5, with most respondents rating the listed dimensions as "average" or "good." Education was seen as the strongest community dimension, while health and healthcare was seen as the weakest community dimension.

Ranking of Community Dimensions Impacting Social Determinants of Health in Descending Order by Mean Score

Ranking	Community Dimension	Mean Score
1	Education	3.17
2	Social and Community Context	3.11
3	Economic Stability	3.00
4	Neighborhood and Built Environment	2.94
5	Health and Healthcare	2.89



Key informants acknowledged the impact of social determinants as key underlying factors of health issues within the community. Specific comments by informants are included below.

- *"The social climate of the island is changing. There are more low income housing units/ homeless shelters integrated into all communities of the island now, and will continue. There is no plan in the infrastructure to support the needs of the homeless."*
- *"There is much support between and among groups on Staten Island. More inclusion is needed across racial lines."*

Leveraging Community Resources to Impact Health

Key informants were asked what resources are missing in the community that would help residents optimize their health. Respondents could choose as many options as they saw as needed. Approximately 60% of informants chose affordable housing, healthy food options, and transportation options as missing resources within the community. Mental health services and adult education (GED, training, work force development) rounded out the top five selections by informants with approximately half selecting them as missing resources.

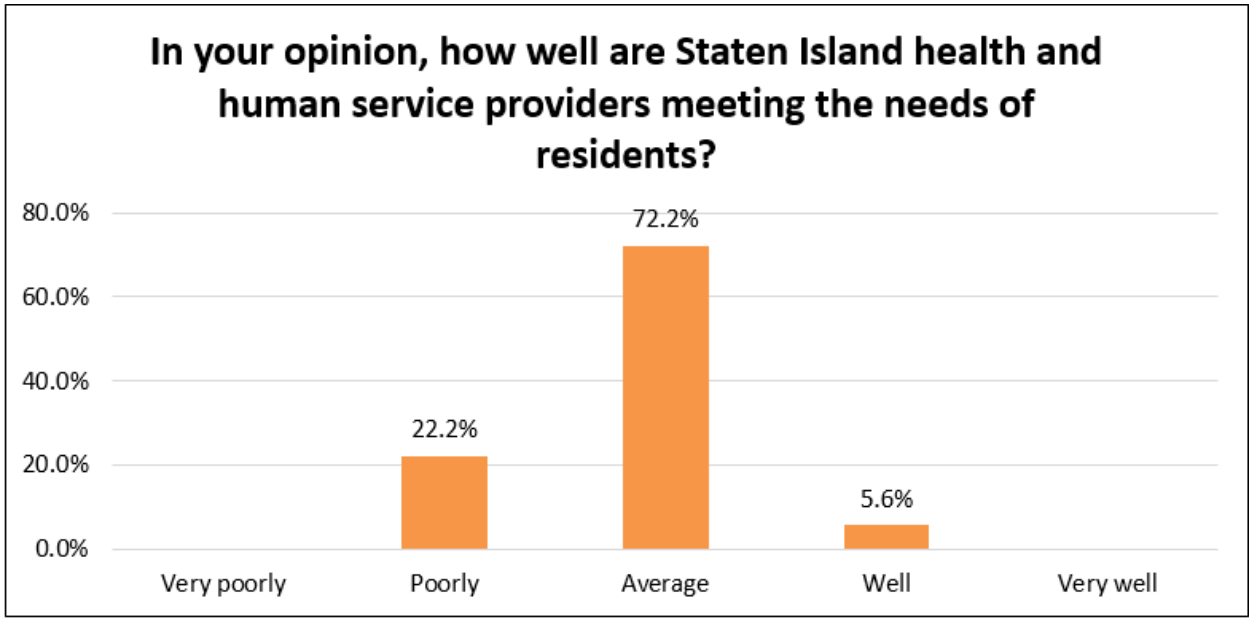
Top Missing Resources within the Community to Optimize Health

Ranking	Resource	Percent of Informants	Number of Informants
1	Affordable housing	57.9%	11
1	Healthy food options	57.9%	11
1	Transportation options	57.9%	11
4	Mental health services	52.6%	10
5	Adult education (GED, training, work force development)	47.4%	9
6	Multi-cultural or bilingual healthcare providers	42.1%	8
7	Substance abuse services	36.8%	7
8	Community support groups	31.6%	6
8	Outlets for physical activity (parks, rec centers, gyms, walking trails, etc.)	31.6%	6
10	Child care providers	26.3%	5
10	Community clinics/Federally Qualified Health Centers (FQHCs)	26.3%	5
10	Health and wellness education and programs	26.3%	5
10	Home healthcare services	26.3%	5
10	Senior services	26.3%	5
10	Social services assistance (housing, electric, food, clothing)	26.3%	5

Specific comments related to missing resources in the community are included below.

- *"[There is a need for] racial sensitivity training."*
- *"[There is a need for] specialized supportive housing for two groups - those with mental illness and those who are completing addiction treatment programs and need sober housing options."*
- *"Need to educate people about the difference between Urgent Care, Emergent Care and Walk In care, and Emergency Room services."*
- *"There will be significant lack of social services/care coordination once DSRIP funding ends. Additionally, there is a big gap in behavioral health services, particularly for the youth and adolescent community. We also need recreational facilities for the youth and seniors."*

Informants were asked to rate Staten Island health and human service providers on how well they are meeting the needs of residents, using a scale of (1) “very poorly” to (5) “very well.” More than 70% of informants rated current services as “average.”



Lastly, informants were asked to share any other insights that could help improve health among residents of Staten Island. Informants provided the following suggestions.

- *“Hospitals and primary care providers need to focus on primary upstream prevention and education in the community rather than sick care!”*
- *“Improvement in education will help overcome many of the challenges of access to healthcare.”*
- *“More exposure to healthy habits, access to healthy food, programs that help people understand habits of poor health and how to break/modify them.”*
- *“Vocational programs for intermediate and high school students, developing a strategy for our youth to make something they can see and be proud of. They need structure, and to be able to find a job. The independent skills of a vocational education supports discipline in the workplace, following directions, receiving corrective criticism and simulates an introduction into the workforce.”*

Key Informant Survey findings were considered in conjunction with statistical secondary data to determine health priorities for Staten Island. 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 Staten Island 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 Staten Island to address the priorities of Prevent Chronic Diseases and Promote Well-Being and Prevent Mental and Substance Use Disorders, with specific focus on tobacco prevention; chronic disease preventive care and management; and preventing mental and substance use disorders.

Priority Need: Prevent Chronic Diseases, Focus on Tobacco Prevention
Available Assets and Resources:

- NYC Department of Health and Mental Hygiene
  - Tobacco Quit Kit
  - NYC Quits Resources website
  - Smoke-free Housing Kit for landlords and property managers
  - New York State Smoker's Quitline: 866-NY-QUITS (866-697-8487)

- Richmond University Medical Center
  - Certified Tobacco Treatment Specialist, providing cessation counseling and youth prevention education
  - Tobacco Cessation Program, call 718-818-2391 for more information
  - Tobacco use disorder treatment, provided at the St. George Co-Occurring Clinic at 1130 South Ave. and West Brighton Clinic at 690 Castleton Ave.

- Staten Island University Hospital
  - Smoking cessation support group, meets Thursdays from 5:30pm at Nalitt Cancer Center, 256C Mason Avenue, 3rd Floor

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

- Richmond University Medical Center
  - Cancer Services Program, offering free breast, cervical, and colorectal screenings and diagnostic services to eligible women and men, in partnership with NYS Department of Health
  - Breast Health Patient Navigator Program to increase access to mammography and support women in accessing appropriate breast healthcare
  - Care Transitions Program, in partnership with Visiting Nurse Association of Staten Island, to reduce 30-day readmission rates within the Medicaid population by engaging with patients during hospitalization and developing a comprehensive transition plan of care

- Breast and Women's Center, opened in October 2018, the center provides comprehensive imaging services and breast care consultation/clinical services in one location

- Staten Island Performing Provider System
  - City Harvest Nutrition Program, offering free hands-on cooking, nutrition classes, and grocery store workshops
  - Diabetes Self-Management Programs offered by Community Health Action of Staten Island and Staten Island University Hospital
  - Diabetes prevention classes offered at RUMC and the YMCA; topics include healthy eating, physical activity, overcoming stress, and staying motivated with prediabetes
  - Staten Island Community At-Risk Engagement Services (SI Cares), providing care managers to help patients manage their healthcare needs, targeting Medicaid patients
  - Medicaid Accelerated Exchange (MAX), a program in partnership with the NYS Department of Health to improve outcomes and reduce unnecessary hospital admissions and ED use among super-utilizers
  - Rx for Food, a program in partnership with City Harvest Mobile Markets to provide fresh produce, cooking demonstrations, and free wellness programs. Two markets are offered in Staten Island in Mariner's Harbor and Stapleton.

Priority Need: Prevent Mental and Substance Use Disorders

Available Assets and Resources:

- City of New York
  - NYC Well: 1-888-NYC-Well (1-888-692-9355) for free, confidential support, crisis intervention, and information and referral service for anyone seeking help for mental health and/or substance misuse concerns
  - ThriveNYC for information on mental health prevalence and treatment

- NYC Department of Health and Mental Hygiene
  - Mental Health Service Finder to find mental health and substance use disorder services
  - Mental Health First Aid Training: Free training offered in partnership with ThriveNYC to identify signs of mental health distress or substance use issues and respond effectively

- Richmond University Medical Center
  - Peer counselor warm handoff program to connect patients with substance use disorder that visit the ED with timely and appropriate withdrawal management, and other treatment services, in partnership with community treatment providers
  - Relay, an opioid overdose program in partnership with the NYC DOHMH and CHASI, designed to deploy Relay Peers to follow up with patients who suffered a nonfatal overdose, offering counseling, overdose rescue training, and linkage to services, among others
  - Opioid Overdose Prevention Program, providing training to community members, patients, and professionals on how to recognize, respond, and give Naloxone

- Staten Island Performing Provider System
  - Staten Island Behavioral Health Resource Guide
  - Behavioral Health Infrastructure Project

- Staten Island Partnership for Community Wellness
  - Guide to support groups and recovery programs for people struggling with substance misuse, and their families
  - Tackling Youth Substance Abuse, a coalition of people and organizations focused on educating the community on substance use issues and reducing stigma, sharing data, and providing opportunities for youth and community engagement, among other services

Evaluation of Impact from 2016-19 CHNA Implementation Plan

In 2016, RUMC completed a CHNA and developed a supporting three-year Implementation Plan for community health improvement to address identified New York State Prevention Agenda priorities. Priorities included chronic disease, mental health, and substance abuse.

The RUMC 2016 Implementation Plan outlined specific goals, objectives, and strategies to address priority health needs. The plan leveraged resources across the hospital and the community, drawing on existing partnerships. The following section highlights RUMC's approach to addressing identified needs, and outcomes from the implemented action items.

Prevention Agenda Priority: Prevent Chronic Disease

2016 Goals:

- Increase screening rates for cardiovascular disease, diabetes, and breast, cervical, and colorectal cancers, especially among disparate populations
- Promote evidence-based care to manage chronic diseases
- Promote tobacco use cessation, especially among low SES populations and those with poor mental health

Chronic Disease Screenings and Education

RUMC participates in the NYS Department of Health Cancer Services Program, offering free breast, cervical, and colorectal screenings to individuals who either do not have health insurance or have health insurance that does not cover the cost of screenings. Additional free cancer screenings were offered to eligible patients based on risk factors, including age, family history, or positive genetic test. Community Health Workers were used to engage at-risk patients and refer them for screening. RUMC also conducted outreach to increase awareness of HPV and promote the HPV vaccine, targeting college students.

The following is a breakdown of free cancer screenings provided by RUMC as part of the Cancer Services Program, 2016 to 2018.

Cancer Screenings Provided by RUMC as Part of Cancer Services Program

	Mammography Screenings	Patients with Positive Mammogram	Pap Smear Screenings	Patients with Positive Pap Smear
2016	107	48	21	2
2017	126	70	21	2
2018	82	48	17	0

RUMC participated in community events promoting health education and screenings. The following is a summary of select events and screenings that were offered, as applicable.

- Staten Island Economic Development Corporation's Health and Wellness Expo, including screenings for blood pressure, prostate cancer, lung capacity, and ankle brachial index.

- Making Strides Against Breast Cancer Walk, including a sponsored table for breast cancer information, and a speaking engagement by the RUMC chief breast surgeon to stress the importance of screenings.
- “Men’s Health Day” / “Men’s Health Night” during the Staten Island Yankees home game on June 22, 2018, providing free prostate cancer information and screenings.
- Richmond County Fair, reaching more than 3,000 individuals, and providing information about lung and colon screenings and tobacco cessation programs, skin cancer screenings, and complimentary sunscreen.
- RUMC annual colorectal cancer prevention event hosted in the hospital lobby to coincide with National Colorectal Cancer Awareness Month. The American Cancer Society and doctors and nurses were in attendance. Local food markets distributed “colon-friendly foods” and fecal immunochemical tests were disseminated to attendees with instructions on how to take the test and return it for analysis.

Richmond University Medical Center employs a Community Outreach Specialist, who is responsible for staffing all events to engage with the Staten Island community, particularly underserved populations. At these community events, the Community Outreach Specialist and volunteer staff provide up-to-date health information and free screenings for skin cancer, blood pressure, vascular, lung, breast health, and blood glucose, among others.

RUMC hosted quarterly free seminars on healthy eating and creating fitness routines to avoid diabetes and obesity. Dr. Philip E. Otterbeck, Chief of Endocrinology at Richmond University Medical Center, spearheaded this initiative. The seminars were offered in diverse venues, targeting underserved populations, and widely attended with an average of 100 attendees per seminar.

In 2018, RUMC instituted a monthly series of "Lunch and Learn" seminars. These events, hosted in the hospital auditorium, allow community members to engage with healthcare professionals on various issues, including cervical, breast, and colon cancer, smoking cessation, cardiology, and diabetes, among others. An average of 50 to 100 community members attend each seminar.

Care Management

In October 2018, RUMC opened its new Breast and Women’s Center, providing the most advanced treatments available for breast issues. The center employs two breast nurse navigators as part of the Breast Health Patient Navigation Initiative. The primary aims of the initiative are to educate women about the importance of mammography and support women who have abnormal mammography findings and barriers to accessing appropriate care. These barriers include transportation to and from appointments, childcare, inability to pay for care or high co-pay, culture, language, anxiety or fear of diagnosis. The goal is to guide, educate, and support women through screening and diagnosis by providing services that address the identified barriers.

RUMC also employs a lung nurse navigator who serves as the patient advocate through the screening process. The nurse navigator serves as the patient advocate throughout the lung screening process, keeping track of patient outcomes and ensuring follow-up screening and treatments. For the patient, this coordinated effort translates into faster treatment, better outcomes, and more coordinated care.

RUMC is a partner in SI PPS Diabetes Management Project. The goal of the project is to ensure that clinical practices use evidence-based strategies to improve management of diabetes and link patients to self-management programs. The project uses care coordination teams, including diabetes educators, nursing staff, behavioral health providers, pharmacy, and community health workers, to address health literacy and patient self-efficacy in managing their conditions. One outcome measure for the program is the number of adult patients with diabetes or pre-diabetes who receive at least one hemoglobin A1c (HgA1c) test within the past year. Between April 1, 2017 and March 31, 2018, a total of 2,185 RUMC patients received a HgA1c test, exceeding the target of 2,157 patients. From April 1, 2018 to March 31, 2019 RUMC tested 3,023 patients, which exceeded the target of 2,157 patients.

Since June 2018, the SI PPS Diabetes Management Project has partnered with Wellth, a digital health company, to offer cash incentives to at-risk patients, including Medicaid and uninsured patients, to control their blood sugar. Enrolled patients download the Wellth app and track their diabetes medication daily for 70 days; compliant patients receive $15 every 14 days, while non-compliant patients lose $2 for each day they don't take their medication. The program had 47 participants as of July 1, 2019 and 37 participants completed the program. The RUMC Ambulatory Care Clinic is one of the six participating sites for the program.

Working with SI PPS, RUMC has managed and referred many patients to SI CARES. SI CARES offers health coaching and community support to individuals with at least one chronic health condition and at-risk of developing another condition. In partnership with care management agencies, SI CARES provides a centralized access point for referrals across Staten Island. SI CARES engagement includes a check in, follow up, and follow through of needs, and consists of handoffs to other internal or external services as necessary.

In October 2017, RUMC launched the Care Transitions Program in collaboration with the Visiting Nurse Association (VNA) of Staten Island. The goal of the program is to reduce 30-day readmission rates within the Medicaid population by actively engaging with patients during their hospitalization, developing a transition plan of care that provides education, counseling, and monitoring, and providing coordination of care through planned home visits by registered nurses and follow up telephone calls by health coaches. Between April 1, 2017 and March 31, 2018, a total of 1,074 RUMC patients received services from the Care Transitions Program, exceeding the target of 500 patients.

RUMC implemented the Medicaid Accelerated Exchange (MAX) program in collaboration with the SI PPS and our community partners, such as CHASI, Victory Internal Medicine, Project Hospitality, SI CARES, and Jewish Board, to identify super-utilizers of the ED and connect them

with more appropriate and supportive services. Through data mining we identified a large population of adult home patients that are classified as MAX super-utilizers of our ED. In collaboration with SI PPS and its partners, such as Lakeside Adult Homes, Harbor Terrace, and others, RUMC also developed a "MAX committee," which meets bi-weekly to determine the best way to help super-utilizer patients. The committee is comprised of social workers, community healthcare workers, RUMC leadership, physicians, nurses, care managers, and other community organizations.

Super-utilizers are defined as patients with eight or more ED visits in a six month period; the patient list is updated monthly. Analysis of the first cohort in this program showed that 75% of patients were no longer super-utilizers.

In August 2018, RUMC opened the specialized Bariatric and Metabolic Institute to help residents struggling with obesity. The comprehensive center offers everything from bariatric surgery to customized treatment plans, counseling, and support groups. Bariatric surgery is an evidence-based procedure that has been proven effective in improving population health with regard to obesity and diabetes. Since opening, the chief of bariatric surgery has hosted monthly seminars at community locations to provide information regarding weight loss surgery. The number of attendees per seminar ranged from 10 to 25 individuals.

Tobacco Cessation and Prevention

RUMC offers a community tobacco cessation program, run by a Certified Tobacco Treatment Specialist, two times per year. The 6-week program provides participants with information, individual counseling, and coping mechanisms to better fight their tobacco addiction. A total of 50 individuals completed the program since 2016 and approximately 75% quit smoking. A support group, called "The Conquerors," was created for individuals who have completed a tobacco cessation program and need additional support. The tobacco cessation program was recently expanded to include additional community outreach to local schools to educate students about the dangers of vaping or Juuling.

In 2017, RUMC made it a priority to address the high percentage of people with behavioral health issues who also use tobacco. Nationally, of the 480,000 people who die from tobacco-related disease every year, almost half are individuals with mental and substance use disorders. Individuals with serious mental illness smoke at three times the rate of the general population. Under the determined leadership of Michael Matthews, LCSW Director of RUMC's outpatient behavioral health clinics, RUMC began taking steps to implement treatment for tobacco use disorders in their Office of Mental Health (OMH)-licensed and Office of Alcoholism and Substance Abuse Services (OASAS)-certified programs located at the Center for Integrative Behavioral Medicine at 1130 South Avenue. As part of their strategy, RUMC engaged with NYC Tobacco Cessation Training & Technical Assistance Center (TCTTAC) for training and technical supports.

The RUMC tobacco use disorder treatment workgroup developed the following vision statement for the program: *RUMC smoking cessation program provides education, encouragement, and*

support to our patients to promote health and wellness. Our goal is to optimize the health of our patients, their families and our community by implementing strategies to reduce health problems and premature deaths related to tobacco use and second-hand smoke.

As of 2018, all admissions to the RUMC Silberstein Clinic are screened for tobacco dependence and all staff are trained in the benefits of nicotine replacement therapies (NRT). Silberstein also invested in a smokalyzer, which reads the carbon monoxide saturation in patients, providing a measurable tool for smoking cessation progress. Of the 142 clients enrolled at Silberstein in 2018, 67 were identified as smokers. Of the 67 individuals, 32 accepted NRT and followed a treatment plan for cessation.

The RUMC workgroup led by Randi Davis is willing and enthusiastic to share more about RUMC's successes, challenges, and solutions for implementing tobacco treatment in order to help others starting this work. Please contact rdavis@rumcsi.org for more information.

Prevention Agenda Priority: Promote Mental Health and Prevent Substance Abuse

2016 Goals:

- Prevent underage drinking, non-medical use of prescription drugs by youth
- Support collaboration among leaders, professionals, and community members working in MEB health promotion, substance abuse, and other MEB disorders and chronic disease prevention, treatment, and recovery

Prevent Underage Substance Use

RUMC is a collaborating partner in the Staten Island Partnership for Community Wellness, a membership organization of individuals and community agencies from the public, private, and non-profit sectors established to promote wellness and to improve the health of Staten Island. A key initiative of the partnership is the Tackling Youth Substance Abuse (TYSA) Initiative, aimed at decreasing the use of alcohol and prescription drugs and promoting overall healthy choices among youth. As a partner in the initiative, RUMC supported activities to:

- Advocate for systems-level change at the local, state, and federal level
- Collect and share data that drives initiatives
- Connect the community with needed resources using the Staten Island Drug and Alcohol Treatment Resource Guide and RUMC behavioral health resources
- Educate the community on substance abuse
- Strengthen provider and patient education to address prescription drug misuse and reduce accidental overdose

Mental Health and Substance Abuse Prevention, Treatment, Recovery

RUMC is represented on the Steering Committee of the SI PPS Behavioral Health Infrastructure Project (BHIP) The goal of BHIP is to help strengthen mental health and substance abuse infrastructure across systems. As a partner organization, RUMC committed to adopting and

supporting the BHIP vision: By 2020, Staten Island will have a high quality integrated healthcare system that supports optimal physical and emotional well-being. Additionally, RUMC committed to the following activities:

- Contribute to the strategic planning process and participate in decision-making for BHIP
- Champion BHIP broadly in the Staten Island community
- Be a community leader amongst RUMC's represented sector
- Align RUMC's actions to the goals, indicators, and strategies of BHIP where possible
- Promote the effective use of data for continuous improvement
- Commit to yearlong membership and dedicate 4 hours per month on average to BHIP
- Participate in at least 1 subcommittee
- Participate in the regularly scheduled meetings and community events
- Participate in sustaining the coalition's capacity, involvement and energy

RUMC increased access to both mental and substance use disorder services with the addition of three programs. In October 2017, RUMC initiated Bridges to Wellness, a partial hospitalization program for patients with mental illness, providing a therapeutic environment for individuals discharged from a psychiatric unit who need assistance transitioning home. In March 2018, RUMC began Medication-Assisted Treatment inductions in the ED for patients seen for substance use disorder, with direct referrals to the Silberstein Clinic for additional treatment. In June 2019, RUMC added Transcranial Magnetic Stimulation, a proven effective, non-invasive treatment for patients with major depressive disorder and obsessive-compulsive disorder.

The RUMC Peer Counselor Warm Handoff Program connects patients with substance use disorder that visit the ED with timely and appropriate withdrawal management, and other treatment services. The program provides a 24/7 single access number for ED personnel to connect with community treatment providers and refer patients in need of ambulatory withdrawal management. A searchable, online provider database is also available to ensure community-based treatment providers are available to respond to referrals, particularly outside business hours. Certified recovery peer counselors are available in the ED to better engage clients, offering Narcan kits and facilitating treatment referrals. RUMC currently employs two peer counselors who see an average of 5-10 patients per day.

In addition to the RUMC Peer Counselor Warm Handoff Program, the NYC DOHMH contracted with CHASI to implement Relay, a nonfatal overdose response system. Relay is an effort to reduce opioid overdose mortality by targeting Staten Islanders at highest risk for fatal overdose. The response system deploys Relay Peers to collaborating EDs to engage and follow up with consenting patients who have suffered a nonfatal overdose, offering risk reduction counseling, overdose rescue training, Naloxone distribution, support, and linkage to services for up to 90 days. The RUMC ED is a collaborating partner in this initiative.

In 2017, CHASI received 49 activations for non-fatal overdoses. Relay Peers were able to respond to 48 of those activations. In 2018, CHASI received 166 activations for non-fatal overdoses. Relay Peers were able to respond to 159 of those activations. Relay Peers also offer services to non-program eligible individuals interested in harm reduction or treatment related services.

In 2016, the RUMC Silberstein Clinic was registered by the NYS Department of Health as an Opioid Overdose Prevention Program, enabling them to train community members, patients, and professionals on how to recognize, respond, and give Naloxone. Since 2016, 158 Silberstein Clinic clients and 142 community members have been trained in the use of Narcan. RUMC also provided Narcan training in the hospital ED. Since December 2018, ED staff trained 56 clients and 40 staff members in the use of Narcan.

Starting in 2017, RUMC worked to integrate primary care services within behavioral health settings. In 2017 and 2018, 2,776 individual primary care services were provided by Family Nurse Practitioners in RUMC outpatient behavioral health programs. Primary care services included physical exams, flu shots, and sick visits, among others. The initiative resulted in a 22% reduction in potentially preventable ED visits from 542.9 per 1,000 in 2015/2016 to 423.7 per 1,000 in 2017/2018.

RUMC is a New York State Sexual Assault Forensic Examiner (SAFE) Designated Hospital, providing specialized care to sexual assault patients. The goals of the SAFE program include:

- Provide timely, compassionate, patient-centered care in a private setting that provides emotional support and reduces further trauma to the patient.
- Provide quality medical care to the patient who reports sexual assault, including evaluation, treatment, referral, and follow-up.
- Ensure the quality of collection, documentation, preservation, and custody of physical evidence by utilizing a trained DOH-certified sexual assault forensic examiner to perform the exam.
- Utilize an interdisciplinary approach by working with the local rape crisis program, law enforcement, prosecutors, and other necessary providers to effectively meet the needs of the sexual assault victim and the community.
- Provide expert testimony when needed if the patient chooses to report the crime to law enforcement.
- Improve and standardize data regarding the incidence of sexual assault victims seeking treatment in hospital EDs.

Since 2016, a total of 134 patients were assisted by a rape crisis advocate at RUMC as part of the SAFE program.

C. Community Health Improvement Plan / Community Service Plan

Prioritization Process and Identified Priority Areas

RUMC leadership reviewed findings from the CHNA research, including public health and socioeconomic measures and input received from key informants, to determine priority health needs for Staten Island and to focus community health improvement efforts. Leadership representatives considered the 2019 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 and Staten Island Performing Provider System and Staten Island Partnership for Community Wellness initiatives.

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

- Priority Area: Promote Well-Being and Prevent Mental and Substance Use Disorders
  - Focus Area: Prevent Mental and Substance Use Disorders

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?

RUMC Plan for Community Health Improvement

RUMC developed an Implementation Plan/Community Service Plan to guide their community benefit activities across Staten Island. As determined through the prioritization process, RUMC will devote resources and expertise to address chronic disease, mental health, and substance use, with a focus on tobacco prevention, preventive care and management, and prevention of mental and substance use disorders. Improving access to care and eliminating health disparities will continue to be cross-cutting strategies for RUMC.

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 #1: Tobacco Prevention

Goal #1: Prevent initiation of tobacco use, including combustible tobacco and electronic vaping products by youth and young adults.

Objective: Decrease the prevalence of tobacco or Electronic Nicotine Delivery Systems (ENDS) use by high school students.

Health Disparity Addressed: Among current and former adult smokers in Staten Island, 64.9% report initiating smoking before the age of 18, compared to 52% of adults across NYC. Current data suggests that the proportion of Staten Island teens who smoke is greater than any other NYC borough, and 1 in 5 teen smokers are heavy smokers. Additionally, nearly 1 in 4 teens report using e-cigarettes, higher than NYC overall. Youth who use e-cigarettes are more likely to later try traditional cigarettes.

Implementation Plan:

Intervention Strategy	Process Measures	Community Partners and Role
Offer tobacco prevention education, targeting high school students and led by a Certified Lung Nurse Navigator	• Number of education programs offered and number of participants • Percent of participants who report change in knowledge of dangers of tobacco use, and intent to abstain from tobacco	• Staten Island school districts to host programs • Parents Against Vaping and E-Cigarettes (PAVE) • Office of the Staten Island Borough President
Explore new strategies and funding opportunities to provide evidence-based prevention programs for e-cigarette use, targeting middle and high school students	• Identified programs and funding opportunities • Development of pilot program, in partnership with community agencies	• Office of the Staten Island Borough President • NYC DOHMH • NYC Department of Education

Goal #2: Promote tobacco use cessation, especially among populations disproportionately affected by tobacco use, including individuals with frequent mental distress and/or substance use disorder.

Objectives:

- Decrease the prevalence of cigarette smoking by all adults ages 18 and older.
- Decrease the prevalence of cigarette smoking by adults ages 18 and older with mental illness and/or substance use disorder.

Health Disparity Addressed: The percentage of adult smokers in Staten Island is double the Take Care New York 2020 goal of 12%, and nearly 8% of current smokers are heavy smokers, the most of any NYC borough. Nationally, of the 480,000 people who die from tobacco-related disease every year, almost half are individuals with mental and/or substance use disorders.

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Screen for tobacco use and initiate tobacco cessation program referrals using the "5 A's" embedded in patient Electronic Medical Records	• Percent of patients screened for tobacco use • Percent of positively screened patients referred to tobacco cessation programs	• NYC DOHMH Tobacco Quit Kit for cessation resources • NYS Smokers Quitline for patient referrals • RUMC tobacco cessation program
Offer a free tobacco cessation program three times per year, led by a Certified Lung Nurse Navigator	• Number of program participants • Percent of program participants that successfully quit smoking	• SI PPS to promote program awareness and referrals • Staten Island University Hospital and NYU Langone Health, offering additional cessation programs in Staten Island
Offer "The Conquerors" Support Group for past smokers who completed a tobacco cessation program	• Number of support groups offered and number of participants • Percent of participants who maintain tobacco cessation while a support group member	• RUMC tobacco cessation program • SI PPS to promote program awareness and referrals
Screen for tobacco dependence and initiate cessation treatment plans among Center for Integrative Behavioral Medicine clients	• Percent of patients screened for tobacco dependence • Percent of positively screened patients initiating a cessation treatment plan and/or offered nicotine replacement therapies • Percent of program participants that successfully quit smoking	• NYC DOHMH Tobacco Quit Kit for cessation resources • NYS Smokers Quitline for patient referrals • NYS Tobacco Cessation Training & Technical Assistance Center • RUMC tobacco cessation program

Focus Area #2: Preventive Care and Management

Goal #1: Increase cancer screening rates for breast, cervical, and colorectal cancer.

Objectives:

- Increase the percentage of women who receive a breast cancer screening based on most recent guidelines, targeting women with an annual household income less than $25,000.
- Increase the percentage of women who receive a cervical cancer screening based on the most recent guidelines, targeting women with an annual household income less than $25,000.
- Increase the percentage of adults who receive a colorectal cancer screening based on the most recent guidelines, targeting adults with an annual household income less than $25,000.

Health Disparity Addressed: The incidence of cancer is higher in Staten Island than NYC and the nation, but the rate of death due to cancer is similar in Staten Island to NYC and lower than the national rate. This finding suggests that overall, cancers in Staten Island are being identified early and effectively treated, but it does not reflect disparities in care access among low-income individuals. RUMC is located in the North Shore where as many as 1 in 4 households experience poverty.

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Continue to use Electronic Medical Records and Patient Portals to provide patient and provider screening reminders	• Number of patients reached through patient reminder systems • Provider breast, cervical and colorectal cancer screening rates	• RUMC healthcare providers
Offer the Cancer Services Program, providing free breast, cervical, and colorectal screenings and diagnostic services to eligible women and men	• Number of participants screened for breast, cervical, and colorectal cancers • Percentage of low-income patient population receiving cancer screenings based on most recent guidelines	• NYS Department of Health, program administrator • RUMC CSP Coordinator who conducts outreach to community members
Provide the Breast Health Patient Navigator Program to increase access to mammography and support women in accessing care, targeting underserved women	• Number of program participants • Percent of patients with an abnormal mammogram who receive appropriate follow-up care • Number of cancelled follow-up appointment due to care access barriers (transportation, cost, childcare, etc.)	• Community social service partners to provide wrap-around services • American Cancer Society to reduce barriers related to transportation and child care

Goal #2: Increase early detection and evidenced-based prevention interventions for cardiovascular disease, diabetes, and prediabetes.

Objectives:

- Increase early stage prevention interventions for adult patients at-risk for diabetes or pre-diabetes.
- Increase the percentage of adults who received at least one test for high blood sugar or diabetes within the past three years, targeting adults with an annual household income less than $25,000 and African Americans.
- Increase the percentage of adult patients who receive cardiovascular disease screenings based on the most recent guidelines, targeting adults with an annual household income less than $25,000 and African Americans.

Health Disparity Addressed: Heart disease and diabetes are among the leading causes of death in Staten Island. The rate of heart disease death in Staten Island exceeds the NYC and national rates, and African Americans have the highest rate of death among borough residents. Consistent with NYC overall, diabetes impacts more than 1 in 10 adults in Staten Island. The overall rate of diabetes death in Staten Island is lower than NYC and national rates, but African American residents have a disproportionately higher death rate, exceeding state and national benchmarks and all other racial groups.

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Continue to use Electronic Medical Records and Patient Portals to provide patient and provider screening reminders	• Number of patients reached through patient reminder systems • Provider screening rates	• RUMC healthcare providers
Provide a trained lifestyle coach to offer diabetes prevention education, including healthy eating, physical activity, overcoming stress, and staying motivated with prediabetes	• Number of program participants • Percent of program participants with a documented lifestyle change and/or decrease in diabetes risk factors	• SI PPS to promote program awareness and referrals • Staten Island YMCA, offering additional lifestyle coach and diabetes prevention services
Conduct community screening events and group education to increase awareness of chronic disease risk factors	• Number of individuals reached through education series that received or were referred to health providers for screenings • Change in knowledge and/or awareness of need for screenings among program participants	• Community social service partners to host events • SI PPS funded initiatives to promote healthy lifestyles • RUMC healthcare providers to conduct education
Use small media (e.g. printed materials) and health communications to build public awareness for chronic disease risk factors and screenings	• Number and type of locations where materials were distributed • Change in knowledge and/or awareness of need for screenings among individuals reached	• Community social service partners to disseminate materials • RUMC healthcare providers to develop materials

Goal #3: Promote the use of evidence-based care to manage chronic diseases.

Objectives:

- Decrease the percentage of patients with diabetes whose most recent HgA1c level indicated poor control by 5% by 2022, as part of the SI PPS Diabetes Management Project and Wellth program.
- Increase the percentage of patients with diabetes who comply with medication protocols by 8% by 2022, as part of the SI PPS Diabetes Management Project and Wellth program.
- Reduce 30-day readmission rates within the Medicaid population by 10% by 2022, as part of the SI CARES and Care Transitions Program.
- Reduce the proportion of patients who use the ED as their medical home ("super-utilizers") by 3% by 2022, as part of the MAX program.

Health Disparity Addressed: Staten Island has higher observed admission rates for ambulatory care sensitive conditions, including heart failure, hypertension, and uncontrolled diabetes, among others. Residents in North Shore zip codes are among the most impacted by ambulatory care sensitive conditions, with higher admission rates for nine or more of 11 measured conditions. Effective management of ambulatory care sensitive conditions in an outpatient setting can prevent the need for hospitalization or more severe complications.

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Participate in the SI PPS Diabetes Management Project, including the Wellth program, to ensure use of evidence-based protocols for diabetes management in the clinical setting and increase patient utilization of self-management programs	• Number of RUMC provider locations that implement care management protocols • Percentage of adult patients with diabetes or pre-diabetes who receive at least one HgA1c test annually • Percentage of adult patients with diabetes whose most recent HgA1c test indicates a managed condition • Percentage of patients participating in the Wellth program who successfully complete the program	• SI PPS, as facilitator of evidence-based protocols and Wellth digital incentive program • RUMC Ambulatory Care Clinic as participating site in the Wellth program
Collaborate with SI CARES to refer at-risk patients, including Medicaid patients, for care management services	• Number of RUMC Medicaid patients with a chronic health condition referred to SI CARES • Percentage of SI CARES participants who do not develop a second chronic health condition • Percentage of SI CARES participants with fewer ED visits	• SI PPS, as facilitator of the SI CARES program • RUMC healthcare providers as points of patient referral

Implementation Plan cont'd:

Intervention Strategies	Process Measures	Community Partners and Role
Provide the Care Transitions Program to reduce 30-day readmission rates within the Medicaid population by engaging with patients during hospitalization and developing comprehensive care transition plans	• Number of RUMC Medicaid patients enrolled in the program • Percentage of program participants with fewer hospital readmissions	• Visiting Nurse Association of Staten Island, providing care coordination and home visits by registered nurses
Provide the Medicaid Accelerated Exchange (MAX) program to identify super-utilizers of ED services and connect them with needed health and social services to prevent future unnecessary visits	• Number of RUMC Medicaid patients identified as super-utilizers • Percentage of super-utilizers connected with appropriate health and social services • Number of ED visits among super-utilizers	• SI PPS, as facilitator of the MAX program • Community social service partners to provide wrap-around services
Provide the RUMC Bariatric and Metabolic Institute, offering comprehensive care, support, and bariatric surgery for patients struggling with obesity	• Number of patients identified as obese, and referred to the Bariatric and Metabolic Institute • Percentage of patients with improved weight status	• Community social service partners to increase awareness of program

Prevention Agenda Priority: Promote Well-Being and Prevent Mental and Substance Use Disorders

Focus Area #1: Prevent Mental and Substance Use Disorders

Goal #1: Prevent underage drinking and other substance use by youth.

Objectives:

> Reduce the percentage of youth in grades 9-12 reporting the use of alcohol on at least one day in the past 30 days.

Health Disparity Addressed: The percent of Staten Island high school students who report drinking alcohol decreased from the 2016 CHNA, but the current percentage is higher than the NYC benchmark and represents nearly 1 in 5 students. High school students in Staten Island are more likely to binge drink than their peers across NYC.

Other substance use among Staten Island teens, including marijuana, cocaine, and heroin, also decreased from the 2016 CHNA. Current reported usage of these substances is consistent with NYC benchmarks, with the exception of heroin, which is slightly elevated in Staten Island (4.3%) versus NYC (3.9%).

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Collaborate in the Tackling Youth Substance Abuse initiative aimed at decreasing the use of alcohol and prescription drugs and promoting overall healthy choices among youth	• Number of youth and family members reached through community education programs and media campaigns • Change in attitudes and perceptions of alcohol and other substances among program participants • Number of new early detection models and treatment services established in Staten Island	• Staten Island Partnership for Community Wellness, as the convening partner for the TYSA initiative • SI PPS as collaborating partners
Provide a Medication Assisted Treatment (MAT) program targeting adolescents and young adults (ages 16 – 24)	• Outcomes will be measured relative to the three primary components of the program: 1. Medication assisted treatment, including maintenance or withdrawal management; 2. Behavioral therapy; and 3. Recovery support services, with an emphasis on peer support	• Staten Island Mental Health Society, a division of RUMC

Goal #2: Reduce morbidity and mortality due to mental and substance use disorders, including opioid-related deaths.

Objectives:

> Increase the proportion of behavioral health facilities that provide primary care services onsite or by referral.

> Increase the number of residents identified as having a behavioral health condition who receive treatment and/or counseling.

> Increase or strengthen community partnerships to enhance and support mental health and substance use disorder treatment services.

Health Disparity Addressed:
Nearly 1 in 10 Staten Island adults experience depression symptoms, consistent with NYC overall. However, only two-thirds of individuals with depression symptoms received counseling or treatment services. Within the North Shore, the rate of psychiatric hospitalizations among adults is higher than Staten Island and NYC overall, indicating potential difficulty in accessing care and greater exposure to stressors.

The drug-induced death rate in Staten Island increased nearly 40% from the 2016 CHNA. A significant contributor to drug-induced deaths is unintentional overdose. While the number and rate of overdose deaths declined citywide from 2017 to 2018, Staten Island saw an 18% increase in overdose deaths and had the second highest rate of overdose death among NYC boroughs.

Implementation Plan:

Intervention Strategies	Process Measures	Community Partners and Role
Collaborate in the SI PPS Behavioral Health Infrastructure Project to strengthen mental health and substance use disorder infrastructure across systems and increase access to quality behavioral health services in the community	• Number of avoidable hospital visits due to mental and/or substance use disorders • New or expanded capacity to provide standalone or integrated behavioral health services	• Staten Island Partnership for Community Wellness, as the project lead • SI PPS, as the convener of community partners
Provide Bridges to Wellness, a partial hospitalization program for patients with mental illness, providing individualized treatment services	• Number of patients served by the program • Number of psychiatric hospitalizations among patients • Percentage of patients reporting increased coping skills	• RUMC interdisciplinary care team (psychiatrist, nurse, social worker) • Community social service partners to provide wrap-around services
Provide the Peer Counselor Warm Handoff Program, connecting patients with substance use disorder seen in the ED with withdrawal management and other supportive services	• Percent of ED overdose patients who see a peer counselor • Percent of ED overdose patients connected to treatment services • Percent of ED overdose patients provided with Narcan • Number of repeat overdose patients seen in the ED	• RUMC ED staff • NYC DOHMH/CHASI, offering Relay, a similar nonfatal overdose response program
Train community members, patients, and professionals on Naloxone administration, as a registered Opioid Overdose Prevention Program	• Number of individuals trained to use Naloxone • Number of Naloxone kits distributed to the community	• NYS Department of Health, as program registering body • Community social service partners to promote and receive training
Provide daily Alcoholics Anonymous meetings open to the public	• Number of meetings and participants • Percent of participants reporting abstinence from alcohol use	• Community social service partners to promote program awareness
Provide integrated primary care services within behavioral health outpatient settings to increase access to preventive care services among at-risk patients	• Number of behavioral health patients receiving primary care services • Number of preventable ED visits among patients receiving integrated services	• RUMC outpatient behavioral health clinics • RUMC Family Nurse Practitioners
Provide the Sexual Assault Forensic Examiner program, providing specialized care to sexual assault patients, as a NYS designated hospital	• Number of patients served by the program • Percent of eligible patients with a partial or completed sexual offense evidence collection kit • Percent of patients offered a rape crisis or victim assistance advocate	• Safe Horizon's and Staten Island Child Advocacy Center for follow-up counseling services • RUMC Forensic Nurse Coordinator to oversee program

Community and Partner Engagement

RUMC will continue its partnerships with the Staten Island Partnership for Community Wellness and the Staten Island Performing Provider System, among others, to maintain engagement with local health improvement initiatives. RUMC will continue to serve as a resource for providers, community-based organizations, and other partners for the identified priority agenda items. The RUMC 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.

RUMC thanks our community partners for their commitment to the health and well-being of Staten Island residents, and welcomes the opportunity to continue to strengthen our community together.

Dissemination Plan

RUMC intends to electronically disseminate the full Community Health Needs Assessment and Community Service Plan and Executive Summary directly to all individuals and organizations that were invited to participate in the Key Informant Survey. Organizations will be asked to make the assessment available to their client list in a manner of their choosing. The Community Service Plan will also be sent electronically to local, state, and federal elected officials.

RUMC made the documents available on its website, and posted their release on social media outlets. RUMC will maintain a printed copy of the Community Health Needs Assessment and Community Service Plan at the hospital at all times for public inspection upon request.

Appendix A: Public Health Secondary Data References

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Appendix B: Key Informant Survey Participants

Key Informant Organization	Key Informant Title/Role
Camelot of Staten Island	CEO
Carmel Richmond Healthcare and Rehabilitation Center	Assistant Administrator
Clove Lakes Health Care and Rehabilitation Center	Administrator
Community Health Action of Staten Island	Executive Director
Cooley's Anemia Foundation, Inc. SI Chapter	President
Eger Health Care	CEO
JCC Staten Island	CEO
New York State Assembly	Chief of Staff
Office of Staten Island Borough President	Director, Health and Wellness
Project Hospitality	CEO
Richmond Center for Rehabilitation and Healthcare	Administrator
Richmond County District Attorney	Director, Community Partnership Unit
Richmond County Savings Foundation	Senior Program Officer
Silver Lake Specialized Rehab & Care Center	Administrative Secretary
St. Edwards Food Pantry, Inc.	Administrator
St. Philips Baptist Church	Pastor
Staten Island Heart Society	Director of Operations
Staten Island Partnership for Community Wellness	Executive Director
The Staten Island Foundation	Executive Director
Visiting Nurse Association Of Staten Island	President & CEO
Wagner College	Assistant Dean, Center for Health, Counseling and Wellness
YMCA Greater New York Staten Island - North Shore	Executive Director

Appendix C: Federally Qualified Health Center Locations

Operator	Location
Beacon Christian Community Health Center	2079 Forest Avenue, Staten Island, NY 10303
Brightpoint Health	Community Health Action of Staten Island: 166 Port Richmond Avenue, Staten Island, NY 10301
	Community Health Action of Staten Island: 23 Hyatt Street, Staten Island, NY 10301
	Community Health Action of Staten Island: 444 St. Mark's Place, Staten Island, NY 10301
	LGBT Center: 25 Victory Boulevard, Staten Island, NY 10301
	Bay Street Health Center: 57 Bay Street, Staten Island, NY 10301
Community Health Center of Richmond, Inc.	235 Port Richmond Avenue, Staten Island, NY 10302
	Dental and Medical Specialty Center: 439 Port Richmond Avenue, Staten Island, NY 10302
	Stapleton – St. George Health Center: 135 Canal Street, Staten Island, NY 10304
Metro Community Health Centers	2324 Forest Avenue, Staten Island, NY 10303
NYC Health + Hospitals/Gotham Health	Vanderbilt Community Health Center: 165 Vanderbilt Avenue, Staten Island, NY 10304
	Mariners Harbor Family Health Center: 2040 Forest Ave, Staten Island, NY 10303
NYC School Based Health Centers	Curtis High School: 105 Hamilton Avenue, Staten Island, NY 10301
	New Dorp High School 465 New Dorp Lane, Staten Island, NY 10306
	Port Richmond High School: 85 St. Josephs Avenue, Staten Island, NY 10302
Project Hospitality	Homeless Drop-In Center: 25 Central Avenue, Staten Island, NY 10301