

NASSAU COUNTY DEPARTMENT OF HEALTH

*Community Health
Assessment and
Community Health
Improvement Plan*

Division of Quality Improvement, Epidemiology and Research

2016-2018



200 COUNTY SEAT DRIVE, MINEOLA, NY 11501

Executive Summary of the Community Assessment and Improvement Plan for Nassau County, NY.

Located in the western region of Long Island, Nassau County is home to some 1,354,612 residents. Nassau's populace lives within roughly 287 square miles of the county's 453 total square miles—the rest is occupied by water. The following report provides a snapshot of the health of Nassau County's residents and a plan for improving it. Similar to the previous assessment and methods (2014-17) this assessment was based on quantitative demographic, hospitalization and vital statistic data in addition to qualitative surveys and group sessions to understand the community's perceptions and needs. And similar to the previous assessment, the results consistently demonstrated that Nassau County's wealth translates to overall excellent health. However, a closer examination of underserved communities or *selected communities* finds that a significant part of the population experiences poor health outcomes and conditions. This is true for hospitalizations due to chronic disease, specific infectious diseases, such as tuberculosis and sexually transmitted diseases, and perinatal outcomes. Vital statistics demonstrate that chronic diseases are the leading cause of death as the population ages in both the selected communities and the rest of the county. Nevertheless, homicide is the leading cause of death in the younger populations among those living in the underserved communities.

These overall findings, combined with the incorporation of the community's needs, identified two priorities for the county to address: Reducing Obesity in Children and Adults and Increasing Access to High Quality Chronic Disease Preventive Care and Management in both Clinical and Community Settings. In addition, Mental Health improvement was also highlighted. These priorities, chosen from NYS Department of Health's Prevention Agenda, are the same priorities selected from the prior 2014-2017 cycle. Not surprisingly, these areas of health concerning chronic disease are multifactorial and not quickly remedied. They are impacted by multiple determinants of health including behavior, economics, social barriers, access to quality clinical care and the environment. As such, to achieve improvement in the health of Nassau County, collaboration across multiple agencies is necessary.

To this end, and with the support of the grant provided by NYS Department of Health known as the Population Health Improvement Plan, a pre-existing collaboration known as the Long Island Health Collaborative was funded. The collaborative, created in 2013, is a regional partnership including local health departments from both Nassau and neighbor Suffolk County, hospitals, academic institutions, community based organizations, associations and the Nassau-Suffolk Hospital Council which serves as the coordinating agency. The advantage of this broad based coalition is that it provides expertise in the areas of 1) statistical analysis and methodology, 2) clinical care and community based programs, 3) evidence-based interventions and intervention and 4) community feed-back. The health departments provide expertise in data analysis, methodology, connection to the community and understanding its needs, evidence based programs and organization. The hospitals provide much of the direct health care to the community including chronic disease community based programs and interventions. The hospitals are distributed throughout the county and increase the accessibility to residents, both those in selected communities and in the rest of the county. Academic institutions provide capacity to collect qualitative data and expertise in assessment methodology. Community based organizations and associations offer insight of the public's need and methods for outreach. Finally, the collaborative, funded by NYS, provided additional staff to coordinate its overall efforts, provide communication, education and reports for members and the Long Island community, and conduct analysis of both quantitative and qualitative data.

Nassau County Health Department relies on the community for input into the assessment and its plan. The community was solicited to identify these two priorities through a survey, The Long Island Community Health Assessment Survey, a Community Based Organization Summit and on-going opportunities for community based organizations to meet and share community feedback. In addition, the collaborative meetings are regularly scheduled affording different sectors of the community to participate. As such the community provides feedback on the priorities and the plan's interventions.

The community health improvement plan in Nassau County includes specific programs that are on-going among hospitals, the collaborative as a whole and the health department that address these health priorities (see Appendix). Strategies were determined based on being evidence-based, resources and community involvement. Such interventions include education, community walking programs, physician recommendations for walking, programs that address underserved children participating in WIC programs, support groups for individuals struggling with cancer and initiatives to improve the built environment. These programs are tracked collectively and regularly to determine their impact by measuring satisfaction, use and overall improvement in health. Indicators such as improved education and awareness, body mass index, and community involvement in chronic disease prevention programs are tracked. Overall health is monitored by periodic review hospitalization and vital statistics data. An important gauge is the NYS Prevention Agenda dashboard which can provide feedback about the progress of the priorities in achieving health to the community about its county.

Nassau County Department of Health continuously seeks to improve the health of its community by regularly assessing its health, developing a plan and providing services. The emphasis on chronic disease reflects not only the health outcomes but the desires of the community. Nassau County leads a public health system that works to create healthy communities. Through direct services and community partnerships, its mission is to promote and protect all who live, work and play in Nassau County. This community assessment and plan provides a framework by which to achieve this.

Important websites and resources:

Nassau County Department of Health: <https://www.nassaucountyny.gov/1652/Health-Department>

Long Island Health Collaborative: <https://www.lihealthcollab.org/>

NYS Department of Health Prevention Agenda:

https://www.health.ny.gov/prevention/prevention_agenda/2013-2017/

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A Note from the Authors about the Assessment

Nassau County is unified by geography and government; this report of the health status of the residents, however, narrates a tale of two counties. As an aggregate, the county's residents are healthy and wealthy. However, substantial health inequities, or disparities, between the county as a whole and some of its communities exist. Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment. In Nassau County, population pockets are disproportionately burdened with a poorer health status. They have a higher proportion of minorities, are younger in age and have more residents of lower socio-economic status; in essence, they comprise a population at-risk, a health status with deep historical roots. In this report, these communities, identified using an index ranking of socioeconomic and health related factors (see Methods section), are termed the "selected" communities in that they are selected and highlighted throughout this report. Data regarding these communities are presented in aggregate and are compared to the rest of the county, a county aggregate excluding these selected communities. Individual selected community profiles can be found in the Appendix, as well as for the county as a whole. Much of the data and trends remain the same since the last Community Health Assessment (CHA) of 2014-2017. Therefore, the reader should consider that this report serves an update and continues to highlight health disparities within the county.

While Nassau County Department of Health is responsible for protecting and promoting the health of its residents, it cannot and does not work alone. The government requires the engagement of strong community partners and stakeholders to address pressing health concerns. The Community Health Improvement Plan (CHIP) is a joint effort amongst county agencies, community-based organizations, hospitals, associations and academia to identify strategies, goals, objectives and metrics to improve health outcomes for Nassau residents. In an effort to establish this plan, a strong collaboration was formed to identify two prevention agenda priorities, Reducing Obesity in Children and Adults and Increasing Access to High Quality Chronic Disease Preventive Care and Management in both Clinical and

Community Settings. This document outlines Nassau County Department of Health and its partners' plan for addressing these health concerns.

Chapter 1 describes the demographics of Nassau County.

Chapter 2 communicates the morbidity and mortality trends in the community. Special attention is paid to how the health of the population living in selected communities compares with that of the rest of the county.

Chapter 3 illustrates the behavioral, economic, social, clinical and environmental factors that influence the health status of the community. The perception of the community's health priorities is also discussed.

Chapter 4 enumerates the services provided by the Nassau County Department of Health and its many collaborators that protect the public health.

Chapter 5 describes the methodology of this assessment.

Chapter 6 explains the distribution process for dissemination of the assessment's findings to the community and partners.

Chapter 7 describes the collaborative method used to identify the focus areas and presents the central core of the CHIP. This chapter should be read with its companion appendix, *Nassau County Community Health Improvement Plan Interventions and Strategy Grid*, detailing each agency, its programs, metrics and time frame for implementing the interventions.

Chapter 8 outlines the brief assessment of the plan's implementation to date, including lessons learned and future adaptations.

Chapter 9 delineates the method used to maintain engagement with local partners and sustain the plan.

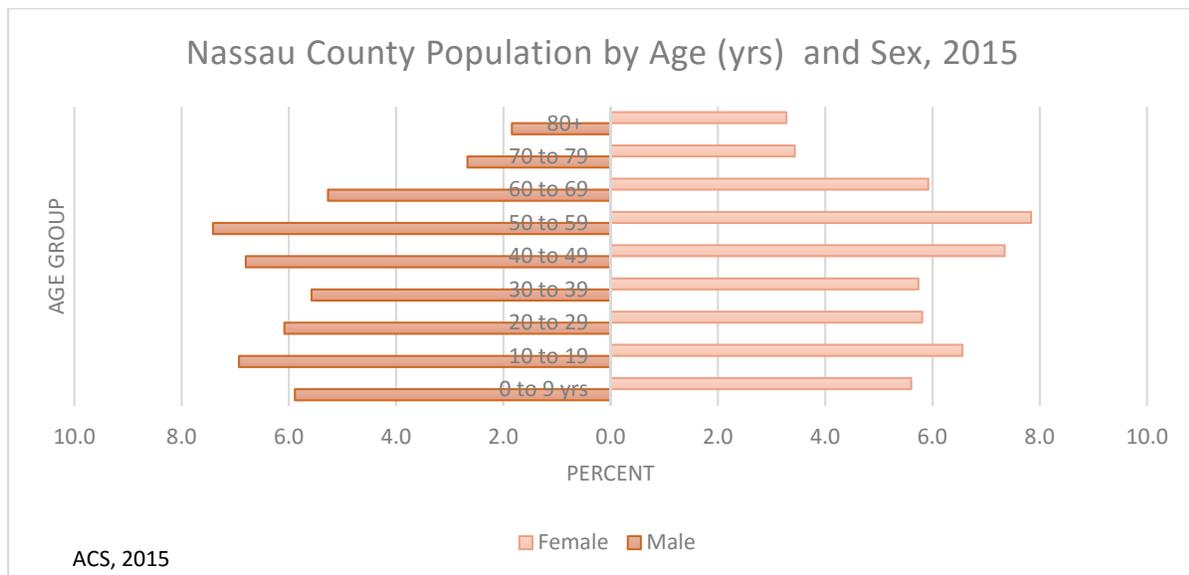
Chapter 10 provides a brief description of the dissemination of the improvement plan to the community.

We would like to acknowledge the work of the Long Island Health Collaborative/Population Health Improvement Program, funded by NYS Department of Health for its collaboration in this effort.

Chapter 1: Nassau County and its Demographics

Located in the western region of Long Island, Nassau County is home to some 1,354,612 residents. Nassau’s populace lives within roughly 287 square miles of the county’s 453 total square miles—the rest is occupied by water. Formally recognized as a county of New York in 1899, Nassau County is bordered by New York City’s Queens County to the west and Suffolk County to the east. Nassau is composed of three towns and two cities from which 9 communities--Elmont, Freeport, Glen Cove, Hempstead, Inwood, Long Beach, Roosevelt, Uniondale and Westbury--were selected for their socioeconomic disparities compared to the balance of the county.

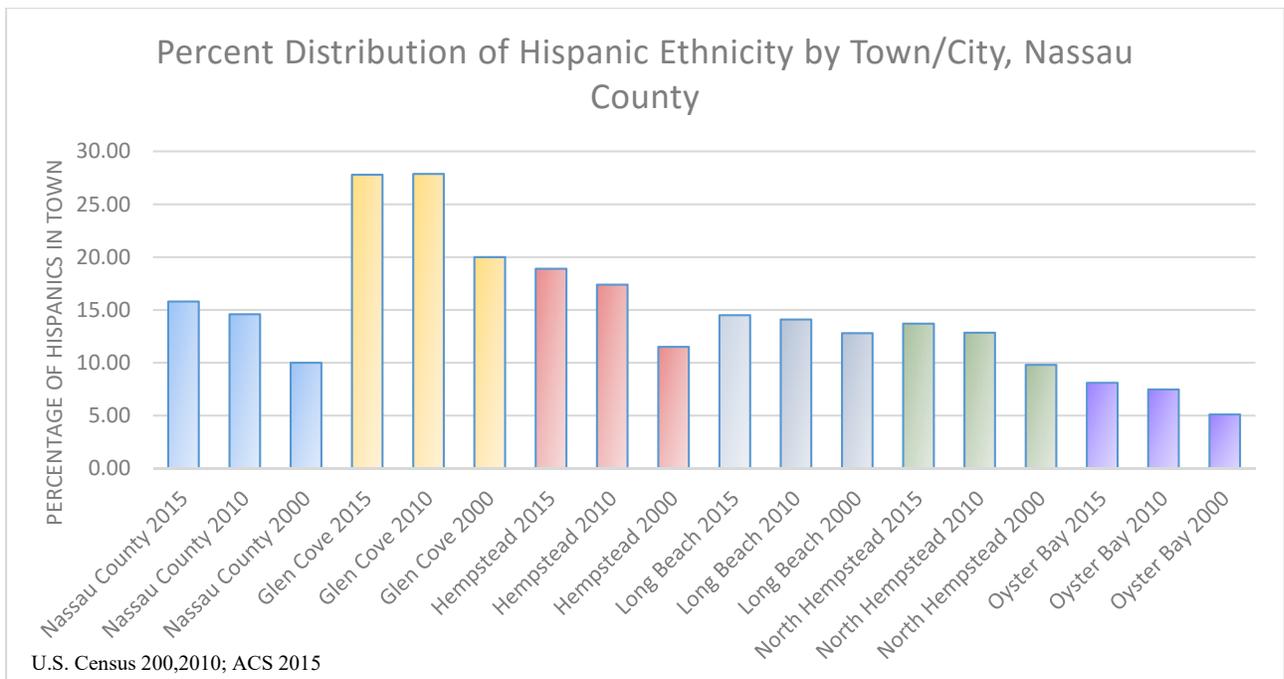
Age and Sex Profile



With a median age of 41.3 years, Nassau County is generally an older community compared to New York State (38.1 years of age) and the United States (37.6 years of age). In 2015, there was an estimated 697,874 females and 656,738 males residing in Nassau County, yielding a 51.5%-female and 48.5%-male population. The same percentages were seen statewide. The gender-based percentages of the United States as a whole were very similar, with 50.8% of residents identifying as female and 49.2% identifying as male.

Race and Ethnicity Profile

Nassau County’s racial and ethnic profile presents some interesting trends. Accounting for 62.9% of the population, Nassau’s 851,645 self-identified non-Hispanic whites make up the largest group in the county. After ethnicity is factored out, the number of white residents increases to 951,347, or 70.2% of residents. In Nassau, there are 154,320 blacks and 115,452 Asian Pacific Islander residents, accounting for 11.4% and 8.5% of the county population, respectively. Compared to the state of New York (NYS), Nassau County has a higher percentage of white residents (64.6% of NYS residents), a lower percentage of blacks (15.6% of NYS residents) and a slightly higher percentage of Asian/Pacific Islander residents (8.0% of NYS residents). Nassau County has seen, in recent years, a significant increase in its Hispanic population overall, from 10% in 2000 to 15.8% in 2015. This trend is more pronounced in some communities though most of the county has seen a net increase in Hispanic residents over the past decade.

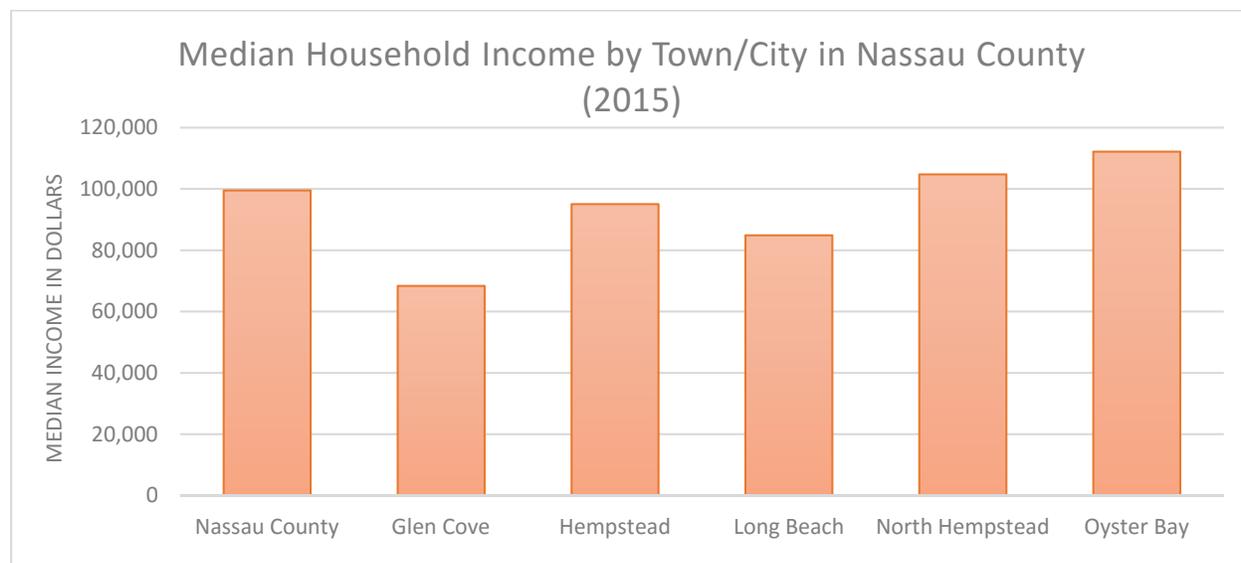


Household Profile and Families

In 2015, Nassau County was composed of 440,640 households, 337,970 of which housed families. These families made up 76.7% of total households, though the makeup of these families varies. Of the total families in Nassau County, 267,468 (60.7%) are two-parent families while 70,502 (16%) are

single parent families. Of the total families in Nassau County, 353,777 (80.3%) resided in homes they owned and 86,863 (19.7%) resided in rented housing units.

Income, Unemployment and Insurance Profile

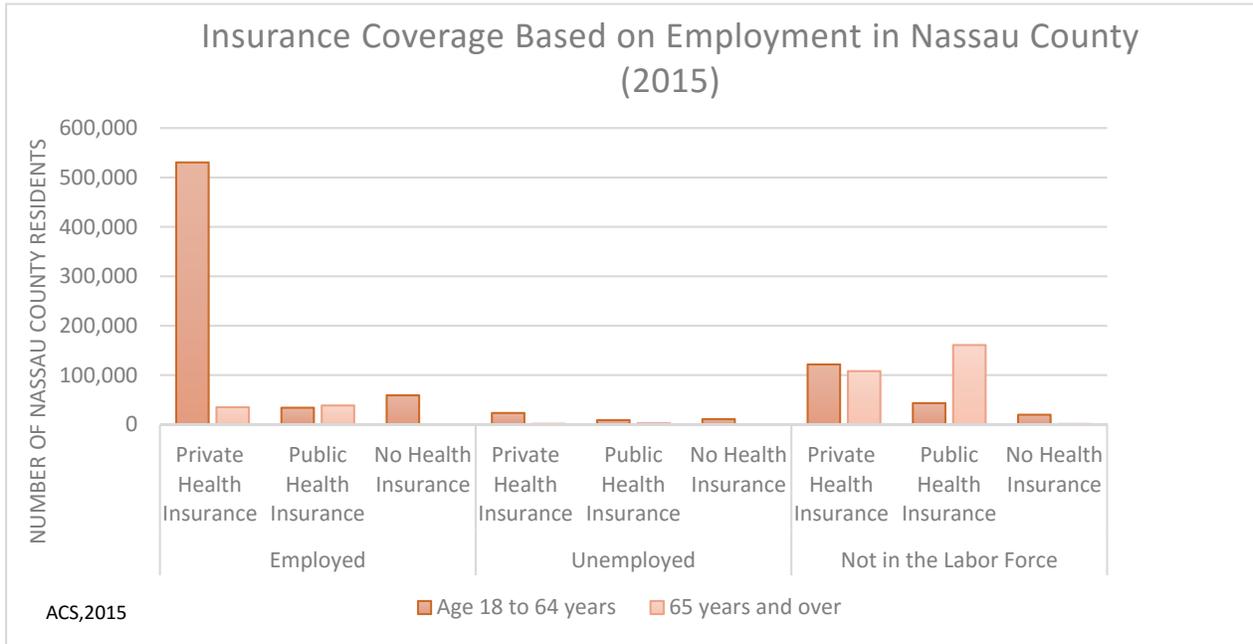


Ranking as one of the wealthiest counties in the country, from 2010-2014, Nassau County residents earn a median income of \$99,465, which is considerably higher than that of New York State (\$59,269) and the United States (\$53,889).

Nassau County also experiences a lower unemployment rate compared to both the state and the nation. Approximately 4.3% of Nassau residents were unemployed in 2015 in contrast with an estimated 5.3% of United States residents and 5.3% of New York State residents.¹ In addition, the following figure displays the number of Nassau County residents who have private, public, or no health insurance according to their employment status. In general, the large majority of private insurance is made available to residents who are employed and are between the ages of 18-64. As expected, residents who are unemployed have significantly less insurance coverage as compared to those who are employed or are no longer a member of the labor force. Those over the age of 65 years who are not in the workforce use

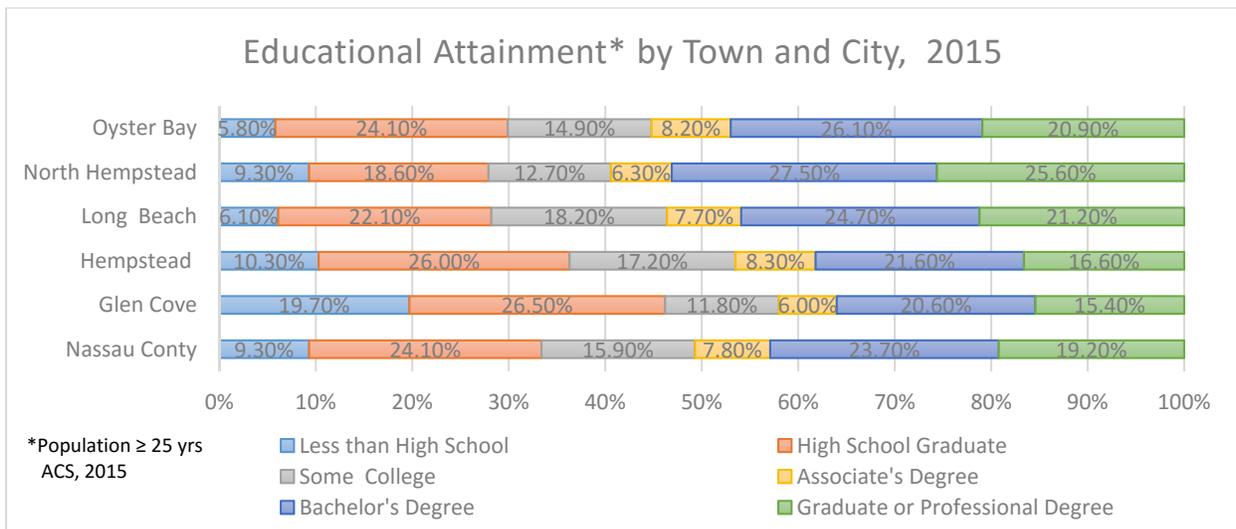
¹ <https://www.labor.ny.gov/stats/LSLAUS.shtm>

publically provided health insurance (Medicare) and/or private insurance.



Education Profile

Of Nassau residents above the age of 25, an estimated 90.8% have received a high school diploma or GED equivalent. For comparison, 85.6% of New York State residents and 86.7% of U.S. residents have achieved the same level of educational attainment. With regard to higher education, approximately 50.7% of Nassau residents have received a college degree compared to 42.7% of New York State residents and 37.8% of U.S. residents.



Selected Communities within Nassau County

While Nassau County as a whole appears to be quite well off, there is an unequal distribution of wealth and wellbeing among communities. These unequal distributions are most evident when comparing the 9 selected communities to the remainder of the county. These communities include: Elmont, Freeport, Glen Cove, Hempstead, Inwood, Long Beach, Roosevelt, Uniondale and Westbury. These communities have a larger proportion of minorities, a younger population and are of lower socioeconomic status. According to the 2010 U.S. Census, 46.4% of residents in the selected communities identify themselves as white, 31% as black and 29.8% as Hispanic of any race, compared to the remainder of the county, which identified as 81% white, 5% black and 10% Hispanic of any race. The ACS, 2015 estimated 38.7% white, 32.7% black and 31.6% Hispanic for the selected communities and 79.6% white, 6.6% black and 11.1% Hispanic for the rest of the county. With a higher percentage of residents between the ages of 20 and 39 years of age, the selected communities are in general a younger population than the county at large. In 2015, the average median age in the selected community is estimated to be 36.9 years compared to the county's median age of 41.3 years.

When looking at the socioeconomic profile of these selected communities and comparing it to that of greater Nassau, two narratives emerge. The average of the median income, adjusted for inflation in 2015, in the selected communities is \$71,712 compared to \$99,465--the county's median income. The selected communities also have a lower level of overall educational attainment with an average percentage of 81.1% of people 25 and older having received a high school diploma or GED equivalent compared to the county's average of 90.8%. Yet another measurement that can be compared is the familial profiles of these communities. In Nassau, approximately 16% of the total families in the county were led by a single parent. In the selected communities, 27.9% of the total families are single parent families.

Chapter 2: Populations at Risk - A Tale of Two Counties

Based on its health factors, including socioeconomic determinants, health behaviors, clinical care and physical environment, Nassau County was ranked 2nd in the state by the 2016 Wisconsin County Health Ranking. Nassau, the nation's 13th wealthiest county, received this ranking relative to the 62 other counties in New York State based on morbidity and mortality data.²

For Nassau County, it would appear to be the best of times... but this landscape of wellness is not every resident's health reality... Nassau has pockets of severely underserved residents with low social and economic status and a lack of access to care, who display riskier behaviors and suffer significantly more from disease morbidity and mortality. The affluence of the county as whole masks the needs of these severely underserved selected communities within Nassau County. This section relates a tale of two counties—one characterized by its prosperity and wellness and another marked by the relatively poor health outcomes of its inhabitants.

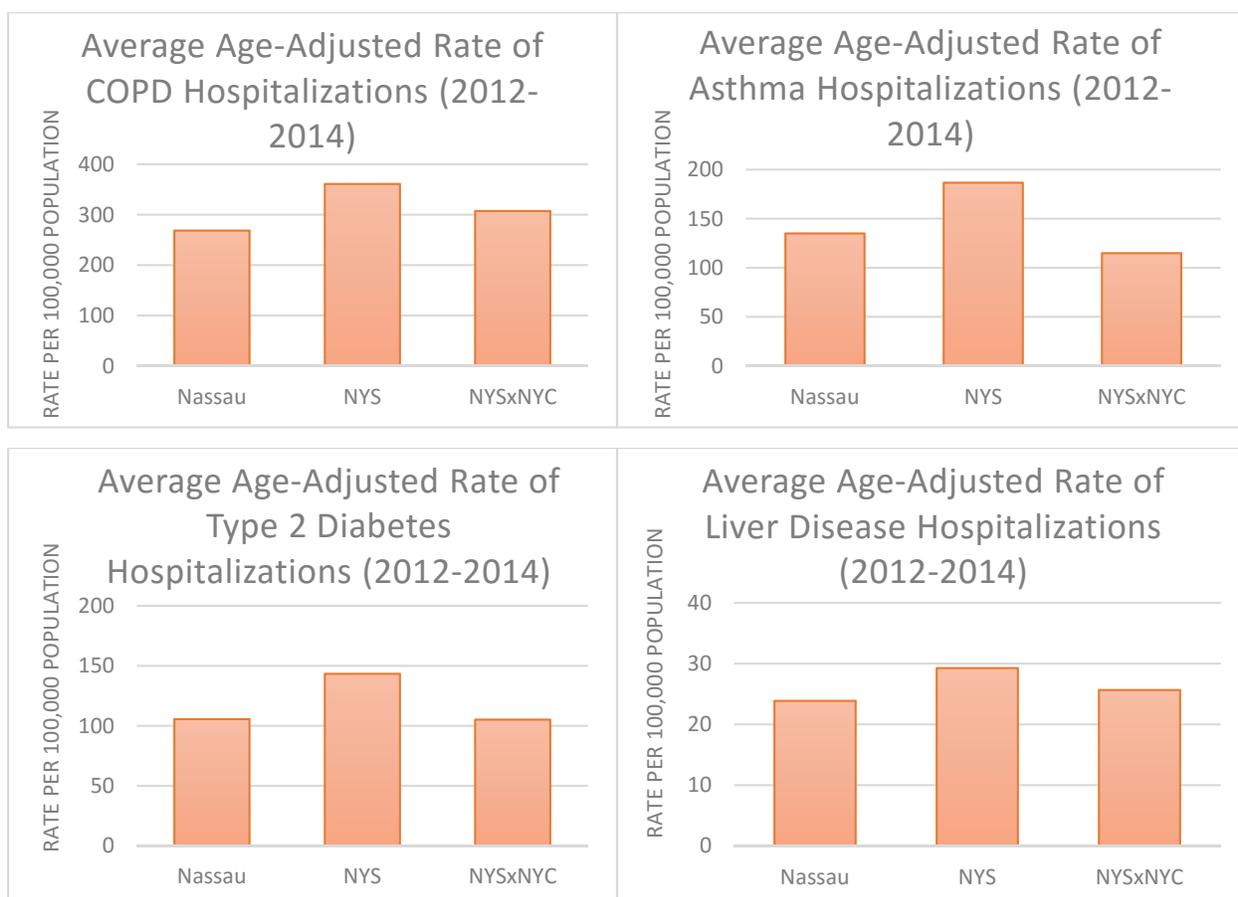
Chronic Disease Burden

Chronic diseases are long-lasting conditions that can be controlled but not cured. These largely preventable conditions are also our nation's leading causes of death and disability. Furthermore, according to the CDC,³ as a nation, 86% of our healthcare dollars go to the treatment of these pathologies. Nassau County, in general, has a lower burden of disease compared to New York State as a whole. This relative relationship changes slightly when New York City is excluded from the state statistics (NYSxNYC). However, in Nassau County's selected communities, the burden of many chronic diseases is disproportionately higher than that of the county, as highlighted below. For general chronic disease trends in Nassau County, see CHAI tables in the Appendix.

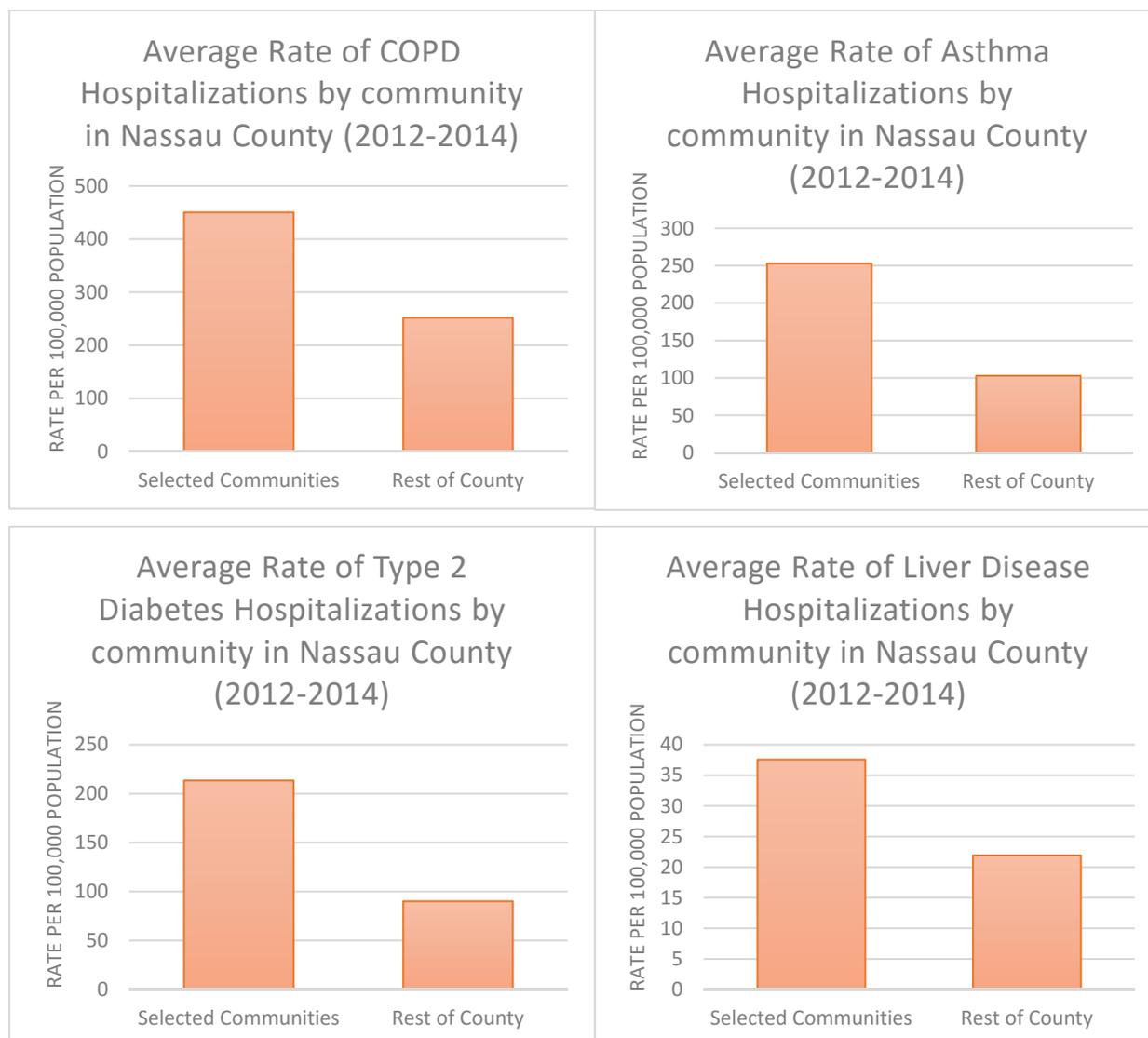
² <http://www.countyhealthrankings.org/>

³ <http://www.cdc.gov/chronicdisease/overview/>

The hospitalization rates for chronic obstructive pulmonary disease (COPD) are significantly lower in Nassau County than in New York State and New York State excluding New York City. Asthma rates are significantly lower in Nassau County than in New York State and significantly higher than New York State excluding New York City. Type 2 diabetes rates are significantly lower in Nassau County compared to New York State and lower than New York excluding New York City, however the difference is not significant. Differences in rates of liver disease between Nassau County and New York State and New York State excluding New York City are not significant.



While Nassau County, as a whole, fares well in these health measures, there are profound disparities at the community level. The selected communities' asthma, type 2 diabetes, liver disease and COPD rates are significantly higher than that of the rest of the county. The rates of asthma and type 2 diabetes hospitalizations are more than doubled in the selected communities compared to those of the rest of the county.



Communicable Disease Prevalence

The prevention and control of communicable or infectious disease is essential to public health. In Nassau County, an effective and efficient surveillance system has largely decreased the prevalence of most of these conditions for the county as a whole (see Communicable Disease Table in the Appendix). Some communicable diseases, including sexually transmitted disease (STDs), have a markedly higher incidence rate in the selected communities, enforcing the established health disparities. The selected communities display a higher average incidence of tuberculosis (5.6 cases/100,000 people), syphilis (22 cases/100,000 people), gonorrhea (98 cases/100,000 people) and Chlamydia (556 cases/100,000 people)

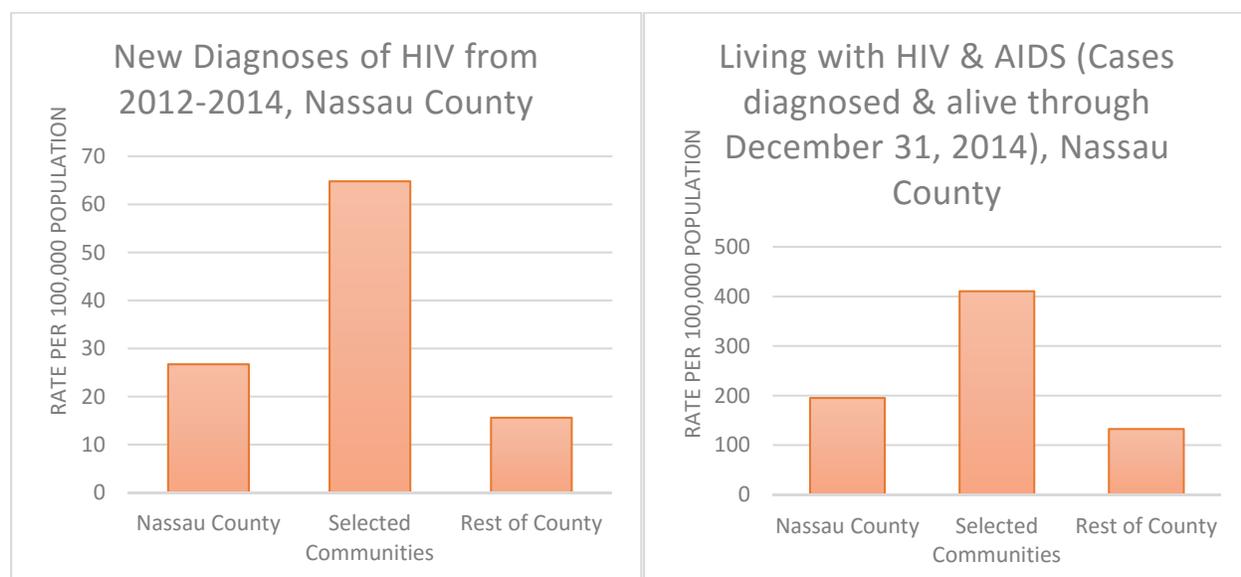
when compared to the balance of Nassau County (3 cases/100,000 people, 6 cases/100,000 people, 21 cases/100,000 people and 149 cases/100,000 people, respectively).



According to the Centers for Disease Control and Prevention, over the past decade, the number of people living with HIV has increased, while the annual number of new HIV infections has remained relatively stable. Still, the pace of new infections continues at far too high a rate— particularly among

certain groups. Men who have sex with men, injection drug users, African Americans and Hispanic/Latinos continue to be disproportionately affected.⁴

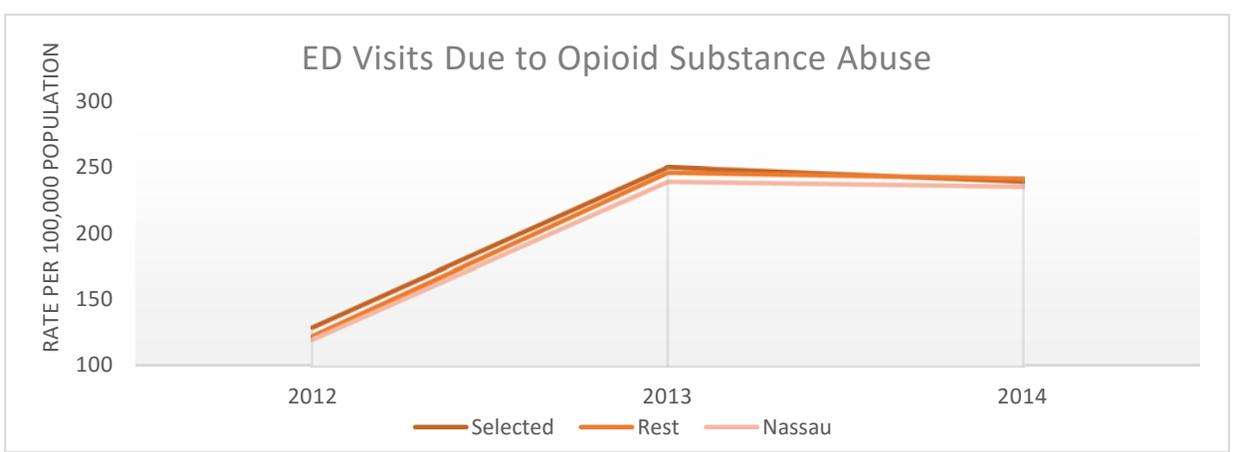
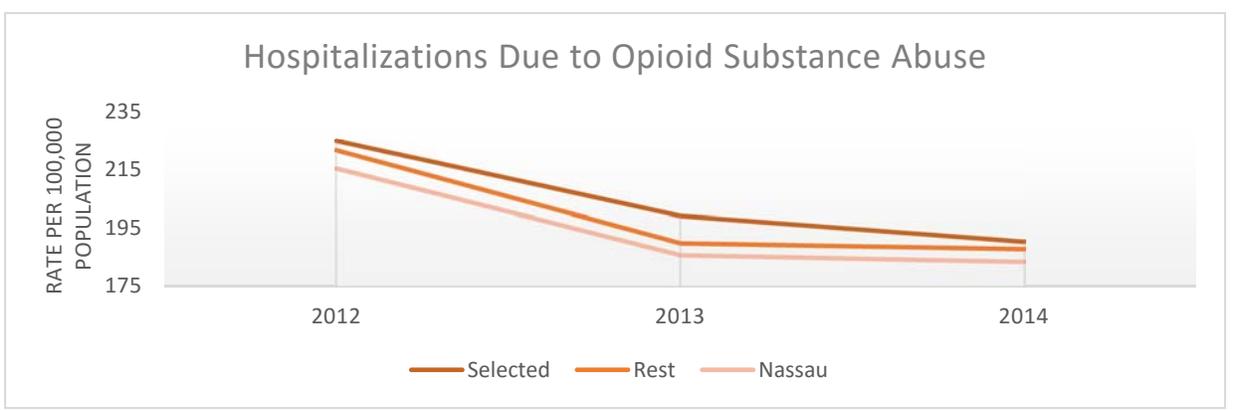
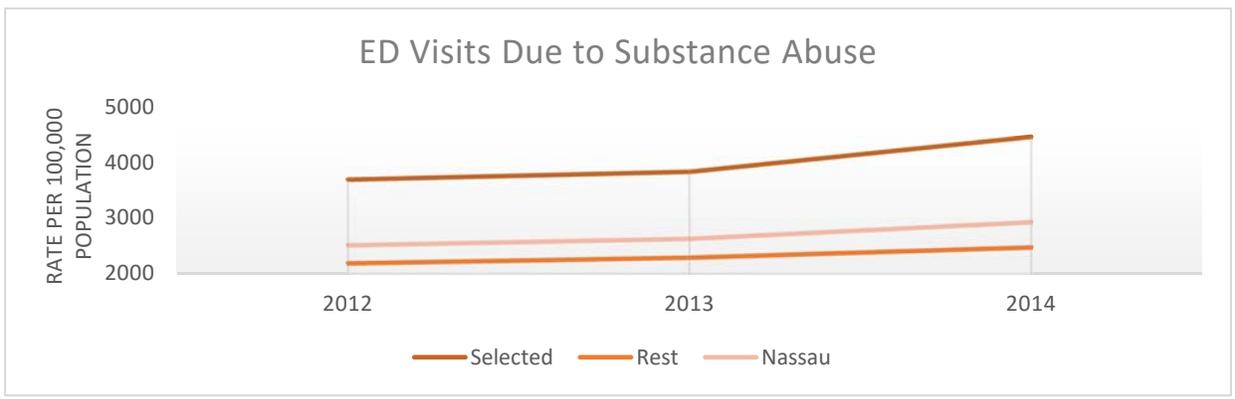
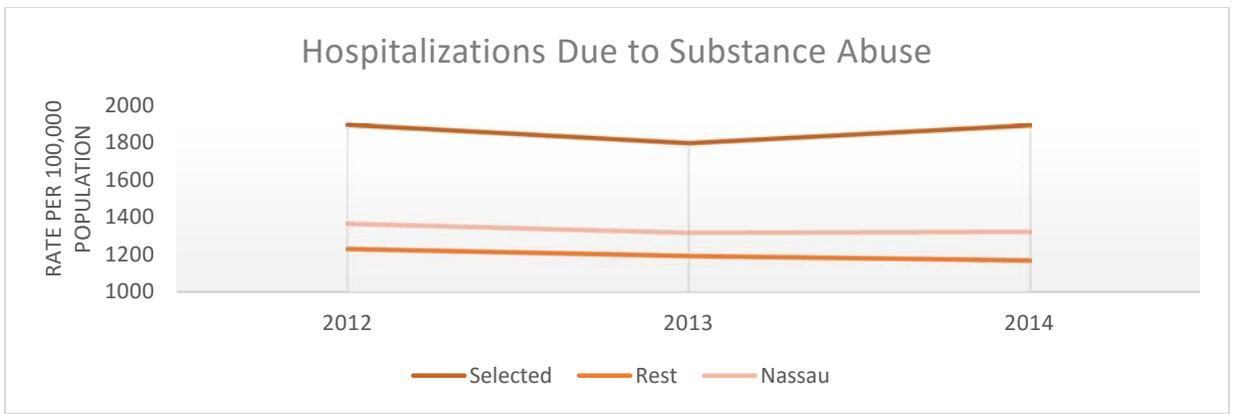
The rates of new diagnosis of HIV and those living with HIV and AIDS are significantly higher in the selected communities when compared to the rest of the county.



General Substance Abuse and Opioid Burden

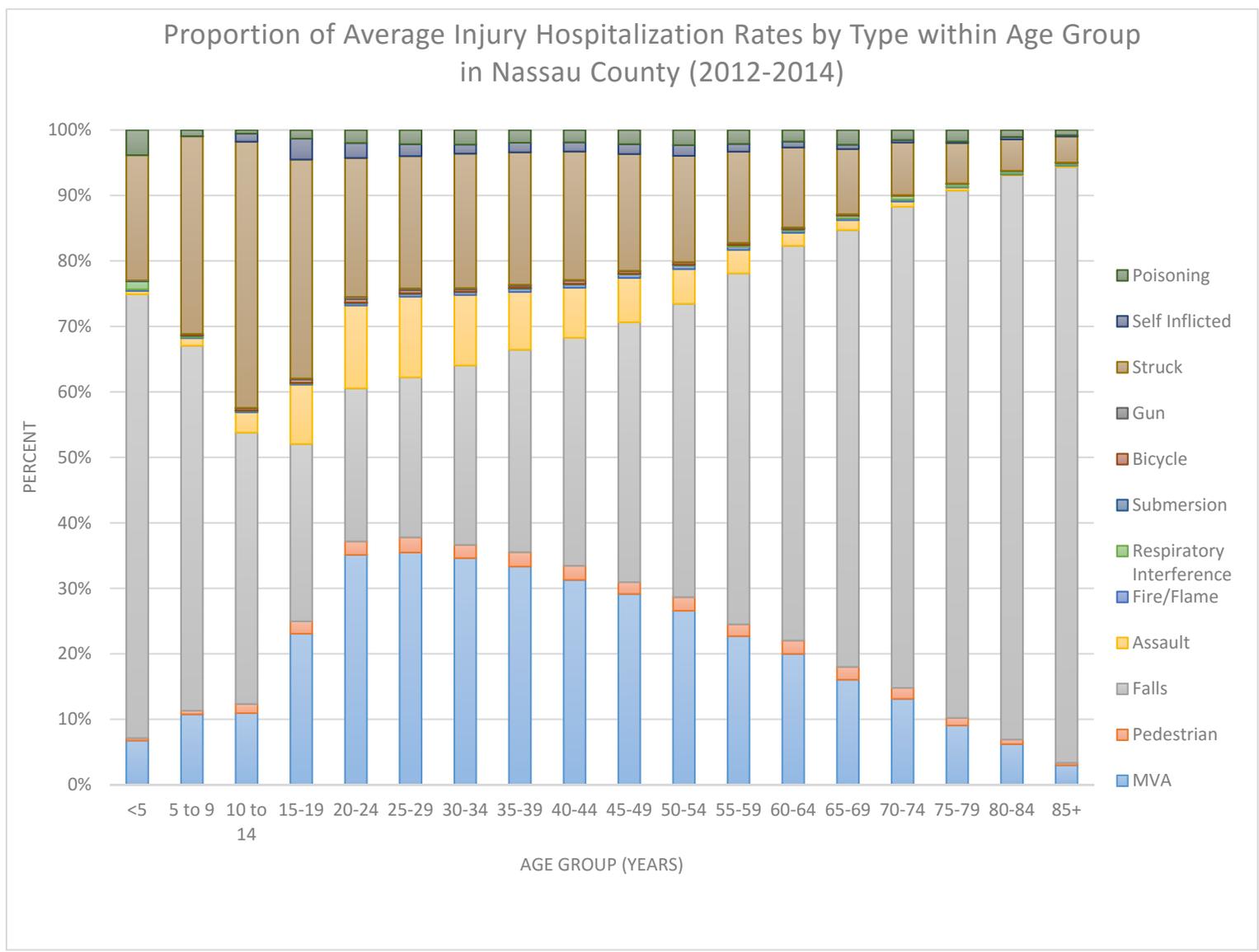
As noted below, hospitalization rates for emergency department (ED) visits and substance abuse are higher and rising in selected communities as opposed to the rest of the county or the county as a whole. However, in terms of opioid related hospitalization and ED visit rates, selected communities remain similar to the rest of the county, suggesting that the opioid use may not be unique to these otherwise high risk communities.

⁴http://www.cdc.gov/hiv/pdf/statistics_basics_factsheet.pdf

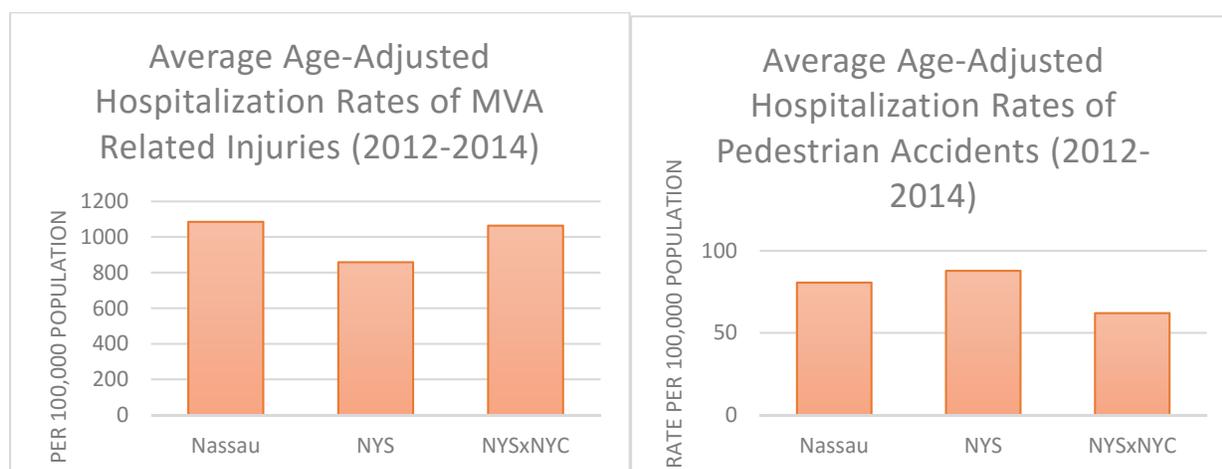


Injury

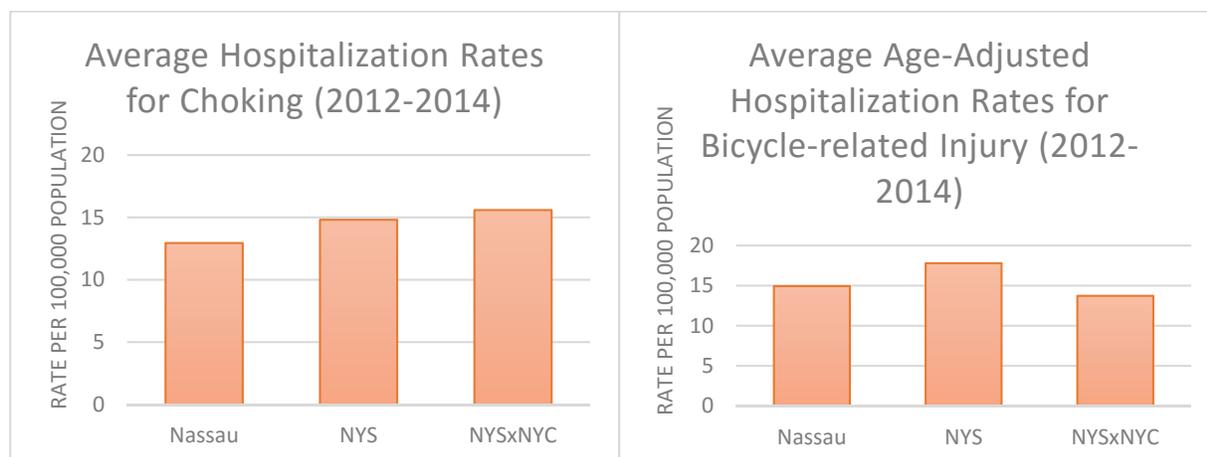
The distributions of various unintentional and intentional injuries vary within age groups but certain injuries remain common, whatever the age bracket. Hospitalizations due to falls appear to be the predominant injury in both the young and aged populations, accounting for nearly 70% of all injuries in children <5 and approximately 90% of the eldest population groups' injuries. Motor vehicle accident (MVA) injuries are the most common between the ages of 20 and 39. Assault hospitalizations occur most frequently in the 20-to-29-year-old population.



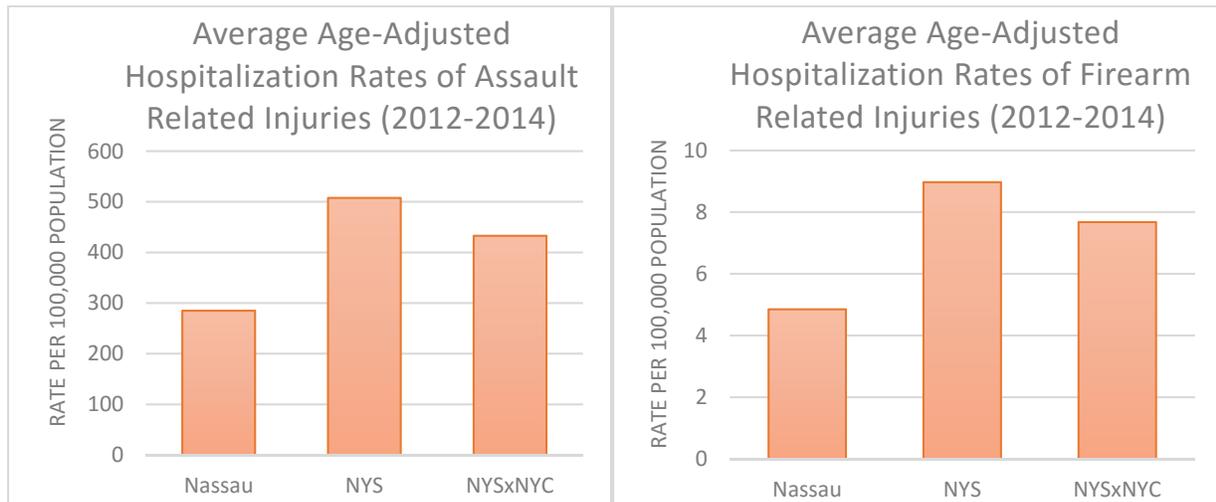
Nassau County shows a significantly higher rate of outpatient visits for injuries stemming from motor vehicle accidents (1,086 visits/100,000 people) as compared to New York State (858 visits/100,000 people); though, when New York City is excluded, the State rate noticeably increases (1,064 visits/100,000 people). Conversely, pedestrian accidents are less frequent in Nassau County (81 visits/100,000 people) than in the state (88 visits/100,000 people); however, when New York City is excluded from the state total (62 visits/100,000 population), Nassau's rate of pedestrian accidents is significantly higher than that of the State.



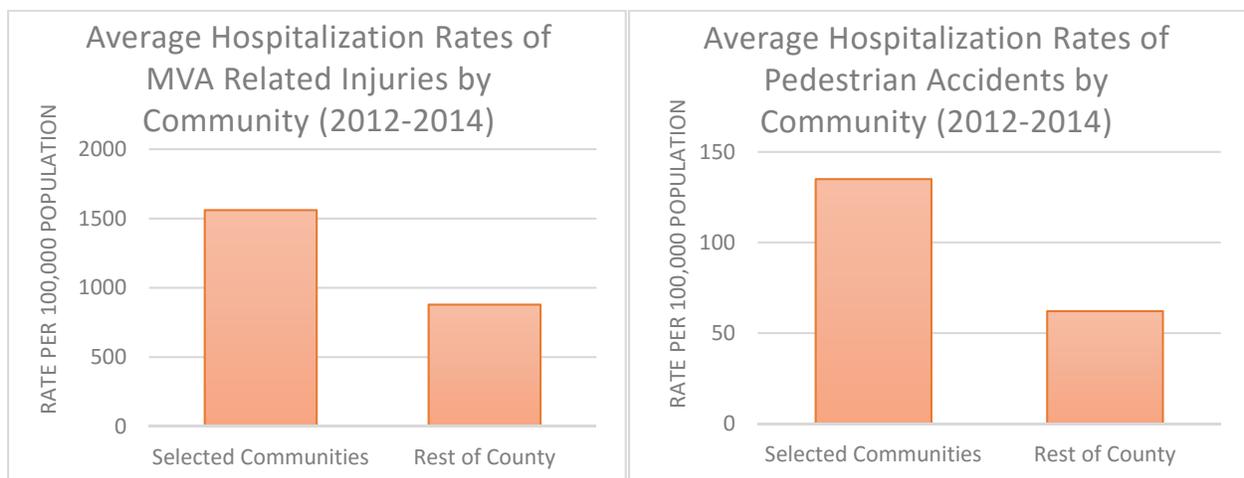
Nassau's rate of outpatient visits for choking is lower than that of NYS including and excluding NYC, though not significantly so. As such, the number of these events is quite small compared to most other health outcomes. The average annual number of bicycle injury rates are statistically similar in Nassau County compared to New York State, and the state excluding New York City.

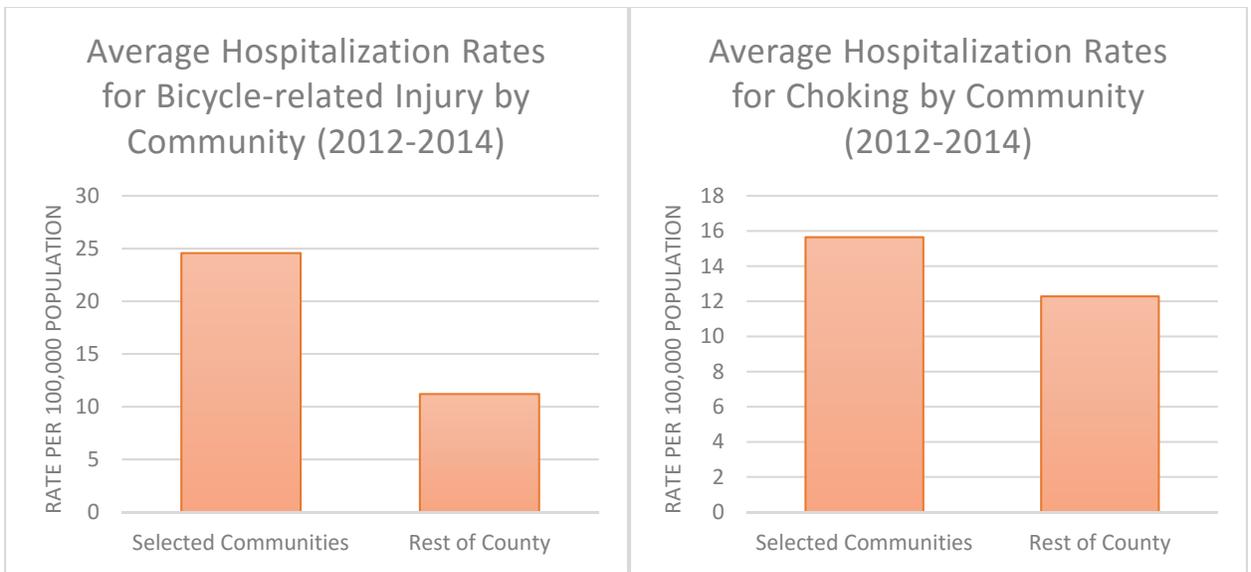


Outpatient hospital visits for assault related injuries are significantly lower in Nassau County as compared to NYS and NYS excluding NYC. In addition, outpatient hospital visits for firearm related injuries are lower in Nassau County as compared to NYS and NYS excluding NYC, though not significantly so.

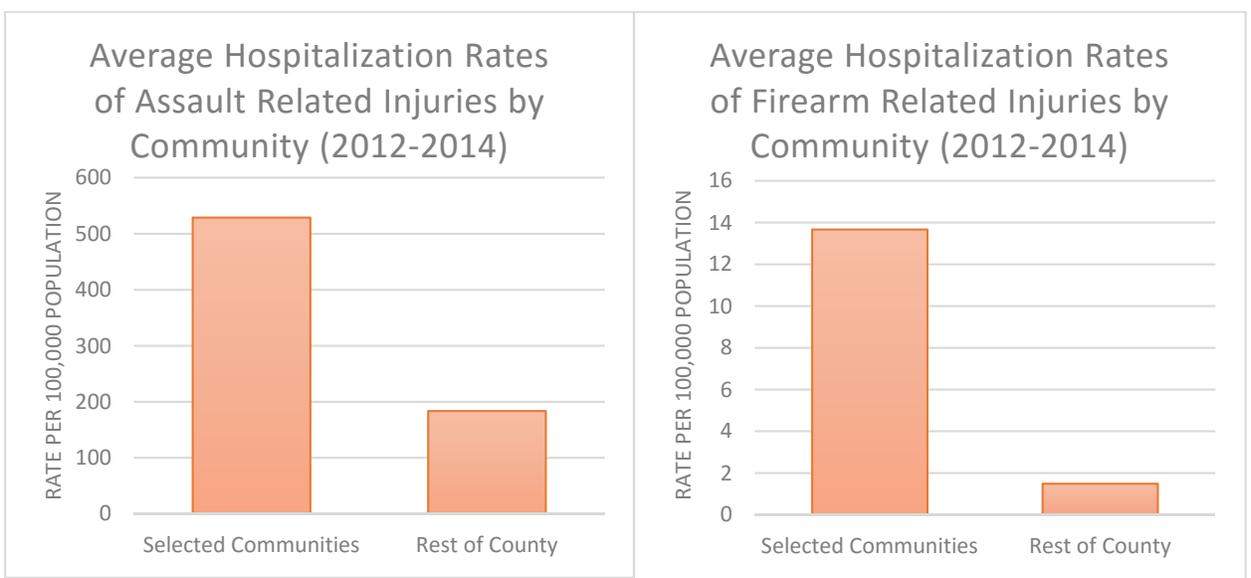


It is important to first understand injury in Nassau County as a whole to then be able to grasp the magnitude of the health disparity between the county and the selected communities. Rates for MVA, pedestrian, and bicycle related hospitalizations in selected communities are significantly higher than other zip codes—the rates of the aforementioned injuries in selected communities are almost double that of the rest of the county. The choking-related injury rate also remains higher in selected communities, though not significantly so.



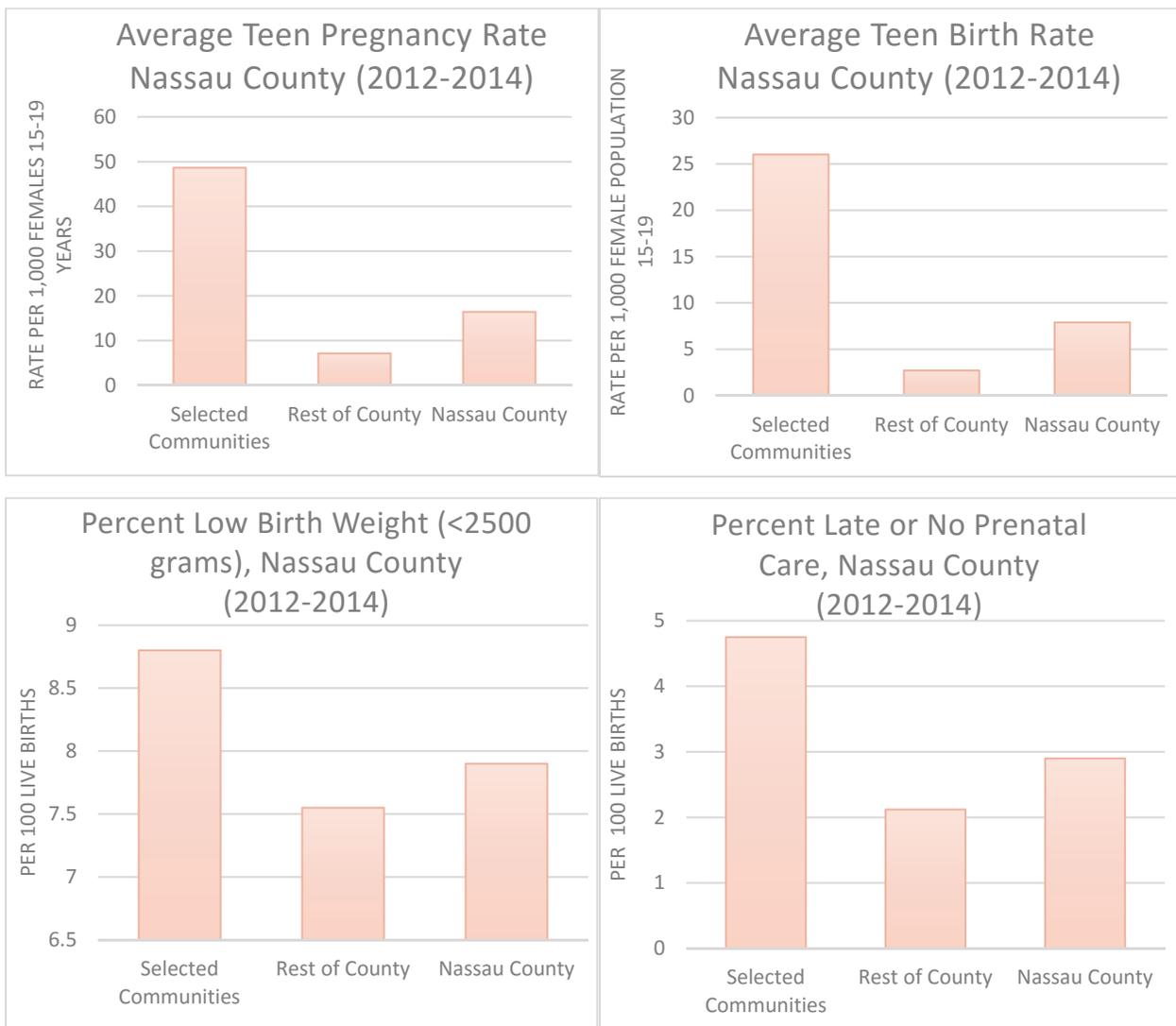


In the selected communities, the rate of outpatient visits due to assault is almost triple that of the rest of the county. Further dividing the narratives of Nassau County and its selected communities is the rate of outpatient visits due to firearms—14 visits/100,000 people as compared 1.5 visits/100,000 people in the rest of the county. As such, both assault and firearm related hospitalization rates are significantly higher than the rest of the county.

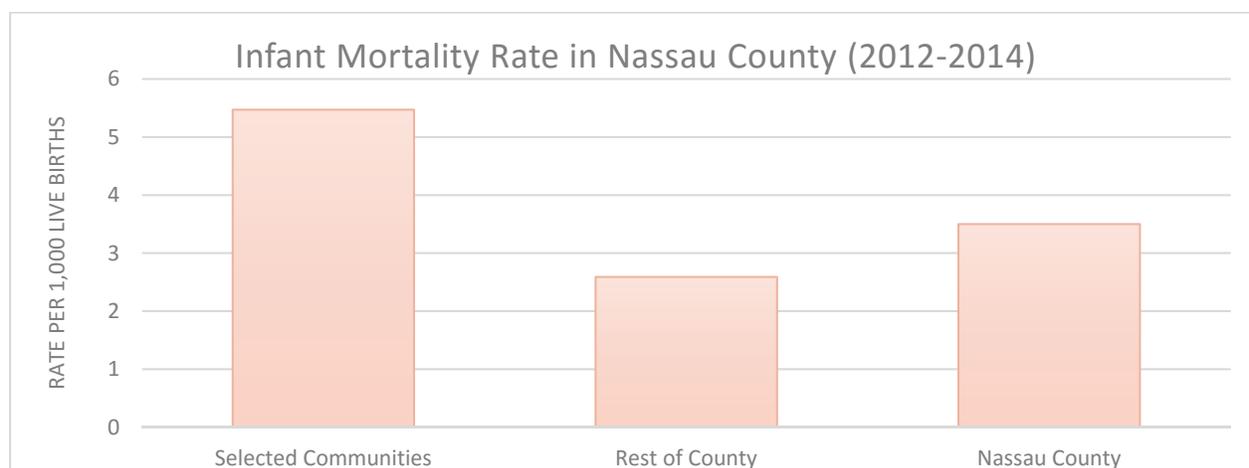


Maternal and Perinatal Health

The disparities within Nassau County continue to be supported by the trends in perinatal and maternal health in selected communities. Teens in the selected communities have pregnancy and birth rates that are disparate compared to teens in the rest of the county. Additionally, the selected communities have higher percentages of low birth-weight babies and of women receiving late or no prenatal care. In all of these cases, the difference between the selected communities and the rest of Nassau are statistically significant.



Infant mortality is routinely used as an indicator of a population's health status, as it is associated with education (primarily maternal), economic status and access to care. The infant mortality rate in Nassau County is lower than NYS (4.8 per 1,000 live births) and similar to the NYS excluding NYC (5.3 per 1,000 live births).⁵ The selected communities have a significantly higher infant mortality rate, nearly double that of the rest of county.



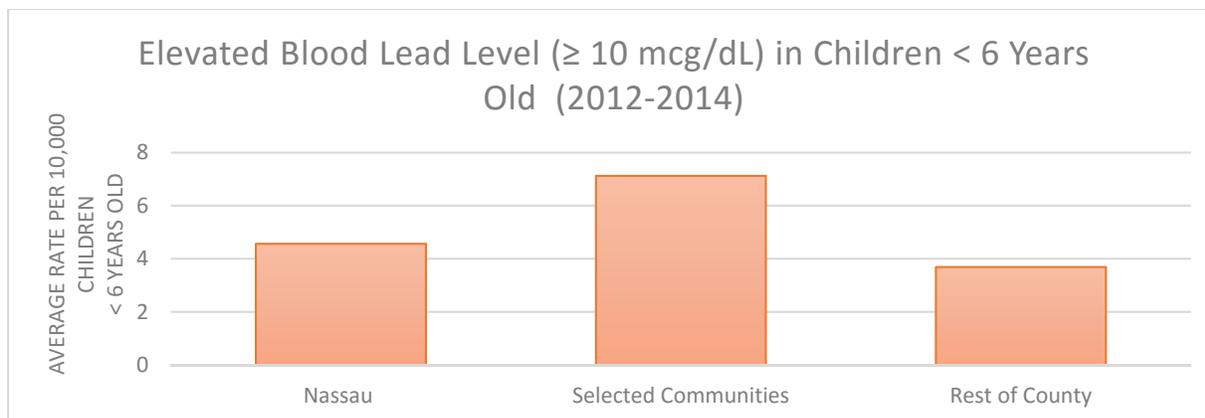
Lead Poisoning in Children

In the United States, there are currently an estimated four million households with children who are exposed to high levels of lead. Lead exposure can affect nearly every system in the body but it frequently occurs with no obvious symptoms and goes unrecognized.⁶ Children under the age of six are at greatest risk because they are growing rapidly and tend to put their hands or other objects, which may be contaminated with lead dust, into their mouths. Children who live at or below the poverty line, underserved minority children or those living in older housing are disproportionately affected.⁷ In Nassau County, children under the age of six in the selected communities experience more than double the rate of elevated blood lead levels compared to children living in the rest of the county.

⁵ <https://www.health.ny.gov/statistics/chac/perinatal/county/2012-2014/regions.htm>

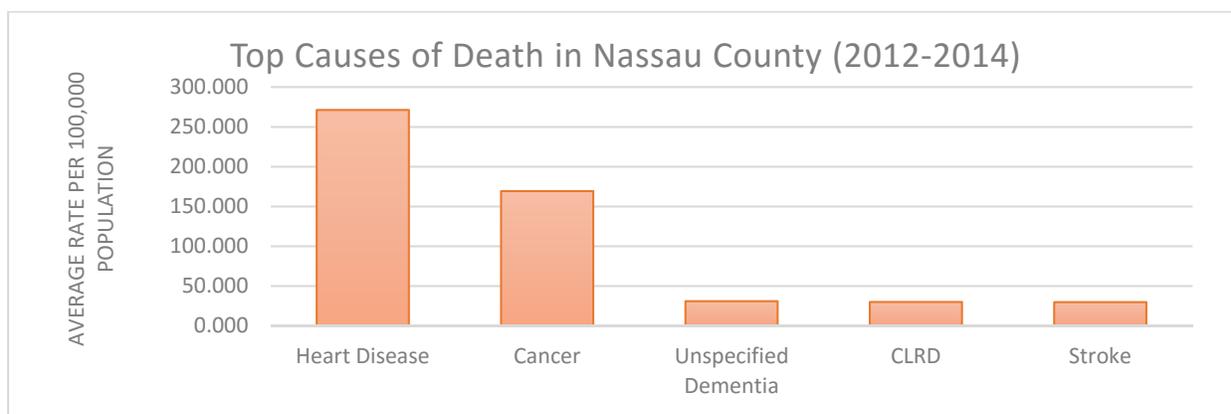
⁶ <http://www.cdc.gov/nceh/lead/>

⁷ <http://www.cdc.gov/nceh/lead/tips.htm>

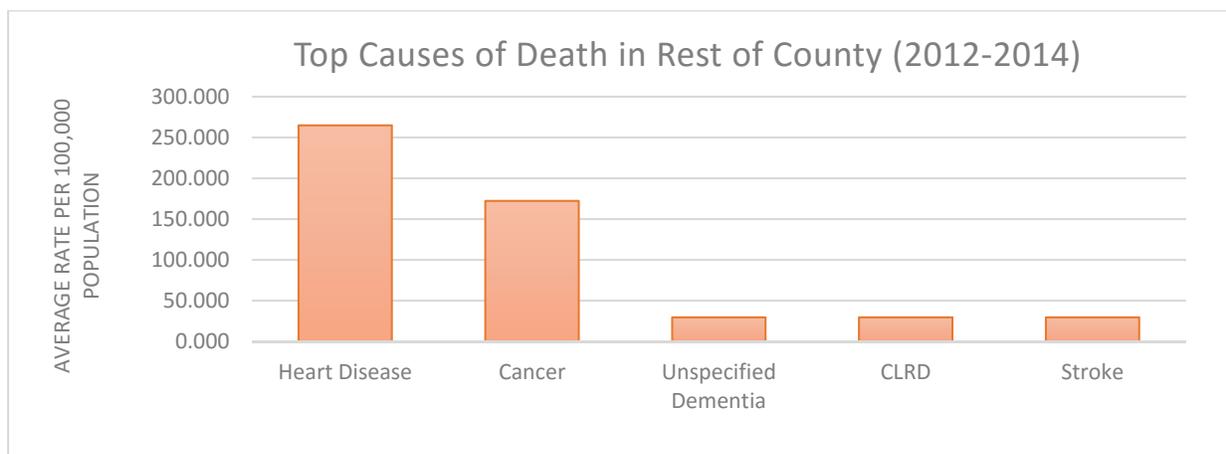
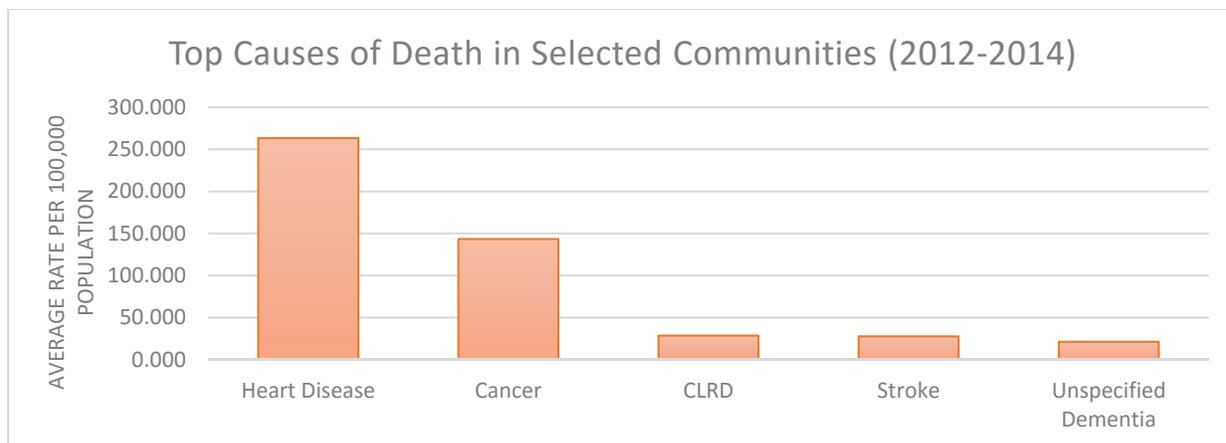


Mortality

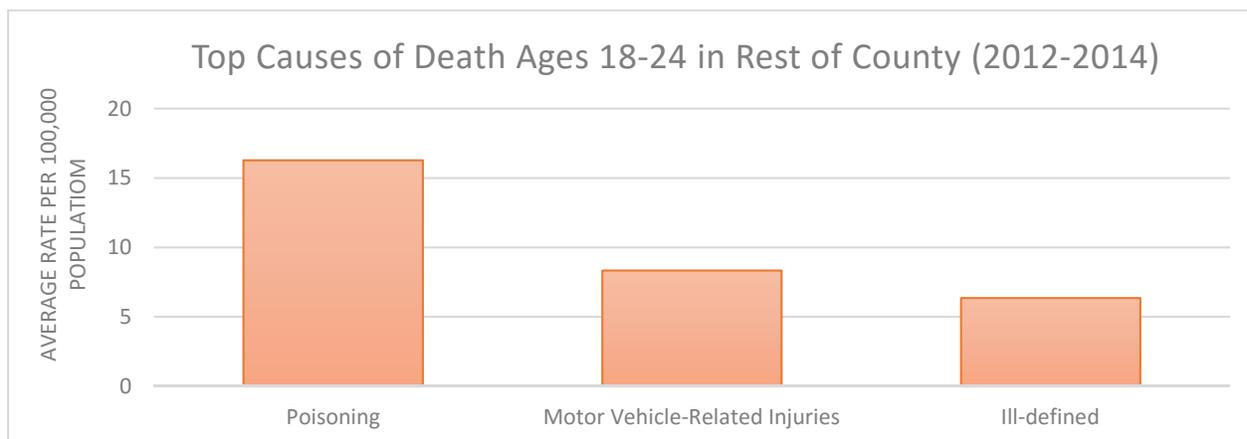
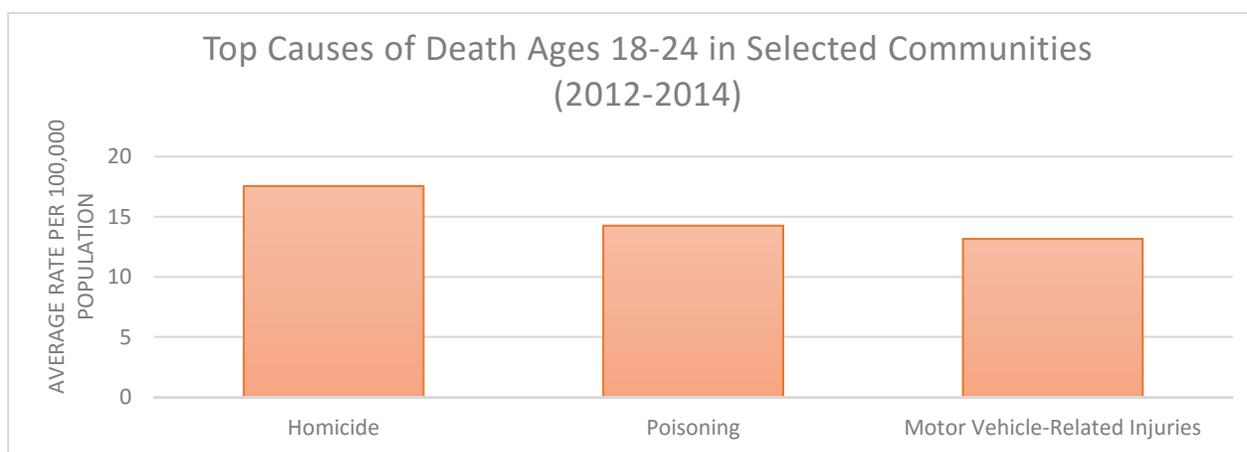
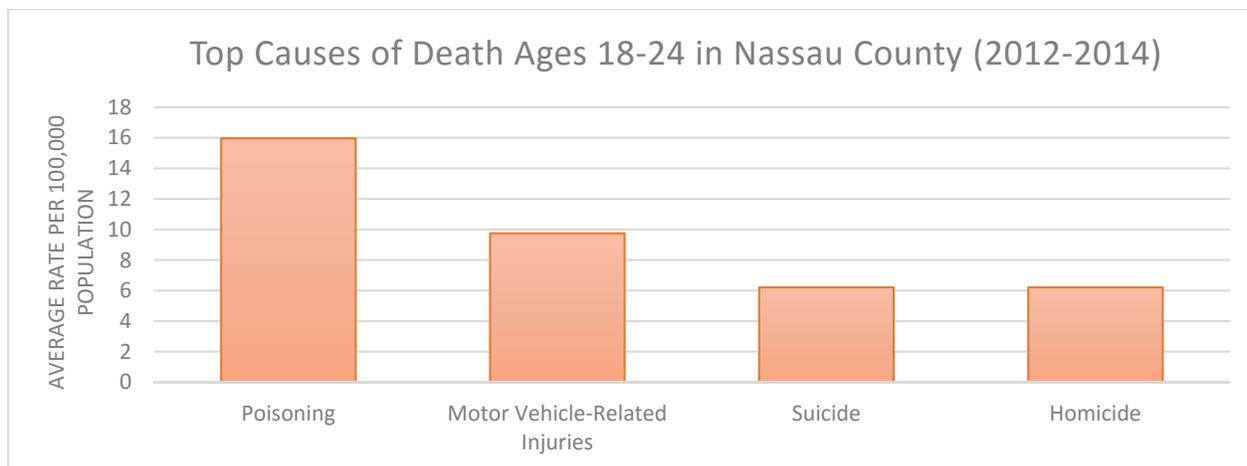
Nassau County's top five causes of death are very similar to the reported leading causes of death in 2014 for the United States. According to the Centers for Disease Control and Prevention the five major causes of death in the United State are heart disease, cancer, chronic lower respiratory disease (CLRD), unintentional injury and stroke.⁸ Nassau County echoes the top causes except for unspecified dementia which ranks third in the county. The two chief causes of death in the selected communities are the same as that of Nassau County. Dementia, respiratory disease and stroke are similar in magnitude within each geographic stratification, respectively.



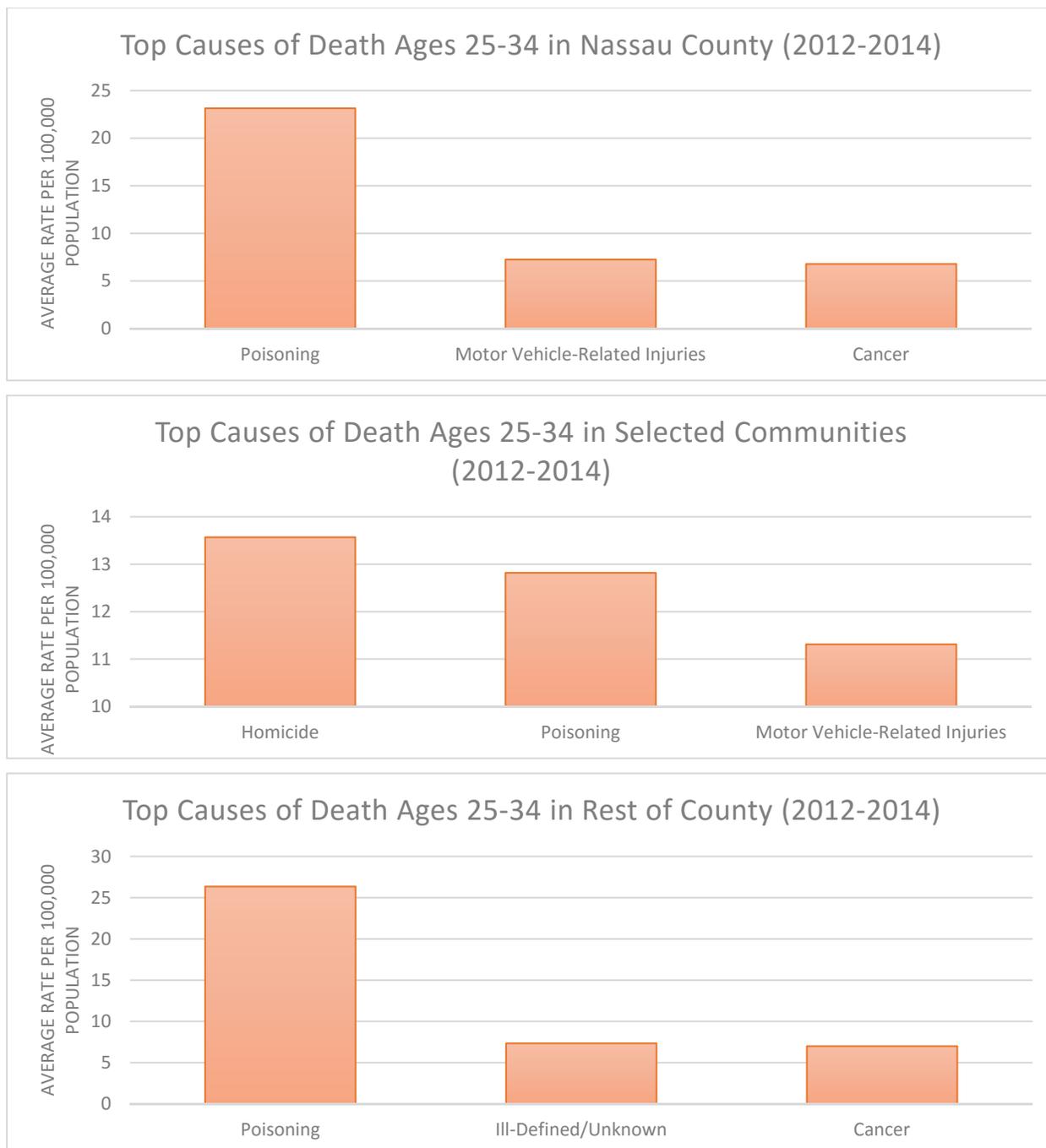
⁸ <http://www.cdc.gov/nchs/fastats/deaths.htm>



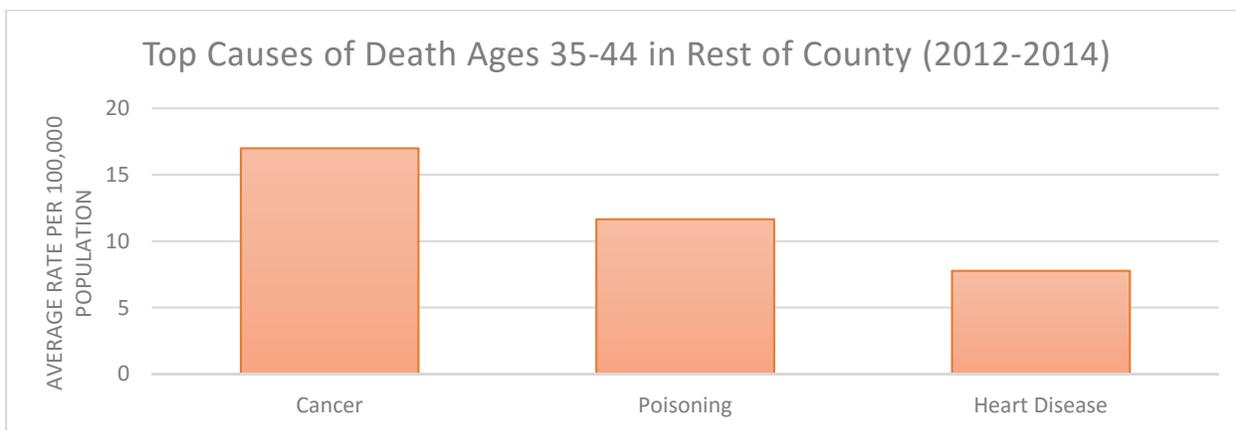
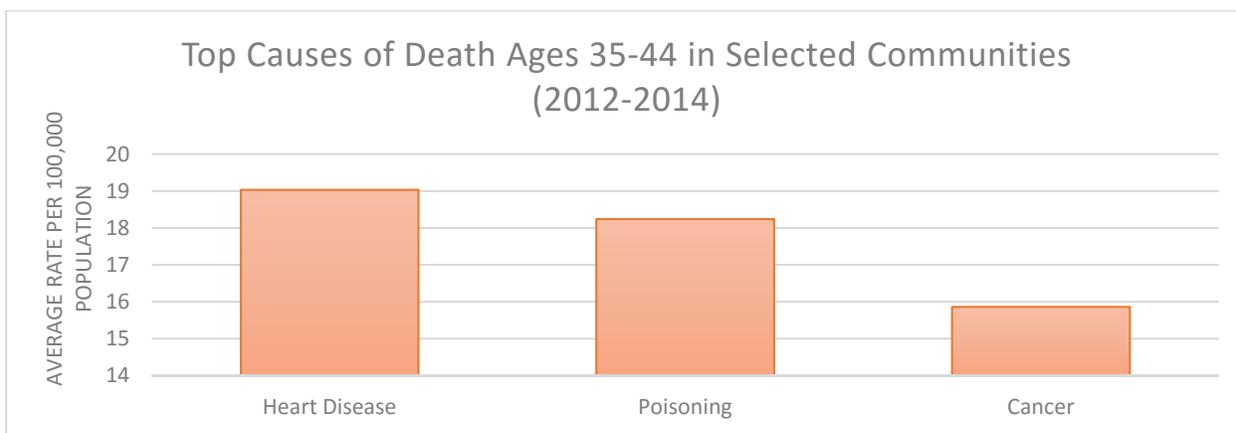
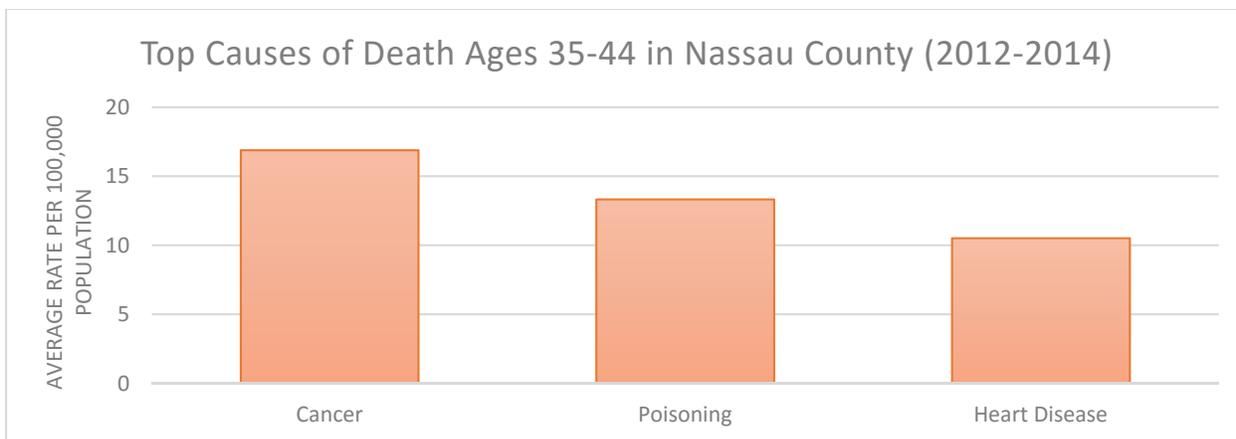
Presented graphically below are the top causes of death by age group, comparing the rates of Nassau County's selected communities and those of the rest of the county. Most striking is Nassau County's and the selected communities' disparate homicide mortality rates in the young adult populations. In the county's 18-to-24-year-old population, homicide deaths occur at an elevated rate in the selected communities, with an average rate of 13 deaths/100,000 people, double the county as a whole (approximately 6 deaths/100,000 people). The rate of homicide deaths in the rest of the county is 2 deaths per 100,00 people (not graphed).



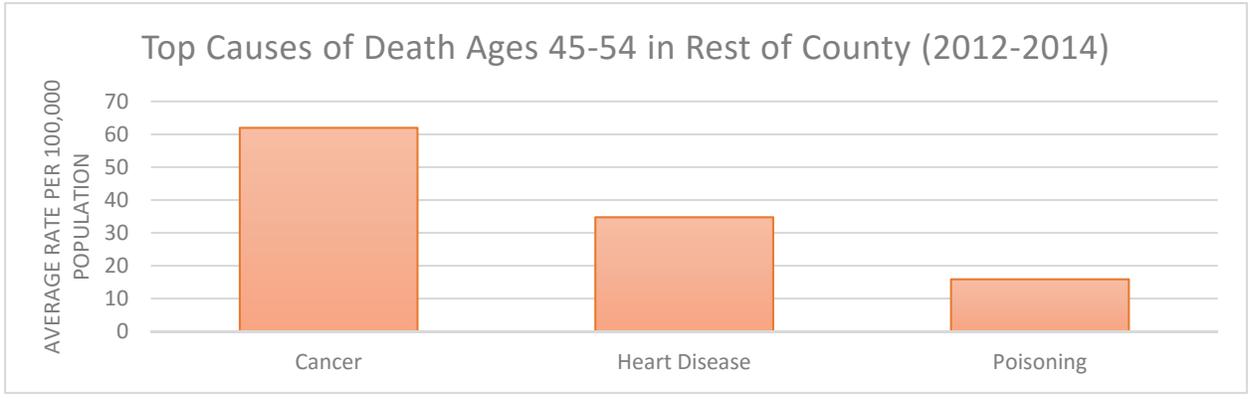
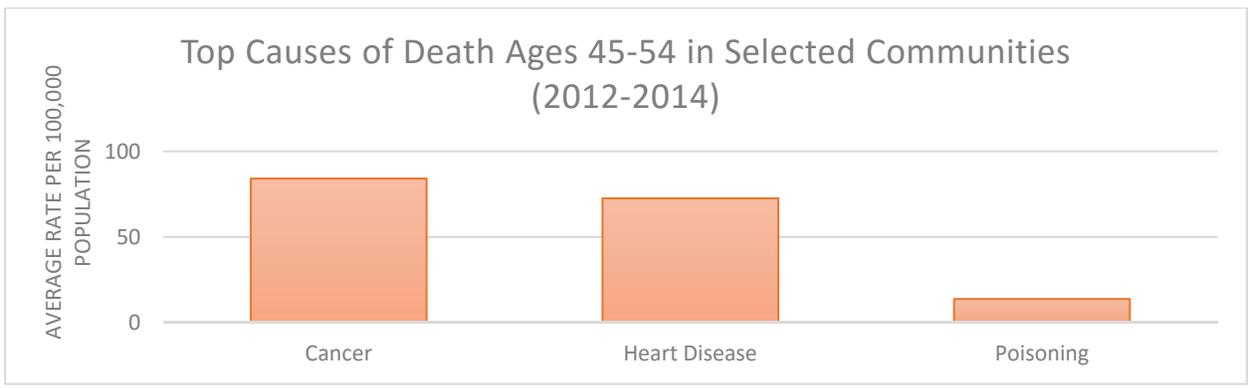
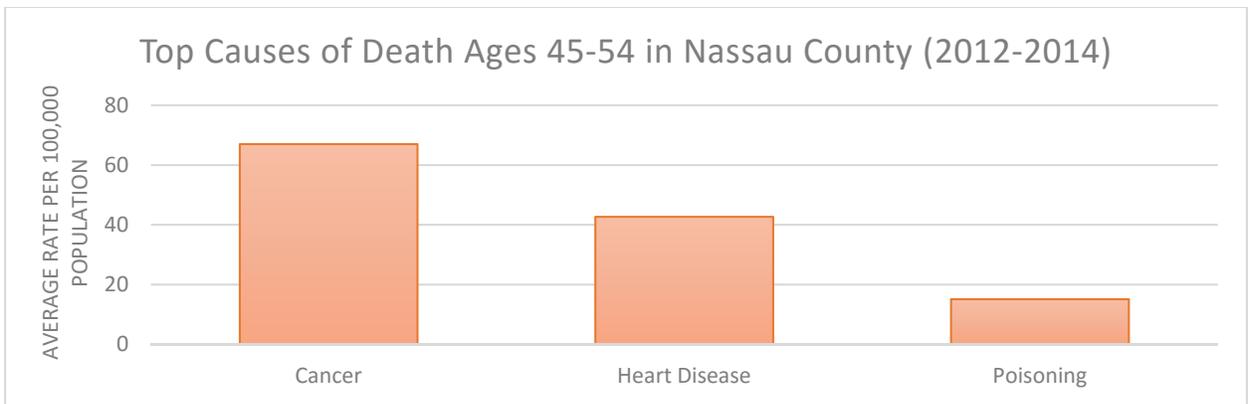
In a slightly older population (25-to-34-year-olds), the leading causes of death are poisoning, motor vehicle accidents and cancer. However, homicide still ranks highest in the selected communities, followed by poisoning and car accidents. Cancer is ranked third in the rest of the county in this age group.



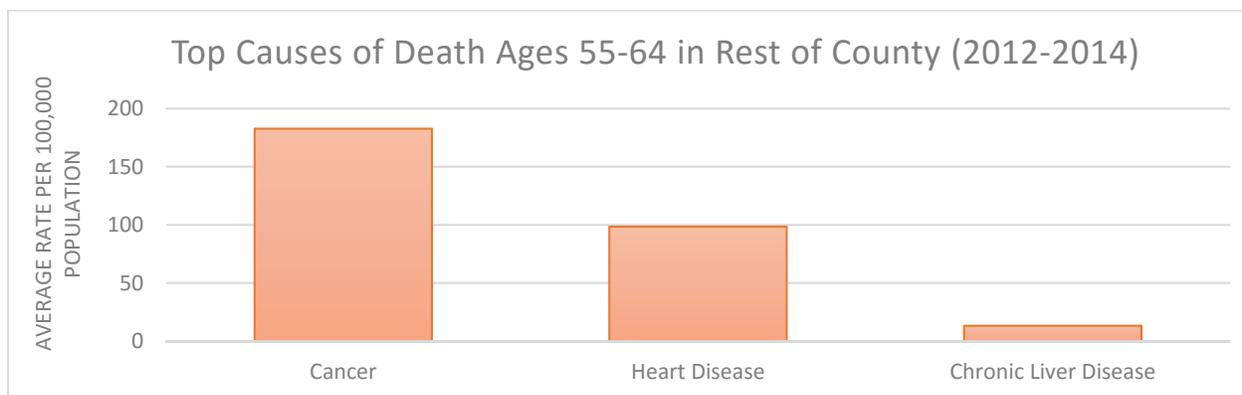
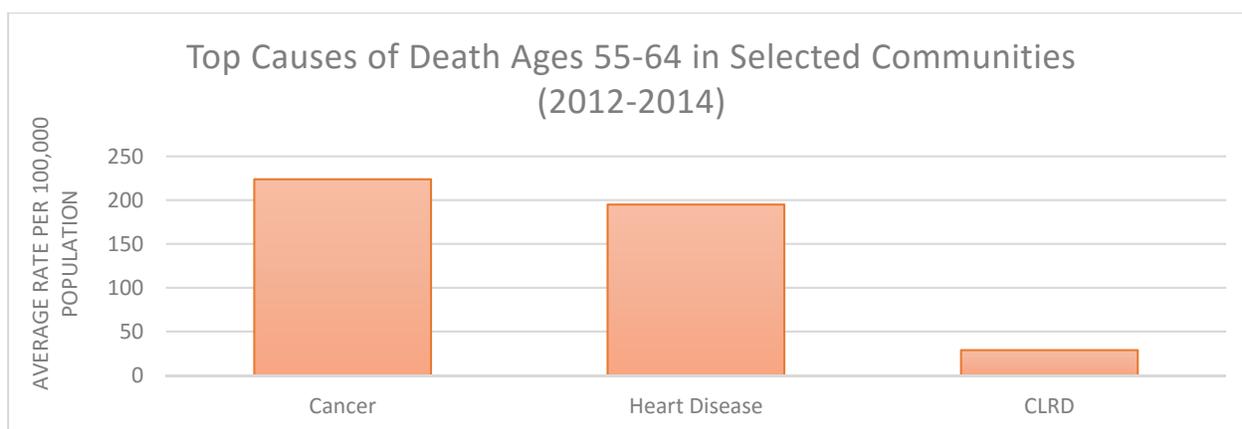
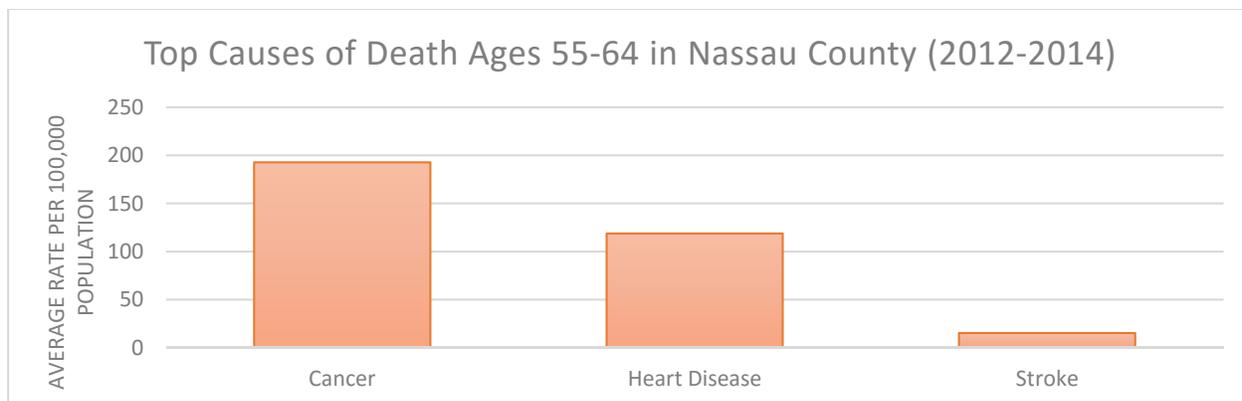
In the 35-to-44-year-old population, the top causes of mortality are the same at the county and community levels but occur in a slightly different order among those in the selected community. Cancer in the selected communities has a mortality rate of 15/100,000 similar to the rest of the county and the county as a whole. For heart disease and poisoning, the mortality rates are higher in the selected communities.



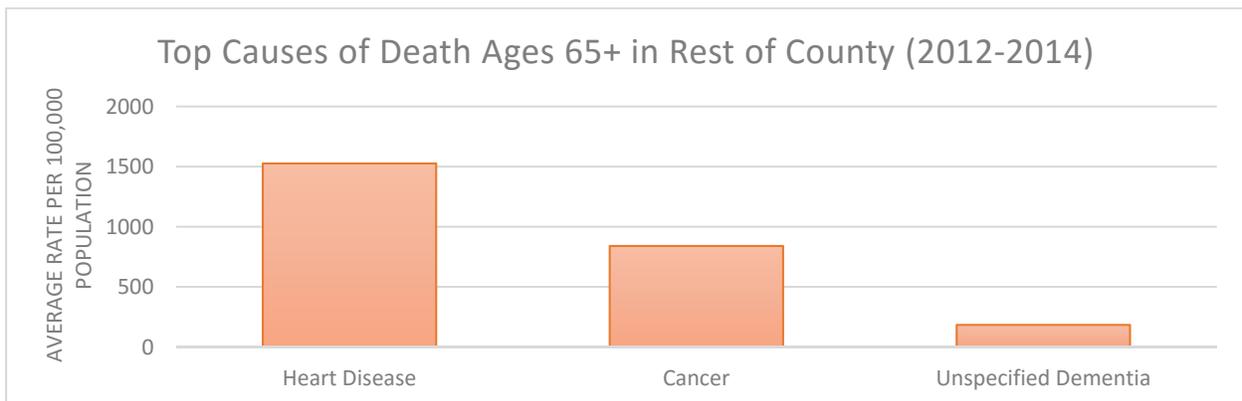
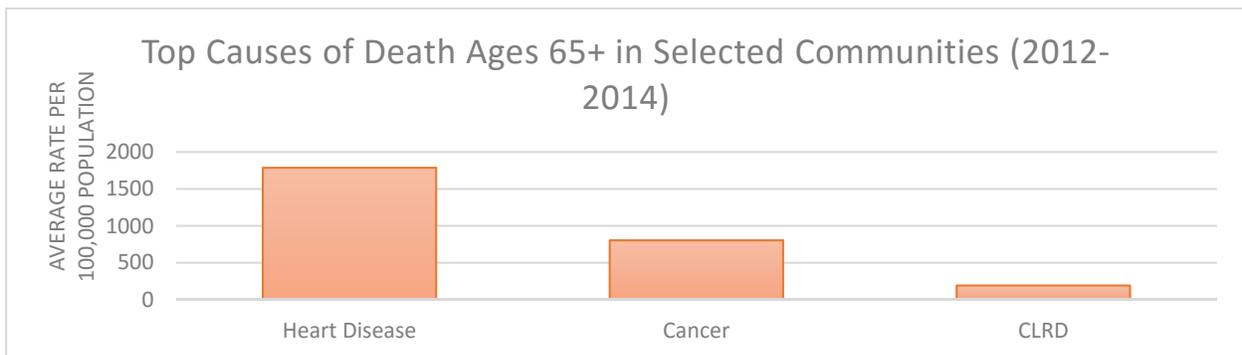
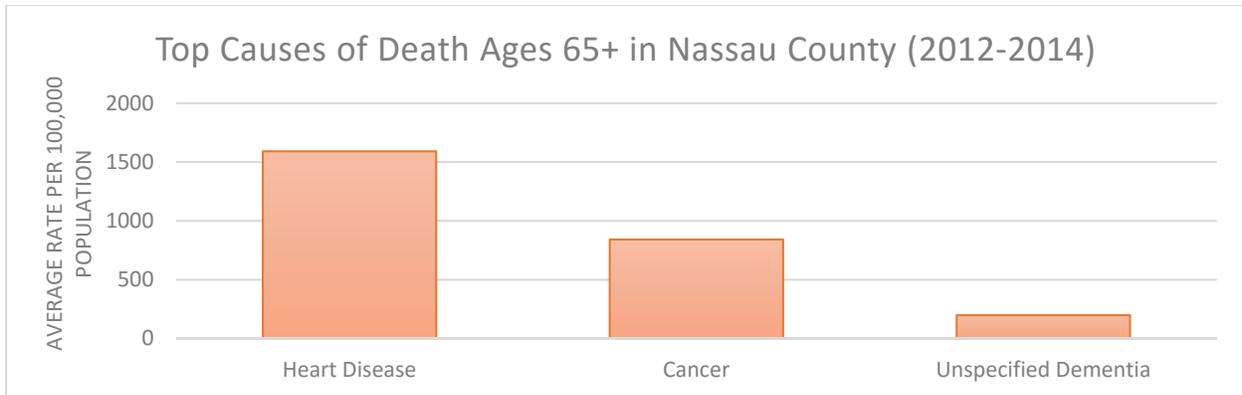
The mortality trend in the middle-aged population slightly resembles that of the 35-to-44-year-old Nassau population. Though, mortality rates are still higher in magnitude within selected communities as compared to the balance of Nassau.



The top two mortality rates in the late middle-aged population in the selected communities are echoed by that of the county at large. Cancer and heart disease mortality rates are higher than that of younger groups, with higher mortality experienced in selected communities on both counts.



In the 65 and older population, heart disease mortality rates reach their peak in Nassau (1591/100,000) and its selected communities (1788/100,000); heart disease eclipses cancer as the cause of greatest mortality in both the county and the selected communities, though the mortality rate in selected communities is slightly higher. Cancer ranked as the second major cause of death in both the county and selected communities—the cancer mortality rate on the county level is slightly greater than that of the selected communities.



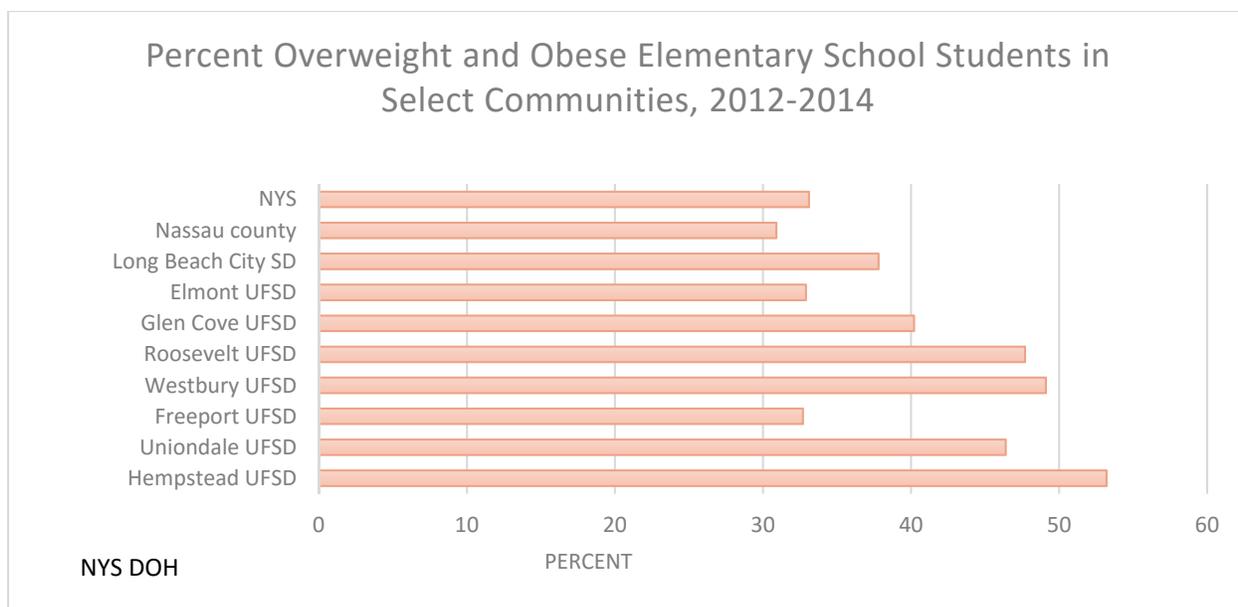
Superficially, it would appear that there is little difference in health status between Nassau County and its selected communities in the most aged of the examined populations. But the mortality rates of these generations must be interpreted together as a whole, contributing to a more complete understanding of the health trends at work in the county and in its selected communities between the years 2012 and 2014. Fundamentally, the mortality trends of Nassau County change, in cause, magnitude or both, when we cross community boundaries into the selected communities, making for the most visceral illustration of the differences in health outcomes on the community level.

Chapter 3: Determinants of Health Status

The health status of a population is the result of multiple, dynamically integrated factors that carry different weights at different times. In identifying the main health challenges facing the community, input was sought through community engagement. Community-wide surveys (Long Island Community Health Assessment Survey) and facilitated discussions of community-based organizations, known as the Community Based Organization (CBO) Summit, provided the qualitative data used in this assessment. These two reports are found in the Appendix. Community engagement yielded insight into the perception of barriers to and determinants of health at the community level. These determinants of health fall into five categories: behavioral, economic, social, clinical and environmental. Within these categories, different health characteristics serve as proxies of these determinants. Within the county, these characteristics may vary across geographic lines, potentially revealing similar disparities seen between selected communities and the rest of the county (see Chapter 2).

Behavior and Health: Obesity, Smoking, Binge Drinking, Perinatal and Sexual Risk Factors

Individual choice is one of the most influential, far-reaching determinants of health. Obesity and being overweight are not only the health outcomes of poor diet and a lack of exercise, as the outcomes are themselves risk factors for chronic disease, including diabetes, cardiovascular disease, respiratory illness and cancer. Compared to New York State, excluding New York City's population, Nassau County has a lower percentage of overweight and obese students (15.3% and 15.5% respectively). Within the selected communities' school districts, however, the percentage of overweight and obese students is much higher than that of the county at large.



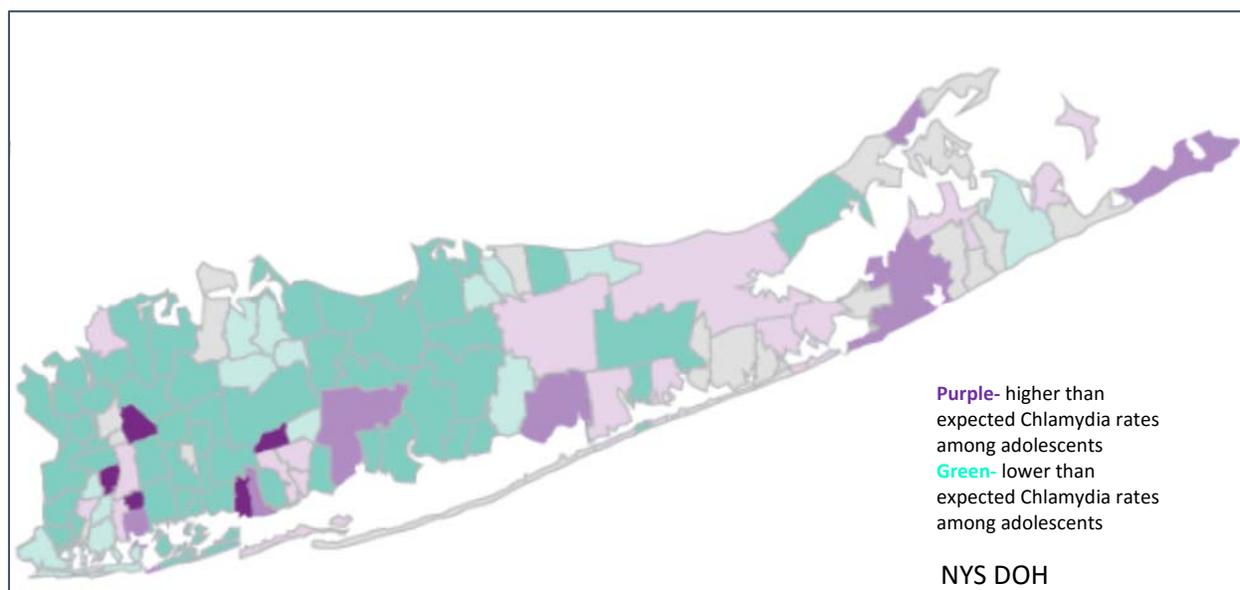
The Long Island Community Health Assessment Survey revealed that healthier food choices are ranked 1st as the most important factor to improving overall health; this is true for the selected community as well (see Appendix). According to community based organizations, they too, believe that access to healthy foods and provision of nutrition and physical activities is critical. As a result, obesity and nutrition is among the most important; priorities of chronic disease management obesity prevention are ranked 1st and 2nd, respectively (see Appendix).

Overall, Nassau County's tobacco use is lower than that of the state. In Nassau County 13.1% of adult's smoke cigarettes compared to 15.9% of New York State's adult population. According to the CBO Summit summary, targeted resources for smoking, especially for those living with mental illness is expressed. Additionally, the percentage of the population that engages in binge drinking is higher in New York State compared to that of Nassau.⁹

Perinatal risk factors include teen pregnancy and delayed prenatal care. Compared to the rest of the county, selected communities display significantly higher rates of pregnancy amongst girls, ages 15-to-19 years old (see Chapter 2) compared to the rest of the county. Prenatal care rates within the county

⁹http://www.health.ny.gov/statistics/chac/chai/docs/sub_28.htm

are high. However, in selected communities, the percent of late or no prenatal care is greater than that of the rest of the county. Furthermore, risky sexual activity is evidenced by higher incidence rates of sexually transmitted disease (i.e., the Chlamydia rate amongst school-aged girls in selected communities).¹⁰



Economics and Health: Education, Income, Community Safety

As described in the demographics section of this document (Chapter 1), Nassau County's median income ranks as one of the highest in the country. These riches are counterbalanced by the county's high property taxes. Concomitant with national unemployment rates, Nassau County's unemployment rate has decreased.¹¹ Income disparities are severe within the county (See Chapter 1) and translate to poorer health outcomes in the selected communities. According to community-based organizations, high childcare and elder costs affect those with low income who cannot afford daycare services which limits job opportunities.

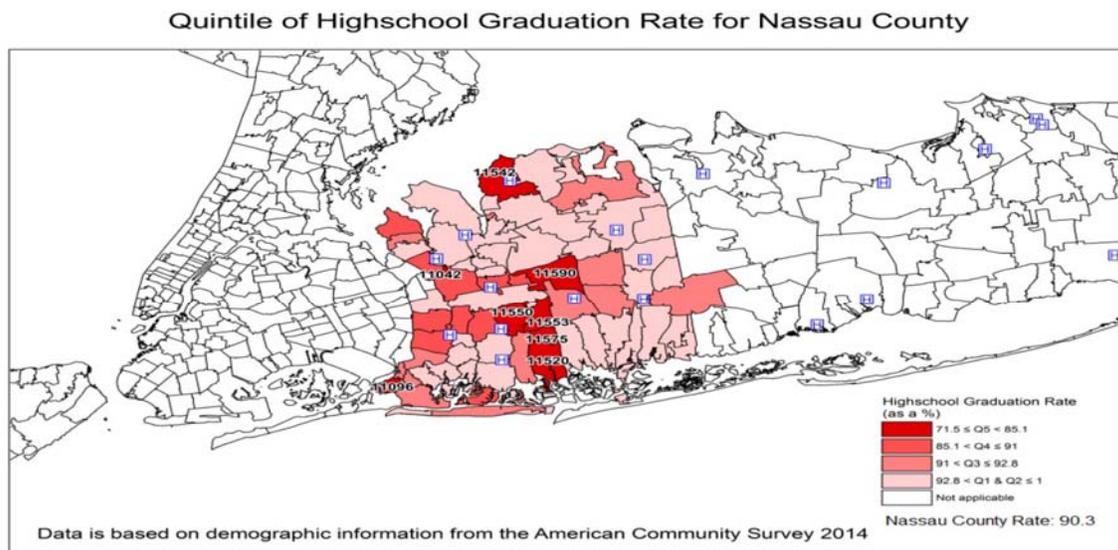
¹⁰http://www.health.ny.gov/statistics/diseases/communicable/std/abstracts/docs/chlamydia_mapping_by_nys_school_district_boundaries.pdf

¹¹ <https://www.labor.ny.gov/stats/LSLAUS.shtm>

Educational attainment is the strongest predictor of health in a community. Education rates within the county are higher than that of NYS, and Nassau County's public school system ranks among the highest in the state. Yet, two of the most troubled school districts in the state, Hempstead UFSD and Roosevelt UFSD schools, are found within the county's selected communities maintaining high rates of violence and transient workforce. Within the selected communities, crime rates are higher. For example, violent crime in 2015 in Hempstead NY was 7.5/1000 people, compared to Nassau County with a rate of 1.0/1000 people.¹²

Education, in terms of language fluency, is an important determinant of health as well. As found in the community-based report (see Appendix, CBO Summit), a growing segment of the population does not speak English fluently, affecting the quality of care provided due to poor communication.

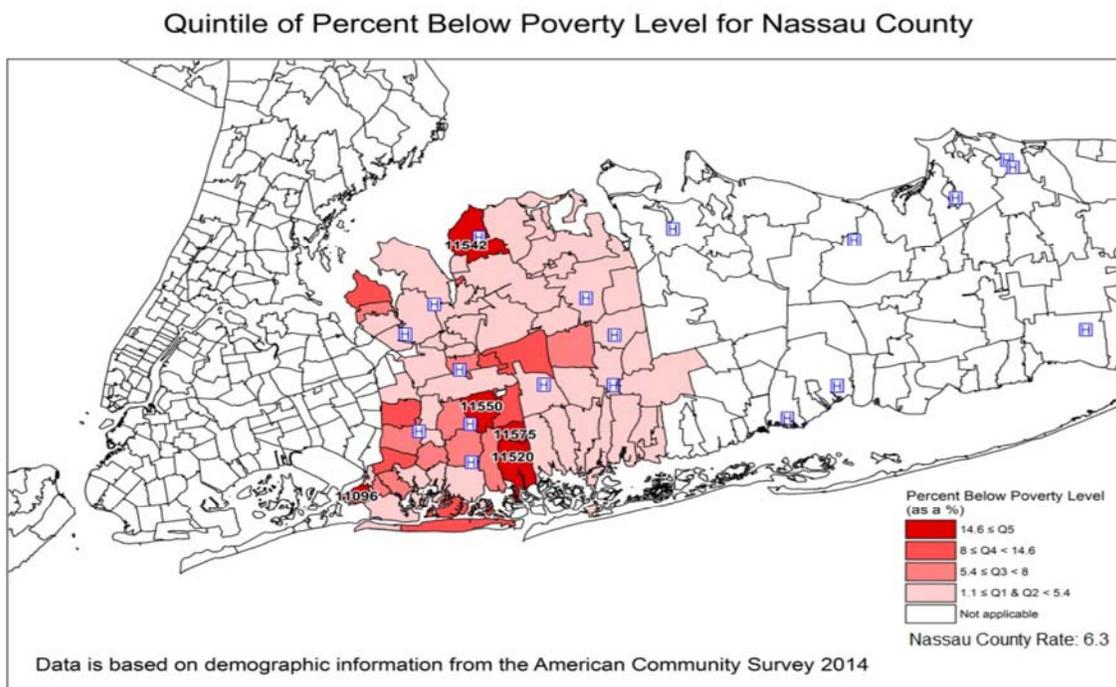
In addition, the below graphic indicates that the lowest graduation rates in the county tend to be amongst the selected communities located in the southern Nassau region. In contrast, the highest graduation rates are associated with the considerably wealthier communities that comprise the northern portions of the county.



NQ PPS, CHA: ACS, 2012

¹² <http://www.criminaljustice.ny.gov/crimnet/ojsa/indexcrimes/Nassau.pdf>

High school graduation rates are an important indicator of the overall social and economic wellbeing of a community. Such rates tend to impact the relative poverty levels ascribed to a community, as indicated by the graphic below. Those communities with higher poverty levels tend to be clustered in southern Nassau, which is commensurate with the lower graduation rates association with the region.



NQ PPS, CHA: ACS, 2012

Affordable housing is also necessary for a community to thrive. According to a recent report of Long Island's minority population,¹³ just under a half of all African-Americans report some difficulty paying their rent or mortgage in an average month; younger respondents and those without a college degree find this financial burden especially difficult to manage.

¹³ Erase Racism, *Housing and Neighborhood Preferences of African Americans on Long Island*, 2012 Survey Research Report

Social Barriers and Health: Community Resources, Social Networks, Institutional Racism

Community resources include programs that are available to residents. In Nassau County, there is an abundance of programs available to the population especially in underserved areas. Nevertheless, the community's perception is that these programs are lacking, or not relevant to their needs. There is a lack of awareness of health resources available among healthcare providers and consumers. The community-based organizations recommended an increase in communication across organizations to ensure visibility of programs and resources available and promotion of referral hot lines, directories and websites.

Therefore, even with these programs, the quality of life in these areas is still considered poorer. In a study evaluating racial disparities within Section 8 Housing, which included those in selected communities, the analysis indicated that black, non-Latino respondents rated their communities significantly less positively in terms of quality of life than did either White or Latino respondents.¹⁴ According to CBO summit recommendations, community outreach focused on establishing trust and culturally appropriate education focused on the accessing of resources is an effective way to combat this disparity (see Appendix).

Institutional racism, defined as differential access to goods, services, and opportunities of society by race,¹⁵ has a history in Nassau County.¹⁶ As one of the first populated suburban areas post-WWI, Nassau County maintained local zoning laws and restrictive covenants that were further supported by federal housing acts that led to segregated housing. The effects of these historic practices are still felt. The disparate, poorer health outcomes that are seen in minority populations compared to white

¹⁴ Johanna Shih, PhD, Marc Silver, PhD, Charisse Wheby, MA. *A Report on Housing Choice Voucher Program Participants in Nassau County, NY: Findings from the Communities and Health Survey*, Hofstra University, 2009.

¹⁵<http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.90.8.1212>

¹⁶ Hackett, M. (2013, July). Not My Problem: Facing Contemporary Suburban Public Health Inequities. *Public Health in the Suburbs*. Lecture conducted from Adelphi University, Garden City, NY.

populations may be attributed, in part, to racism.¹⁷ Nassau County has sought to improve housing issues in an effort to combat these challenges, as part of the Nassau Urban County Consortium.¹⁸

Clinical Care and Health: Access and Quality

Access to quality healthcare has expanded within the county with the recent institution of the federally qualified health centers that are part of NuHealth Nassau Health Care Corporation. NuHealth is a public benefit corporation managing the operations of Nassau University Medical Center, A. Holly Patterson Extended Care and a network of Family Health Centers that bring primary and specialty care out into the community. Nassau County has 12 hospital locations within the county. The county hospitals offer community services, such as perinatal services, child safety, health screening, healthy aging and wellness programs and smoking cessation efforts.

The linkage of uninsured patients to managed care programs, including Medicaid and Medicare services, is supported by the Nassau County Department of Social Services. Nevertheless, the uninsured population is estimated to be 9.0 % of the total population in Nassau County.¹⁹ According to the community based organizations, access, financial and insurance barriers to care were the leading challenges seen in the county. According to the community, no insurance or being unable to afford co-pays and deductibles prevents residents from accessing medical treatment. This was true for the selected community, as well. In Nassau County, there is also a significant undocumented population as NYS is the third leading state with unauthorized immigrants with 580,000.²⁰ Without the support of insurance, this population imposes an additional burden on hospital and healthcare services. The Affordable Care Act will impact the number of those eligible for insurance, but will not affect those who are undocumented.

¹⁷<http://www.cdc.gov/omhd/highlights/2002&3/HFeb2803.htm>

¹⁸ <https://www.nassaucountyny.gov/DocumentCenter/View/10291>

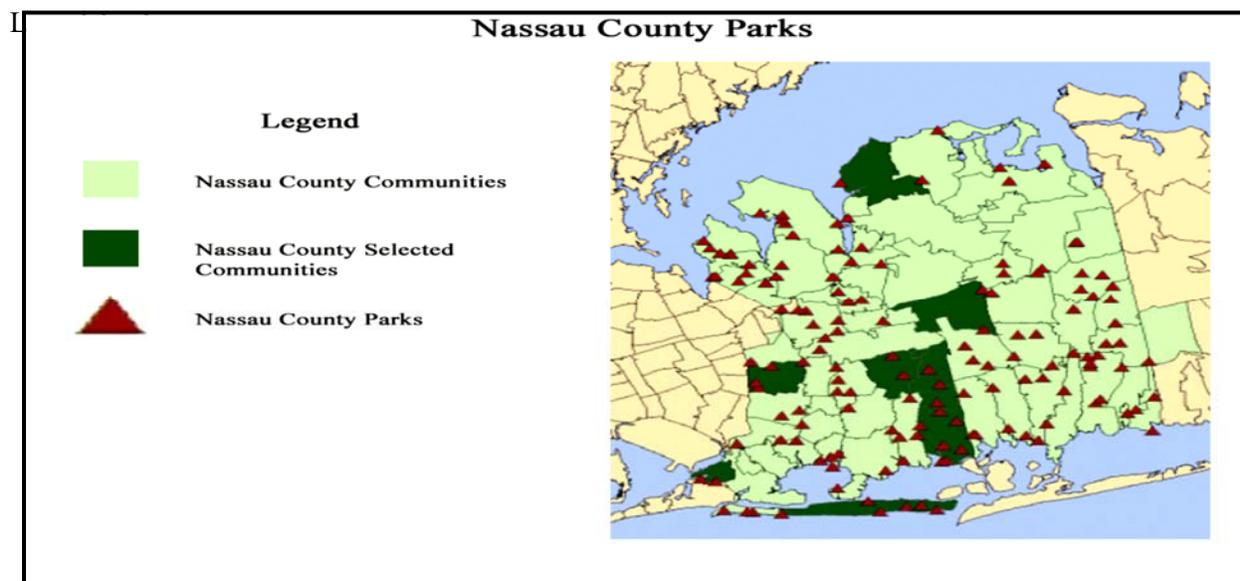
¹⁹https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/pps_applications/docs/nassau_university_medical_center/3.8_nassau_queens_cnav2.pdf

²⁰<https://www.dhs.gov>

Environment and Health: Water, Air and Land Neighborhood Infrastructure and Initiatives

Nassau County Department of Health provides services and oversight to protect the county's environment. Ongoing regulation of recreational, residential and commercial sites through inspection and the enforcement of laws, codes and ordinances maintain safe food, water and air quality within the county. The community agreed that clean air and water ranked highly as an important factor to improve the health of a community (see Appendix).

The built environment is also associated with health outcomes. Nassau County boasts more than 70 parks and recreational facilities within the county²¹ (see map below). However, lower socio-economic status (SES) populations may not have access to safe spaces to exercise and stay active. According to the CBO summit, a sustainably-built environment can provide increased opportunity for community members to engage in physical activity, in addition to promoting easy access to health services and healthy food options (see Appendix). The community-based organizations also identified transportation as a barrier on



Nassau County embarked on the Complete Streets initiative, part of a larger Vision Plan for Nassau County's Eisenhower Park, spearheaded by Department of Public Works (DPW). The plan,

²¹<http://www.nassaucountyny.gov/agencies/Parks/about.html>

initially conceived in 2006, identified important user generation points, destinations and connections that were easily monitored, that had minimal environmental impacts and that could be implemented as universally accessible to all citizens. The complete streets initiative is a well-established approach to making the built environment safe and accessible to improve the health and wellness of a community.²²

Chapter 4: Assets and Resources

The public health system addresses health issues in the county through the combined efforts of community-based organizations and academic partnerships, as it is only through collaboration that the county will be able to improve the health of its citizens.



Nassau County Department of Health - Administration

The Health Commissioner and Administrative staff is responsible for the overall direction of the Nassau County Department of Health. The fiscal and human resources divisions are important units within the administration and are responsible for budget and workplace support.

²² <https://www.dot.ny.gov/programs/completestreets>

Community and Maternal Child Health Services

The Division of Community and Maternal Child Health Services provides a combination of direct services and administrative support to community-based programs and facilitates the coordination and integration of services for children and families. The Division includes the Office of Children with Special Needs, which encompasses five programs: Early Intervention, Preschool Special Education, the Physically Handicapped Children's Program (PHCP), Community Health Worker Program and Child Find. The Division is also comprised of the Child Fatality Review Team (NCCFRT), 1 in 9: Hewlett House, the Childhood Lead Poisoning Prevention Program and the Women, Infants, and Children (WIC) Program. The latter is a federal program that provides food and formula vouchers to qualifying mothers and children, with the county health department acting as contractor for these services.

Communicable Disease

This Division protects the public from the spread of communicable diseases through education, surveillance, investigation, and intervention. Some of the actions taken to prevent outbreaks include: education, post-exposure prophylaxis, immunization, recommendations, isolation, and quarantine. Communicable Disease Control also maintains a 24-hour public health consultation service for the reporting of reportable communicable diseases and physician consultation.

Communication and Health Information

The Office of Communications and Health Information is responsible for educating Nassau County residents about health issues to support a safe and healthy community and is dedicated to answering the public's questions and providing clear and accurate information. The Department of Health's website provides health information for residents in both English and Spanish.

Environmental Health

The Environmental Health Division promotes safe food, drinking water, air quality, and safe recreational, commercial, and residential environments through the regulation, inspection and

enforcement of the New York State Public Health Law, State Sanitary Code, and the Nassau County Public Health Ordinance. It protects the community from the adverse effects of environmental pollution, unsanitary conditions and unsafe practices. It regulates the safe and sanitary conditions of public water systems, food service establishments, residential environments, temporary residences, hotels, motels, and recreational spaces, like the children's camps, public pools and beaches that provide quality environments for community members of all ages to exercise and maintain a healthy lifestyle. The Division provides education to food handlers and investigates food-borne disease outbreaks. It certifies tattoo and body piercing artists and prevents the sale of tobacco products to minors. The Division also investigates complaints of rodent and insect infestations, and conducts mosquito and rabies surveillance. The county's water is derived from the sole source aquifer, making the protection of the county's water is especially vital. The Division monitors drinking water quality, investigates soil and groundwater contamination, and regulates the storage of toxic and hazardous materials; lead abatement also falls within the Division's purview. The Division reviews and approves engineering plans for water systems, public pools, residential developments of five lots or more and commercial development in non-sewer areas. As a participant in the New York Metropolitan Air Quality Initiative, Nassau has actively worked to improve air quality through the reduction of automobile emissions.

Laboratory Services

The Division of Public Health Laboratory assesses the status of community health in Nassau County through analytic and diagnostic laboratory services. Equipped with the necessary instruments and the expertise to use them, this Division tests for the presence of bacterial and chemical contaminants in the environment. The Health Department Laboratory is available to respond to public health emergencies 24 hours a day, 7 days a week.

Public Health Emergency Preparedness

The Health Department is invested in developing and maintaining individual and community preparedness for public health hazards and events. The Public Health Emergency Preparedness Division

leads and coordinates the Department in emergency preparedness and response. The Division coordinates and staffs the Medical Reserve Corps, a volunteer organization through which medical professionals can volunteer their time and expertise in preparing for and responding to public health emergencies.

Quality Improvement, Epidemiology and Research

The Division of Quality Improvement, Epidemiology, and Research analyzes hospitalization data and vital statistics for the county. Additionally, the Division partners with hospitals, schools, and other entities to carry out research, provide trainings, and apply for grants. This Division is responsible for the Community Health Assessment, the Community Health Improvement Plan, the departmental Strategic Plan and accreditation.

Division of Social Health Initiatives and Minority Health

Activities of this Division focus on a comprehensive approach to STD and HIV intervention, including risk reduction, counseling and education, early identification, and partner notification. These activities are conducted in partnership with healthcare providers, community organizations, schools, and other county agencies.

Division staffers have extensive experience in field work, case interviews, confirmation of treatment, partner elicitation and notification, counseling and referral services, and have the capacity to use innovative approaches to case and partner investigations.

Tuberculosis Control

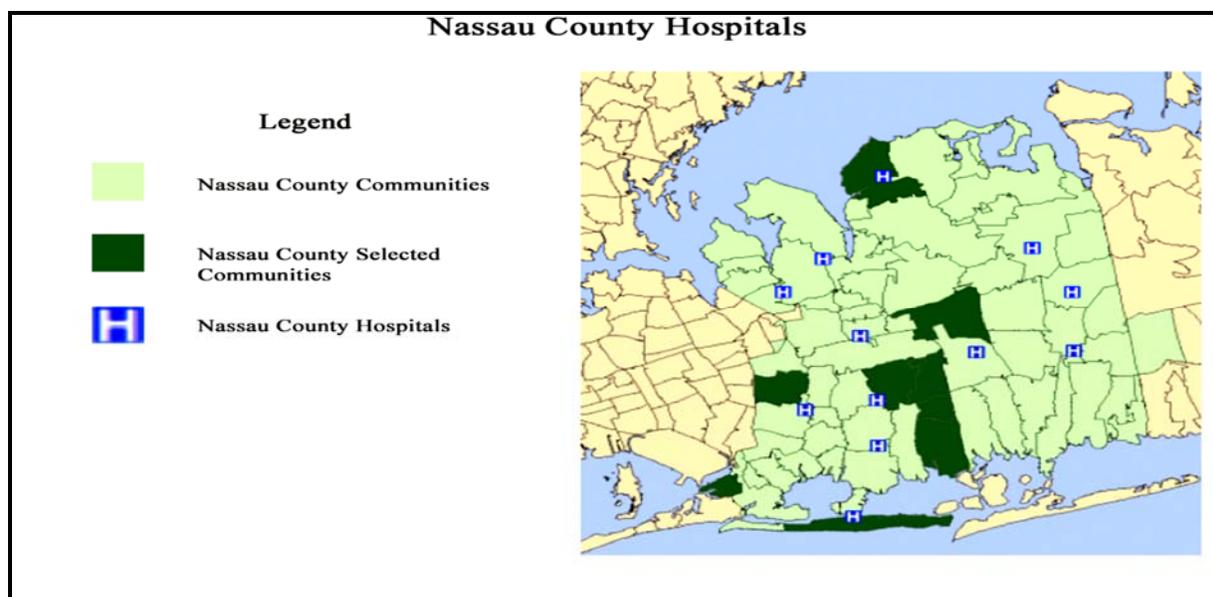
Nassau County's Division of Tuberculosis Control successfully monitors and manages the spread of tuberculosis, one of the world's deadliest diseases, through case management, Directly Observed Therapy (DOT), contact investigation, the immigrant program, education, isolation and quarantine, and consultation.

Hospitals Systems in Nassau County

Nassau County maintains a robust hospital system and a high density of physicians. Nassau County has 12 hospitals, including those within the Northwell Health and Catholic Health Services of Long Island. As designated by the New York State Department of Health, Northwell-Manhasset and Winthrop University Hospital are level I Adult Trauma Centers. South Nassau Communities Hospital is a level II Adult Trauma Center, while Nassau University Medical Center is a Regional Trauma Center.

The county's perinatal centers are specialized, depending on the complexity of pregnancy-- Regional Perinatal Centers, like Northwell-Manhasset and Winthrop-University Hospital, are equipped to treat the most complex obstetric and neonatal cases, whereas Level 3 Perinatal Centers, like Nassau University Medical Center, and Mercy Medical Center, treat mothers and neonates who require a sophisticated level of care. Level 2 Perinatal Centers, such as South Nassau Communities Hospital, treat cases of moderately complex pregnancies and deliveries.

Level 1 Perinatal Centers treat relatively typical obstetric cases; all centers, except those with a Level 1 designation, have Neonatal Intensive Care Units. Both Nassau University Medical Center and Northwell-Manhasset serves as AIDS Centers, which provide out-patient and in-patient care to those infected with HIV and AIDS. Cardiac Catheterization Centers, like Winthrop-University Hospital, South Nassau Communities Hospital, Mercy Medical Center, Nassau University Medical Center, St. Francis Hospital and Northwell-Manhasset, provide adult cardiac care. Nassau University Medical Center is the county's only burn center, but the aforementioned 12 hospitals are Stroke Centers and serve as primary care providers. NuHealth runs Nassau University Medical Center and community health centers, which are federally qualified. Nassau County Department of Health relies on these partnerships to provide direct care to the community. In particular, the Nassau County Department of Health works closely with NuHealth to provide care to the underserved and uninsured population within the county.



Furthermore, the Nassau – Suffolk Hospital Council helps support island-wide hospitals and is an important collaborative team member of the health department and the public health system. It enhances healthcare for all Long Islanders by representing the interests of its member hospitals before lawmakers, regulatory agencies, the media, and the public. The Council’s objectives include serving as an expert voice on all healthcare issues pertaining to members and the region, providing application assistance to Medicaid, Child Health Plus and Family Health Plus, participating in regional emergency preparedness efforts and maintaining relationships with allied associations, business partners, and community groups. As part of the efforts of the Community Health Improvement Plan (CHIP), the hospitals and health departments of both Nassau and neighboring Suffolk County have entered into a collaboration to provide resources to the region, known as the Long Island Health Collaborative (LIHC). This collaboration was funded by NYS and is now also known as the Population Health Improvement Program (PHIP).

Academic Partnerships

With a number of colleges and universities in and around the county, Nassau is a region of characterized by higher learning. The health department works closely with six universities and colleges. In fact, memoranda of understandings have been formed with many of the schools to be sites for Points of Dispensing (PODS) for emergency events, or academic research to address varied health outcomes.

Beyond the county's borders, additional university systems support the health department and community in terms of outreach, research and trainings.

Community-Based Organizations and Associations

Nassau County has an active faith-based, health issue-driven, grassroots effort to address multiple health disparities and needs throughout the community. There are a number of community-based organizations (CBOs) located within the county. Nassau County Department of Health has engaged many of these agencies to participate in this assessment, as well as in the continued effort to move forward with plans to address poor health outcomes.

Nursing Homes

For people who need round-the-clock care, nursing homes provide supervision and care outside of a hospital setting. Some facilities provide specialized services beyond the basic level of care—there are homes that cater to those who are living with AIDS, or require a ventilator. In Nassau County, there are 37 nursing homes with a total certified bed capacity of 7,393.

Private Physicians and other Healthcare Providers

While there is no single source that tracks the number of physicians and other healthcare providers practicing in the county, the New York State Education Department maintains a list for licensing purposes. As of 2016, there were 9,294 registered licensed physicians and 1,641 physician's assistants,²³ 1,896 nurse practitioners,²⁴ and 2,030 licensed dentists in Nassau County.²⁵

²³ <http://www.op.nysed.gov/prof/med/medcounts.htm>

²⁴ <http://www.op.nysed.gov/prof/nurse/nursecounts.htm>

²⁵ <http://www.op.nysed.gov/prof/dent/dentcounts.htm>

Chapter 5: Process and Methods to Conduct Community Health Assessment

The Collaborative Process

In 2013, hospitals and both County Departments of Health on Long Island convened to work collaboratively on the community health needs assessment. Over time, this syndicate grew into an expansive membership of academic partners, community-based organizations, physicians and other community leaders who hold a vested interest in improving community health and supporting the NYS Department of Health Prevention Agenda. Designated The Long Island Health Collaborative (LIHC), this multi-disciplinary entity has been meeting monthly to work collectively toward improving health outcomes for Long Islanders. In 2015, the LIHC was awarded the Population Health Improvement Program (PHIP) grant by the New York State Department of Health. The PHIP is a data-driven entity, pledged to pursue the New York State of Health's Prevention Agenda, making the program a natural driver for the Community Health Needs Assessment cycle.

In 2016, members of the LIHC reviewed extensive data sets selected from both primary and secondary data sources to identify and confirm Prevention Agenda priorities for the 2016-2018 Community Health Assessment cycle. Data analysis efforts were coordinated through the PHIP, with the PHIP serving as the centralized data return and analysis hub. As directed by the data results, community partners selected Chronic Disease as the Priority Area with a focus on (1) Reducing Obesity in Adults and Children and (2) Increasing Access to High Quality Chronic Disease Preventive Care and Management in both Clinical and Community Settings for the 2016-2018 cycle. The group also agreed that Mental Health should be highlighted as an area of overlay within all intervention strategies. While priorities selected in 2013 remain unchanged from the 2016 selection, a stronger emphasis has been placed on the need to integrate Mental Health throughout Intervention Strategies.

Demographic Data

Census 2010 data provided the foundation for the demographic characteristics of the community. On occasion, but not routinely, the American Community Survey (ACS) data was used in lieu of the census data when detailed information not collected during the most current census efforts was required.

Morbidity and Mortality Data

Inpatient and outpatient hospitalization rates were calculated using the 2012, 2013 and 2014 (SPARCS) data. These data contain information on all inpatient and outpatient hospital visits in the State of New York over a given year.

For morbidity outcomes, diagnosis codes, in the form of ICD-9 codes, were chosen for the various selected conditions. When looking at Cardiovascular Disease, Heart Disease, Coronary Heart Disease, Stroke, COPD, Asthma, Type 1 Diabetes, Type 2 Diabetes, and Liver Disease, the inpatient SPARCS database was used. The emergency room visit database was used to understand injury data. This was done because most injury related codes were found in this database while very few incidents became an inpatient stay. An average, age-adjusted rate was calculated by county and zip code. These rates were compared to NYS and NYS excluding NY City.

Lead data was provided by New York State Bureau of Community Environmental Health & Food Protection. HIV/AIDS data was provided by the New York State AIDS Institute. Communicable disease data was provided by the Communicable Disease Electronic Surveillance System. Perinatal data was found on New York State Department of Health website, publically available. Data from these sources also reflects an average three-year rate, using Census data as the denominator. However, the data was not age-adjusted, but rather, stratified by age group when appropriate and zip code for further analysis when necessary.

Mortality rates were calculated using 2012, 2013, and 2014 New York State Vital Statistics data. The Vital Statistics data was presented using ICD-10 codes. In order to determine which codes belong to which cause of death group a report called Health, United States 2014 was used. For all of the codes that

did not fit within these parameters the website <http://www.icd10data.com/ICD10CM/Codes> was used.

Death rates were stratified by age, cause of death, and ZIP code.

Differences in rates were analyzed for statistical significance. To test for significance, 95% confidence intervals were calculated. Variances were calculated using a standardized method.

(https://www.health.ny.gov/statistics/chac/chai/docs/statistical_significance.pdf).

Identifying Selected Communities

For the purposes of the Community Health Assessment, a comparison between a selected group of communities and the rest of the county population was conducted. The term “selected communities” denotes the group of zip codes within Nassau County that were analyzed against the rest of the county population. This analysis has helped to locate and display many of the health disparities that exist within the county. The selected communities were chosen with the assistance of an index comprised of multiple socioeconomic and health related factors.

The five socioeconomic factors included in the index are:

- Percent of individuals within the community that have a high school diploma (or GED equivalent)
- Median household income (USD)
- Percent of single parent families within the community
- Percent of individuals renting their current home
- Infant Mortality Rate (IMR)

Selected communities were chosen using both the index and the selection of populations historically categorized as “at risk” in previous Community Health Assessments. A total of nine communities were selected.

These communities included:

- Freeport (11520)
- Hempstead (11550)
- Inwood (11096)

- Long Beach (11561)
- Westbury (11590)
- Roosevelt (11575)
- Uniondale (11553)
- Elmont (11003)
- Glen Cove (11542)

For this portion of the assessment, these nine communities were combined and a rate for each health or injury outcome was calculated for the group as a whole. This rate was then compared to a single rate of the same outcome for the county population, excluding these nine zip codes. The differences between the two rates were tested for statistical significance using the same method aforementioned. Those outcomes with statistically significant differences were included in the final report.

Long Island Community Health Assessment Survey

To collect input from community members, and measure the community-perspective as to the biggest health issues in Nassau County, the LIHC modified the original survey created in 2013 by the Nassau County CHA Sub-Committee. This survey was distributed via survey monkey and hard copy formats. The survey was written with adherence to Culturally and Linguistically Appropriate Standards (CLAS). It was translated into Spanish and Creole languages and large print copies were available to those living with vision impairment. Survey distribution began among LIHC members in December 2015. To view a copy of the Long Island Community Health Assessment Survey, see Appendix.

Community Based Organization (CBO) Summit

To measure and identify community needs, LIHC members planned a Nassau County event with representatives from community-based organizations. Adapted from the Nassau County Department of Health's Key Informant Interview script, a tool was revised to meet a facilitated discussion format. Questions pertained to health problems and concerns, health disparities, barriers to care, services available and opportunities for improvement. Transcribers were positioned at each table during the event to capture

conversations accurately. Post-event, discussions were transcribed and analyzed using ATLAS TI Qualitative Data Analysis software.

Wellness Survey for Chronic Disease Prevention Programs

As part of the county's previous CHIP (2014-2017), a universal metric was developed to assess chronic disease prevention programs provided by local hospitals. With specific program criteria required, program participants were asked questions about nutrition and exercise knowledge, their psychological well-being and their role in their own health prior to engaging in the program and after the program was completed. Hospitals uploaded this information into a portal provided by SUNY, Stony Brook where data was and continues to be collected. Data is monitored and analyzed regularly.

Chapter 6: Distribution of the Community Health Assessment to the Community

Preliminary results, presentations and reports of components from this Community Health Assessment have been presented to the hospitals, community-based organizations, academic institutions and health department staff, piecemeal, on behalf of the LIHC and NCDOH to provide feedback, progressively. The assessment will be available on the Health Department website following its submission to New York State Department of Health. Feedback from the public and interested agencies will contribute to the ongoing efforts going forward.

II. The Community Health Improvement Plan

Chapter 7: Priorities and the Strategy

Prevention Agenda Priorities

In 2016, members of the Long Island Health Collaborative (LIHC), supported by the NYS Public Health Improvement Program (PHIP), reviewed extensive data sets selected from both primary and secondary data sources to identify and confirm Prevention Agenda priorities for the 2016-2018 Community Health Needs Assessment cycle. Once again, as directed by the data results, community partners selected Chronic Disease as the Priority Area with a focus on (1) Reducing Obesity in Adults and Children and (2) Increasing Access to High Quality Chronic Disease Preventive Care and Management in both Clinical and Community Settings for the 2016-2018 cycle. The group also agreed that Mental Health Promotion and Prevention of Substance Abuse should be highlighted as an area of overlay within all intervention strategies (see Appendix).

Chapter 8 Assessment and Update of the CHIP

Chronic disease and obesity data from the NYS Prevention Agenda indicates that Nassau County has met the NYS objective for 2018, for many of the indicators.²⁶ Colorectal screening remains lower than the goal. While mental health status and binge drinking rank better than the Preventive Agenda objective, age adjusted suicide rates are still high.

Prevent Chronic Diseases			
Indicator	Years	Nassau	NYS PA 2018 Objective
% of adults who are obese	2013-2014	19.8	23.2
% of children and adolescents who are obese	2012-2014	15.5	16.7
% of adults who received a colorectal cancer screening, aged 50-75 years	2013-2014	70.6	80
Age-adjusted heart attack hospitalization rate per 10,000	2014	13.3	14

²⁶https://apps.health.ny.gov/doh2/applinks/ebi/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard

Rate of hospitalizations for short-term complications of diabetes per 10,000 aged 6-17 years	2012-2014	2	3.06
Rate of hospitalizations for short-term complications of diabetes per 10,000 , aged 18+ years	2012-2014	4	4.86
Promote Mental Health and Prevent Substance Abuse			
Age-adjusted percentage of adults with poor mental health for 14 or more days in the last month	2013-2014	8	10.1
Age-adjusted percentage of adult binge drinking during the past month	2013-2014	13.4	18.4
Age-adjusted suicide death rate per 100,000	2012-2014	6.4	5.9

In addition, results of the Wellness Survey also demonstrate improvement in individuals' knowledge of healthy living after participating in hospital chronic disease prevention programs. As measured by the difference between pre and post surveys, participants significantly benefited in their understanding of nutrition, exercise and psychological well-being (5.8%, 18.3% and 5.1%, respectively), see Appendix. This universal metric continues to be utilized by hospital programs and is tracked and collected by the PHIP.

Regardless of these successes, Nassau County Department of Health along with the LIHC have continued to promote chronic disease and mental health improvements. With funding secured through the PHIP, the Long Island Health Collaborative has been supported in leading initiatives focused on decreasing rates of Chronic Disease, specifically those diseases related to obesity and preventive care and management. Initiatives geared to address health disparities and barriers to care are vital to improving health outcomes in Nassau County. Selected initiatives are currently supported and implemented by way of the LIHC network and discussed at monthly Long Island Health Collaborative meetings. LIHC sub-workgroups provide a focused-expertise and strategizing efforts surrounding the development of specific interventions, strategies and activities. LIHC sub-workgroup areas include: Public Education, Outreach and Community Engagement; Academia; Data; Nutrition and Wellness and Cultural Competency and Health Literacy. Sub-workgroup membership is continually growing, which supports partnerships and

diversity of project efforts. Selection of initiatives is data-driven, supported by research and data in alignment with the PHIP's commitment to utilizing evidence-based strategies. Nassau County PHIP-led initiatives support the NYS Prevention Agenda areas and include:

- “*Are You Ready, Feet?*™” physical activity/walkability campaign, events and walking portal
- Physician-driven *Recommendation for Walking Program*
- Evidence-Based Programming for chronic disease management
- Mental Health First Aid USA™ Training, Evidence-based Program
- LIHC Wellness Survey to measure program efficiency using portal to track successes
- Complete Streets Community and Policy Work in Eisenhower Park and at-risk communities
- Nutrition collaboration and leverage of programs: Creating Healthy Schools and Communities, funded by NYS DOH and Eat Smart New York, funded by USDA

Challenges remain to effective implementation including bureaucratic steps, regulation and resources. Nevertheless, Nassau County Department of Health's partnership with the LIHC has exponentially improved its impact in the community in addressing the Prevention Agenda Priorities. Methods to maintain its sustainability are derived from lessons learned in the collaborative process.

Chapter 9: Sustainability and Partner Engagement

The regional collaborative, LIHC, is committed to maintaining its relationship for programmatic efforts and community engagement. The Long Island Health Collaborative first convened in 2013, with membership and partner-engagement gaining exponentially over time. With funding awarded through the New York State Department of Health, the Long Island Health Collaborative has made enhanced strides in only a few short months. LIHC partners have demonstrated their commitment to maintaining engagement with community-partners by advocating on behalf of the LIHC, promoting LIHC initiatives and bringing counterpart organizations to the table during monthly meetings. As strategies are implemented, progress will be measured on an ongoing basis. Baseline data from the Long Island Community Health Assessment Survey and the Wellness Survey will allow for strategic decision making based upon the effectiveness of strategies and improvements in outcomes. Strategic direction

and project oversight is guided by the PHIP Steering Committee members, who are presented with outcome data on a quarterly basis. Mid-course modifications will be identified and implemented in response to data evaluation strategies.

The Nassau County Department of Health, in concert and aligned with the larger collaborative, will continue to subscribe to the following principles.²⁷

Principle #1: Development of true partnerships, means creating relationships of mutual cooperation, benefits, and responsibility to ensure that results are achieved

This principle, while providing the foundation for creating partnerships, is also important to the maintenance of relationships and the expansion of the number of engaged stakeholders; formulating group consensus and committee decision are standard to the process.

Principle #2: Attention to community diversity and its role in engagement

Partners should represent a cross-section of the health community and the partnership will expand to continue to include other sectors that are not currently represented. Diversity of perspectives and experiences are necessary for the collaboration to remain strong. Even with diversity in perspectives, it is still necessary to maintain common ground and goals; the prevention agenda provides those shared priorities.

Principle #3: Identification and mobilization of community and stakeholder assets

Each stakeholder has different tools and resources that can be used collectively to address the prevention agenda priorities. Therefore, each stakeholder must be acknowledged for its role and the unique perspective that it brings to the process.

²⁷ <http://www.cdc.gov/phppo/pce/>

Principle #4: Evaluation of leaders' roles over time

The collaboration process is a long-term effort that requires each stakeholder and representative to remain flexible to the needs of the effort, as they may change during this process.

Principle #5: Participation is a long-term commitment to the collaboration

To maintain participation, in addition to other principles, each member needs opportunities to learn from its counterparts. Designating meetings to facilitate learning and information exchange will encourage each member's continuous engagement.

Principle #6: Participation in review and evaluation

In an effort to ensure that goals and objectives are being met, the collaborative group will schedule meetings during which such metrics and strategies will be discussed and improvements based on lessons learned will be implemented.

Principle #7: Coordination and schedule of meetings

The collaboration has decided that monthly meetings will be held and organized by the Nassau-Suffolk Hospital Council. In some cases, smaller groups will be established, *ad hoc*. Examples of workgroups include the metric workgroup, the walking initiative workgroup, etc. These meetings will be prescheduled. The agenda will vary but will cover a plan that includes defining strategies for the prevention agenda, evaluating metrics, adjusting methods or programs, increasing resources for the network and the residents and identifying grants that will further support the collaboration.

In 2015, the LIHC hosted two sessions run by Milano Harden of the Genius Group – management and strategic planning consultant specializing in serving public health/community health agencies and organizations. The overall purpose of these sessions was to help the collaborative and its members build an even stronger, more focused, and committed collective impact effort. Milano used an evidence-based method to discern strengths of collaborative members and where each collaborative member could best

serve the whole group (for instance, committees, etc.) The LIHC We came out of these sessions with a more clearly defined vision and a strategic plan directing the collaborative operationally and pragmatically moving forward.



The LIPHIP short-term plan for evaluation will begin with extensive qualitative data collection and analysis. Important to engagement is the degree to which member organizations are collaborating and direct feedback from community members and member organizations.

Process measures include:

- Progress and involvement of various PHIP projects resulting from collaboration and member engagement
- Feedback from partner organizations regarding the benefit of PHIP structure and how PHIP funding has impacted the health landscape
- Primary concerns and community needs voiced by community members via Community Survey
- Areas of need identified by community based organizations during Summit Events
- Emergence of policies supporting collaboration to improve population health and well-being
- Quality of partnership between NYS reform initiatives including DSRIP, SHIP, Prevention Agenda and SHINY

Specific quantitative measures will be analyzed to assess the reach of our various projects within the communities in Nassau County.

- Number and organizations from various health sectors that participate and attend LIPHIP meetings and projects
- Reach of organizations and community members through social media, website and additional communications strategies
- How many community members participate in the LIPHIP walking program “*Are you ready, feet?*™” and subsequent data surrounding adaptation of healthy behavior
- Impact of programs that address healthy eating, physical activity, physiological well-being and responsible health practices through evaluation of LIHC wellness survey portal data
- Analysis of results from Prevention Agenda Community Member Survey and second quarter update
- Growth in number of evidence-based Stanford programs being conducted as a result of link between HRH Care, RSVP and LIPHIP
- Improvement in preventable admission and preventable visit data utilizing 3M software
- Hot spotting to identify areas of greater socio-economic need in Nassau County

Chapter 10: Dissemination of the Plan to the Community

Health Communication Strategies and Transparency are two key roles of the Population Health Improvement Program. The Nassau County Department of Health and The Long Island Health Collaborative websites are designed to engage the community and provide transparency in population health initiatives and data analysis efforts. The CHA and CHIP are available, therefore, on both websites (<http://www.nassaucountyny.gov/agencies/Health/>; <https://www.lihealthcollab.org/>).

Opportunities for further dissemination of the plan will include incorporation key aspects at health department events, presentation to the Board of Health, announcement to health department staff and key partners through email, after it is submitted to the NYS.