Robert Wood Johnson University Hospital | RWJBarnabas HEALTH

SAINT PETER'S HEALTHCARE SYSTEM

# COMMUNITY HEALTH NEEDS ASSESSMENT

## *HEALTHIER MIDDLESEX*

2019

## *ACKNOWLEDGEMENTS*

**The following partners led the Healthier Middlesex Community Health Assessment:**

**RWJUH NEW BRUNSWICK EXECUTIVES**

- Lorin Rizco, Board Assistant
- John J. Gantner, President and CEO
- Senior Leadership Team:
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    - Lydia Stockman, Senior Vice President, Clinical Operations
    - Jim Alexander, Chief Financial Officer
    - Tracey Malast, Interim Chief Nursing Officer
    - Dr. Stanley Z. Trooskin, Chief Medical Officer
    - Manny Gonzalez, CHRO
    - Kevin McTernan, Assistant Vice President, Support Services

**SAINT PETER'S UNIVERSITY HOSPITAL EXECUTIVES**

- Leslie Hirsch, FACHE, President and CEO
- Linda Carroll, RN-BC, MSN, Vice President, Patient Care Services, Chief Nursing Officer

**RWJ BARNABAS HEALTH COMMUNITY HEALTH NEEDS ASSESSMENT STEERING COMMITTEE**

The RWJ Barnabas Health CHNA Steering Committee oversees the 2018-2019 CHNA process to update Hospitals CHNAs and create new Implementation/Community Health Improvement Plans. The key tasks of the Steering Committee include:

- Oversight and guidance of CHNA implementation plan development
- Review facility implementation/health improvement plans and results
- Review of suggested priorities for facility implementation planning
- Share strategies and best practices

Members of the RWJ Barnabas Health CHNA Steering Committee include:

- Jen Velez, Executive Vice President, Community and Behavioral Health, Committee Chair
- Michellene Davis, Executive Vice President, Corporate Affairs
- Bryan Soltes, System Vice President, Network Development, Oncology Services
- Connie Greene, Behavioral Health/Preventive Care
- Joseph Jaeger, DrPH, Chief Academic Officer
- Barbara Mintz, Senior Vice President, Health and Wellness
- Jessica Israel, M.D., Corporate Chair, Geriatrics
- Michael Knecht, Corporate Vice President, Strategic Messaging and Marketing
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- Richard Henwood, Vice President, Finance
- Tamara Cunningham, Vice President, System Development/Planning
- Hospital Representatives:
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    - Frank Mazzarella, M.D., Chief Medical Officer, Clara Maass Medical Center (Designee: Fran Monteleone, Director, Physician Relations and Community Outreach)

- Judy Colorado, Chief Nursing Officer and Vice President of Patient Care Services, Monmouth Medical Center Southern Campus (Designee: Jean McKinney, Community Education Department)
- Anna Burian, Vice President of Ambulatory Care Services, Monmouth Medical Center (Designee: Jean McKinney, Community Education Department)
- Teri Kubiel, DNP, Vice President, Patient Experience and Community Affairs
- Shari Beirne, Director of Marketing and Patient Satisfaction, Barnabas Health Behavioral Health Center
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- Céu Cirne Neves, Vice President, Physician and Support Services, Saint Barnabas Medical Center (Designee: Margie Heller, Vice President, Community Health & Global Strategic Partnerships, Saint Barnabas Medical Center)
- Donna Mancuso, Manager, Public & Community Affairs, Robert Wood Johnson University Hospital Rahway
- Ruth Bash, Vice President & Chief Culture Officer, Children's Specialized Hospital
- Irene Borgen, Vice President, Quality and Standards, Jersey City Medical Center
- Diane Grillo, Vice President, Health Promotion, Robert Wood Johnson University Hospital Hamilton (Designee: Lauren Stabinsky, Director, Community & Corporate Health, Robert Wood Johnson University Hospital Hamilton)

**HEALTHIER MIDDLESEX COMMITTEE MEMBERS**

**Healthier Middlesex Administrative Support:**

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- Margaret Drozd- Director of Community Mobile Health Services, Saint Peter's University Hospital
- Robert LaForgia- Coordinator, Healthier Middlesex
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- Choula Panchal- Administrative Assistant, Healthier Middlesex

**Healthier Middlesex Partners:**

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- Tab Chukunta- Executive Director of Community Outreach, Saint Peter's Healthcare System

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- Eric Jahn, MD- Senior Associate Dean for Community Health, Rutgers Robert Wood Johnson Medical School
- Stephen Jobin- President and CEO, Raritan Bay Area YMCA
- Indira Martir- Supervisor of Community Relations, WellCare
- Shailja Mathur- Senior Program Coordinator, Rutgers University Cooperative Extension
- Jose Montes- Chief Executive Officer, Puerto Rican Action Board
- Bill Neary- Executive Director, Keep Middlesex Moving
- Karen Parry- Manager of Information Services, East Brunswick Public Library
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- Maria Pellerano- Asst. Professor, Family Medicine and Community Health, Rutgers University Robert Wood Johnson Medical School
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- Michele Samarya-Timm- Health Educator, Somerset County Department of Health
- Gina Stravic- Executive Director Raritan Valley YMCA
- Jagdish Vasudev- President, New Americans Program of New Jersey

**RWJ BARNABAS HEALTH STEERING COMMITTEE CONSULTANT ADVISORS**

Steering Committee Technical Advisors:

- Withum, Smith & Brown (Scott Mariani)
- New Solutions Inc. (Nancy Erickson[1])
- Bruno & Ridgway Inc. (Joseph Ridgway)

*Questions regarding the Community Needs Assessments should be directed to RWJ Barnabas Health System Development/Planning at BHPLanningDept@RWJBH.org.*

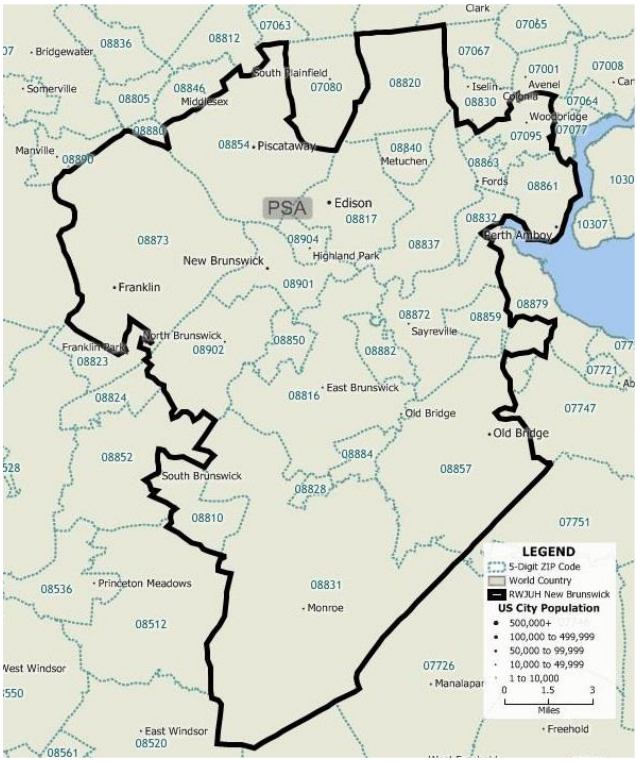
1 The CHNA's development consultants, New Solutions, Inc., have planned and conducted numerous community needs assessments and implementation plans with multiple organizations including individual hospitals, health systems, other health care and community organizations such as consortia comprised of a wide range of participant organizations. The NSI team, of which two are Ph.D. prepared, includes: planning consultants, market researchers, epidemiologists, computer programmers and data analysts. NSI has extensive regional and local community knowledge of health issues, community services and provider resources for the community reviewed by this assessment. This expertise, as well as the methodological and technical skills of the entire staff, was brought to bear in conducting this Needs Assessment and Health Improvement Plan.

## TABLE OF CONTENTS

## ***EXECUTIVE SUMMARY***

### *Background*

**RWJUH/SPUH Service Area**




Healthier Middlesex is a diverse, multi-sector, community-focused consortium comprised of a wide variety of stakeholders including community-based organizations, hospitals, academic institutions, and health departments. Through this partnership, Healthier Middlesex is able to provide its community with the best programs and policies available. Healthier Middlesex constantly strives to develop more effective strategies to positively impact the health of the community. The Consortium is focused on identifying the strengths and opportunities within the community, aligning the efforts and resources of its partners, while developing structure and sustainable strategies that integrate health and wellness into all aspects of its community.

Robert Wood Johnson University Hospital (RWJUH) and Saint Peter's University Hospital (SPUH) are founding members of the Consortium and provide sponsorship for the development of the Community Health Needs Assessment (CHNA). The CHNA is designed to ensure that the Hospitals and other community stakeholders continue to effectively and efficiently serve the health needs of its service area. The CHNA was developed in accordance with all federal rules and statues, specifically, PL 111-148 (the Affordable Care Act) which added Section 501(r) to the Internal Revenue Code, and in accordance with New Jersey regulations 8:52-10.1-10.3 governing local boards of health. The Middlesex County Needs Assessment was undertaken in this context and developed for the purpose of enhancing health and quality of life throughout the community. This assessment builds upon the CHNA completed in 2016. The 2016 Implementation Plan results are reviewed in **Appendix A**.

The CHNA uses detailed secondary public health data at state, county, and community levels, a community health survey, and focus groups with other community stakeholders. Healthier Middlesex convenes a multi-disciplinary, multi-facility Steering Committee that provides additional support and leadership to identify health assets, gaps, disparities, trends, and priorities. The Methodology section details the data collection process and analysis.

***Service Area***

The CHNA focuses primarily on the health needs of Middlesex County residents. Much of the secondary data is provided at the county level, but where available, city or zip code level data are provided to enhance the understanding of specific regions or populations. RWJUH and SPUH are both located in New Brunswick. They are two of five hospitals serving residents of Middlesex County. The RWJUH/SPUH Primary Service Area (PSA) consist of the zip codes to the right.

| RWJUH/SPUH Primary Service Area | |
|---|---|
| **ZIP Code** | **ZIP Name** |
| 08816 | East Brunswick |
| 08817 | Edison |
| 08831 | Monroe Township |
| 08854 | Piscataway |
| 08873 | Somerset |
| 08901 | New Brunswick |
| 08902 | North Brunswick |
| 08904 | Highland Park |

The service area is determined by considering three factors: patient origin, reliance on the Hospital (market share), and geographic continuity and proximity. Zip codes representing approximately 50% of the RWJUH/SPUH patient origin form the initial primary service area (PSA); any zip code in which the Hospitals have a high market share presence is also included. Zip codes with lower market share are deleted from the PSA definition and included in the secondary service area (SSA). Geographic proximity is used to create a contiguous area and completes the service area determination. RWJUH/SPUH's PSA is predominantly located in the western half of Middlesex County. For purposes of this assessment, Middlesex County was selected to best represent communities they serve in reviewing secondary data sources presented at the county level.

Middlesex County encompasses a land mass of 323 square miles comprised of 25 urban and suburban municipalities. The county's municipalities are diverse, encompassing inner-city communities, such as New Brunswick and Perth Amboy, and the suburban communities of Plainsboro, Cranbury and Monroe Township. Economic wealth is not uniformly distributed across municipalities; urban areas include a high number of poor and minority populations. RWJUH and SPUH, located in New Brunswick, are two of five acute care hospitals operating in Middlesex County.

- Middlesex County has a larger proportion of African-American and Hispanic/Latino residents than New Jersey.[2]
    - Middlesex County's population is 9.6% African-American, compared to 12.8% statewide.
    - Middlesex County's population is 21.3% Hispanic/Latino, compared to 20.7% statewide**.**
    - Middlesex County's population is 41.8% White, compared to 54.4% statewide.
- In 2016, 8.9% of people and 6.5% of Middlesex County families were living in poverty compared to 10.9% of people and 8.1% of families statewide.
    - In 2016, 36.0% of people and 28.9% of families were living in poverty in New Brunswick.
    - In 2016, 8.4% of families were living in poverty in the Highland Park zip code.
- In 2016, 4.6% of Middlesex County residents were unemployed, lower than the State (5.2%).
    - The unemployment rate in New Brunswick (5.4%) exceeded the county rate (4.6%) and was higher than the State rate (5.2%).
    - The Monroe unemployment rate was 3.4%, the lowest in the service area and lower than the Middlesex County rate of 4.6%.

2 United States Census Bureau American Community Survey 2014

- In 2016, the Middlesex County median household income was $80,716, more than $7,000 above the State average.[3]
    - The 2016 median household income of New Brunswick residents ($40,428) was a little more than half the statewide figure ($73,702).[4]
    - East Brunswick had the highest median household income in the RWJUH/SPUH Service Area at $101,245.
    - Between 2014-2016, income levels across the county and the RWJUH/SPUH Service Area showed little increase or decline.

***TOP HEALTH ISSUES***

Healthier Middlesex determined issues to be within the RWJBH/SPUH's purview, competency and resources to impact in a meaningful manner. These issues include:

- Access to Care and Services
    - Transportation, Insurance, Availability of Services
    - Behavioral/Mental Health/Substance Abuse Use
        - Trauma Informed Care
    - Youth Services
- Preventative Care and Vaccination Use
    - Chronic Diseases prevention and management (various, heart disease, diabetes, cancer)
    - STI prevention/screening
    - Vaccination Use
    - Maternal Child Health/Prenatal Care and Well Baby
- Nutrition and Physical Activity
    - Food Security
    - Obesity

The CHNA uses detailed secondary public health data at state, county, and community levels, from various sources including Department of Health and Human Services, Centers for Disease Control and Prevention, Census Bureau, *Healthy People 2020,* the County Health Rankings, and hospital discharge data, to name a few.

- *Healthy People 2020* is a 10-year agenda to improve the nation's health that encompasses the entire continuum of prevention and care. For over three decades Healthy People has established benchmarks and monitored progress over time to measure the impact of prevention activities. *Healthy People 2020* benchmarks are used throughout the report to assess the health status of residents.
- The County Health Rankings, published by the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation, rank the health of nearly all counties in the United States. The rankings look at a variety of measures that affect health such as high school graduation rates, air pollution levels, income, rates of obesity and smoking, etc. These rankings are also used throughout the report to measure the overall health of Middlesex County residents. County rates are also compared to statewide rates.

3 United States Census Bureau 2014
4 United States Census Bureau American Community Survey 2014

The Healthier Middlesex needs assessment was developed for the purpose of enhancing the health and quality of life throughout the community. To this end, both internal and external data were used to understand recent health indicators and opportunities to provide a positive impact on health and wellness. Other significant needs determined by this CHNA include:

- Heart Disease
- Cancer
- High Crime Rates/Safety
- Cost/Insurance
- Limited English Proficiency
- Community Outreach (Awareness of Services)
- Cultural Awareness

### *1. Access to Healthcare*

Costs, culture and education are three main barriers to healthcare access. The Office of Minority Health's "National Standards for Culturally and Linguistically Appropriate Services in Health Care" (CLAS), defines full access as care that "recognizes and responds to health-related beliefs and cultural values, disease incidence and prevalence, and treatment efficacy."[5] In order to achieve optimal access, effective patient communication is essential. Language differences, diverse cultures, and low health literacy are barriers to high quality care. Linguistic skill, cultural norms and health literacy strategies are integral to ensure a quality patient care plan.

The Robert Wood Johnson Foundation identified five barriers to healthcare access including: affordability (patients do not have enough money to get care), accommodation (patients are too busy to get care), availability (patients could not get an appointment soon enough), accessibility (patients took too long to get to the doctor's office or clinic), and acceptability (doctor or hospital wouldn't accept patient's health insurance).[6] Healthier Middlesex is sensitive to these barriers and strives to ensure patient access to quality care by addressing low health literacy, cultural differences, and limited English proficiency. Other barriers include lack of transportation or resources to pay transportation costs.

In addition, barriers to specific types of services including mental health and substance abuse services were often mentioned in surveys and in focus groups. Barriers to the receipt of these services include provider shortages, insurance coverage and costs, stigma, and the availability and use of trauma-informed care.

While adolescents are generally healthy, the teen years do present a variety of health challenges, mostly due to risk taking behaviors of teens related to vaping, alcohol, drug use, sex, violence, bullying, suicide and motor vehicle use. In an increasingly complex and social media-oriented society, giving teens the skills they need to navigate these challenges is critically important.

- In 2016, 11.0% of Middlesex County residents did not graduate high school, 0.1 percentage points lower than New Jersey.[7]

5 Office of Minority Health National Standards for Culturally and Linguistically Appropriate Services in Health Care http://minorityhealth.hhs.gov/assets/pdf/checked/finalreport.pdf
6 Robert Wood Johnson Foundation: Barriers to Access http://www.rwjf.org/en/library/research/2012/02/special-issue-of-health-services-research-links-health-care-rese/nonfinancial-barriers-and-access-to-care-for-us-adults.html
7 United States Census Bureau American Community Survey 2016

- In 2016, 39.4% of New Brunswick residents did not complete high school, more than the county (11.0%) and higher than state rate (11.1%).
- In 2016, 4.2% of Highland Park residents did not complete high school, lowest in the region.

- In 2016, the percentage of Limited English Proficiency (LEP) households in New Brunswick (36.7%) was higher than New Jersey (12.2%) and Middlesex County (16.4%).
- In 2016, 27.2% of Somerset's population was African-American, higher than 9.6% in Middlesex County.
  - In 2018, 41.1% of the Edison's population was Asian, higher than the 9.9% in New Jersey.
  - In 2018, 54.2% of the New Brunswick population was Hispanic/Latino, higher than 21.3% in Middlesex County.

### 2. ***Prevention/Screening and Vaccine Use***

Clinical preventive services occupy an important position within the realm of interventions designed to prevent, forestall or mitigate illness. In the U.S., recommendations for clinicians regarding delivery of clinical preventive services are issued by two independent groups of experts: The Advisory Committee of Immunization Practices (ACIP) and the U.S. Preventive Services Task Force (USPSTF). These entities are charged with rigorously evaluating the merits of preventive health services including immunizations and screening tests, counseling and chemoprophylaxis. The Community Preventive Services Task Force (CPSTF), a national independent body of public health and prevention experts, makes recommendations about public health interventions and policies to improve health and promote safety. Between them, the USPSTF and CPSTF evaluated evidence of how health can be improved by prevention in both clinical and community settings. Volumes and disease-screening services occupy an important position within the constellation of interventions designed to prevent, forestall or mitigate illness. With the rapid increase in the number of U.S. residents 65+, this issue grows in even greater importance. With aging, the immune system can get suppressed so annual vaccinations such as a flu shot are a must. Other diseases such as cancer and heart disease tend to onset as people age, screenings can help to identify and treat such diseases. Disease prevention has never been more important to the health of older Americans and to the health of the U.S. economy as it is today. A recent economic analysis concludes that the rise in health care expenditure would be moderated by significantly broadening the provision of 20 proven clinical preventive services, including screenings and vaccinations. Farley et al estimate that 50,000 – 100,000 deaths among persons aged 80 and younger could be prevented through optimal use of 9 clinical preventive services.[8] However, current U.S. spending on prevention accounts for only 2-3% of health care expenditures; with the overwhelming portion of financial outlays covering hospitals, physician services, pharmaceutical services and administrative costs.[9]

Improving the health and well-being of pregnant women, infants and children is an important public health goal for our county. Their well-being determines the health of the next generation and can help predict the future public health challenges for families, communities and the health care system. Pregnancy can provide an opportunity for early identification of existing health risks in women and prevent future health problems for women and their children.

[8] Farley T. Dalal, Mostashar F., Fruelan, T. Deaths Preventable in the U.S. by Improvements in Use of Preventive Services. American Journal of Preventive Medicine 2010; 38:600-609.
[9] Satcher D. The prevention challenge and opportunity. Health Affairs, 2006; 25:1009-1011, and Kaiser Family Health Foundation Health Care Costs. Background Brief.

Environmental and social factors such as access to health care and early intervention of services, educational, employment, economic opportunities, social support and availability of resources are the key social determinants that influence health behaviors and status.

- In 2016, a lower percentage of Middlesex County adults over age 50 (62.4%) participated in colo-rectal screening than adults statewide (65.1%).
- 84.5% of Middlesex County's 1st grade students received all required immunizations, compared to the statewide percentage (92.7%).
- In 2016, the percent of Middlesex County adults who received a flu shot (67.0%) was lower than the *Healthy People 2020* target of 90%.
- The percent of Middlesex County adults (74.7%) who had a pneumonia vaccine is higher than the statewide rate (66.5%).

### *3. Nutrition and Food Security*

Good nutrition, physical activity and a healthy body weight are essential to overall health and well-being. Food security and the environmental factors that are involved in safe, healthy communities play an important part in ensuring that basic needs are available to support healthy nutrition and physical activity.

Poor nutrition and a lack of a healthy diet pattern, and regular physical activity, are health behaviors that contribute to obesity. A healthy diet pattern is one that emphasizes eating whole grains, fruits, vegetables, lean protein, low fat and fat-free dairy products, and drinking water. Healthy activity patterns include 150 minutes of moderate intensity activity or 75 minutes of vigorous activity or a combination of both, along with two days of weight training per week.

Being overweight or obese can have a serious impact on health. Overweight and obesity are risk factors for a number of chronic diseases, including: cardiovascular disease (mainly heart disease and stroke), Type 2 diabetes, musculoskeletal disorders like osteoarthritis, and some cancers (endometrial, breast and colon). These conditions cause premature death and disability. Onset of increased risk begins when someone is only slightly overweight, and the risk increases as weight rises. Many conditions cause long-term consequences for individuals and families. In addition, the costs of care are high. Prevention and wellness programs are necessary to address the insidious effects of excess weight.

Approximately 39.8% of the U.S. population, or 93.3 million adults, are affected by obesity according to the 2015-2016 National Center for Health Statistics data brief. But some groups are disproportionately impacted. For example, Hispanics (47%), non-Hispanic Blacks (46.85) had the highest age-adjusted prevalence of obesity followed by non-Hispanic Whites (37.9%) and non-Hispanic Asians (12.7%). The association between obesity and income or education level is complex and differs by age, sex and ethnicity.

- Overall, men and women with college degrees had lower obesity prevalence compared to those with less education.
- By race/ethnicity, the same obesity and education pattern was seen among non-Hispanic White, non-Hispanic Black, and Hispanic women, and also among non-Hispanic White men, although the differences were not all statistically significant. Although the difference was not statistically significant among non-Hispanic Black men, obesity prevalence increased with educational attainment. Among non-Hispanic Asian women and men, and Hispanic men there were no differences in obesity prevalence by education level.

- Among men, obesity prevalence was lower in the lowest and highest income groups compared with the middle-income group. This pattern was seen among non-Hispanic White and Hispanic men. Obesity prevalence was higher in the highest income group than in the lowest income group among non-Hispanic Black men.
- Among women, obesity prevalence was lower in the highest income group than in the middle- and lowest-income groups. This pattern was observed among non-Hispanic White, non-Hispanic Asian, and Hispanic women. Among non-Hispanic Black women, there was no difference in obesity prevalence by income.[10]

Obesity can occur at any age, even among young children. Hormonal changes and physical inactivity in older individuals also increase risk. The amount of body muscle decreases with age, leading to a decrease in metabolism. Quitting smoking is also associated with weight gain, sometimes resulting in obesity. Structured smoking cessation programs can help mitigate the effects of weight gain associated with quitting. Not getting enough sleep or conversely getting too much sleep can cause changes in the hormones that increase appetite and contribute to weight gain.

- Nearly 28% of Middlesex residents reported a BMI >=30 in 2016.
- 11.3/1,000 patients who used a hospital service in Middlesex County had a diagnosis of obesity compared to 14.1/1,000 New Jersey residents.
    - Obesity rates among hospitalized patients were found to be amongst the highest in Monroe and Somerset (13.55/1,000).
- Between 2014-2016 the percent of Middlesex County residents reporting no leisure time activity trended upwards from 26.2% in 2014 to 29.5% in 2016.
- Nearly half of all survey respondents claimed to have or to have a family member with hypertension, high cholesterol or a weight problem.
- Obesity was the number 1 concern among survey respondents from Middlesex County.
- 46% of survey residents indicating obesity said they or a family member were under a physician's care for the issue, while 30% were monitoring it on their own.

[10] https://www.cdc.gov/obesity/data/adult.html

## 1. INTRODUCTION

Healthier Middlesex is a diverse, multi-sector, community-focused consortium comprised of a wide variety of stakeholders including community-based organizations, hospitals, academic institutions, and health departments. Through this partnership, Healthier Middlesex is able to provide its community with the best programs and policies available. Healthier Middlesex constantly strives to develop more effective strategies to positively impact the health of the community. The Consortium is focused on identifying the strengths and opportunities within the community, aligning the efforts and resources of its partners, while developing structure and sustainable strategies that integrate health and wellness into all aspects of its community.

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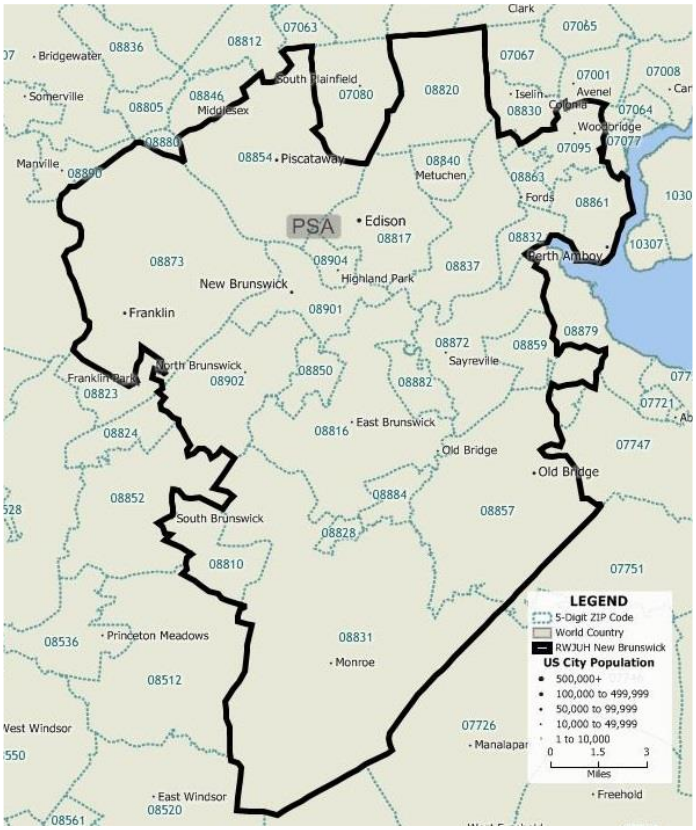


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    - Chronic Diseases prevention and management (various, heart disease, diabetes, cancer)
    - STI prevention/screening
    - Vaccination Use
    - Maternal Child Health/Prenatal Care and Well Baby
- Nutrition and Physical Activity
    - Food Security
    - Obesity

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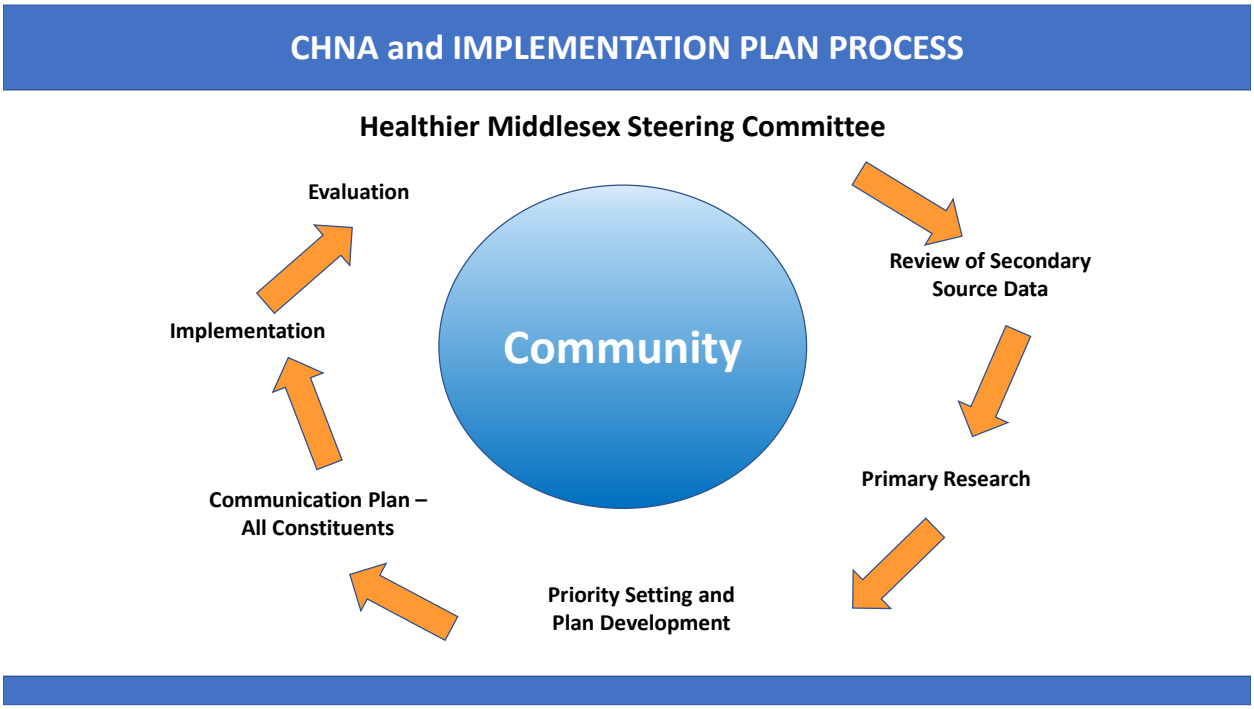
- Heart Disease
- Cancer
- High Crime Rates/Safety
- Cost/Insurance
- Limited English Proficiency
- Community Outreach (Awareness of Services)
- Cultural Awareness

## *2. METHODOLOGY/SERVICE AREA*

### *A. METHODOLOGY*

Healthier Middlesex developed an evidenced-based process to determine the health needs of Middlesex County residents. CHNA data sources include both primary and secondary data to provide qualitative and quantitative information about the communities. Data from these sources were reviewed the Steering Committee to identify and prioritize the top issues facing residents in the service area (see Top Health Issues section).

The flow chart below identifies the CHNA and implementation planning process employed.




***Prioritization Process***

Following the Steering Committee's review of quantitative and qualitative data on July 31, 2019, a list of 17 issues were identified by consultants as common themes of the research. These included:

- Access to Care
- Heart Disease
- Cancer
- Behavioral/Mental Health
- Behavioral health in Youth and Adolescents
- Diabetes
- Substance Abuse/Opioid Crisis
- Physical Activity/Obesity
- Food Security/Nutrition
- Cost/Insurance

- Limited English Proficiency
- Transportation
- Maternal and Child Health
- High Crime Rate/Safety
- Coordination and Communication
- Community Outreach (Awareness)
- Cultural Awareness

A ballot was developed, and a survey presented at a Healthier Middlesex meeting asking them to rank each issue based on the following criteria.

- Number of people impacted
- Risk of mortality and morbidity associated with the problem
- Impact of the problem on vulnerable populations
- Meaningful progress can be made within a three-year timeframe
- Community's capability and competency to impact

A tally of the 26 ballots cast resulted in the following three issues to be ranked highest overall.

- Access to Care and Services
  - Transportation, Insurance, Availability of Services
  - Behavioral/Mental Health/Substance Abuse Use
    - Trauma Informed Care
  - Youth Services
- Preventative Care and Vaccination Use
  - Chronic Diseases prevention and management (various, heart disease, diabetes, cancer)
  - STI prevention/screening
  - Vaccination Use
  - Maternal Child Health/Prenatal Care and Well Baby
- Nutrition and Physical Activity
  - Food Security
  - Obesity

***Primary Data Sources***

***Community Health Needs Surveys***

In order to obtain a service area-specific analysis for the RWJUH/SPUH service area, on-line survey Interviews were conducted among 1,185 residents of the RWJUH/SPUH PSA. Interviews were conducted online and by telephone. A link to the online survey was displayed on hospital web pages and social media sites. Additionally, postcards were handed out at area businesses and libraries, directing residents to the online survey link. A telephone augment was conducted to capture additional interviews in specific areas and among specific ethnic groups.

***Focus Group Discussions***

Two focus groups were undertaken to uncover additional information from key community groups and individuals with respect to health needs, challenges and barriers, and suggestions for improving access to health care services. One focus group was made up of youth counsellors, individuals, and community organizations providing services to youth and adolescents. This group was designed to uncover major issues about concerns facing middle and high school aged adolescents. Another group was made up of undocumented Hispanic/Latina women to discuss their health needs and the barriers they faced in accessing care, and in leading healthy lifestyles. The focus group reports are found in Section 4. (See Section 4) Focus group meetings were conducted on August 27th and 30th, 2019 by New Solutions, Inc.

***Secondary Data Sources***

Over 100 secondary data sources are compiled in this CHNA, presenting data by indicator by county and state. Sources include: The United States Census Bureau, Centers for Disease Control and Prevention (CDC), New Jersey Department of Health (NJDOH), and Behavioral Risk Factor Surveillance System (BRFSS). See **Appendix B** for a detailed list of sources.

**Appendix C** contains a detailed report of cancer incidence and mortality by cancer site for Middlesex County for the years 2010-2017. In addition, hospital tumor registry data is utilized to understand stage of cancer at time of diagnosis.

***Health Profile***

Section 5 provides a comprehensive presentation of health outcomes as well as the social determinants of health and other health factors that contribute to the health and well-being of Middlesex County residents.

***Color Indicator Tables***

Throughout the Health Profile Section of this CHNA, the color indicator tables compare county level data to *Healthy People 2020* targets, County Health Rankings benchmarks, and New Jersey State data. Data by race/ethnicity are compared to data for all races in the county, unless otherwise indicated. Middlesex County was the midpoint value compared to a range 20% higher than the value for New Jersey, *Healthy People 2020*, or County Health Rankings Benchmarks, or 20% lower than the value for New Jersey, *Healthy People 2020*, or County Health Rankings Benchmarks. If the county value was within the range 20% lower or 20% higher than the comparison indicator, or considered within reasonable range, the indicator will be yellow. The table will be red if the Middlesex County value is more than 20% worse or lower than the indicator value. If the Middlesex County value is 20% better or higher than the indicator value, the table will be green. Comparative counties are also presented providing additional context for select health indicators.

***Assets and Gaps***

Section 6, Assets and Gaps, summarizes the preceding components of the CHNA. Assets highlight county information indicating improvement over time, in comparison to other counties and the State, or in comparison to other races or genders. Gaps focus on disparities in Middlesex County or the RWJUH/SPUH

Service Area that have a negative trend, in comparison to other counties in the State or to other races or genders.

***Resource Inventory***

A service area-specific resource inventory is included as **Appendix D,** which details health and social service resources available to residents in Middlesex County. Providers' names, addresses, and phone numbers and type of services provided are contained in the inventory.

### *B. SERVICE AREA*

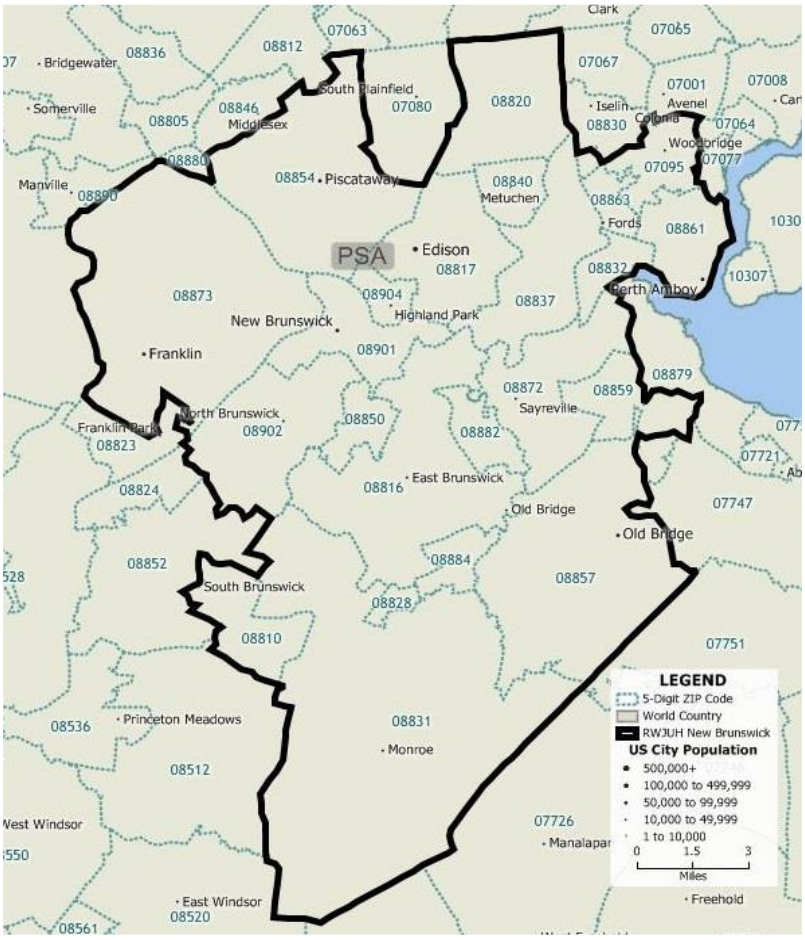
The CHNA focuses primarily on the health needs of Middlesex County residents. Much of the data is provided at the county level, but where available city or zip code level data are provided to enhance understanding of specific regions or populations. The county consists of the following zip codes:

| | |
|---|---|
| 07001 | Avenel |
| 07008 | Carteret |
| 07067 | Colonia |
| 08512 | Cranbury |
| 08810 | Dayton |
| 08812 | Dunellen |
| 08816 | East Brunswick |
| 08817 | Edison |
| 08820 | Edison |
| 08837 | Edison |
| 08818 | Edison |
| 08899 | Edison |
| 08863 | Fords |
| 08828 | Helmetta |
| 08904 | Highland Park |
| 08830 | Iselin |
| 08832 | Keasbey |
| 08824 | Kendall Park |
| 08840 | Metuchen |
| 08846 | Middlesex |
| 08850 | Milltown |
| 08852 | Monmouth Junction |
| 08831 | Monroe Township |
| 08901 | New Brunswick |
| 08903 | New Brunswick |
| 08906 | New Brunswick |
| 08933 | New Brunswick |
| 08989 | New Brunswick |
| 08902 | North Brunswick |
| 08857 | Old Bridge |
| 08859 | Parlin |
| 08861 | Perth Amboy |
| 08862 | Perth Amboy |
| 08854 | Piscataway |
| 08855 | Piscataway |
| 08536 | Plainsboro |
| 07064 | Port Reading |
| 08872 | Sayreville |
| 08871 | Sayreville |
| 07077 | Sewaren |
| 08879 | South Amboy |
| 07080 | South Plainfield |
| 08882 | South River |
| 08884 | Spotswood |
| 07095 | Woodbridge |

Robert Wood Johnson University Hospital and Saint Peter's University Hospital are located in New Brunswick, New Jersey. They are two of five hospitals serving residents in Middlesex County. The RWJUH/SPUH primary service area (PSA) consists of the following zip codes:

| RWJUH/SPUH Primary Service Area | |
|---|---|
| **ZIP Code** | **ZIP Name** |
| 08816 | East Brunswick |
| 08817 | Edison |
| 08831 | Monroe Township |
| 08854 | Piscataway |
| 08873 | Somerset |
| 08901 | New Brunswick |
| 08902 | North Brunswick |
| 08904 | Highland Park |

**RWJUH/SPUH Service Area Map**

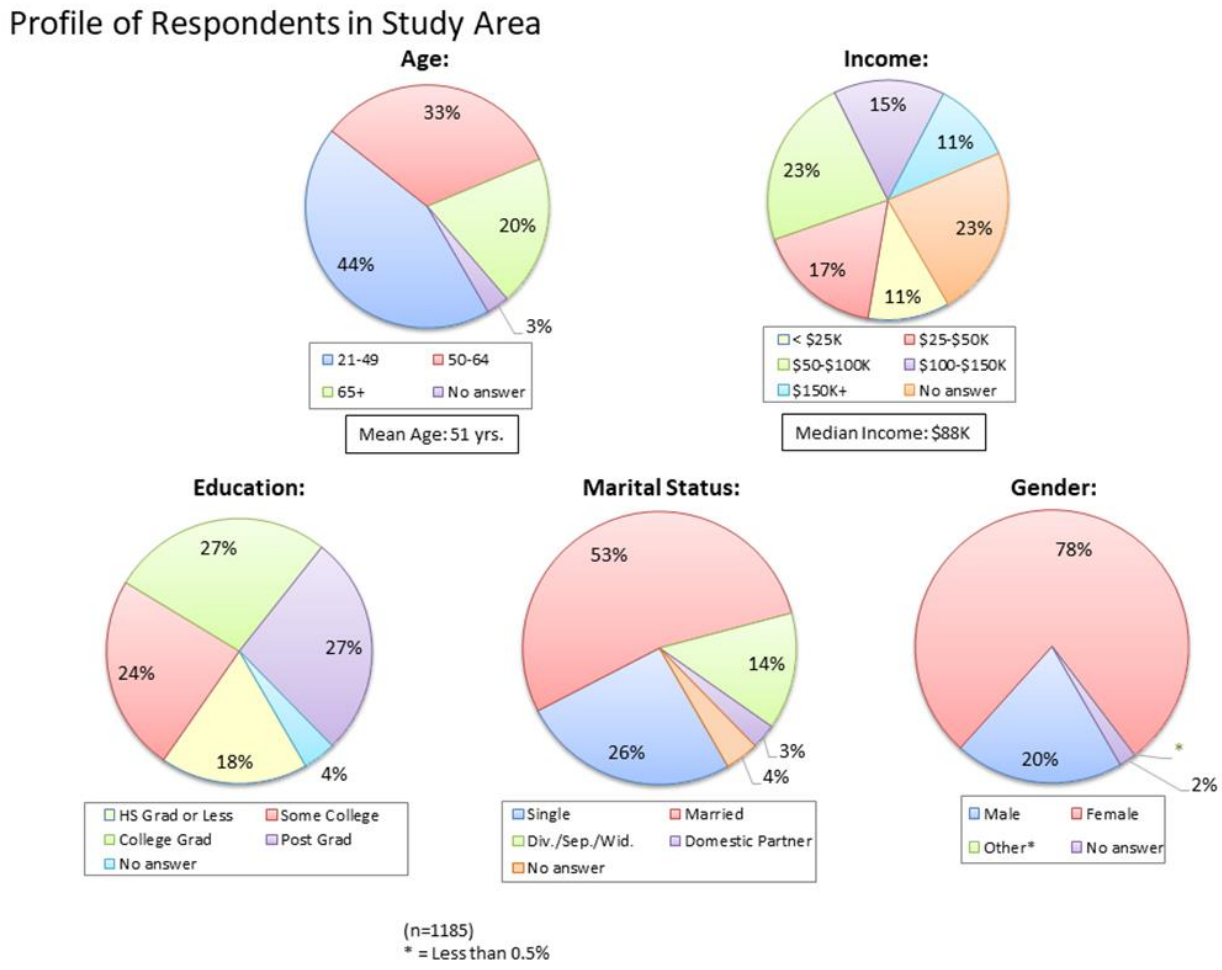



The RWJUH/SPUH Service Area is determined by taking into consideration three factors: patient origin, reliance on the Hospitals (market share), and geographic continuity/proximity. Typically, the combined service area represents 75-80% of the Hospitals' patients. Zips codes representing approximately 50% of the RWJUH/SPUH patient origin form the initial PSA. Added to this list is any zip code in which the Hospital has a high market share presence, any zip code with lower market share is deleted from the PSA definition and becomes part of the secondary service area (SSA). The next range of zip codes comprise the SSA. Geographic proximity is used to create a contiguous area completes the service area determination. RWJUH/SPUH's PSA is predominantly located in the western portion of Middlesex County. The SSA is comprised of a number of Middlesex County zip codes and portions of Hudson and Morris Counties. For purposes of this assessment, Middlesex County was selected to best represent communities it serves in reviewing secondary data sources presented at the county level.

Most of the secondary data in this report is based on county level data. City or zip code level data is provided wherever possible to enhance the understanding of the specific needs of service area residents. Data obtained from the qualitative analyses provide further insight into health issues facing the communities served by the Hospital.

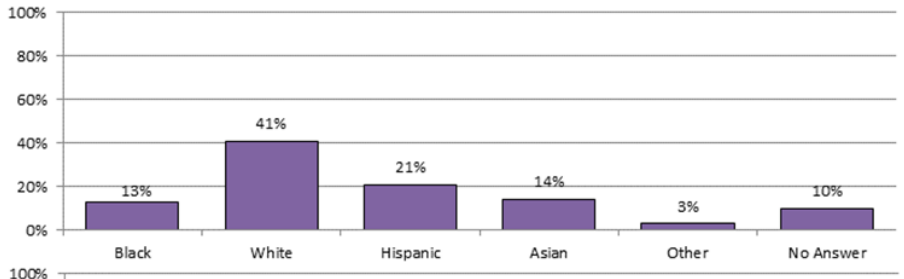
## 3. COMMUNITY HEALTH NEEDS SURVEY

### A. SURVEY RESPONDENT'S PROFILE

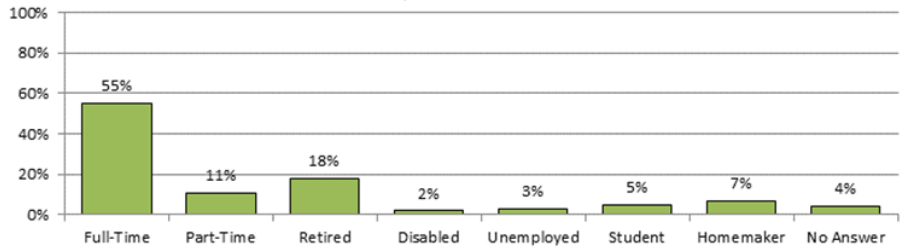


## Profile of Respondents in Study Area – (continued)

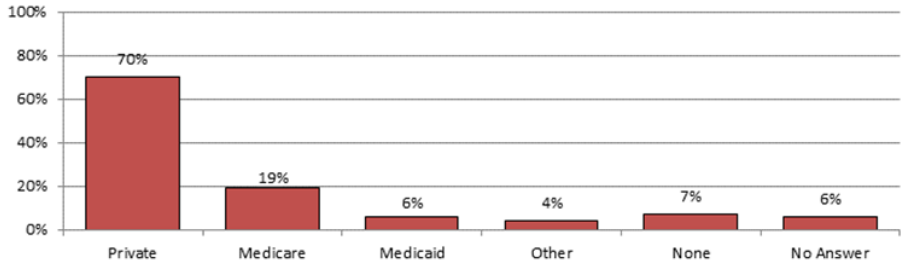
**Ethnicity*^:**




**Employment^:**



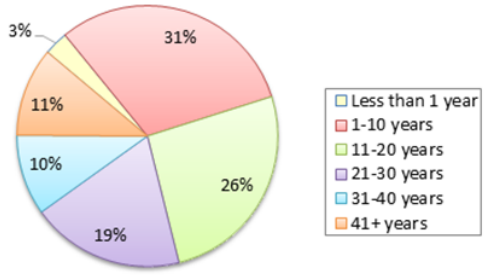

**Health Insurance^:**



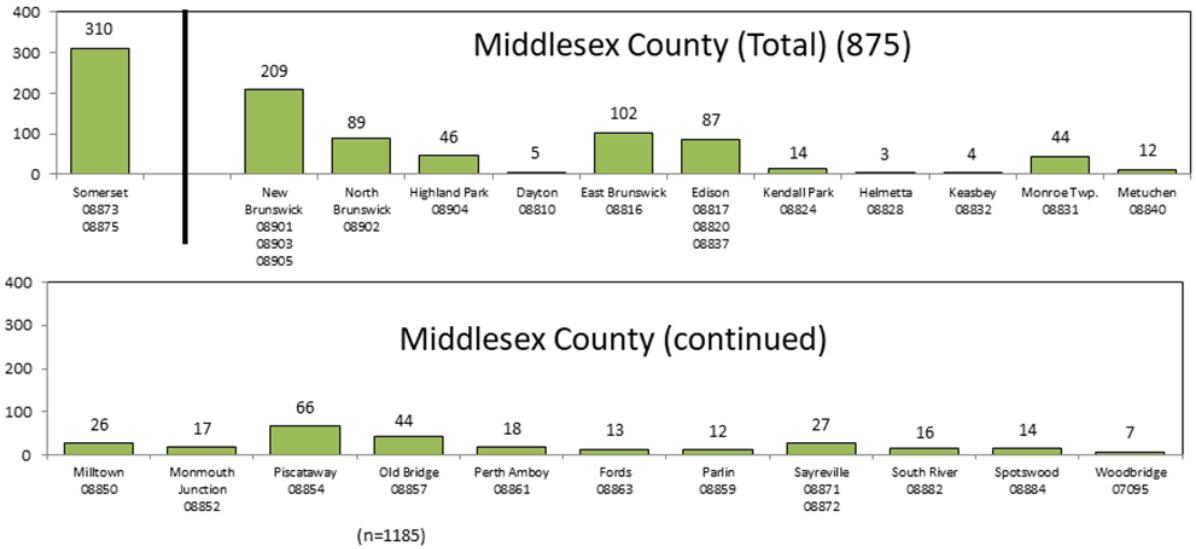

(n=1185)
*Quotas were established to align closely with census data.
^ = Multiple mentions.

## Length of Time in Area

Average # Years: 20.0




## Towns/Zips Where Interviews Came From





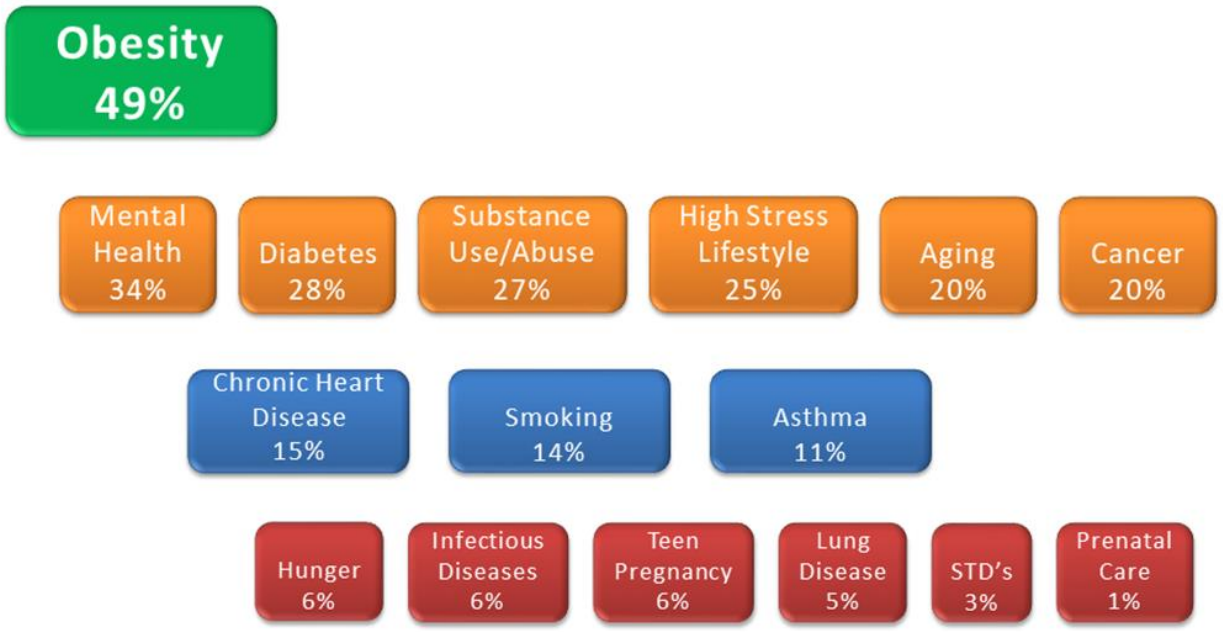


(n=1185)

## *B. HEALTH-RELATED CONCERNS OF AREA RESIDENTS*

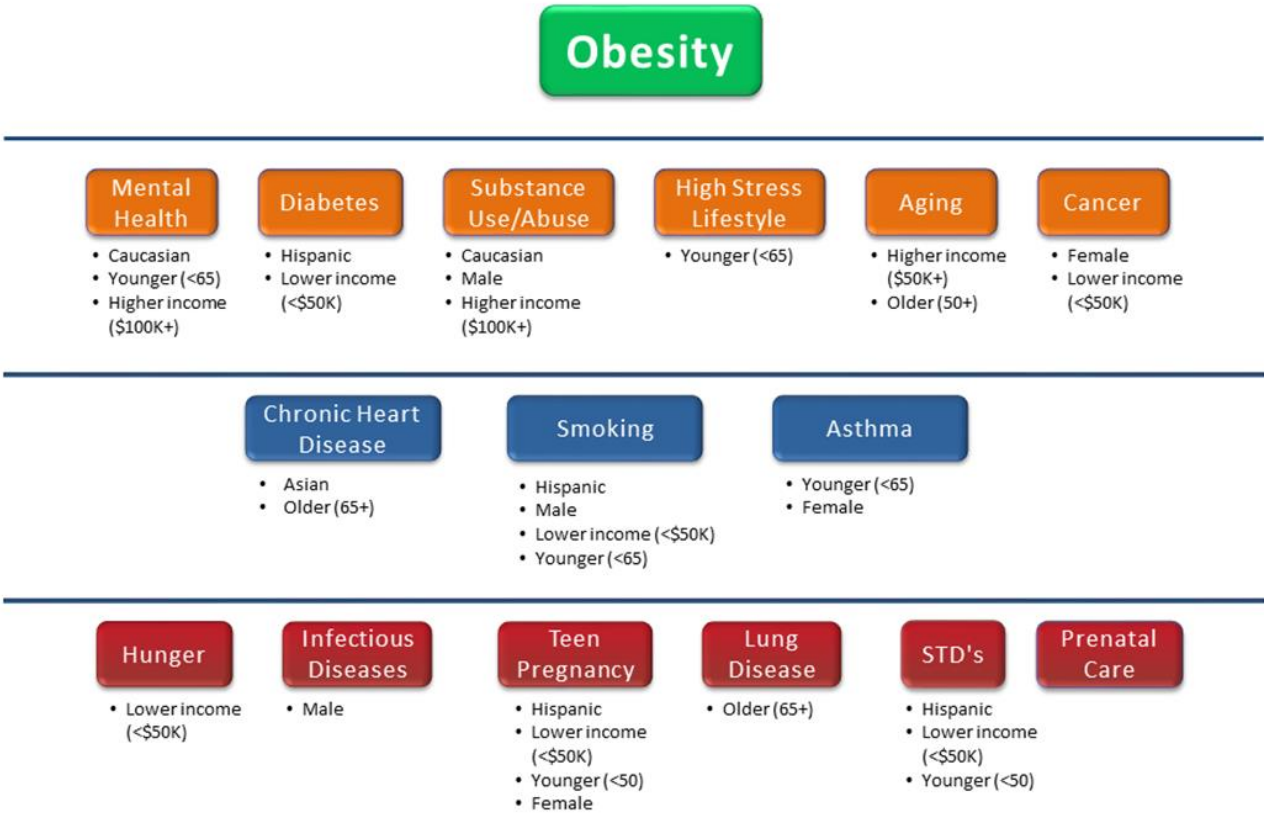
### Major Health Concerns Among Respondents in the Study Area

- Obesity is the #1 health concern among area residents surveyed, followed by concerns about mental health issues, diabetes, substance abuse, high stress, aging and cancer.




(n=1185)
Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?

## Summary of Health Concerns by Subgroups




(n=1185)
Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?

## Community Health-Related Issues of Concern – by Ethnicity

- **Obesity is the #1 health concern among all ethnic groups.**
- **Mental health and substance abuse are of more concern to Caucasians, while teen pregnancy, STDs, smoking and diabetes are of more concern to Hispanics, and heart disease is of more concern to Asians.**

| | ***Caucasian*** *(n=485) (A)* | ***African American*** *(n=153) (B)* | ***Hispanic*** *(n=248) (C)* | ***Asian*** *(n=169) (D)* |
|---|---|---|---|---|
| Obesity | 49%[D] | 53%[D] | 59%[AD] | 40% |
| Mental Health | 40%[CD] | 35% | 30% | 30% |
| Substance Use/Abuse | 33%[BCD] | 26% | 25% | 20% |
| Aging | 26%[BC] | 19%[C] | 8% | 20%[C] |
| High Stress Lifestyle | 24% | 23% | 25% | 27% |
| Cancer | 20%[D] | 22%[D] | 24%[D] | 11% |
| Diabetes | 21% | 28%[A] | 40%[AB] | 34%[A] |
| Chronic Heart Disease | 14%[C] | 13% | 10% | 23%[ABC] |
| Smoking | 11% | 14% | 19%[A] | 15% |
| Asthma | 6% | 12%[A] | 14%[A] | 12%[A] |
| Hunger | 6% | 5% | 7% | 7% |
| Infectious Diseases | 4% | 7% | 7% | 9%[A] |
| Lung Disease | 5% | 4% | 5% | 4% |
| Teen Pregnancy | 2% | 5%[A] | 15%[ABD] | 4% |
| STD's | 1% | 3% | 8%[ABD] | 1% |
| Lack of Prenatal Care | * | 2% | 2%[A] | 1% |

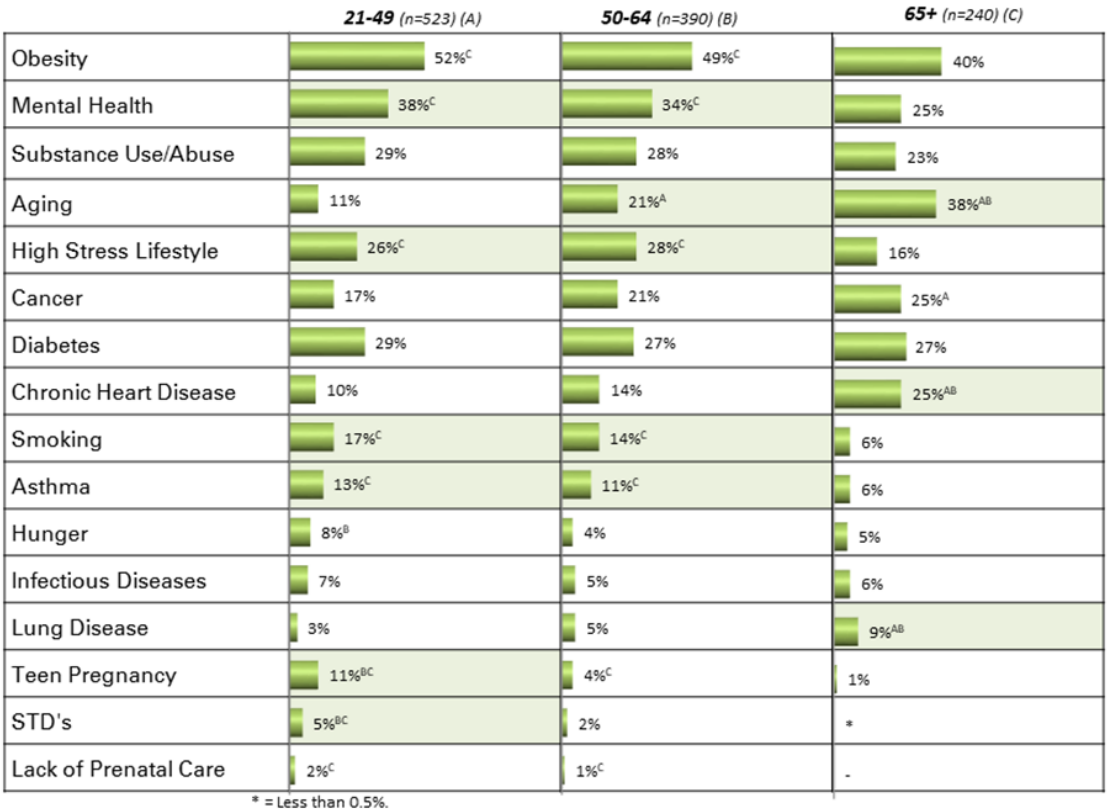
* = Less than 0.5%.

Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?

(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Community Health-Related Issues of Concern – by Age

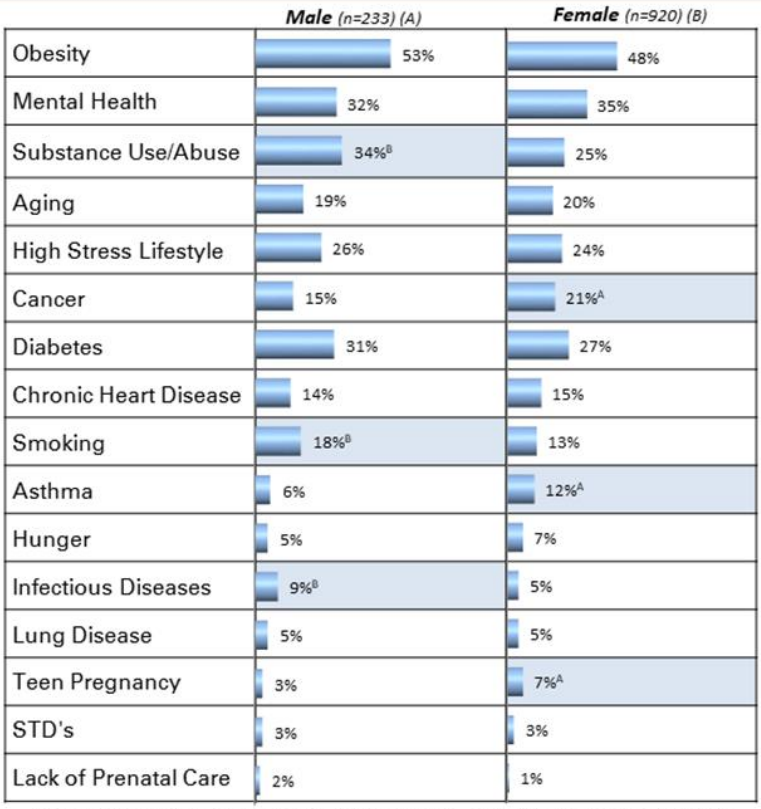
- **Mental health, high stress, smoking, asthma, teen pregnancy and STDs are of more concern to younger residents surveyed, while aging, heart disease and lung disease are of more concern to older residents surveyed.**




* = Less than 0.5%.
Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?
(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Community Health-Related Issues of Concern – by Gender

- **Males indicated more concern about substance abuse, smoking and infectious disease while females are more concerned about cancer, asthma and teen pregnancy.**




Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?
(A/B) = Significantly greater than indicated cell at the 90% confidence level.

## Community Health-Related Issues of Concern – by Income

- **Respondents in the lowest income levels (<$50K) cite more health-related concerns related to cancer, diabetes, smoking, hunger, teen pregnancy and STDs. Mental health, substance abuse and aging tend to skew toward the higher income groups.**

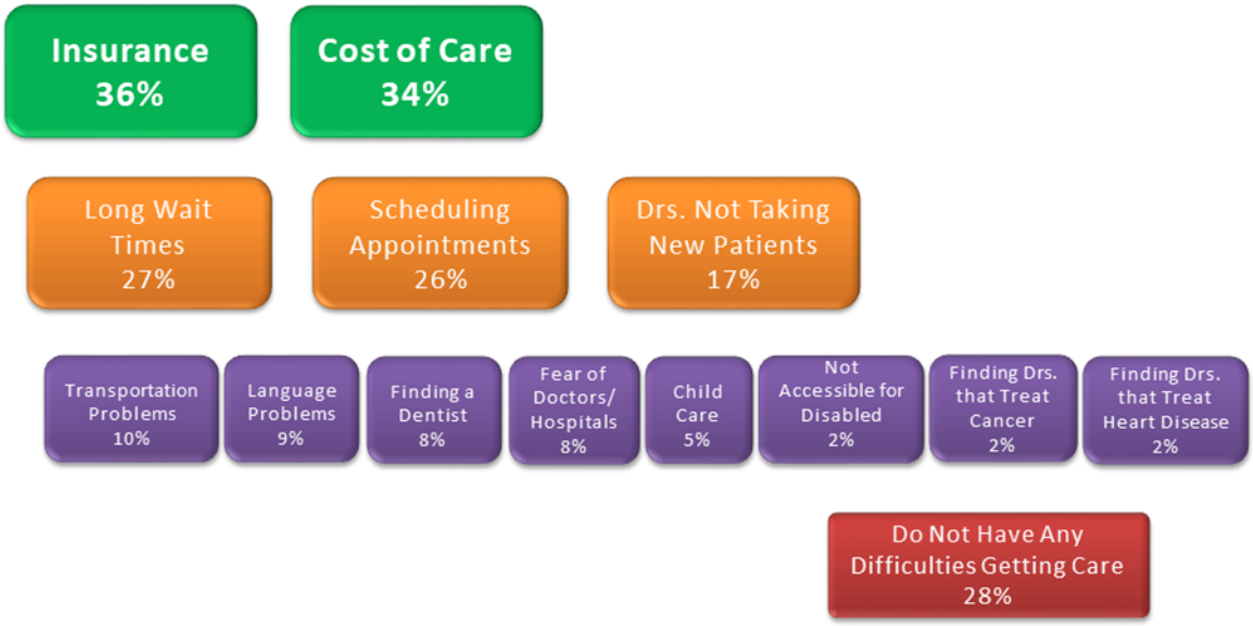
| | ***Under $25K*** *(n=132) (A)* | ***$25-50K*** *(n=198) (B)* | ***$50-100K*** *(n=269) (C)* | ***$100-150K*** *(n=178) (D)* | ***$150K+*** *(n=132) (E)* |
|---|---|---|---|---|---|
| Obesity | 42% | 52%A | 50% | 52%A | 52%A |
| Mental Health | 34% | 29% | 37%B | 42%B | 44%B |
| Substance Use/Abuse | 23% | 26% | 27% | 34% ABC | 35%AB |
| Aging | 9% | 13% | 23%AB | 23%AB | 18%A |
| High Stress Lifestyle | 26% | 21% | 30%B | 25% | 27% |
| Cancer | 21% | 22%E | 20% | 16% | 14% |
| Diabetes | 37% CDE | 33% CDE | 22% | 21% | 24% |
| Chronic Heart Disease | 13% | 19%C | 10% | 15% | 14% |
| Smoking | 20%E | 16%E | 16%E | 14%E | 6% |
| Asthma | 14% | 11% | 9% | 11% | 9% |
| Hunger | 8% | 9%D | 6% | 5% | 5% |
| Infectious Diseases | 8% | 7% | 5% | 5% | 5% |
| Lung Disease | 8%C | 5%C | 2% | 7%C | 5% |
| Teen Pregnancy | 14% CDE | 13% CDE | 4% | 2% | 2% |
| STD's | 5% CDE | 6% CDE | 2% | 1% | 1% |
| Lack of Prenatal Care | 2% | 1% | 1% | 1% | 2% |

Q.3 - In your opinion, what are the TOP 3 HEALTH ISSUES OR CONCERNS in your community?
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

## *C. BARRIERS TO ACCESSING HEALTH CARE SERVICES*

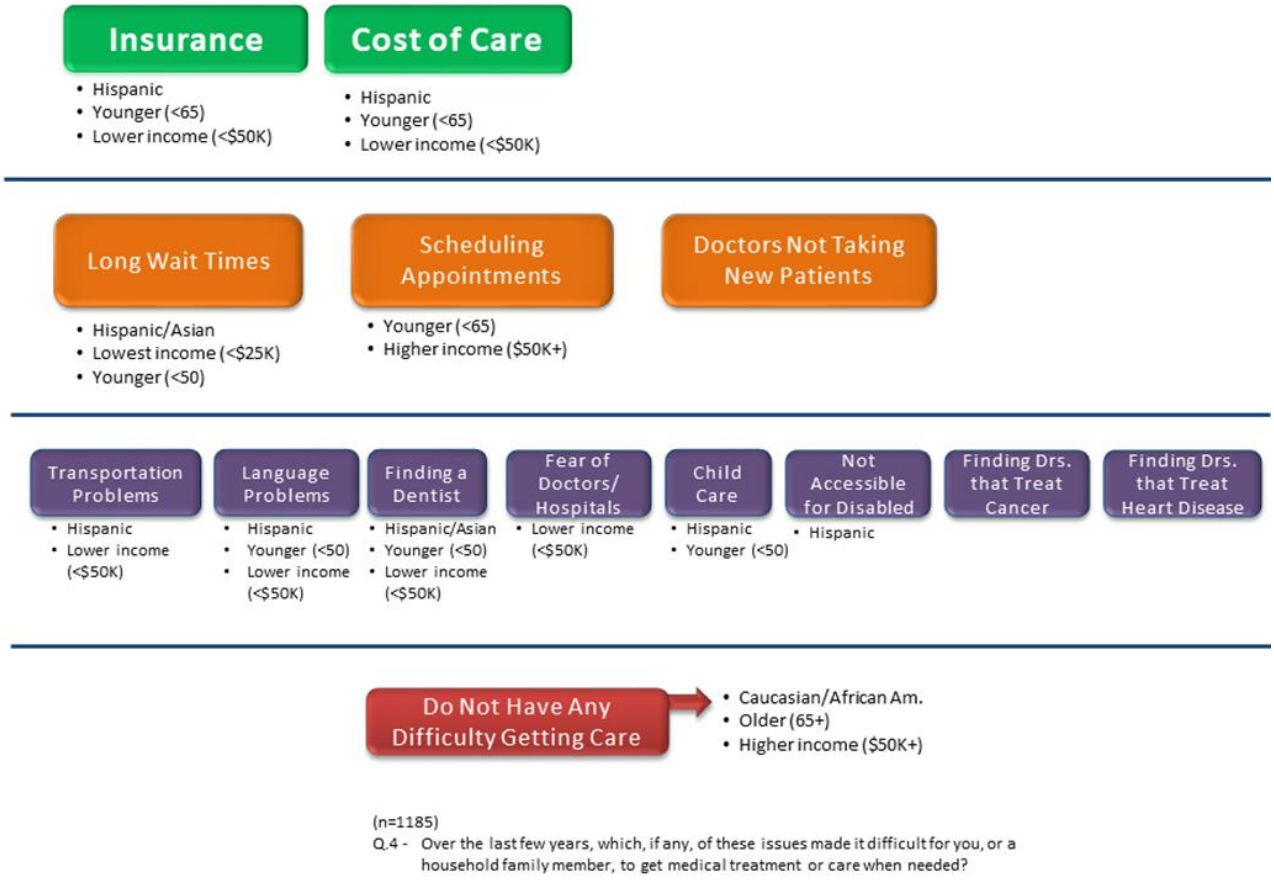
### Major Barriers to Accessing Health Care in the Study Area

- Insurance and cost of care are the key barriers cited by area residents surveyed followed by long wait times, scheduling appointments and doctors not taking new patients.
- Roughly three of ten respondents (28%) claim they do not experience any difficulty accessing the care they need.




(n=1185)
Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?

## Summary of Health Care Barriers by Subgroups

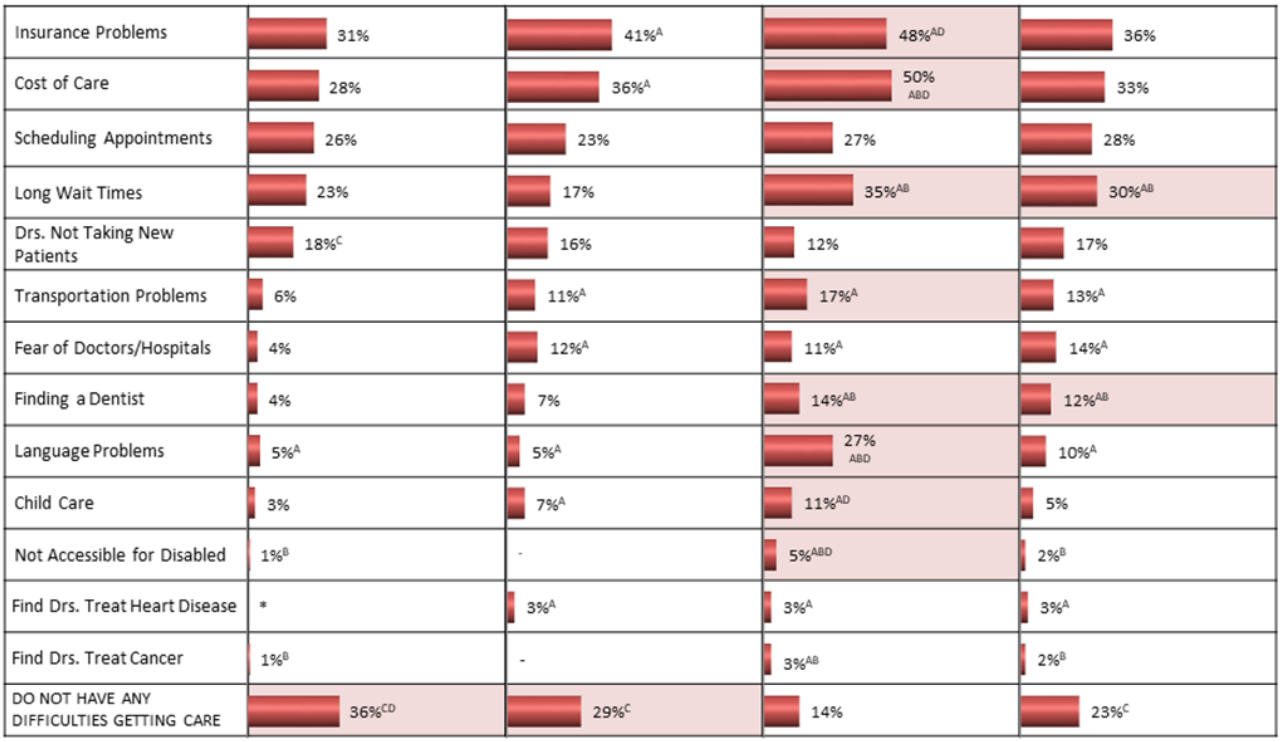



(n=1185)

Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?

## Barriers to Accessing Health Care Services – by Ethnicity

- **Hispanics cite significantly more barriers to getting health care services, while Caucasians and African Americans cite less difficulty getting the services they need.**

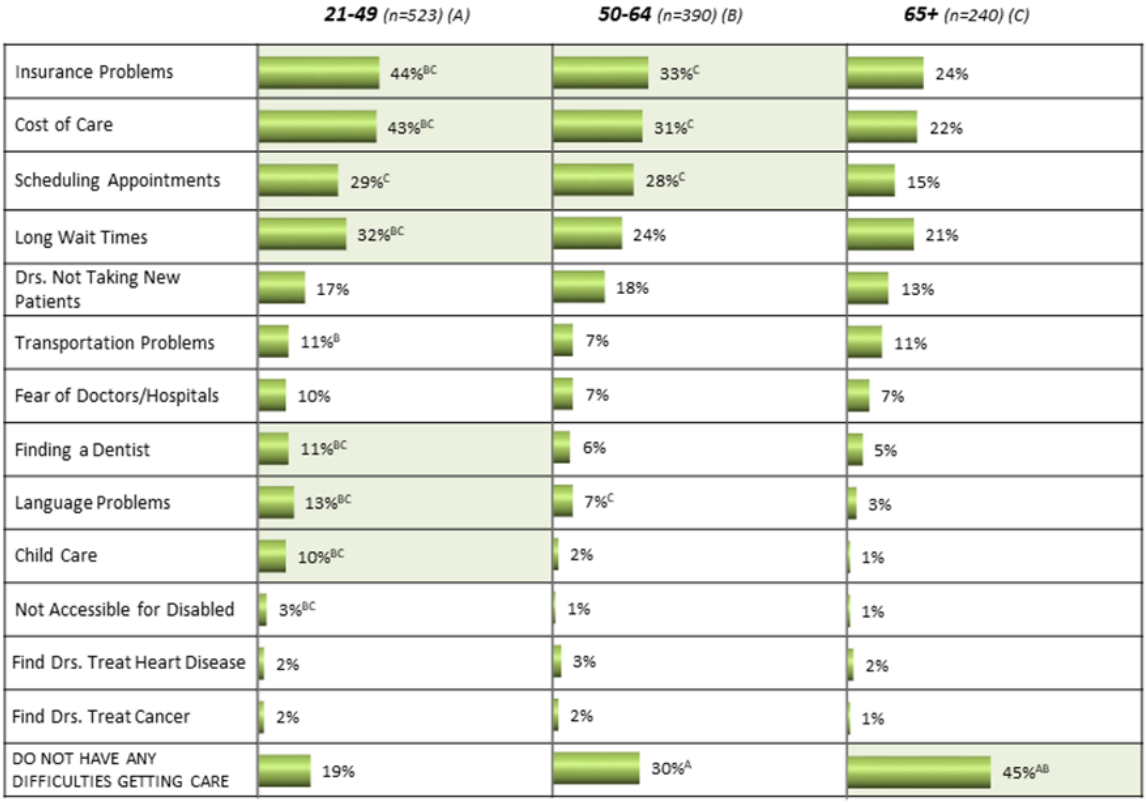



Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?

(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Barriers to Accessing Health Care Services – by Age

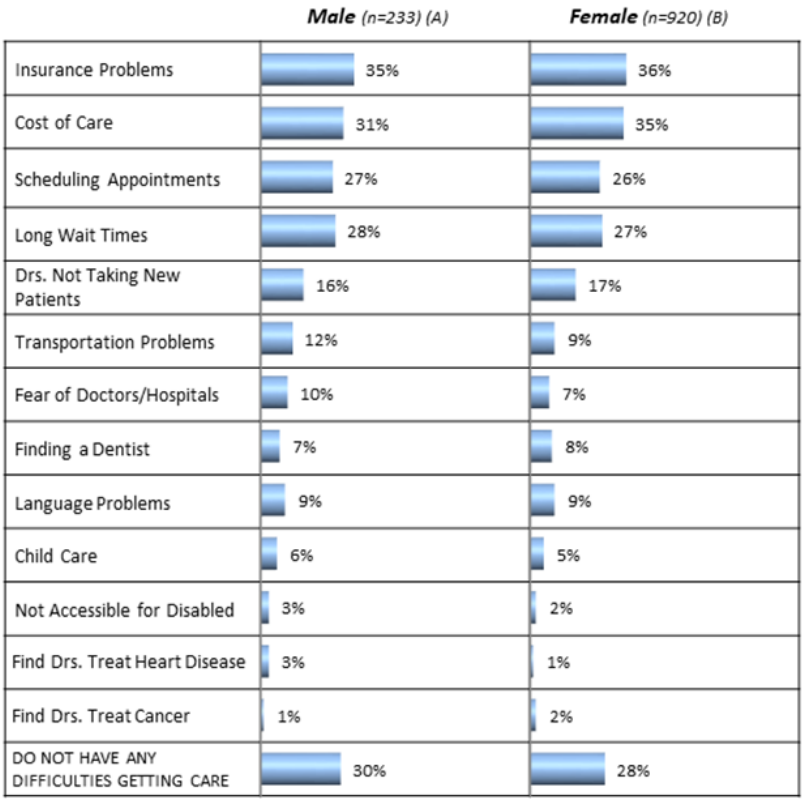
- **In general, younger respondents cite more barriers than older respondents.**




Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?
(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Barriers to Accessing Health Care Services – by Gender

- **No real differences exist between males and females with regard to barriers to health care services.**




Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?
(A/B) = Significantly greater than indicated cell at the 90% confidence level.

## Barriers to Accessing Health Care Services – by Income

- **Lower income groups (<$50K) are the most likely to encounter problems when seeking care.**

| | ***Under $25K*** *(n=132) (A)* | ***$25-50K*** *(n=198) (B)* | ***$50-100K*** *(n=269) (C)* | ***$100-150K*** *(n=178) (D)* | ***$150K+*** *(n=132) (E)* |
|---|---|---|---|---|---|
| Insurance Problems | 56% BCDE | 43%CE | 30% | 37%E | 27% |
| Cost of Care | 47% CDE | 51% CDE | 32% | 26% | 24% |
| Scheduling Appointments | 16% | 23% | 29%A | 29%A | 31%AB |
| Long Wait Times | 31%D | 24% | 29% | 22% | 24% |
| Drs Not Taking New Patients | 17% | 17% | 18% | 18% | 15% |
| Transportation Problems | 24% BCDE | 14% CDE | 8%D | 4% | 5% |
| Fear of Doctors/Hospitals | 9%E | 12%DE | 7% | 6% | 4% |
| Finding a Dentist | 19% BCDE | 11% CDE | 6%DE | 3% | 2% |
| Language Problems | 21% CDE | 14% CDE | 7%DE | 2% | 2% |
| Child Care | 4% | 8%D | 6% | 3% | 5% |
| Not Accessible for Disabled | 4%D | 2%D | 2%D | - | 3D |
| Finding Dr. Treats Heart Disease | 2% | 4%DE | 2%DE | - | - |
| Finding Dr. Treats Cancer | 4%CDE | 2%D | 1% | - | 1% |
| DO NOT HAVE ANY DIFFICULTIES GETTING CARE | 12% | 18% | 28%AB | 35%AB | 43% ABC |

Q.4 - Over the last few years, which, if any, of these issues made it difficult for you, or a household family member, to get medical treatment or care when needed?
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

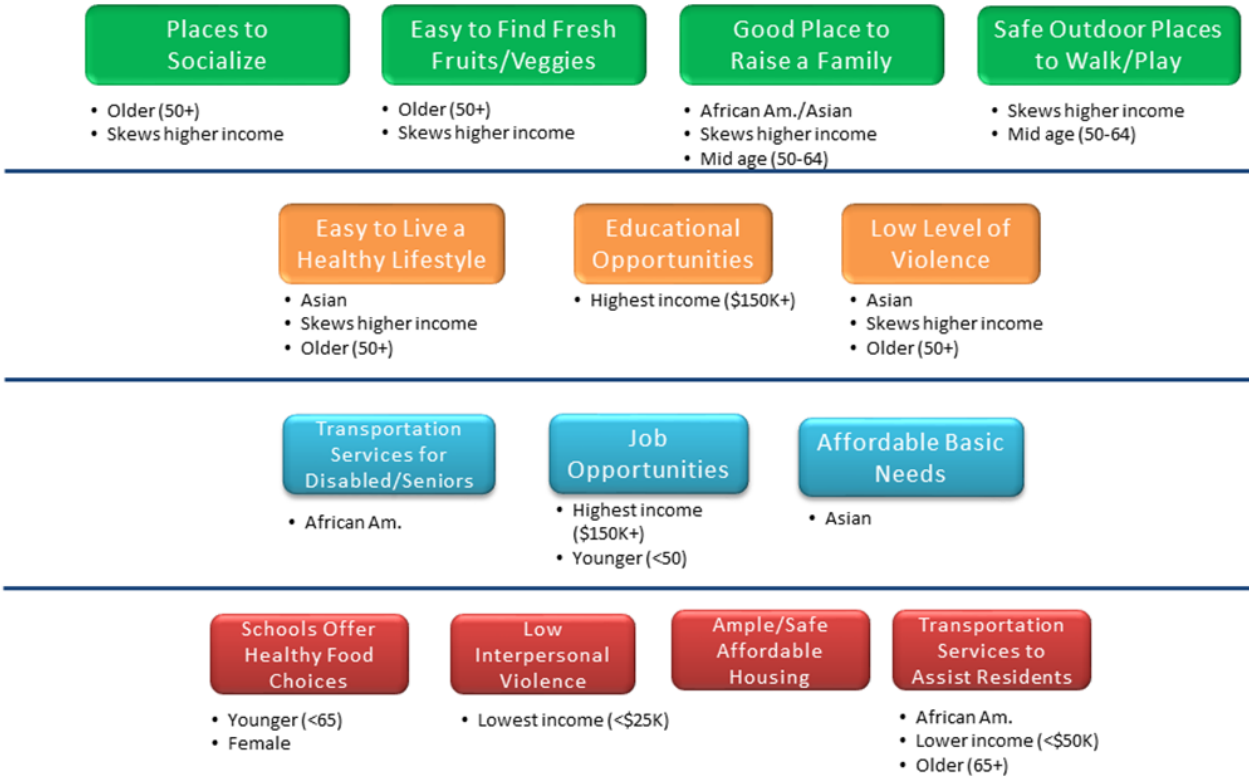
## *D. COMMUNITY STRENGTHS/OPPORTUNITIES*

### Community Strengths/Opportunities

- A large majority of residents surveyed feel there are ample places to socialize, it is easy to find fresh foods, there are safe places to walk/play and their community is a good place to raise a family.
- Most also feel it's easy to live a healthy lifestyle, the level of violence is low and there are educational opportunities available.
- Opportunities exist with regard to transportation services to assist residents, safe/affordable housing, lowering the level of interpersonal violence and offering healthy food choices in schools.


(n=1185) **Top 2 Box Agreement**
Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

## Community Strengths/Opportunities by Subgroups

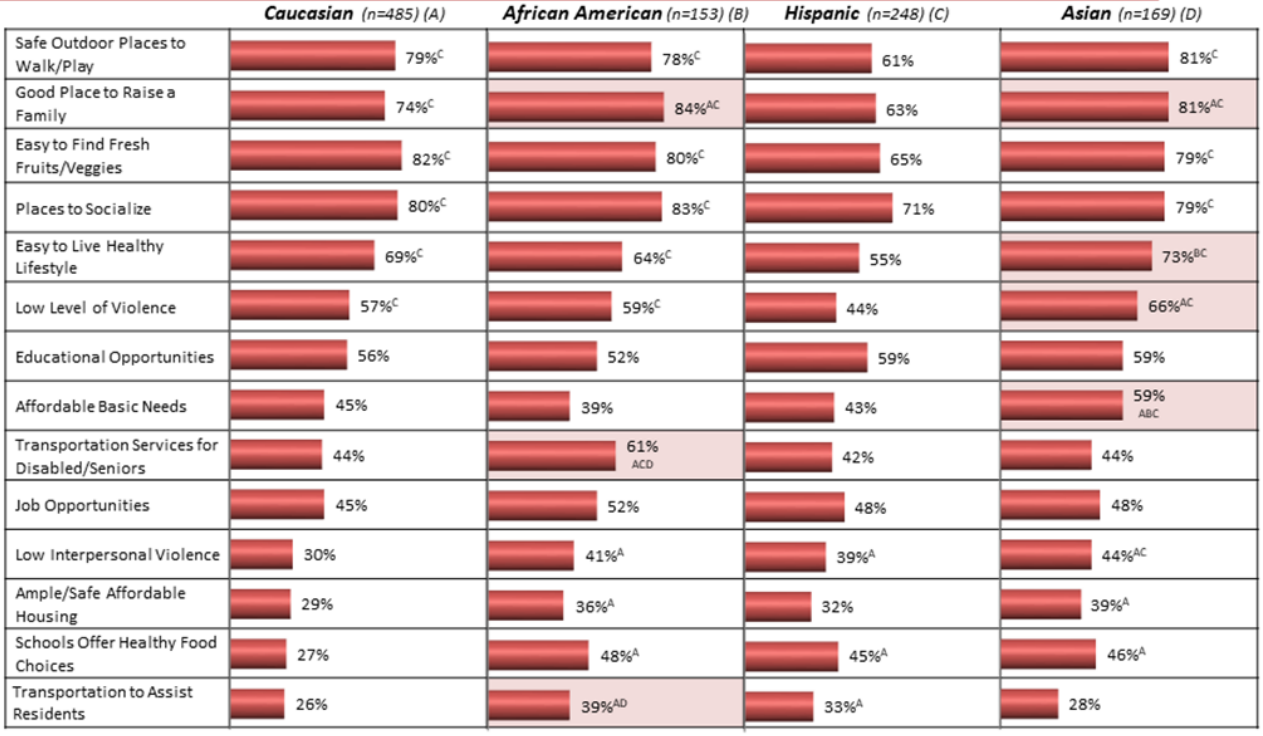



(n=1185) **Top 2 Box Agreement**

Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

## Community Strengths/Opportunities – by Ethnicity

- **In general, Hispanics rate community services significantly lower versus other ethnic groups.**
- **African Americans are the most positive toward transportation services, both for disabled/seniors and to assist residents.**
- **Asians give community services very high ratings overall; the highest for there being a low level of violence, being easy to live a healthy lifestyle and having affordable basic needs.**



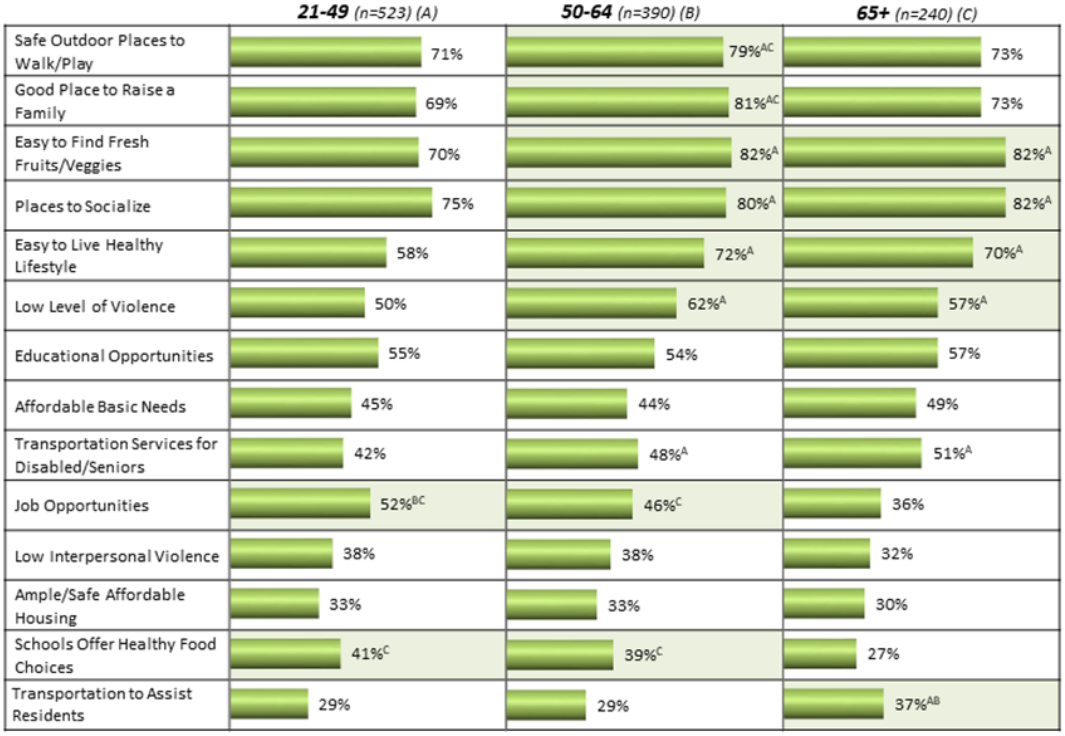

**Top 2 Box Agreement**

Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Community Strengths/Opportunities – by Age

- **Older residents surveyed (50+) are more positive towards most community services vs. younger respondents, although younger respondents are more likely to feel schools offer healthy food choices and there are more job opportunities.**



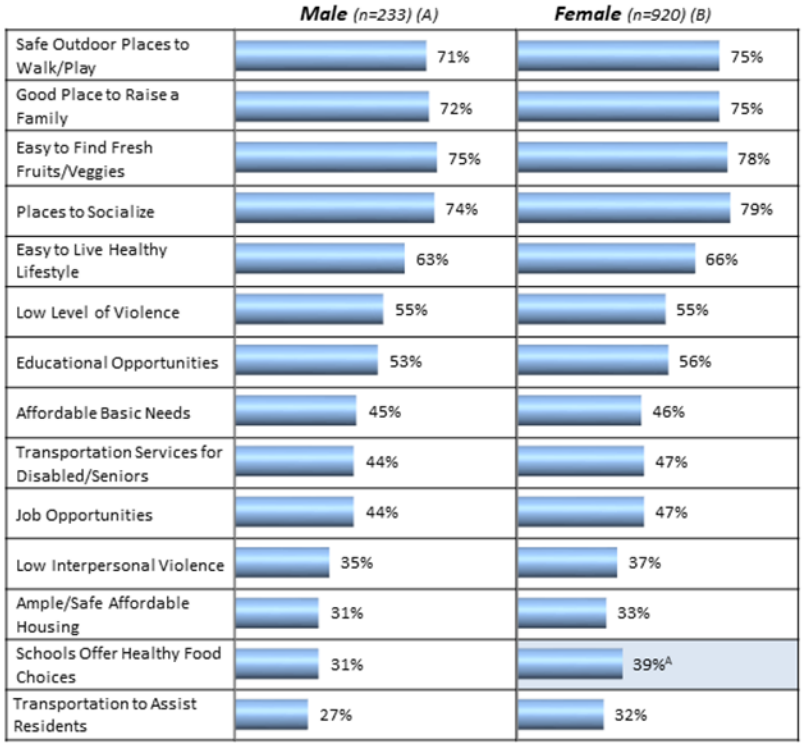

**Top 2 Box Agreement**

Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Community Strengths/Opportunities– by Gender

- **The only difference with regard to community services between males and females is for healthy food choices in schools, where females are more positive versus males.**




**Top 2 Box Agreement**

Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

(A/B) = Significantly greater than indicated cell at the 90% confidence level.

## Community Strengths/Opportunities – by Income

- **Respondents in higher income brackets ($50K+) are more positive to their community services versus those in lower income groups. The key areas more favorable to lower income respondents are transportation services to assist residents and low interpersonal violence.**


**Top 2 Box Agreement**

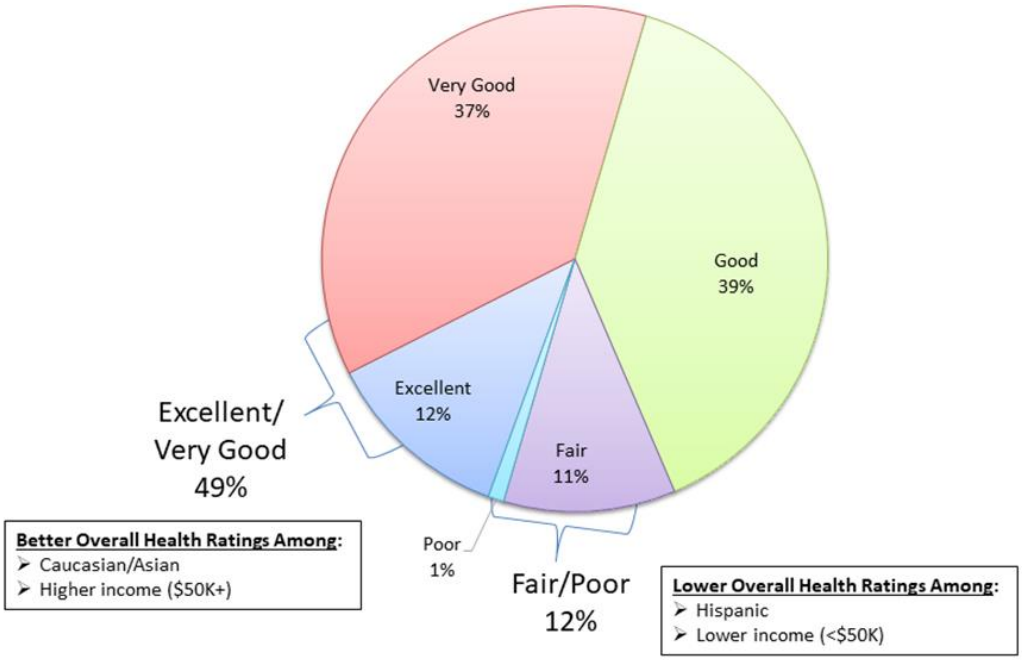
Q.5 - Please indicate how much you agree or disagree with the following statements about your community. (Scale 1-5: 1=Disagree Completely, 5=Agree Completely)

(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

## *E. PERSONAL HEALTH HABITS AND PRACTICES*

### Self-Description of Overall Health

- One-half of residents surveyed describe their health as being excellent or very good, with 39% who describe it as good and 12% who say their health is fair or poor.

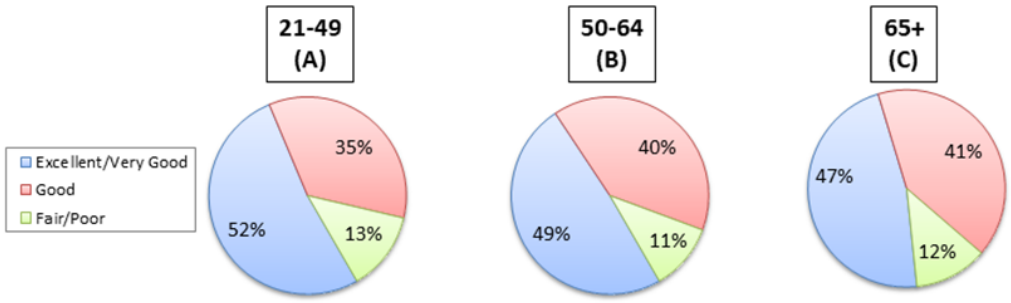



(n=1185)
Q.6 - How would you describe your overall health?

## Self-Description of Overall Health – by Subgroups

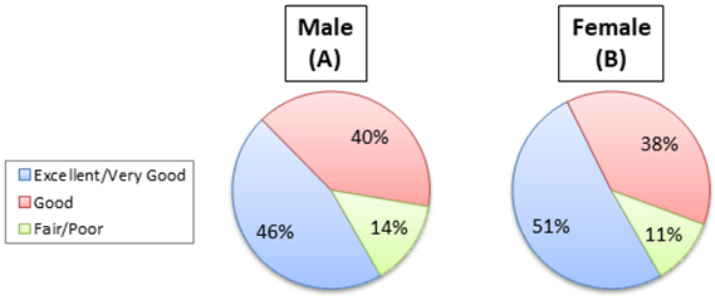
### Age:

No differences are observed between younger/older respondents with regard to describing their health.




### Gender:

Males and females describe their overall health about the same.

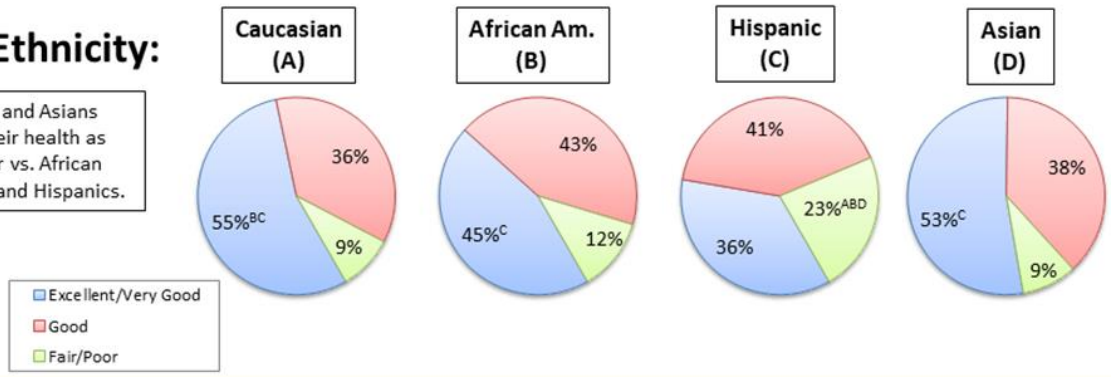



Q.6 - How would you describe your overall health?
(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Self-Description of Overall Health – by Subgroups – (continued)

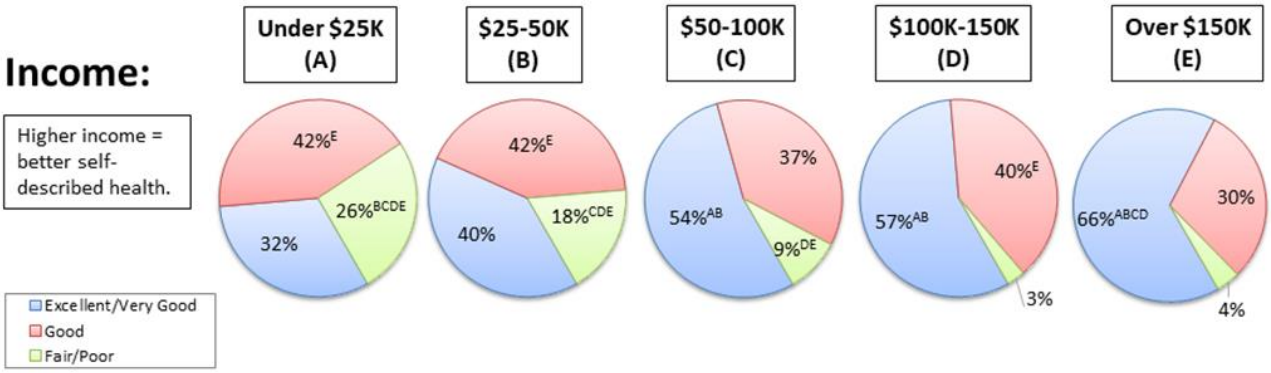
### Race/Ethnicity:

Caucasians and Asians describe their health as being better vs. African Americans and Hispanics.




### Income:

Higher income = better self-described health.

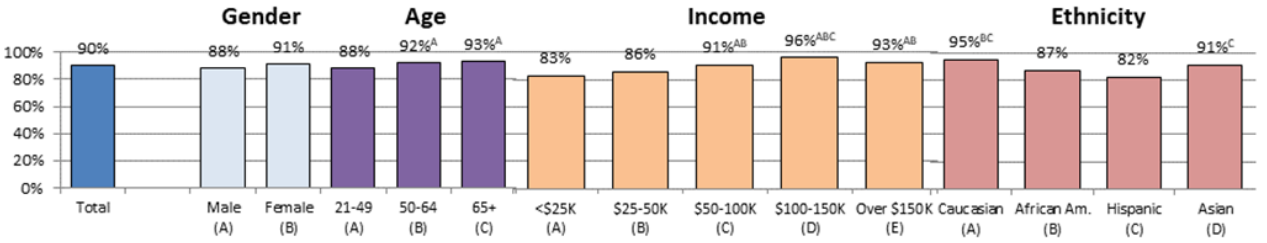



Q.6 - How would you describe your overall health?
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

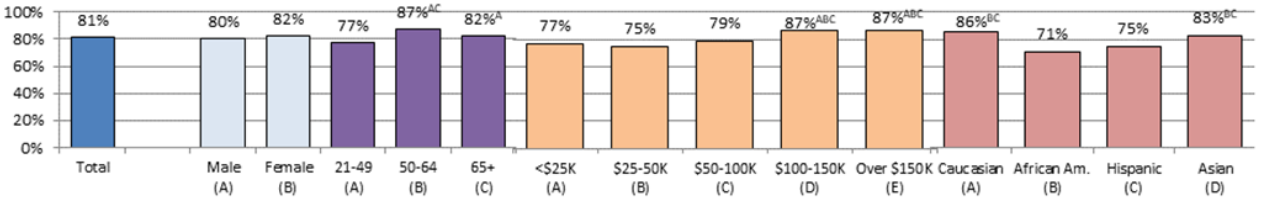
## Self-Description of Understanding and Eating Healthy

- The large majority of residents surveyed feel they understand what food is healthy (90%), with many saying they eat healthy food on a regular basis (81%).
- Those with higher incomes are more likely to eat healthy on a regular basis.
- While African Americans claim to understand what healthy food is, they are the least likely to eat healthy regularly.

**Understand what food is healthy**




**Eat healthy foods on a regular basis**

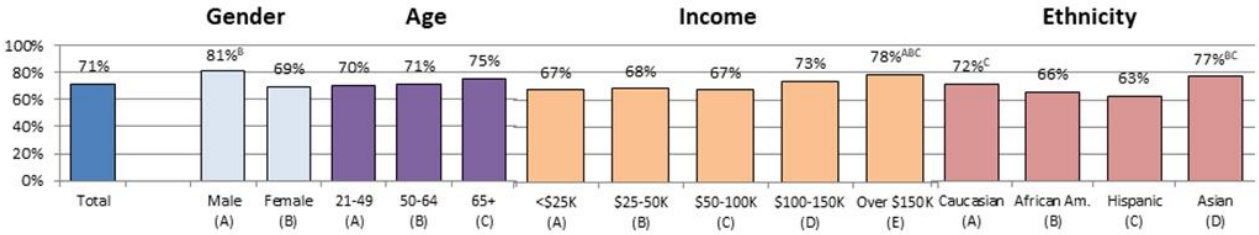



(n=1185)
Q.11 - Do you feel that you...
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

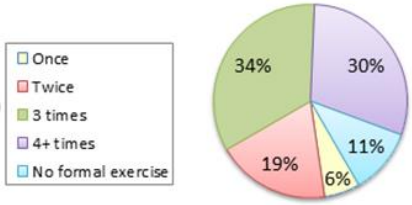
## Self-Description of Physical Activity

- About seven-of-ten residents surveyed claim to be physically active, with many saying they exercise more than three times per week.
- Physical activity is significantly higher among males versus females and in the higher income groups.

**Are physically active**




**# Times Exercise per Week**
(Among those who are physically active)
(n=842)



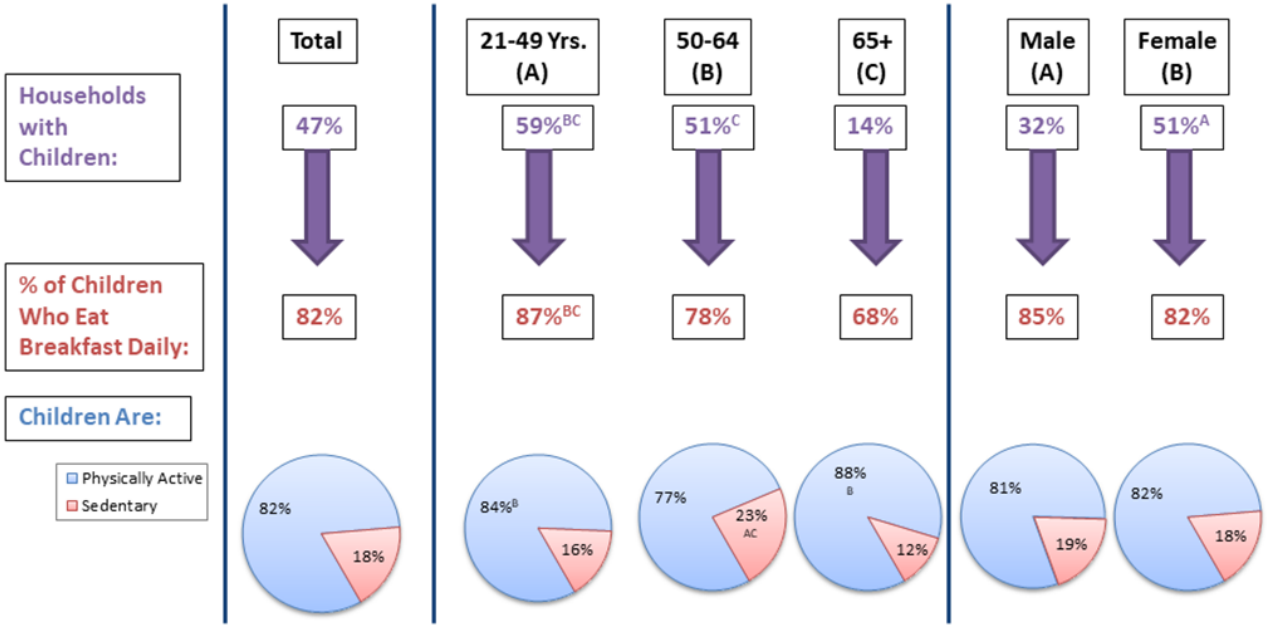




(n=1185)
Q.11 - Do you feel that you...
Q.11 - How often do you exercise each week?
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

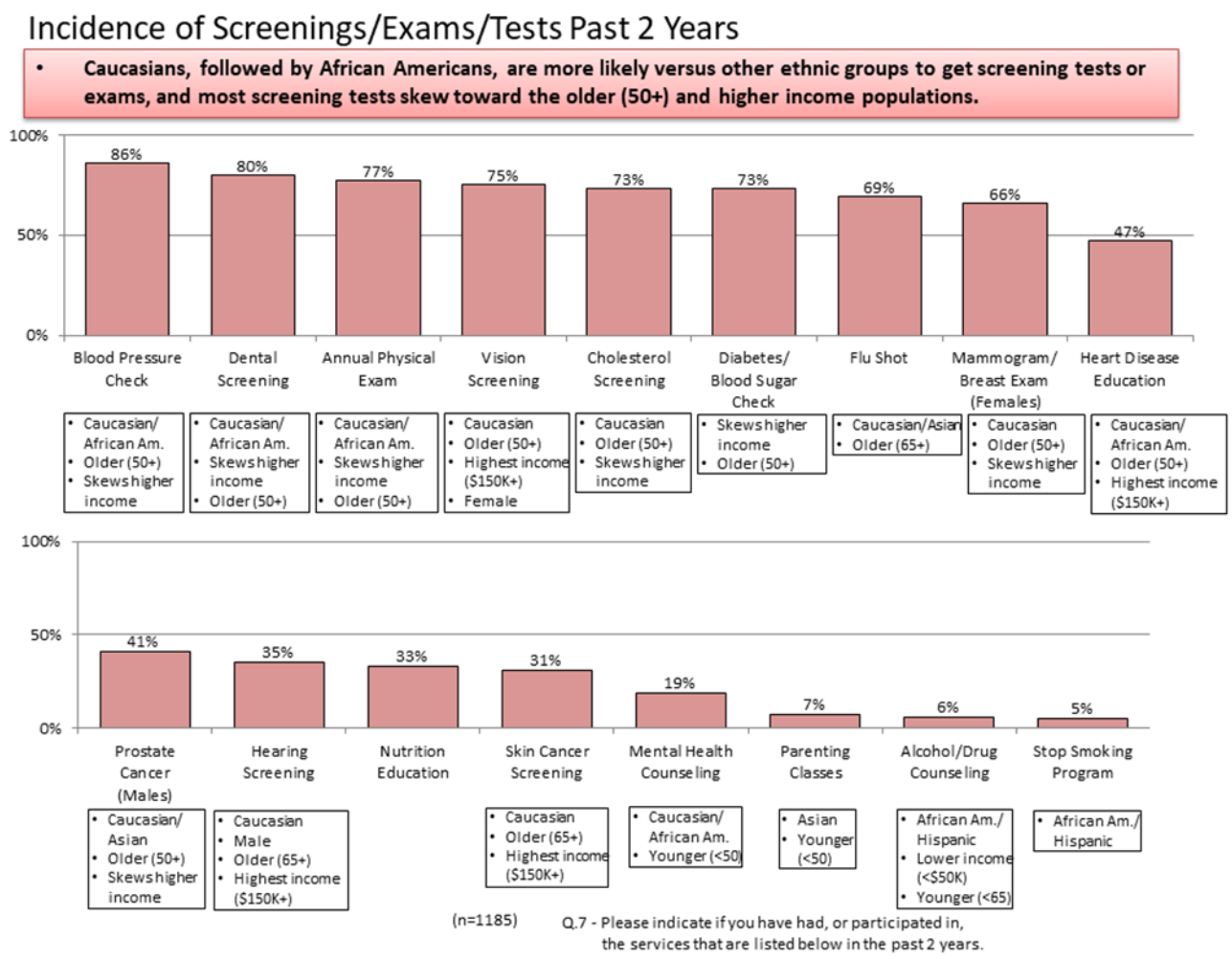
## Activity Level of Children in Household

- In households with children, the large majority are eating breakfast daily and are physically active.



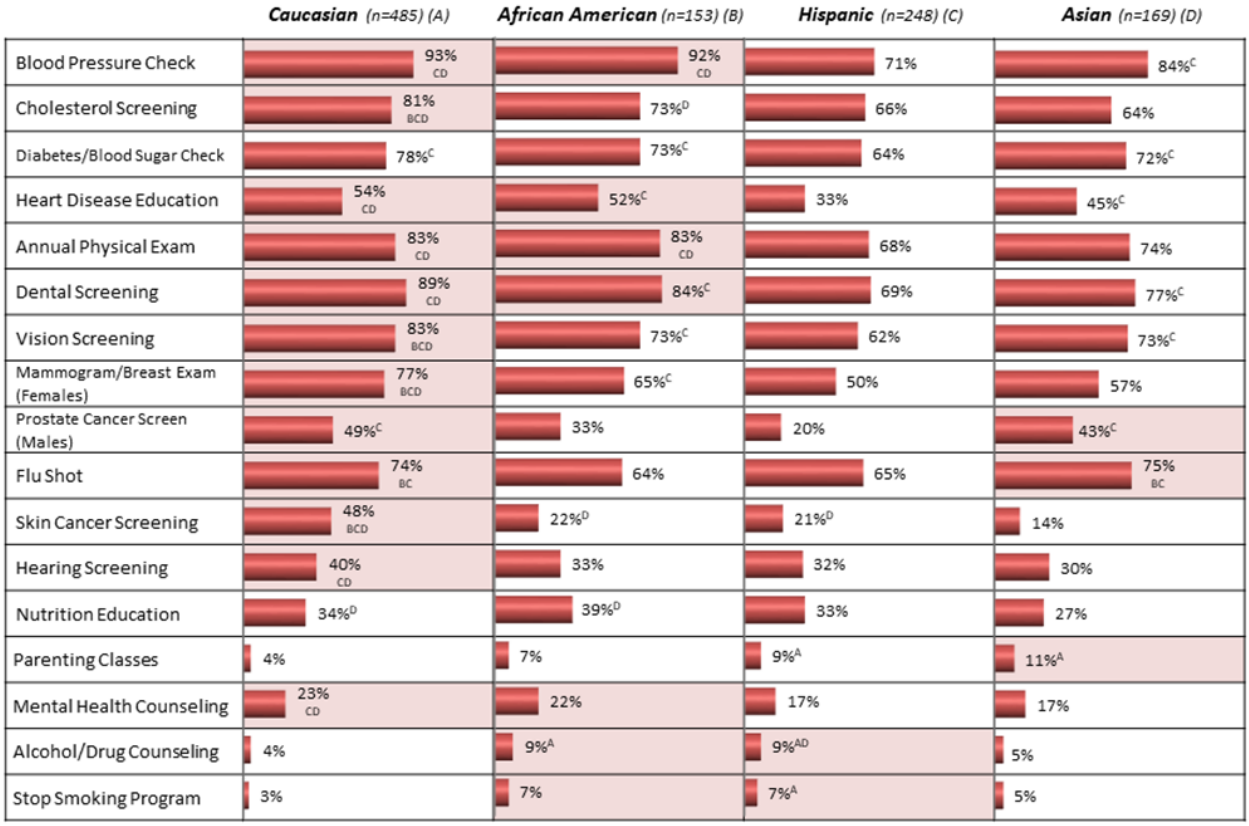

(n=1185)
Q.11a - Do you have any children that live with you?
Q.11b - Do they eat breakfast before the start of the school day?
Q.11c - Would you describe your child(ren) as physically active or sedentary during after school hours and weekends?
(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## *F. INCIDENCE OF SCREENING TESTS AND CONDITIONS DIAGNOSED*



## Incidence of Screenings/Exams/Tests – by Ethnicity

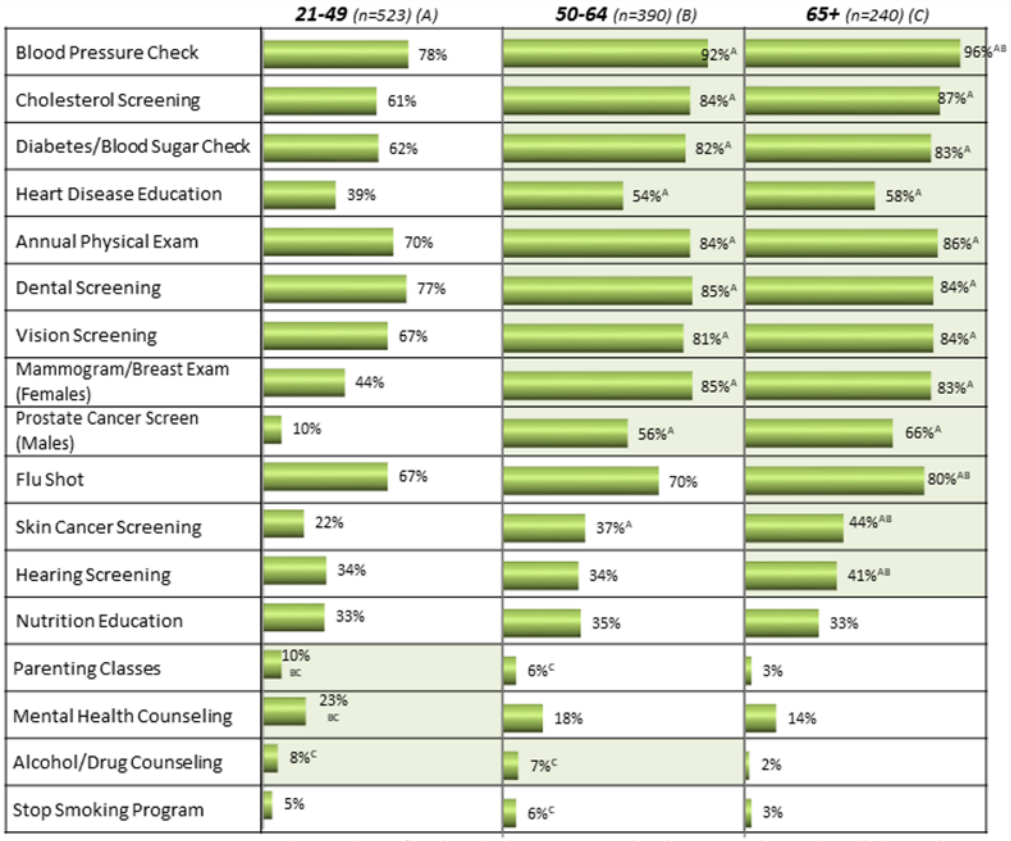
- **Caucasians are the most likely to get preventative screening exams overall, while Hispanics are the least likely.**




Q.7 - Please indicate if you have had, or participated in, the services that are listed below in the past 2 years.
(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Incidence of Screenings/Exams/Tests – by Age

- **Most screening exams skew towards the older population (50+), with the exception of mental health, alcohol/drug counseling and parenting classes which skew younger.**

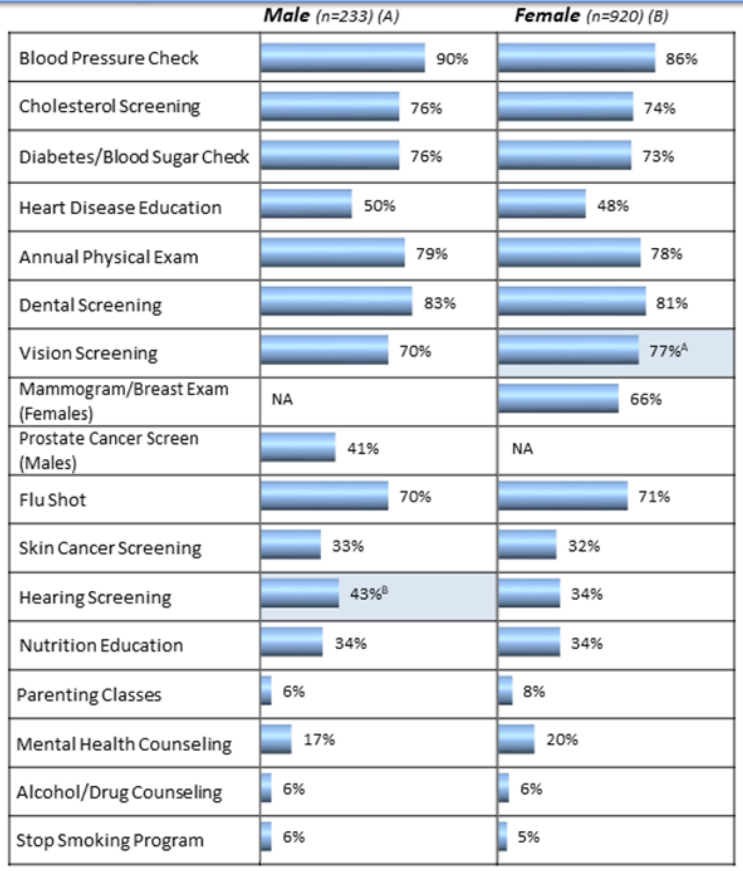



Q.7 - Please indicate if you have had, or participated in, the services that are listed below in the past 2 years.

(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Incidence of Screenings/Exams/Tests – by Gender

- **Few differences exist with regard to screening test between males and females. Males are more likely to get hearing screens while females tend to get more vision screens.**



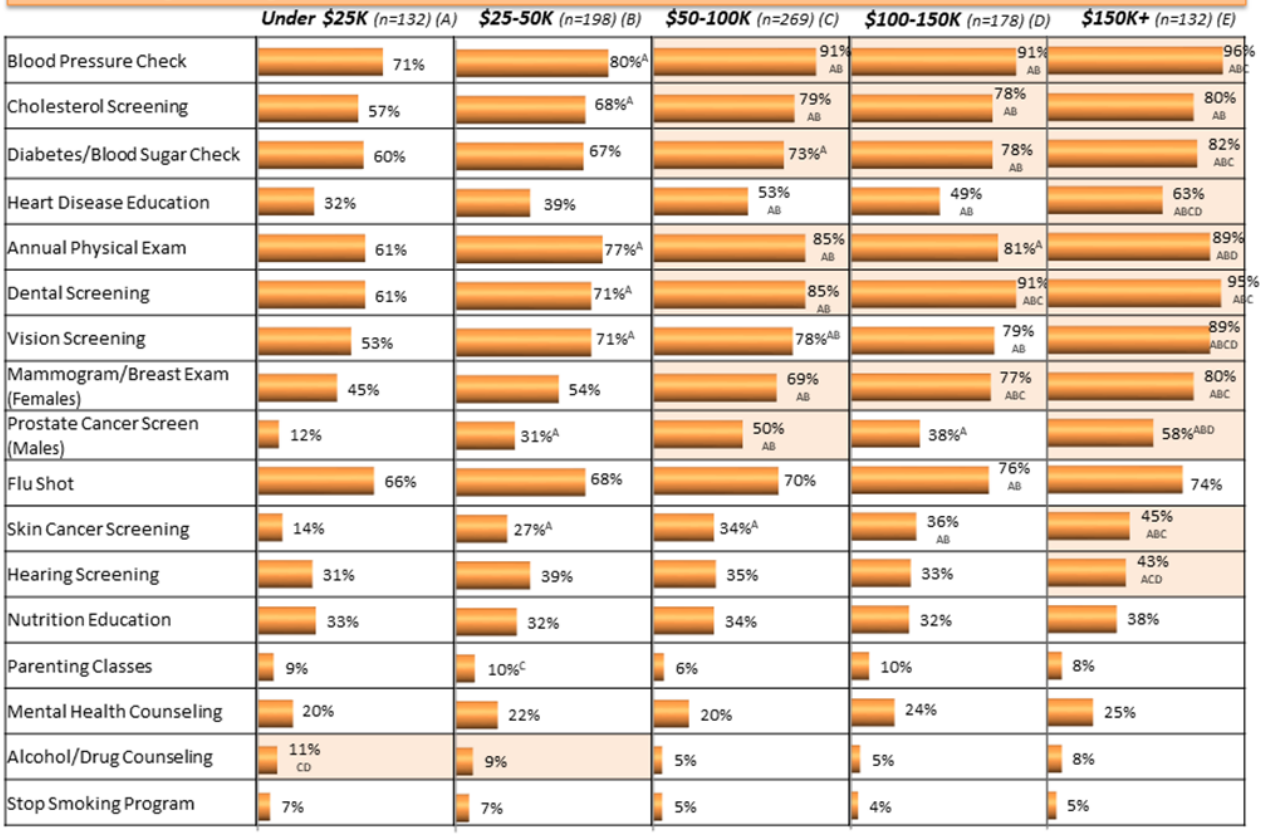

Q.7 - Please indicate if you have had, or participated in, the services that are listed below in the past 2 years.

(A/B) = Significantly greater than indicated cell at the 90% confidence level.

NA = Not applicable.

## Incidence of Screenings/Exams/Tests – by Income

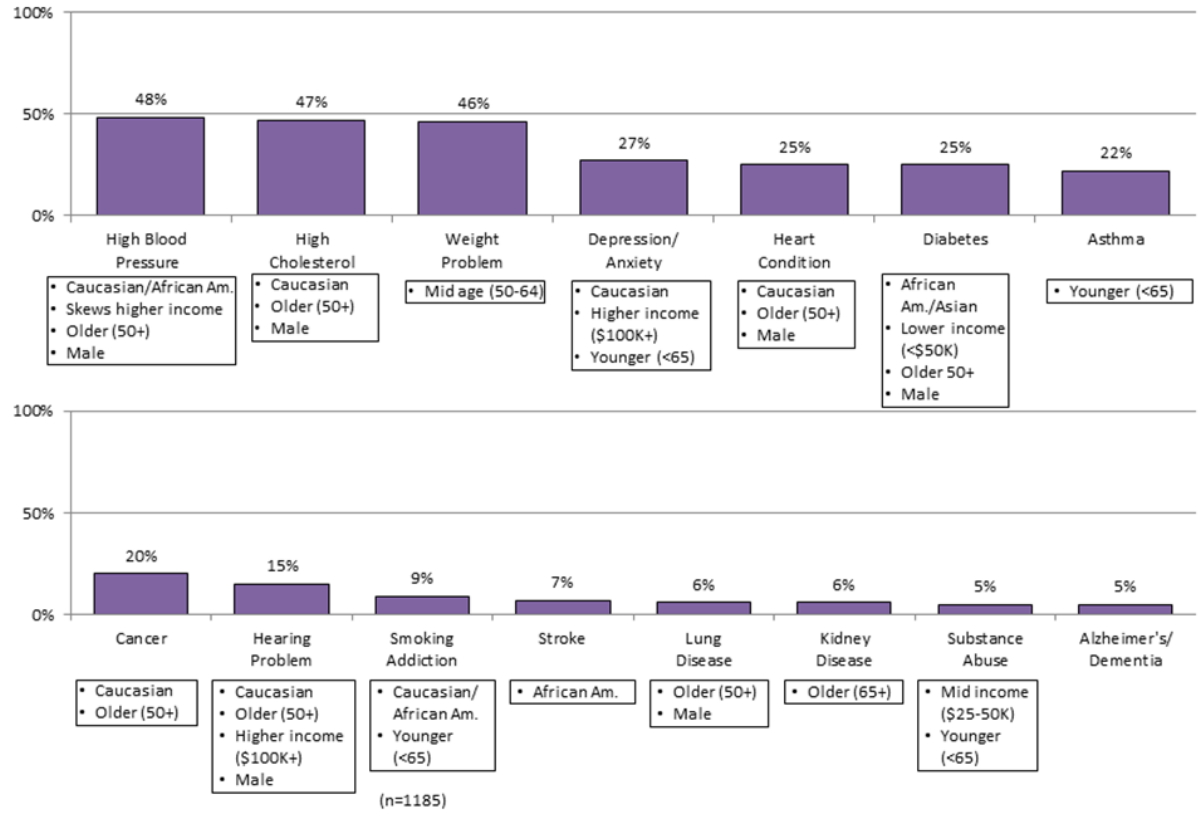
- **Higher income respondents ($50K+) have more screening tests versus lower income respondents; the only real exception being for alcohol/drug counseling.**




Q.7 - Please indicate if you have had, or participated in, the services that are listed below in the past 2 years.
(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

## Conditions Diagnosed by Physician (Self or Family Member)

- **Older respondents (50+) report being diagnosed with more conditions versus their younger counterparts.**




(n=1185)

Q.8 - Have you, or a household family member, ever been told by a doctor or other health professional that you have had any of the following?

## Conditions Diagnosed by Physician – by Ethnicity

- **Caucasians report the highest incidence of cancer, high cholesterol, depression, heart disease and hearing problems. They also report high levels of high blood pressure and smoking addiction (along with African Americans).**
- **African Americans report high levels of diabetes (along with Asians) and stroke.**
- **Hispanics report the lowest incidence of many conditions.**

| | ***Caucasian*** *(n=485) (A)* | ***African American*** *(n=153) (B)* | ***Hispanic*** *(n=199) (C)* | ***Asian*** *(n=169) (D)* |
|---|---|---|---|---|
| High blood pressure | 55% CD | 59% CD | 31% | 44%C |
| High cholesterol | 53%C | 46% | 41% | 46% |
| Diabetes | 20% | 35% AC | 21% | 35% AC |
| Heart condition | 30% CD | 25% | 21% | 21% |
| Cancer | 27% CD | 21% CD | 13% | 13% |
| Weight problem | 50%D | 48%D | 50%D | 35% |
| Depression or anxiety | 36% BCD | 25% | 22% | 17% |
| Asthma | 20% | 22% | 26%A | 21% |
| Lung disease | 6% | 7% | 5% | 7% |
| Smoking addiction | 12%CD | 12%CD | 6% | 4% |
| Kidney disease | 5% | 9% | 4% | 7% |
| Hearing problem | 21% BCD | 10% | 8% | 14%C |
| Stroke | 6% | 12% ACD | 6% | 6% |
| Alzheimer's/dementia | 6% | 5% | 4% | 4% |
| Substance use/abuse | 6%D | 8%D | 6%D | 2% |

**Top 2 Box Agreement**

Q.8 - Have you, or a household family member, ever been told by a doctor or other health professional that you have had any of the following?

(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Conditions Diagnosed by Physician – by Age

- **Not surprisingly, older respondents (50+) report being diagnosed with more conditions than younger respondents. Younger respondents, however report more substance abuse, smoking addiction, asthma and depression.**

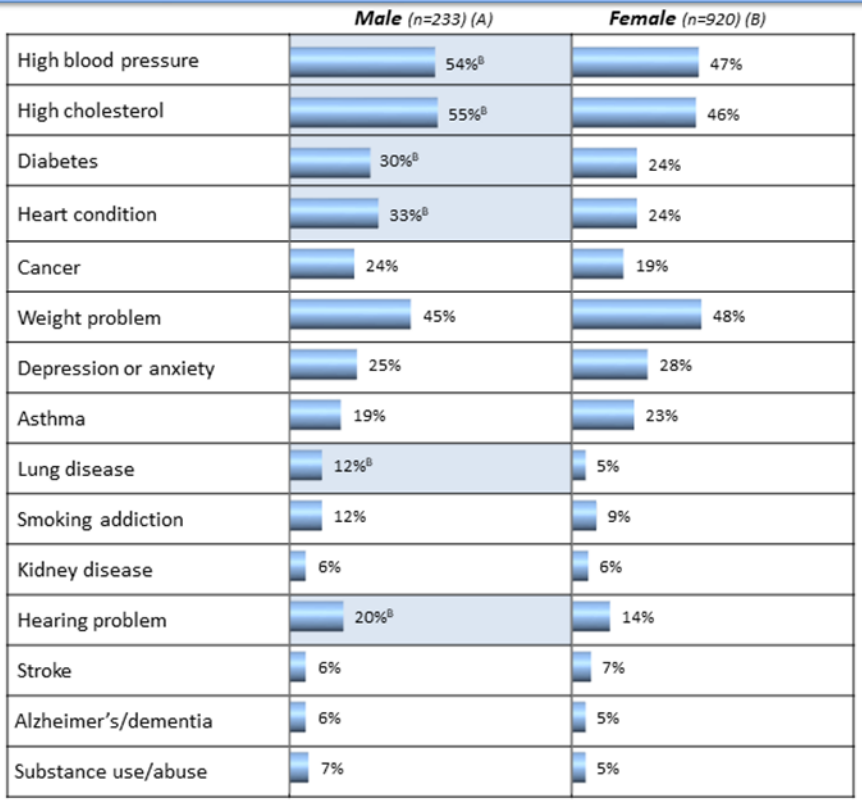
| | ***21-49*** *(n=523) (A)* | ***50-64*** *(n=390) (B)* | ***65+*** *(n=240) (C)* |
|---|---|---|---|
| High blood pressure | 34% | 55%[A] | 68%[AB] |
| High cholesterol | 36% | 56%[A] | 60%[A] |
| Diabetes | 19% | 31%[A] | 32%[A] |
| Heart condition | 20% | 26%[A] | 35%[AB] |
| Cancer | 14% | 23%[A] | 29%[AB] |
| Weight problem | 45% | 53%[AC] | 40% |
| Depression or anxiety | 29%[C] | 30%[C] | 19% |
| Asthma | 24%[C] | 24%[C] | 14% |
| Lung disease | 4% | 7%[A] | 9%[A] |
| Smoking addiction | 10%[C] | 10%[C] | 6% |
| Kidney disease | 5% | 6% | 8%[A] |
| Hearing problem | 11% | 16%[A] | 23%[AB] |
| Stroke | 7% | 7% | 5% |
| Alzheimer's/dementia | 5% | 7%[C] | 3% |
| Substance use/abuse | 6%[C] | 7%[C] | 2% |

**Top 2 Box Agreement**

Q.8 - Have you, or a household family member, ever been told by a doctor or other health professional that you have had any of the following?
(A/B/C) = Significantly greater than indicated cell at the 90% confidence level.

## Conditions Diagnosed by Physician – by Gender

- **Males report higher diagnosis versus females of many conditions: high blood pressure, high cholesterol, diabetes, heart conditions, lung disease and hearing problems.**




**Top 2 Box Agreement**

Q.8 - Have you, or a household family member, ever been told by a doctor or other health professional that you have had any of the following?

(A/B) = Significantly greater than indicated cell at the 90% confidence level.

## Conditions Diagnosed by Physician – by Income

- **Highest income respondents report more high blood pressure, hearing problems and depression, while diabetes and substance abuse skew to the lower income groups.**

| | ***Under $25K*** *(n=132) (A)* | ***$25-50K*** *(n=198) (B)* | ***$50-100K*** *(n=269) (C)* | ***$100-150K*** *(n=178) (D)* | ***$150K+*** *(n=132) (E)* |
|---|---|---|---|---|---|
| High blood pressure | 34% | 47% A | 55% AB | 51%A | 46%A |
| High cholesterol | 41% | 48% | 49% | 49% | 50% |
| Diabetes | 29%E | 27%E | 24% | 24% | 17% |
| Heart condition | 26% | 24% | 26% | 24% | 24% |
| Cancer | 14% | 22% A | 22%A | 23%A | 17% |
| Weight problem | 47% | 48% | 48% | 52% | 51% |
| Depression or anxiety | 27% | 29% | 23% | 36% AC | 33% C |
| Asthma | 21% | 27% | 22% | 26% | 21% |
| Lung disease | 8% | 9% CD | 5% | 5% | 6% |
| Smoking addiction | 13% | 9% | 7% | 10% | 11% |
| Kidney disease | 5% | 6% | 6% | 5% | 5% |
| Hearing problem | 9% | 16% A | 13% | 17%A | 19%A |
| Stroke | 10% | 7% | 8% | 6% | 8% |
| Alzheimer's/dementia | 7% | 4% | 5% | 5% | 5% |
| Substance use/abuse | 5% | 10% AC | 4% | 6% | 6% |

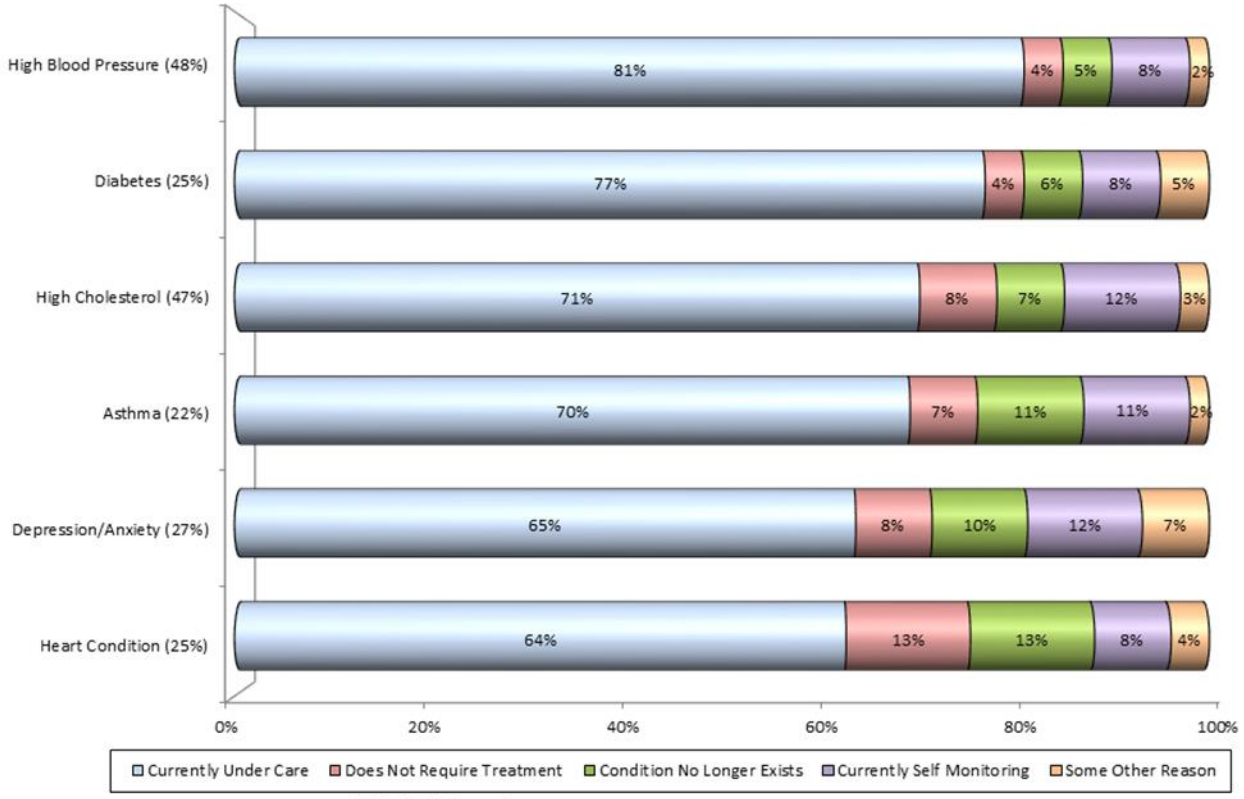
**Top 2 Box Agreement**

Q.8 - Have you, or a household family member, ever been told by a doctor or other health professional that you have had any of the following?

(A/B/C/D/E) = Significantly greater than indicated cell at the 90% confidence level.

## How Conditions Are Being Managed

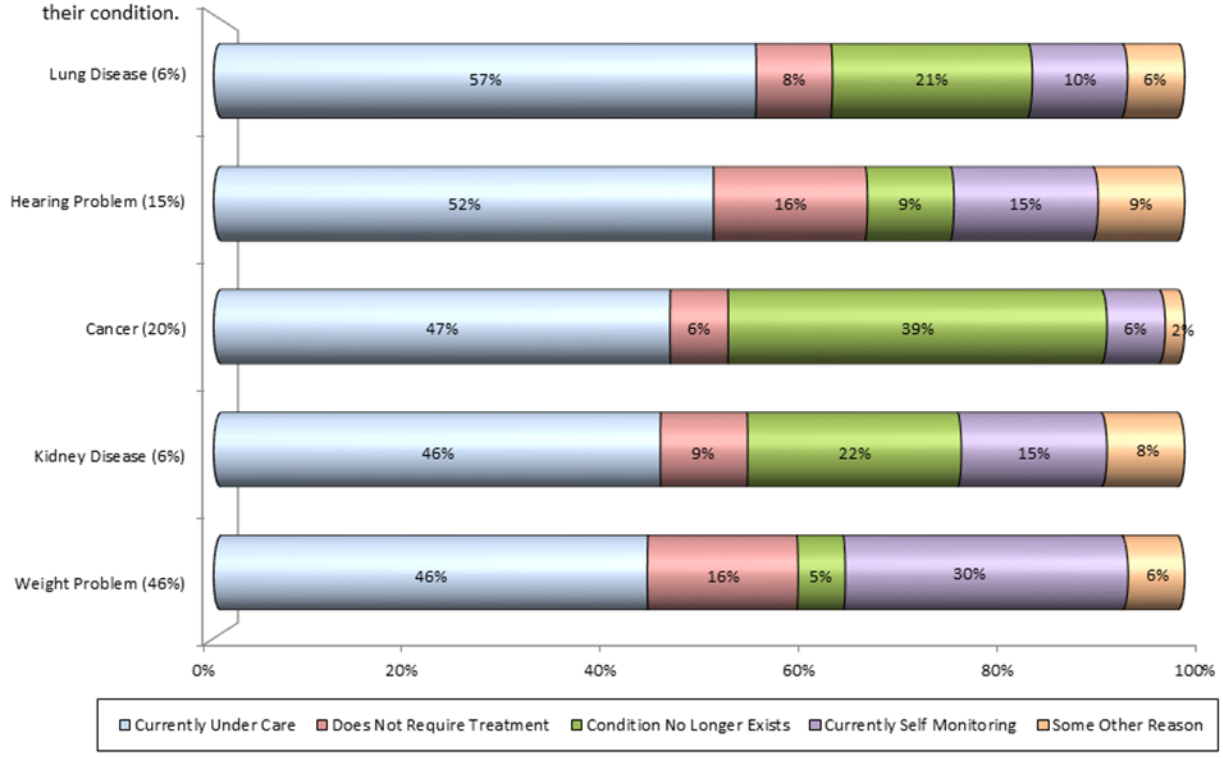
- Diagnosed conditions most likely to be under a physician's care include: high blood pressure, diabetes, high cholesterol, asthma, heart conditions and depression/anxiety.




NOTE: Multiple mentions.
Q.9 - Are you/household family member currently under care for this [CONDITION]?
Q.10 - Why are you/household family member not under current care for the [CONDITION]? Would you say it is because...

## How Conditions Are Being Managed – (continued)

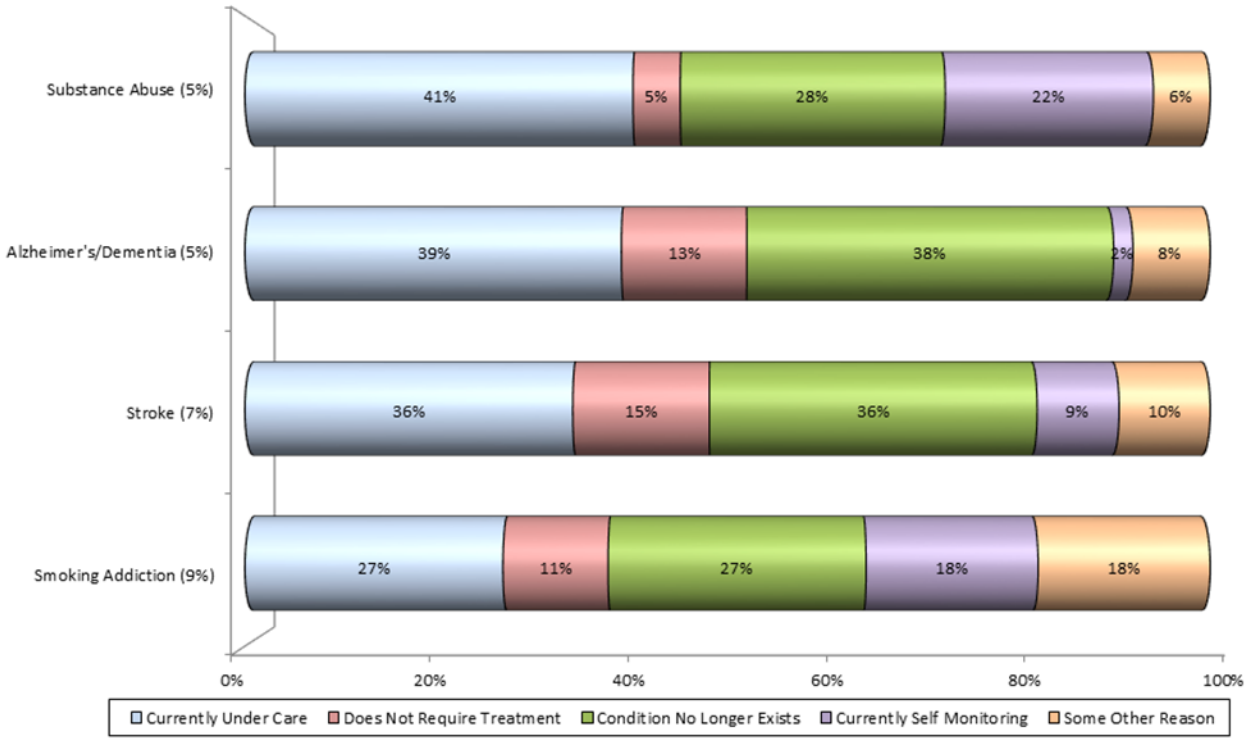
- Many are also under a physician's care for lung disease, hearing issues, cancer, kidney disease and weight problems. For lung disease, cancer and kidney disease, many say the condition no longer exists, and for hearing issues, some say this condition does not require treatment or they are self-monitoring their condition.
- For respondents with weight issues, fewer than half are under a physician's care, while almost a third say they are self-monitoring their condition.




NOTE: Multiple mentions.
Q.9 - Are you/household family member currently under care for this [CONDITION]?
Q.10 - Why are you/household family member not under current care for the [CONDITION]? Would you say it is because...

## How Conditions Are Being Managed – (continued)

- For substance abuse, smoking addiction, Alzheimer's and stroke, a large percentage say the condition no longer exists with some who say they are self monitoring or their conditions do not require treatment.

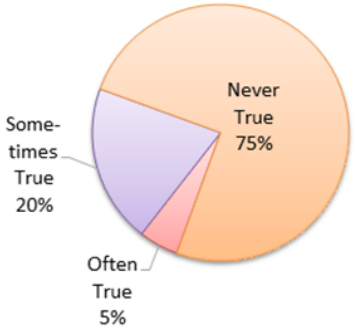



NOTE: Multiple mentions.
Q.9 - Are you/household family member currently under care for this [CONDITION]?
Q.10 - Why are you/household family member not under current care for the [CONDITION]? Would you say it is because...

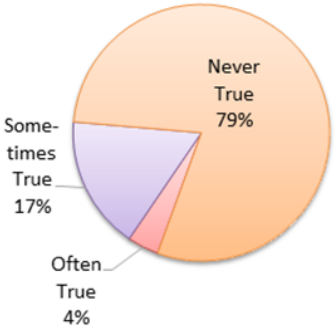
## *G. ADDITIONAL DATA*

### Statements About Ample Food/Food Assistance Programs

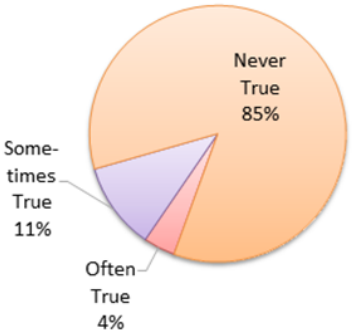
"We worried whether our food would run out before we got money to buy more."




"The food that we bought just didn't last and we didn't have money to get more."




"We rely on a community supper program, food pantry or meal assistance program to supplement our household."




Those who agree with these statements tend to be lower income, younger, African Am. or Hispanic.

(n=1185)
Q.12 - Please read the following statements that people have made about their food situation. For each one, indicate how true the statement was for your household over the last 12 months.

## Physician Habits

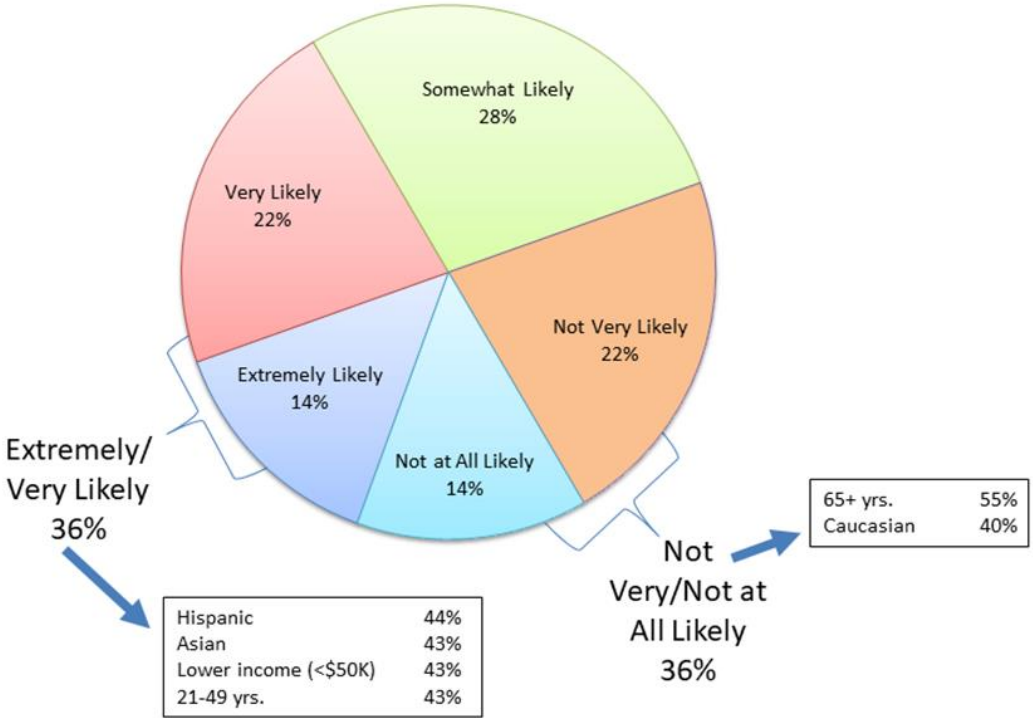
- Younger respondents, Hispanics and Asians are more likely to visit the doctor only when sick or need medical care.

| | Total | Age | | | Ethnicity | | | |
|---|---|---|---|---|---|---|---|---|
| | | 21-49 (A) | 50-64 (B) | 65+ (C) | Caucasian (A) | AA (B) | Hispanic (C) | Asian (D) |
| | % | % | % | % | % | % | % | % |
| Go to Dr/group every year or two for check-up | 73 | 64 | 78[A] | 86[AB] | 80[BCD] | 71 | 64 | 71 |
| Go to Dr/group only when sick/hurt | 26 | 32[BC] | 24[C] | 17 | 23 | 20 | 33[AB] | 28[B] |
| Only go to urgent care center or ER when need medical care | 12 | 17[BC] | 8 | 7 | 8 | 9 | 21[ABD] | 14[A] |

(n=1185)
NOTE: Multiple mentions.
Q.13 - When you need medical care, which of the statements below best describes you?
(A/B/C/D) = Significantly greater than indicated cell at the 90% confidence level.

## Likelihood of Accessing Medical Care Virtually

- Just over one-third of respondents indicated a strong likelihood of accessing medical care virtually, highest among Hispanic, Asian, younger and, surprisingly, lower income respondents.




(n=1185)
Q.14 - If you were able to access medical care virtually, for example, through FaceTime or Skype, how likely would you be to use this type of technology?

## Sampling of Additional Comments - (Reference Data File for Complete List)


Q.15 - Use the space below to expand on a topic previously mentioned or an important health-related topic that was not mentioned in this survey.

## *4. FOCUS GROUP REPORTS*

### *A. YOUTH AND ADOLESCENTS*

On August 27, 2019, a focus group with 12 individuals representing school-aged youth and adolescents came together to discuss issues impacting their needs, barriers to care, and ideas to improve services to this group.

*MOST PRESSING HEALTH, BEHAVIORAL HEALTH OR SOCIAL ISSUES FACING PRE-TEENS & ADOLESCENTS*

There was general agreement among participants that the most pressing issues facing youth and pre-teens were mental health, social adjustment and substance use. There was an awareness that young people today were facing a different reality and were having a difficult time adjusting to the range of inputs and messaging they receive via social media on a regular basis. Another issue was the lack of coping skills displayed by youth in dealing with negative situations and their need to have tools to navigate the world they live in. Others spoke about poverty and the differences with what kids see on-line vs their own situations. Bullying and the fact that some kids feel that no one cares about them – that they have no value were also among the issues discussed. Others expressed the perspective that youth from other cultures have a hard time accepting their identity in an American culture.

Participants also discussed social media's 24/7 influence and the inability young people have to disconnect from negative events. They also spoke of the lack of opportunities for physical activity among young people.

Lastly, participants were concerned about the level of services provided in the schools to deal with students' behavioral health issues in a trauma-informed manner and the availability of social and emotional learning programs. According to most, this seemed to be issue that was not being addressed because of funding.

- *"I think social isolation, mental health . . . play a key role in children."*
- *"Lack of connectedness and social media. I think it's really hard to navigate especially where brains are not fully developed."*
- *"I think it's too much connectedness and not enough. Because I think the human relationship is suffering because of social media, and I think that is something that is a game changer for the human race."*
- *"We have to give them the tools they need to navigate the world they are in. Because we're not going to change the world . . ."*
- *"Well, that's over-connectedness . . . cause, in the past all of this happened before . . . the abducting, the killings, the murders. But now we're all connected. Every incident, everywhere you have the news within 20 minutes."*
- *". . . the distance between what they see on screen . . . this life of abundance and everybody's so happy and the dichotomy of what I have in front of me . . ."*
- *". . . being considered American means that I can go further, and I can do things. I won't be judged for who I am. So, you have that lack of accepting themselves for who they are."*
- *"They need a household that nurtures who they are as an individual and supports them."*
- *". . . one of the things I see . . . is we don't teach them it's okay if you fail because you learn from that."*

- *"We need to teach kids it's okay to be sad or angry. (The issue is) how are you going to handle that and move on?"*
- *"The Social and Emotional piece is the buzz all over, you know, physical activity-based social and emotional wellness programs. But I think that Middlesex County is pretty diverse in a lot of ways. And there's some communities that we go into that are getting it still, I think it's not across-the-board."*
- *"Teaching something like ACES (Adverse Childhood Education) experiences and trauma-informed care are easy and not cost-prohibitive."*

*MANIFESTATIONS OF BEHAVIORAL HEALTH ISSUES*

Participants were asked how the behavioral health issues they just spoke about were manifested in youth be it at school, home or in the ED. This elicited a range of behaviors including substance use (including alcohol, pills, vaping and marijuana), suicidal thoughts and actions, promiscuity, self-harming, anxiety and depression. Participants were also asked if services were available to deal with adolescent mental health and substance use needs. The overwhelming response was that there were not enough services, services were often extremely expensive, and that many times kids were evaluated and then sent back to school with no or little follow-up care recommended for the student.

- *"Substance abuse, absolutely . . . they're drinking at 10 or 11 . . . they're just turning to that to numb themselves from what they are seeing and experiencing."*
- *"The whole recreational legalization of marijuana, I think gives a message it's okay."*
- *". . . I'm seeing a lot more girls and boys self-harming and attempting or completing suicide."*
- *"I could just say in the last three years (the number of completed suicides) has dramatically increased."*
- *"I think the alarming part is the behavioral health issues in elementary school. You see kids coming in and most of our referrals, 30 or 40%, are for suicidal thoughts – and we refer them out. And by the time they take him to the psychiatrist the behavior does not qualify for him to be admitted for treatment. Then they put him back in the school district."*
- *". . . we've had some programs working with parents of children with mental health issues, what to ask, how to question. That's your child, you have every right. If you have a gut feeling, . . . you know what, go to another doctor, and don't be afraid to."*
- *"We do a Pride survey every year. Middle school and high school. Last time we did it, it was vaping, marijuana, pills. Middle school reported more pill use than high school."*
- *"Alcohol is number 1."*
- *"Also, you learn if you want to socialize, you want to relax, you have a drink; and you see your friends or adults drinking all the time."*
- *"Well, that's the other thing, sexual promiscuity, right? So, we're finding a lot more STDs coming up in that population than there used to be."*
- *"Our young boys, our young girls, it doesn't matter. They're being asked to share (naked) photos."*
- *"The majority of young people may say it's vaping. Starting with nicotine and then transition to THC or not really knowing what they're vaping."*
- *"There are 36 contracted providers (for substance abuse) under the Children's System of Care whether it's outpatient, residential or inpatient, and none are in Middlesex County."*
- *"Some providers don't take Medicaid, but they might take private insurance. They might do a sliding scale."*
- *"So, they might do mental health and not do substance abuse."*

*AWARENESS OF THE HEALTH AFFECTS OF VAPING*

Most felt that kids even if they knew vaping contains nicotine believed that vaping was a safe alternative to smoking and were highly influenced by advertising and marketing.

- *"Some of them know it's nicotine . . . if they think it's flavoring and water, it's not harmful. It's safer than cigarettes."*
- *"I have parents who come to my presentation who say, 'I buy it for my kid. I thought it was flavoring. I go to vape shops.'"*
- *"JUUL had a prevention program . . . they were telling them (students) that it's safe, that nicotine levels are low. I compared marketing back from the '80s to vape. It's the same. The only difference is it's more colorful and the models are skinnier."*

*DO ADOLESCENTS ENGAGE IN HEALTHY LIVING PRACTICES?*

Many felt that the extent to which young people make healthy choices about eating and exercise had a lot to do with income levels, where they lived, their access to healthy foods, and to neighborhoods that were safe and provided outside spaces for exercise.

- *"Exercise I found . . . in certain communities is not part of the culture. They look at us like we have two heads. Why would we want to run and what's that going to get us?"*
- *"You know you buy fresh fruits and vegetables, if you don't eat it, it goes bad. And, so, I think too it's about education on buying. If you buy rice and beans, you can still prepare it in a healthy way."*
- *"They've (schools) been changing and getting better in that area (offering healthy choices). What's healthy to a kid though?"*
- *"I was in a school . . . and they had Mountain Dew Kickstarter in their vending machine. Red Bull in the vending machine in the cafeteria."*

*WHAT CAN BE DONE TO COUNTERACT THE BEHAVIORAL HEALTH ISSUES FACING YOUNG PEOPLE?*

Participants agreed that the behaviors exhibited by young people were outcomes of deeper-rooted issues, some of which were impacted by social determinants of health and that the response had to fit the community. Participants agreed that messaging needed to be directed to and specific to the various communities in the county. It was suggested that within the urban areas the focus might be a more family-centered approach while in suburban areas an approach based on empowerment might be more successful.

Participants also believe that schools have a vital part to play in ensuring children feel safe, cared for, and had the tools and developmental skills they need to deal with and navigate their environment. Many felt that the schools lack a sufficient number of social workers or clinical therapists to deal with the mental health issues facing students and their parents.

- *"I think it goes back to having more social workers in the schools."*
- *"Unfortunately, there is no one right way to do it. Every neighborhood is going to be different."*
- *"I think it's a comprehensive approach between school, home and community, round tables like this. Everybody getting on the same page and saying, I think the first thing is identifying the issues*

*and problems and then figuring out what are the best practices and the best way to deal with these problems."*

- *"We need to take away the stigma."*
- *"Normalize it (mental health). Create what we'll call a mental health call that you have in every school."*
- *"There are a lot of physicians in my area that are adding social workers to work collaboratively."*

### *B. HISPANICS/LATINAS UNDOCUMENTED*

On August 30, 2019, a focus group was held at RWJ Fitness & Wellness Center with 10 community members representing the undocumented community. Participants were asked about issues impacting their health, barriers to care, health and mental health needs and suggestions for improving access to care. The group was conducted in Spanish and made use of an on-site translator. This ensured that respondents felt comfortable and were able to speak in a language most familiar to them.

*MOST PRESSING HEALTH & MENTAL HEALTH ISSUES*

When asked about the most pressing health or mental health issues facing the community, most comments were about the insufficiency of current services and the fact that there were not enough services to meet the demand. Services were also deemed to be very expensive for people who were undocumented or had no health insurance. Commenters felt that if care was delivered in a culturally and linguistically appropriate manner and in line with the educational level of patients, patients would present at an earlier stage of disease, would use the ED to a lesser degree and the community would be healthier.

Participants related stories of their and other's experiences in which they felt intimidated, didn't get to ask questions or felt dismissed and left the clinic feeling they did not have adequate information. In some cases, respondents said they would not go back. Others were humiliated in front of other patients, had their concerns dismissed or believed they were being given unnecessary treatment but felt at a loss to complain or question.

- *"Even though we have some services at the local clinic, it's not enough; it's very expensive for people who are undocumented or have no insurance."*
- *"Sometimes the diagnosis is not on time or appropriate, so the treatment is not appropriate."*
- *"…Something that would promote better health or at least be more compassionate care, is having staff that are friendly, because some staff (at centers) are intimidating for a lot of very humble people that don't have a lot of education and they're very intimidated…they (staff) come off very aggressive to patients."*
- *"You feel bad; you need to go; you go but then the treatment that you get; you don't want to come back. Especially the men they're not going to go because…there's no explanation…"*
- *"The environment is that they let you go (leave) and make you feel like you don't deserve to know."*
- *"So many times, we see that the relationship with the medical field (breaks down) that families prefer to do a "tea" rather than go to the doctors."*
- *"They don't take the time to explain in detail what's happening. They just give you the tests and say it's fine."*
- *"Many of the government insurances their kids have doesn't include or doesn't pay the co-pay. The Co-pays are high, so they limit themselves to taking kids to the doctors. So, families opt for*

*other resources. People use other options like the church has a social worker who they can talk to; they go to health fairs...."*

- *"Postpartum depression is something we see a lot…and no one is paying attention, and nobody is giving it importance. So, as community health promoters they…invite them (women with postpartum depression) to church groups or to see the social worker because they know there are very limited resources."*
- *"The cost of medications is one the biggest issues. So, they don't use the appropriate amounts so that it will last longer, they skip days, or they take half the pill, they reuse syringes because they don't have resources for the medication."*
- *"So many times they go to the ER for something that could be taken care of in a clinic, but the clinic takes too long to get an appointment – 15 days; a whole month to get an appointment; and if they're sick and they end up in the ER and then get a $800 bill just for a prescription for vertigo."*
- *"They now have this new rule that you can be seen the same day, but you have to be there by 8:00AM, so people start lining up at 6:00AM."*

*MENTAL AND BEHOVORAL HEALTH ISSUES*

Participants discussed behavioral issues they face raising their children, the lack of services to deal with mental health and substance abuse issues, the reliance on medication and the need to educate and train patients to help them raise healthy children. Respondents also talked of the fear and anxiety that plagues most families due to the threat faced by parents or older siblings who could be deported at any time.

- *"We have a lot of issues with raising young people. She knows a lot of friends that are struggling to raise their kids here. Behavioral issues…they don't want to follow the rules at home, we need more activities for youth so they can learn to deal with and communicate with parents…"*
- *"There are a lot of issues with anger. She used to see it in older youth but now she sees it a lot also in younger people."*
- *"…Parents should feel comfortable telling the pediatrician they have behavioral issues with their children and they (pediatricians) should offer some kind of program or resources."*
- *"…And then sometimes they will give you a referral and it's in another town, we don't even know how to get there."*
- *"With EMRs they don't even give you a written referral anymore, they say no just go there, and they will have it there. They get there and there is no referral."*
- *"Many times, no one is detecting the kids; the kids are walking around with a mental health issue or anxiety and it's gets detected very late."*
- *"In this country if a kid runs around too much, he's hyperactive. He already has a label. And then they give you medication to give to your kid. And, if he gets older and he has anxiety, there's another pill."*
- *"There has been a big difference before and after this new pollical environment started. The children woke up to this new reality that they couldn't control. And it causes tension in the whole family. If somebody comes home late, then everybody is worried. Everybody is at the door waiting. It has created instability in the house. My daughter has fears."*
- *"I had to prepare my daughter that if something happens to me…I have to sit and prepare documents (guardianship)."*
- *"The day that…they changed administration, the kids were so upset in school the teacher had to take time with them to calm them down, to tell them it would be okay."*

*SERVICES THAT ARE MOST DIFFICULT TO ACCESS*

Mental health/substance abuse, dental services, primary care, referrals for screening and prevention and education services were services that were either lacking or services most often mentioned as needed by the community.

Participant also felt that while most people were aware of where to get services (the clinic) it's a place where things break down. People feel mistreated or information is not given or explained in a way they understand making it difficult for patients to follow through. The lack of sufficient bilingual employees or translation services only adds to these difficulties especially with regard to mental health services.

- *"The services at the clinic for dental care are very limited; if you need more than taking care of your cavities and prevention work, you need to find someone else."*
- *"So, if you don't have a primary care doctor; it's going to be very hard for you to get a referral for your mammogram, to get your pap smear."*
- *"If things are not explained in a way you understand – that is what your need to do…you are not going to follow through – these people (practitioners) are in a rush, they don't have the time…"*
- *"We have a lot of services but the bridge to connect to those – to know the importance of reaching out to them is not there."*
- *"Stress and anxiety are not addressed when they go to the doctor."*
- *"I think that bilingual services are very limited."*
- *"The language issue, when it comes to mental health, is so important – to be able to express your opinions to someone who understands your culture and the dynamics in the home…and it's impossible sometimes to have that relationship with the mental health provider, if there is a language barrier."*

*CHALLENGES TO MAINTAINING A HEALTHY LIFESTYLE*

The largest barriers to healthy lifestyles were money, access to healthy food, and safe places for physical activity. Other barriers included the fear of deportation. Which often times keeps residents from seeking services or going to venues where they think they might be targeted.

- *"Healthy food sometimes is not affordable and then your option is less healthy foods."*
- *"The big supermarkets are not close; they are not here and they all expensive."*
- *"We want to be healthy, but we don't have the elements we need to do that."*
- *"One thing I like in this city is that we do have a lot of vegetable gardens; and we need to work on promoting them."*
- *"People know the current political environment and they are afraid to go and access services."*
- *"If you are undocumented the only thing you can get is charity care and you get the run around, or you are told no that's not going to be covered by charity care."*
- *"We've seen a decline in people participating in programs…there was a rumor that ICE was patrolling the farmer's market and no one went to the farmer's market."*
- *"In her neighborhood she is trying to get people to go out and exercise and do things outside with the children — we can't afford to have fear take over…."*

*SUGGESTIONS FOR MEETING THE NEEDS OF THE UNDOCUMENTED LATINO POPULATIONS*

A common theme throughout the focus group was the need for early intervention, education and prevention services to help empower the community to lead healthier lives. Another was the need for culturally and linguistically appropriate and compassionate care, case management/navigation services, and a need for patient advocates.

- *"We need to start earlier with young people; mental health, drug counseling and awareness."*
- *"We need more comprehensive educational programs on many of the health issues facing the community e.g.: Across the board prevention workshops."*
- *"Educational programs for parents on how you can raise a healthy child without resorting to medications (hyperactive)."*
- *"Make sure providers know resources available for generic medications and whatever resources are available for follow-up."*
- *"Provide educational programs while people are waiting."*
- *"Places in the community where people could go for basic screening and blood pressure, diabetes so they don't have to go to the clinic."*
- *"We need people who speak Spanish, who can explain in their language in simple terms."*
- *"We need to be educated as a community – that is going to empower us; so, the information will be our security, and that information will also help us empower others who need it."*
- *"There is a need for health education and awareness and prevention for children and adults."*
- *"Offer services when people are available – evenings."*

## *5. MIDDLESEX COUNTY/SERVICE AREA HEALTH PROFILE*

The Middlesex County Health Profile provides a discussion of health outcomes and factors, including social determinants of health, that are used in determining health status. Middlesex County data are compared to local, State and national measures.

### *A. MIDDLESEX COUNTY OVERVIEW*

Middlesex County is located in north central New Jersey. The county encompasses a land mass of approximately 322 square miles with 25 urban and suburban municipalities. Middlesex County's municipalities are diverse and include large urban communities, such as New Brunswick and Newark, and Perth Amboy, as well as the suburban communities of Plainsboro, Cranbury, Monroe Township and Jamesburg. In 2018, the Census reported the county's population at nearly 830,000 residents, making it the second most populous counties in the State.

Middlesex County hosts an extensive park system totaling 6,300 acres and 22 parks. The county is also home to six major colleges and universities including Rutgers, the State University of New Jersey. There are five medical centers located on six campuses in Middlesex County which serve as major employers for the county. Other major employers include two pharmaceutical giants, Bristol Meyers Squibb and Johnson & Johnson.

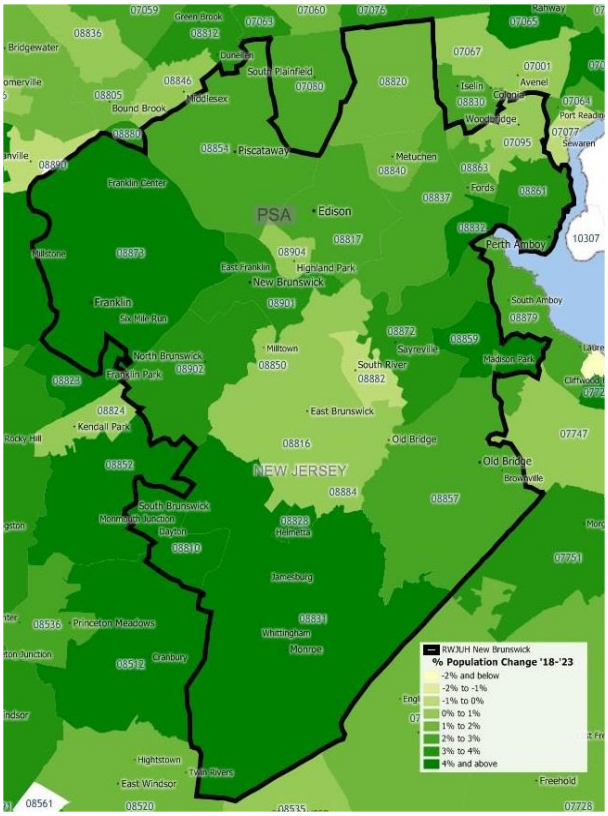
Middlesex County municipalities include: Carteret, Cranbury, Dunellen, East Brunswick, Edison, Helmetta, Highland Park, Jamesburg, Metuchen, Middlesex, Milltown, Monroe, New Brunswick, North Brunswick, Old Bridge, Perth Amboy, Piscataway, Plainsboro, Sayreville, South Amboy, South Brunswick, South Plainfield, South River, Spotswood, and Woodbridge.

The county is bound to the north by Union County, to the southeast by Monmouth County, to the southwest by Mercer County, and to the northeast by Somerset County.

### *B. POPULATION GROWTH*

Between 2010 and 2018, Middlesex County and New Jersey each experienced a 2% growth in population with continued growth of 2% and 1.3%, respectively, expected between 2018-2023. The Primary Service Areas of the Hospitals are expected to experience a slightly higher rate of growth (2.2%) between 2018-2023. Growth for selected towns is shown on the next page.

## Population Change in RWJUH/SPUH Service Area 2018-2023




* Source: Claritas Population Estimates 2018, 2023

## Population Distribution & Projected Percent Change 2018-2023

| AGE COHORT | New Jersey | Middlesex County | Union County | Somerset County | Monmouth County | RWJUH/ SPUH SA | East Brunswick (08816) | Edison (08817) | Monroe Township (08831) | Piscataway (08854) | Somerset (08873) | New Brunswick (08901) | North Brunswick (08902) | Highland Park (08904) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GEOGRAPHIC AREA | | | | | | | | | | | | | |
| 0-17 | 1,924,893 | 180,590 | 130,512 | 69,352 | 122,489 | 143,985 | 8,300 | 10,670 | 9,877 | 11,898 | 11,282 | 13,529 | 10,216 | 2,816 |
| % of Total | 21.19% | 21.04% | 22.78% | 20.27% | 19.60% | 21.22% | 17.69% | 22.61% | 17.90% | 20.09% | 20.50% | 22.63% | 23.32% | 20.17% |
| % Change '18-'23 | -1.87% | -0.52% | -0.33% | -5.15% | -6.65% | 0.02% | -7.95% | 1.74% | 0.64% | 1.61% | -0.12% | 2.26% | 1.91% | -1.33% |
| 18-44 | 3,063,151 | 303,446 | 193,610 | 109,077 | 197,440 | 241,213 | 15,219 | 17,224 | 12,490 | 24,581 | 17,699 | 32,396 | 15,776 | 5,455 |
| % of Total | 33.72% | 35.36% | 33.79% | 31.39% | 31.60% | 35.55% | 32.43% | 36.51% | 22.64% | 41.50% | 32.16% | 54.19% | 36.01% | 39.06% |
| % Change '18-'23 | -0.71% | -1.89% | -0.97% | 1.11% | 1.43% | -2.26% | 3.03% | -4.54% | 4.07% | -2.55% | -2.83% | -2.32% | -4.76% | -4.82% |
| 45-64 | 2,440,092 | 228,902 | 155,495 | 101,590 | 180,834 | 175,642 | 14,083 | 12,352 | 12,697 | 14,203 | 14,494 | 9,956 | 11,773 | 3,579 |
| % of Total | 26.86% | 26.67% | 27.14% | 29.70% | 28.94% | 25.88% | 30.01% | 26.18% | 23.01% | 23.98% | 26.34% | 16.65% | 26.87% | 25.63% |
| % Change '18-'23 | -1.87% | 0.88% | 0.85% | -0.89% | -5.08% | 1.68% | -6.59% | 2.79% | -0.72% | 1.64% | 3.92% | 18.68% | 4.25% | 4.86% |
| 65+ | 1,656,700 | 145,324 | 93,367 | 62,073 | 124,099 | 117,711 | 9,324 | 6,936 | 20,115 | 8,550 | 11,562 | 3,899 | 6,045 | 2,114 |
| % of Total | 18.24% | 16.93% | 16.29% | 18.15% | 19.86% | 17.35% | 19.87% | 14.70% | 36.45% | 14.43% | 21.01% | 6.52% | 13.80% | 15.14% |
| % Change '18-'23 | 15.44% | 17.56% | 18.06% | 19.50% | 14.70% | 16.84% | 19.11% | 18.14% | 12.61% | 19.35% | 16.66% | 15.59% | 20.59% | 13.23% |
| All Ages | 9,084,836 | 858,262 | 572,984 | 342,092 | 624,862 | 678,551 | 46,926 | 47,182 | 55,179 | 59,232 | 55,037 | 59,780 | 43,810 | 13,964 |
| % of Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| % Change '18-'23 | 1.30% | 2.01% | 2.37% | 1.98% | 0.05% | 2.15% | 0.50% | 1.64% | 5.17% | 2.00% | 3.13% | 2.79% | 2.13% | 0.71% |
| Female 15-44 | 1,677,665 | 165,399 | 106,947 | 60,871 | 109,400 | 131,539 | 8,351 | 9,388 | 7,033 | 12,899 | 9,781 | 17,053 | 8,529 | 2,991 |
| % of Total | 18.47% | 19.27% | 18.66% | 17.79% | 17.51% | 19.39% | 17.80% | 19.90% | 12.75% | 21.78% | 17.77% | 28.53% | 19.47% | 21.42% |
| % Change '18-'23 | -1.21% | -1.59% | -0.80% | -0.06% | -0.01% | -1.82% | -0.69% | -2.96% | 2.93% | -1.87% | -2.42% | -1.00% | -3.42% | -3.98% |

Source: Claritas Population Estimates 2018, 2023

## *C. SOCIAL DETERMINANTS OF HEALTH*

Social determinants of health include socioeconomic and environmental factors which influence health outcomes, disparities in health, equity in health care, and are important tools to assess health at the local level. *Healthy People 2020* provides a framework for assessing social determinants of health across five topic areas: economic stability; education; social and community context; health and health care; and, neighborhood and built environment. While a relatively affluent county, there are residents of Middlesex County that face many socioeconomic challenges that may have consequences for health and health care in the region.[11]

### *1. Socioeconomic Status*

Socioeconomic status is the aggregate of several social, economic, and demographic measures. In this analysis, these measures include: household Income and poverty, unemployment, education, ethnic and racial makeup, age, and Divinity Health's Health Need Index by service area. According to *Healthy People 2020*, socioeconomic factors contribute to disparities in disease incidence and mortality among racial, ethnic and underserved groups. Studies indicate that income and socioeconomic status (SES) is a better predictor of the likelihood of an individual's or group's access to education, health insurance, and safe and healthy living and working conditions than race or ethnicity. SES also impacts the prevalence of behavioral risk factors (tobacco smoking, physical inactivity, obesity, excessive alcohol use) and rates of preventive screenings (lower SES, fewer screenings).

#### *Income, Poverty, and Unemployment*

Income influences the way people invest in their health and provides options for healthy lifestyle choices. In low income circumstances, preventive care expenses are more often neglected in favor of immediate living expenses. The longer people live in poverty, the more abject their income disadvantage and the more likely they are to suffer from a range of health problems. Circumstances that lead to poverty also may lead to social exclusion, discrimination, racism, stigmatization, and unemployment. Thus, the following measures of income and poverty may be evidence of these problems.

Unemployment puts health at risk, starting when people first feel their jobs are threatened, before they become unemployed. Job insecurity increases mental health issues, particularly anxiety and depression. Populations with higher unemployment rates have collective increased risk of premature death.

Those who are unemployed face greater challenges to health and well-being, including lost income and health insurance. Unemployed individuals are 54% more likely to be in poor or fair health as compared to employed individuals. According to CHR, racial and ethnic minorities and those with less education, often already at-risk for poor health outcomes, are most likely to be unemployed. Labor statistics indicate unemployment rates peaked at the height of the recession in 2010 and began to show some improvement beginning in 2014. Most areas of the State have shown continued improvement.

[11] https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health

***Middlesex County***

Although Middlesex County has affluent areas, pockets of poverty in New Brunswick, Highland Park and Monroe Township exist.

- In 2016, the median household income in Middlesex County was $80,716, a little over $7,000 above the State median of $73,702.
- In 2016, Middlesex County had a lower percentage of people living below the federal poverty level than statewide, 8.9% and 10.9% respectively. [12]
- Between 2014 and 2016, unemployment throughout New Jersey declined. In 2016, the Middlesex County unemployment rate was 4.6%, a decrease of 1.0% from 2014, and lower than the New Jersey unemployment rate of 5.2%.[13]

***RWJUH/SPUH Service Area***

- The 2016 median household income of East Brunswick residents ($101,245) was about $27,000 larger than the statewide figure ($73,702).
- In the RWJUH/SPUH Service Area, New Brunswick had the lowest median household income at $40,428.
- Residents of Middlesex County had a median household income of $80,716.

**Median Household Income**
**State and County Comparisons – 2014-2016**


| | 2014 | 2016 |
|---|---|---|
| New Jersey | $72,062 | $73,702 |
| Middlesex County | $80,118 | $80,716 |
| Union County | $69,396 | $70,476 |
| Somerset County | $100,903 | $102,405 |
| Monmouth County | $85,605 | $87,297 |
| New Brunswick (08901) | $38,399 | $40,428 |
| Edison (08817) | $84,510 | $84,605 |
| East Brunswick (08816) | $97,370 | $101,245 |
| Monroe Township (08831) | $69,897 | $73,122 |
| Piscataway (08854) | $89,572 | $89,244 |
| Somerset (08873) | $88,491 | $87,213 |
| North Brunswick (08902) | $80,549 | $83,057 |
| Highland Park (08904) | $66,414 | $67,829 |

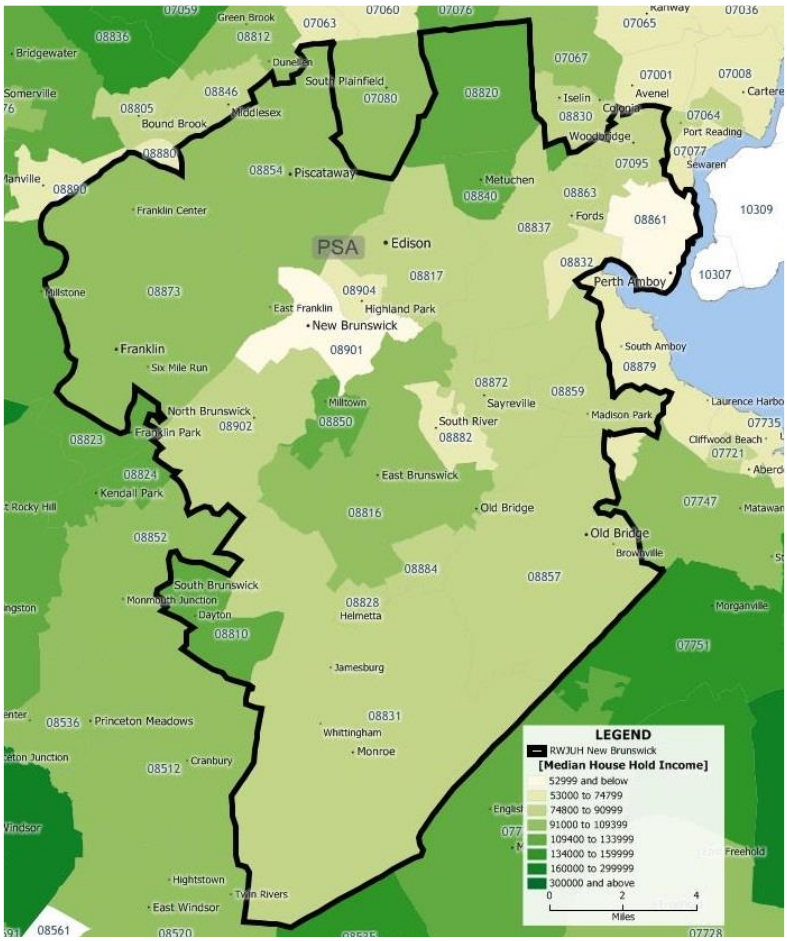
Source: United States Census 2016 5 Year ACS Estimates

12 Ibid.
13 United States Bureau of Labor Statistics Newark, NJ-PA, Division Economic Summary 2016 http://www.bls.gov/regions/new-york-new-jersey/summary/blssummary_newark_div.pdf

## Median Household Income, 2018
## Middlesex County

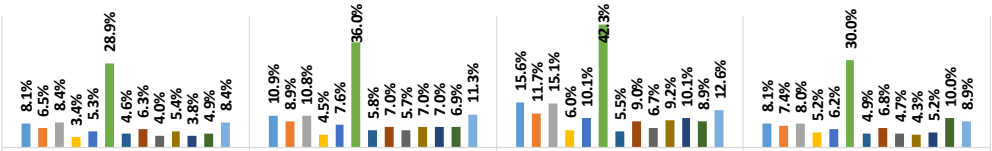
| HOUSEHOLD INCOME: County's (2018*) | |
|---|---|
| GEOGRAPHIC AREA | MEDIAN |
| New Jersey | $78,317 |
| Middlesex County | $82,945 |
| Union County | $76,739 |
| Somerset County | $107,717 |
| Monmouth County | $93,543 |

| HOUSEHOLD INCOME: Areas of Interest (2018*) | |
|---|---|
| GEOGRAPHIC AREA | MEDIAN |
| East Brunswick (08816) | $102,718 |
| Edison (08817) | $86,161 |
| Monroe Township (08831) | $80,259 |
| Piscataway (08854) | $92,884 |
| Somerset (08873) | $92,379 |
| New Brunswick (08901) | $41,966 |
| North Brunswick (08902) | $82,305 |
| Highland Park (08904) | $73,457 |



- In 2016, the percent of families living in poverty in Middlesex County (6.5%) was lower than the State (8.1%).[14]
    - In 2016, 36.0% of people and 28.9% of families were living in poverty in New Brunswick. The New Brunswick percentage of children in poverty 42.3%.
- In 2016, there was a wide range of percentages of families living in poverty across select RWJUH/SPUH service area zip codes:[15]
    - Somerset: 3.8%
    - New Brunswick: 28.9%
    - East Brunswick: 6.3%
    - Highland Park: 8.4%
- New Brunswick's percent of families living in poverty is more than triple the New Jersey percentage (8.1%).

**Income Below Federal Poverty Level**
**State and County Comparisons, 2016**




| | Families | People | Children | Seniors |
|---|---|---|---|---|
| New Jersey | 8.1% | 10.9% | 15.6% | 8.1% |
| Middlesex County | 6.5% | 8.9% | 11.7% | 7.4% |
| Union County | 8.4% | 10.8% | 15.1% | 8.0% |
| Somerset County | 3.4% | 4.5% | 6.0% | 5.2% |
| Monmouth County | 5.3% | 7.6% | 10.1% | 6.2% |
| New Brunswick (08901) | 28.9% | 36.0% | 42.3% | 30.0% |
| Edison (08817) | 4.6% | 5.8% | 5.5% | 4.9% |
| East Brunswick (08816) | 6.3% | 7.0% | 9.0% | 6.8% |
| Monroe Township (08831) | 4.0% | 5.7% | 6.7% | 4.7% |
| Piscataway (08854) | 5.4% | 7.0% | 9.2% | 4.3% |
| Somerset (08873) | 3.8% | 7.0% | 10.1% | 5.2% |
| North Brunswick (08902) | 4.9% | 6.9% | 8.9% | 10.0% |
| Highland Park (08904) | 8.4% | 11.3% | 12.6% | 8.9% |

Source: United States Census 2016 5 Year ACS Estimates

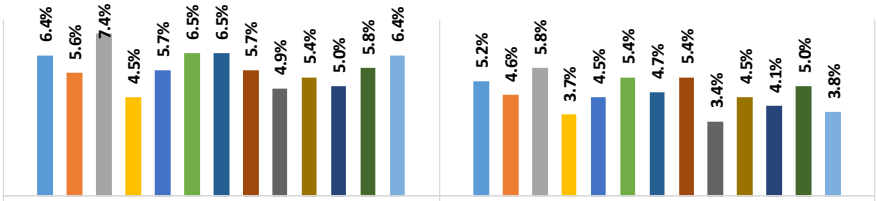
## ***Unemployment***

- In 2016, the unemployment rate for Middlesex County (4.6%) was just below the rate statewide (5.2%).
- The Middlesex County unemployment rate declined 1.0 percentage points between 2014-2016.
- In 2016, the unemployment rate in New Brunswick was 5.4%, a decrease from 6.5% in 2014, but higher than the Middlesex County rate of 4.6%, and the State rate of 5.2%.[16]
- In 2016, the unemployment rate for Highland Park fell to 3.8% from 6.4% in 2014.

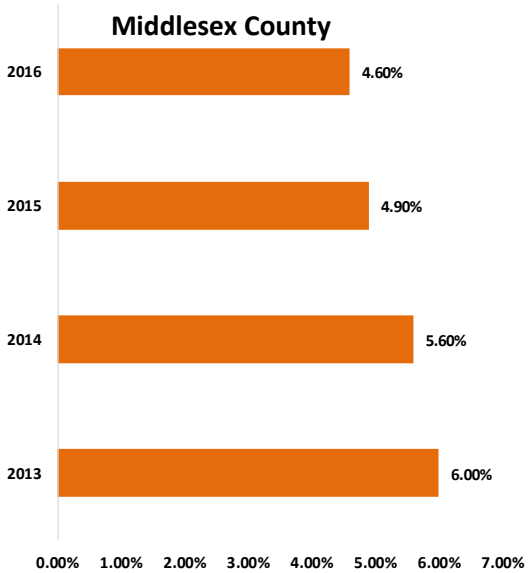
14 United States Census Bureau American Community Survey 2014
http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table
15 United States Census Bureau American Community Survey 2014
16 Ibid.

- In 2016, the Piscataway unemployment rate was 4.5%, a decrease from 5.4% in 2014, and lower than the Middlesex County unemployment rate of 4.6%.[17]
- In 2016, the Edison unemployment rate was 4.7%, a decrease from 6.5% in 2014.

**Unemployment**
**State and County Comparisons, 2014-2016**




| | 2014 | 2016 |
|---|---|---|
| New Jersey | 6.4% | 5.2% |
| Middlesex County | 5.6% | 4.6% |
| Union County | 7.4% | 5.8% |
| Somerset County | 4.5% | 3.7% |
| Monmouth County | 5.7% | 4.5% |
| New Brunswick (08901) | 6.5% | 5.4% |
| Edison (08817) | 6.5% | 4.7% |
| East Brunswick (08816) | 5.7% | 5.4% |
| Monroe Township (08831) | 4.9% | 3.4% |
| Piscataway (08854) | 5.4% | 4.5% |
| Somerset (08873) | 5.0% | 4.1% |
| North Brunswick (08902) | 5.8% | 5.0% |
| Highland Park (08904) | 6.4% | 3.8% |




Source: United States Census 2014-2016 5 Year ACS Estimates

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
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*National Benchmark: 3.2%*
*Middlesex County 2016: 4.6%*

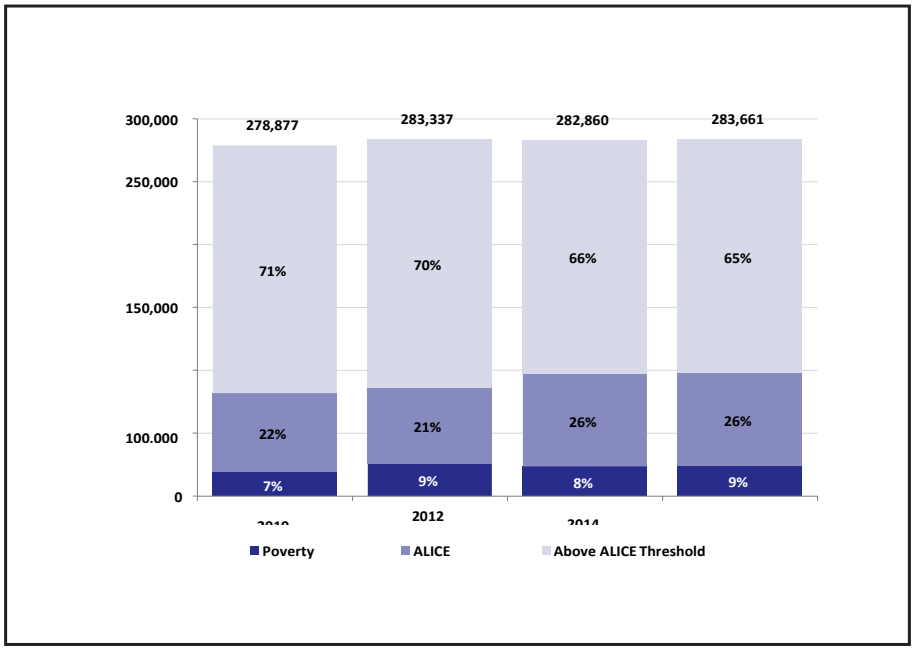
17 HomeFacts East Orange Unemployment Report 2016 http://www.homefacts.com/unemployment/New-Jersey/Middlesex-County/East-Orange.html

***Asset Limited Income Constrained Employed Project***

Many believe that the Federal Poverty Level (FPL) understates true poverty and is prejudicial to New Jersey as it fails to adjust for differences in the cost of living across states.

To ascertain the number of households that may be struggling due to the high cost of living in New Jersey we turned to the United Way's ALICE (Asset Limited Income Constrained Employed project)[18] to get a better idea of the number of households that earn more than the Federal Poverty Level but less than the basic cost of living in Middlesex County. As shown in the chart below, the Alice Threshold (AT) combined the number of households in poverty and ALICE households equals the population struggling to afford basic needs. In Middlesex County, this percentage amounts to 35% (2016).

**Households by Income, 2010 to 2016**
**Middlesex County**




Sources: **2016 Point-in-Time Data**: American Community Survey. **ALICE Demographics:** American Community Survey; the ALICE Threshold. **Budget:** U.S. Department of Housing and Urban Development (HUD); U.S. Department of Agriculture (USDA); Bureau of Labor Statistics (BLS); Internal Revenue Service (IRS); State of New Jersey Department of the Treasury; Child Care Aware NJ (CCANJ).

The United Way's analysis shows ALICE households in Middlesex County may earn above the Federal poverty level for a single adult, $11,880, or $24,300 for a family of four, but less than the household survival budget for Middlesex County.

[18] http://www.unitedwaynj.org/ourwork/aliceatnj.php

| Household Survival Budget, Middlesex County | | |
|---|---|---|
| | SINGLE ADULT | 2 ADULTS, 1 INFANT, 1 PRESCHOOLER |
| **Monthly Costs** | | |
| **Housing** | $992 | $1,578 |
| **Child Care** | $– | $1,471 |
| **Food** | $182 | $603 |
| **Transportation** | $116 | $186 |
| **Health Care** | $196 | $727 |
| **Technology** | $55 | $75 |
| **Miscellaneous** | $187 | $538 |
| **Taxes** | $330 | $738 |
| **Monthly Total** | $2,058 | $5,916 |
| **ANNUAL TOTAL** | $24,696 | $70,992 |
| ***Hourly Wage*** | *$12.35* | *$35.50* |

Sources: **2016 Point-in-Time Data**: American Community Survey. **ALICE Demographics:** American Community Survey; the ALICE Threshold. **Budget:** U.S. Department of Housing and Urban Development (HUD); U.S. Department of Agriculture (USDA); Bureau of Labor Statistics (BLS); Internal Revenue Service (IRS); State of New Jersey Department of the Treasury; Child Care Aware NJ (CCANJ).

There appears to be wide differences among municipalities in Middlesex County in terms of the percentage of households living in poverty or at the ALICE threshold. Forty percent or more of residents in the towns of New Brunswick, Perth Amboy, South Amboy, South River, Carteret, Highland Park, and Jamesburg had incomes at the Federal poverty level or at the ALICE threshold.

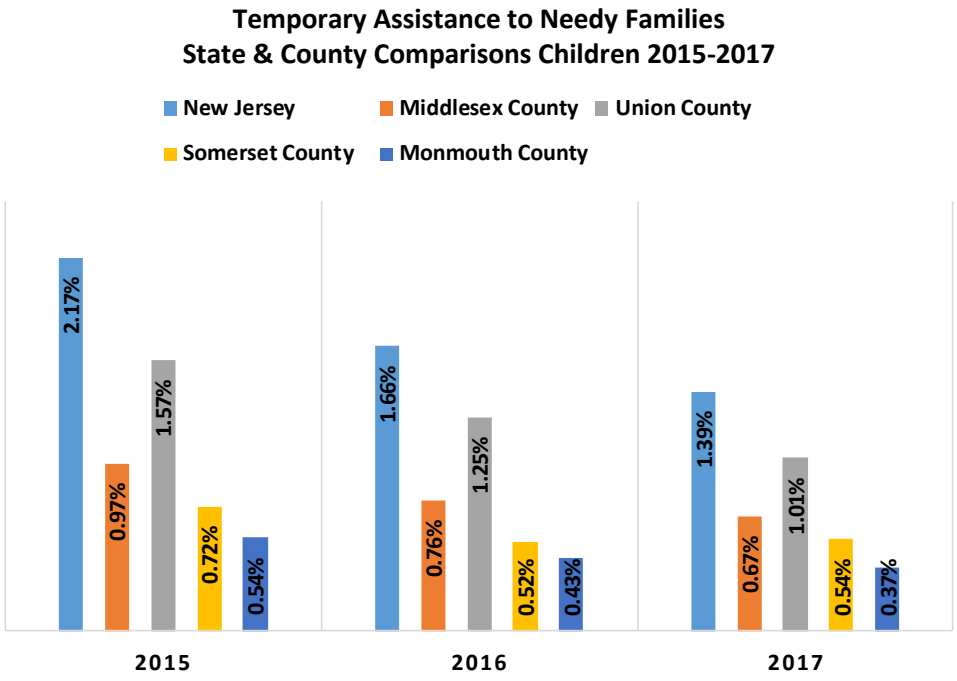
| Middlesex County, 2016 | | |
|---|---|---|
| Town | Total HH | % ALICE & Poverty |
| Carteret | 8,048 | 43% |
| Cranbury | 1,312 | 19% |
| Dunellen | 2,418 | 36% |
| East Brunswick | 16,752 | 28% |
| Edison | 35,540 | 30% |
| Helmetta | 842 | 34% |
| Highland Park | 5,778 | 40% |
| Jamesburg | 2,176 | 40% |
| Metuchen | 5,174 | 22% |
| Middlesex | 4,610 | 33% |
| Milltown | 2,528 | 23% |
| Monroe | 18,196 | 36% |
| New Brunswick | 14,309 | 66% |
| North Brunswick | 14,441 | 34% |
| Old Bridge | 24,080 | 31% |
| Perth Amboy | 15,784 | 58% |
| Piscataway | 16,253 | 31% |
| Plainsboro | 9,260 | 26% |
| Sayreville | 16,076 | 36% |
| South Amboy | 3,545 | 44% |

| Middlesex County, 2016 | | |
|---|---|---|
| Town | Total HH | % ALICE & Poverty |
| South Brunswick | 15,505 | 23% |
| South Plainfield | 7,885 | 29% |
| South River | 5,566 | 42% |
| Spotswood | 3,356 | 38% |
| Woodbridge | 33,845 | 32% |

***Temporary Assistance Needy Families (TANF)***

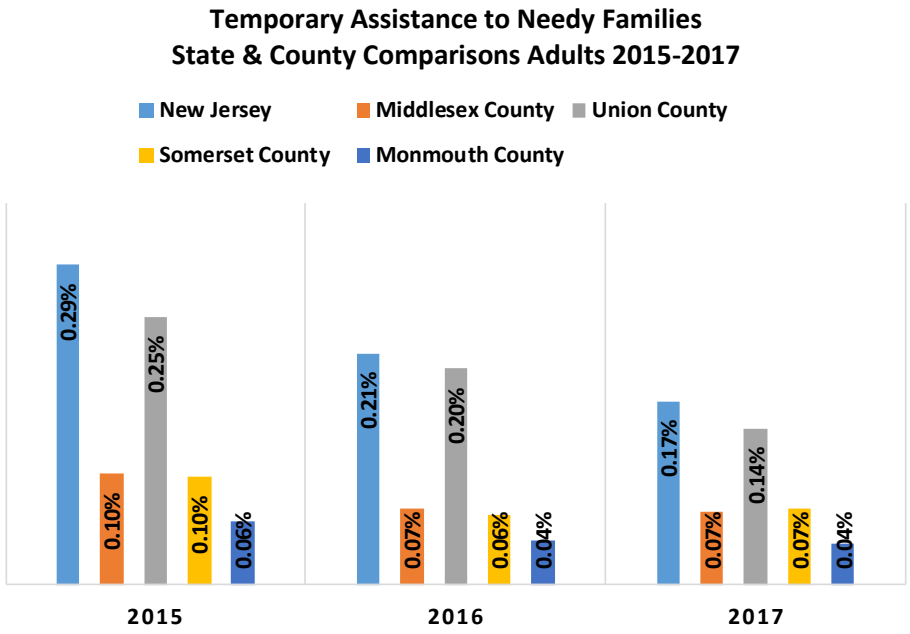
In order to qualify for TANF in New Jersey, applicants must comply with all requirements of Work First New Jersey. This includes signing over rights of child support payments, helping to establish paternity of children, cooperating with work requirements and applying for all assistance programs for which a household may be eligible. Additionally, eligible applicants must meet income and resource guidelines.[19]

- As of December 2017, 0.67% of Middlesex County children were receiving Work First NJ/TANF benefits, a little less than half the statewide rate (1.39%); Middlesex County ranks in the middle performing quartile in New Jersey.
- As of December 2017, 0.07% of Middlesex County adults were receiving Work First NJ/TANF benefits, less than statewide (0.17%).
- Between 2015 and 2017, the percentage of adults and children receiving WFNJ/TANF benefits declined.




Source: http://www.nj.gov/humanservices/dfd/news/cps_dec17.pdf

[19] *http://www.tanfprogram.com/new-jersey-tanf-eligibility*




Source: http://www.nj.gov/humanservices/dfd/news/cps_dec17.pdf

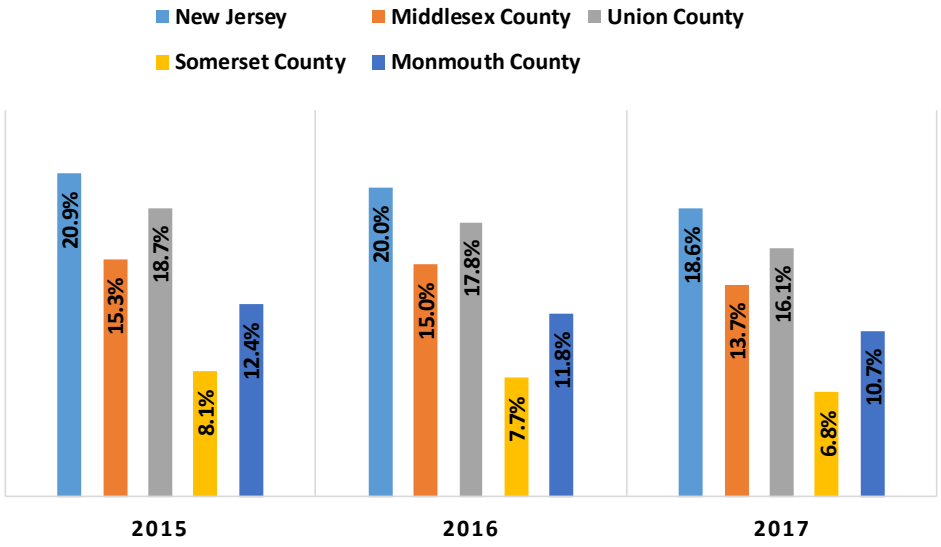
***Supplemental Nutrition Assistance Program (SNAP)***

SNAP offers nutrition assistance to millions of eligible, low-income individuals and families. The Food and Nutrition Service works with State agencies, nutrition educators and neighborhood and faith-based organizations to ensure that those eligible for nutrition assistance make informed decisions and access benefits.[20]

- In 2017, less Middlesex County children (13.7%) used SNAP benefits than children Statewide (18.6%).
- In 2017, less Middlesex County adults (4.4%) used SNAP benefits than throughout the State (5.8%).
- Between 2015 and 2017, Middlesex County experienced a decline in the percentage of adults and children receiving SNAP benefits.
- The percentage of Middlesex County children and adults receiving SNAP benefits ranks in the middle performing quartile among all counties.

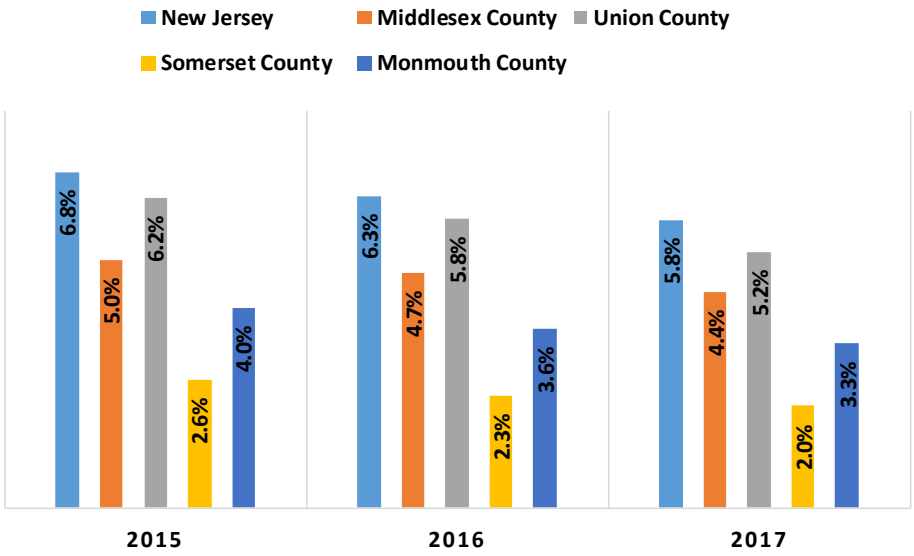
[20] *http://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap*

**Supplemental Nutrition Assistance Program (SNAP)**
**State & County Comparisons Children 2015-2017**




Source: http://www.nj.gov/humanservices/dfd/news/cps_dec17.pdf

**Supplemental Nutrition Assistance Program (SNAP)**
**State & County Comparisons Adults 2015-2017**



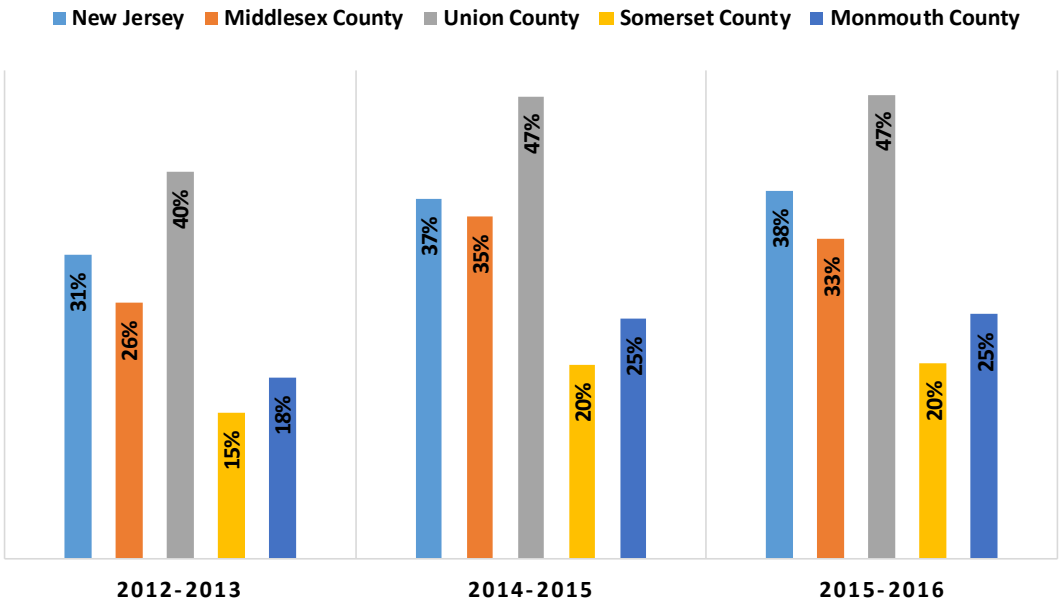

Source: http://www.nj.gov/humanservices/dfd/news/cps_dec17.pdf

***Children Eligible for Free Lunch***

Public schools nationwide and across New Jersey have free lunch programs for children living at or near poverty. New Jersey requires public schools serve school lunches meeting at least one-third of recommended dietary allowances. According to the National School Lunch Program, the objective is "to provide a nutritious, well-balanced lunch for children in order to promote sound eating habits, to foster good health and academic achievement and to reinforce the nutrition education taught in the classroom."[21]

- The percentage of children eligible for free lunch increased throughout New Jersey, Middlesex, Union, Somerset and Monmouth Counties between 2012-2013 and 2015-2016.
- Middlesex County reported a 7 percentage point increase in students eligible for free lunch from 26% during the 2012-2013 school years to 33% in 2015-2016 school years.
- Middlesex County is within the middle performing quartile compared to of all New Jersey counties for free school lunch eligibility, and on par with the County Health Rankings benchmark.

**Children Eligible for Free Lunch**
**State & County Comparisons 2012-2016**




Source: http://www.nj.gov/humanservices/dfd/news/cps_dec17.pdf

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
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*National Benchmark: 33.0%*
*Middlesex County 2016: 33.0%*

[21] http://www.nj.gov/agriculture/divisions/fn/childadult/school_lunch.html

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **WFNJ/TANF (Supplemental Nutritional Assistance Program)** *Percent of Population* | N.A. | N.A. | |
| **WFNJ/TANF-Children** *Percent of Children* | N.A. | N.A. | |
| **SNAP (Supplemental Nutrition Assistance Program)** *Percent of Population Receiving SNAP* | N.A. | N.A. | |
| **SNAP-Children** *Percent of Children Receiving SNAP* | N.A. | N.A. | |
| **Children Eligible for Free Lunch** | N.A. | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *2. Education*

People with higher levels of educational attainment tend to have lower morbidity rates from acute and chronic diseases, independent of demographic and labor market factors. Life expectancy is increasing in the United States, yet differences have become more pronounced between those with and without a college education. The mechanisms by which education influences health are complex and likely include interrelationships between demographic and family background indicators, effects of poor health in childhood, greater resources associated with higher levels of education, a learned appreciation for the importance of good health behaviors, and one's social networks.[22] The ability to communicate in English is also a key part of educational competence.

The lack of English proficiency can negatively impact one's ability to understand and follow medical directions. Middlesex County residents experienced a decrease in the percentage of the population over age 5 with limited English proficiency.

### *Middlesex County*

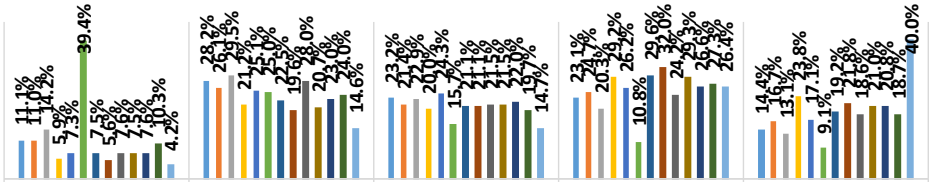
- In 2016, 11.0% of Middlesex County residents did not graduate from high school, 0.1 percentage points lower than New Jersey at 11.1%.[23]
- In 2016, 41.4% of Middlesex County residents earned a bachelor's degree or higher.[24]

22 National Poverty Center Policy Brief #9 Education and Health 2007 http://www.npc.umich.edu/publications/policy_briefs/brief9/
23 United States Census Bureau American Community Survey 2014
24 Ibid.

***RWJUH/SPUH Service Area Towns***

- In 2016, 39.4% of New Brunswick residents did not complete high school, higher than the county (11.0%) or statewide percentage (11.1%).
- In 2016, 4.2% of Highland Park residents did not complete high school, the lowest in all the comparison areas. Over 66% of Highland Park residents earned a bachelor's degree or higher.

**Educational Attainment**
**State & County Comparisons, 2016**



| | No High School Diploma | High school graduate (includes equivalency) | Some College/associate's degree | Bachelor's degree | Graduate or professional degree |
|---|---|---|---|---|---|
| New Jersey | 11.1% | 28.2% | 23.2% | 23.1% | 14.4% |
| Middlesex County | 11.0% | 26.1% | 21.4% | 24.7% | 16.7% |
| Union County | 14.2% | 29.5% | 22.9% | 20.3% | 13.1% |
| Somerset County | 5.9% | 21.2% | 20.0% | 29.2% | 23.8% |
| Monmouth County | 7.3% | 25.1% | 24.3% | 26.2% | 17.1% |
| New Brunswick (08901) | 39.4% | 25.0% | 15.7% | 10.8% | 9.1% |
| Edison (08817) | 7.5% | 22.5% | 21.1% | 29.6% | 19.2% |
| East Brunswick (08816) | 5.6% | 19.6% | 21.1% | 32.0% | 21.8% |
| Monroe Township (08831) | 7.6% | 28.0% | 21.5% | 24.2% | 18.6% |
| Piscataway (08854) | 7.5% | 20.7% | 21.5% | 29.3% | 21.0% |
| Somerset (08873) | 7.6% | 23.0% | 22.0% | 26.6% | 20.8% |
| North Brunswick (08902) | 10.3% | 24.0% | 19.7% | 27.3% | 18.7% |
| Highland Park (08904) | 4.2% | 14.6% | 14.7% | 26.4% | 40.0% |

Source: United States Census 2016 5 Year ACS Estimates

Healthy People 2020

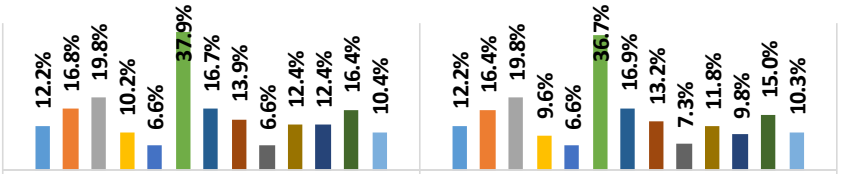
*Baseline: 89.0 %*
*Target: 97.9%*
*Middlesex County 2016: 89.0%*

***Limited English Proficiency***

The lack of English proficiency can negative impact one's ability to understand and follow medical directions. Middlesex County residents experienced a decrease in the percentage of the population over age 5 with limited English proficiency.

- In 2016, the percentage of Limited English Proficiency (LEP) individuals in New Brunswick (36.7%) was higher than New Jersey (12.2%) and Middlesex County (16.4%).
- In 2016, 7.3% of Monroe residents had Limited English Proficiency up from 6.6% in 2014.
- In 2016, the percentage of Limited English Proficiency (LEP) persons age 5+ in Middlesex County (16.4%) was higher than New Jersey (12.2%).

**Limited English Proficiency Households (%)**
**State & County Comparisons, 2014-2016**




| | 2014 | 2016 |
|---|---|---|
| New Jersey | 12.2% | 12.2% |
| Middlesex County | 16.8% | 16.4% |
| Union County | 19.8% | 19.8% |
| Somerset County | 10.2% | 9.6% |
| Monmouth County | 6.6% | 6.6% |
| New Brunswick(08901) | 37.9% | 36.7% |
| Edison(08817) | 16.7% | 16.9% |
| East Brunswick (08816) | 13.9% | 13.2% |
| Monroe Township (08831) | 6.6% | 7.3% |
| Piscataway (08854) | 12.4% | 11.8% |
| Somerset (08873) | 12.4% | 9.8% |
| North Brumswick (08902) | 16.4% | 15.0% |
| Highland Park (08904) | 10.4% | 10.3% |

Source: United States Census 2014 2016 ACS 5 Year Estimates; Persons Age 5+ reporting speaking English "less than well".

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Educational Attainment: No High School Diploma**<br>*Percent of Population (Age 25+)* | | N.A. | |
| **Limited English Proficiency**<br>*Percent of Population (Age 5+)* | N.A. | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *3. Demographics*

### *Age*

Age affects how people behave in relation to their health; as people age, the body becomes more prone to disease and health behaviors become more important to good health.

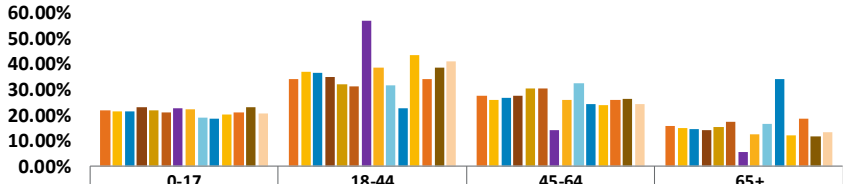
***Middlesex County***

- Middlesex County's population distribution is younger than the State.
- In 2016, 14.69% of Middlesex County residents were seniors over 65 compared to 16.00% statewide.

***RWJUH/SPUH Service Area Towns***

- The population distribution in the RWJUH/SPUH Service Area was similar to the State, but slightly older than the County.
- In 2016, 23.37% of North Brunswick residents were 0-17, higher than the 21.58% in Middlesex County and 21.87% in New Jersey.
- In 2016, 57.03% of New Brunswick residents were 18-44, higher than 36.76% in Middlesex County and 34.40% in New Jersey.
- In 2016, 32.39% of East Brunswick residents were 45-64, higher than 26.97% in Middlesex County and 27.73% in New Jersey.
- In 2016, 18.57% of Somerset residents were 65+, higher than the 14.69% in Middlesex county and the 16.00% statewide.

**Population by Age Cohort**
**State and County Comparisons**




| | 0-17 | 18-44 | 45-64 | 65+ |
|---|---|---|---|---|
| New Jersey | 21.87% | 34.40% | 27.73% | 16.00% |
| RWJUH/SPUH SA | 21.67% | 37.15% | 26.01% | 15.17% |
| Middlesex County | 21.58% | 36.76% | 26.97% | 14.69% |
| Union County | 23.39% | 34.93% | 27.55% | 14.13% |
| Somerset County | 21.80% | 32.16% | 30.56% | 15.49% |
| Monmouth County | 21.01% | 31.17% | 30.50% | 17.32% |
| New Brunswick (08901) | 22.75% | 57.03% | 14.42% | 5.80% |
| Edison (08817) | 22.59% | 38.87% | 25.89% | 12.65% |
| East Brunswick (08816) | 19.31% | 31.64% | 32.39% | 16.76% |
| Monore Township (08831) | 18.71% | 22.87% | 24.38% | 34.04% |
| Piscataway (08854) | 20.16% | 43.44% | 24.06% | 12.34% |
| Somerset (08873) | 21.17% | 34.13% | 26.13% | 18.57% |
| North Brunswick (08902) | 23.37% | 38.62% | 26.33% | 11.69% |
| Highland Park (08904) | 20.58% | 41.33% | 24.62% | 13.47% |

Source: Claritas 2018 Population Estimate

***Ethnic and Racial Makeup***

Racial and ethnic minorities receive lower quality healthcare than non-minorities, even when access-related factors such as insurance status and income are controlled. Sources of disparities are complex and rooted in historic and contemporary inequities, and involve many participants at several levels, including health systems administrative and bureaucratic processes, utilization managers, healthcare professionals, and patients.[25]

25 Institute of Medicine, Unequal Treatment: confronting Racial and Ethnic Disparities in Health Care, 2003, http://www.nap.edu/read/10260/chapter/2

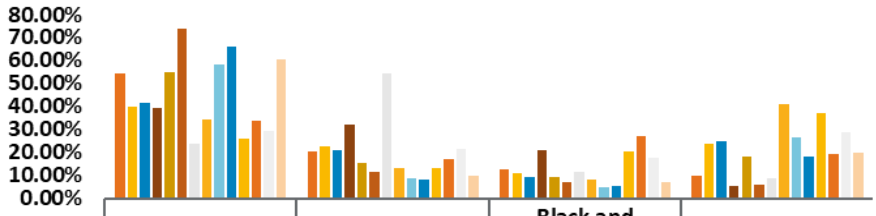
***Middlesex County***

- In 2018, Middlesex County had larger percentages of Asian and Hispanic populations than New Jersey.
    - 24.91% of the county population was Asian, compared to 9.88% statewide.
    - 21.25% of the population was Hispanic/Latino compared to 20.65% statewide.
    - Whites were 41.77% of the county's population compared to 54.39% in New Jersey.

***Select Service Area Towns***

- In 2018, 66.30% of Monroe's population was White, higher than 41.77% in Middlesex County.
- In 2018, 54.21% of New Brunswick's population was Hispanic/Latino compared to 21.25% in Middlesex County and 20.65% in New Jersey.
- In 2018, 27.18% of Somerset's population was Black or African-American, higher than 12.78% in New Jersey.
- In 2018, 41.01% of Edison's population was Asian.
- Between 2010-2018, the Asian population grew by 21.48%, and Hispanics by 20.02%.

**Population by Race/Ethnicity**
**State & County Comparisons**




| | White | Hispanic | Black and African American | Asian |
|---|---|---|---|---|
| New Jersey | 54.39% | 20.65% | 12.78% | 9.88% |
| RWJUH/SPUH SA | 39.88% | 22.84% | 10.99% | 23.81% |
| Middlesex County | 41.77% | 21.25% | 9.56% | 24.91% |
| Union County | 39.23% | 32.16% | 20.90% | 5.51% |
| Somerset County | 55.05% | 15.34% | 9.26% | 18.04% |
| Monmouth County | 74.09% | 11.29% | 6.92% | 5.72% |
| New Brunswick (08901) | 23.72% | 54.21% | 11.73% | 8.63% |
| Edison (08817) | 34.27% | 13.38% | 8.40% | 41.10% |
| East Brunswick (08816) | 58.12% | 8.60% | 4.71% | 26.52% |
| Monore Township (08831) | 66.30% | 8.41% | 5.13% | 18.32% |
| Piscataway (08854) | 25.80% | 13.17% | 20.50% | 36.96% |
| Somerset (08873) | 33.87% | 16.88% | 27.18% | 19.21% |
| North Brunswick (08902) | 29.23% | 21.39% | 17.87% | 28.61% |
| Highland Park (08904) | 60.34% | 10.06% | 7.32% | 19.83% |

Source: Claritas 2018 Population Estimate

**Population by Race/Ethnicity**
**Middlesex County – Trend**

| Middlesex County | | | |
|---|---|---|---|
| RACE / ETHNICITY | 2010 | 2018 | % Change |
| White (alone) | 398,724 | 351,467 | -11.85% |
| Black / African American (alone) | 71,557 | 80,392 | 12.35% |
| Hispanic / Latino (of Any Race) | 148,975 | 178,804 | 20.02% |
| Asian (alone) | 172,534 | 209,589 | 21.48% |
| Native American / Pacific Islander / Other Race (alone) | 4,069 | 4,213 | 3.54% |
| Two or More Races (alone) | 13,999 | 16,873 | 20.53% |

Source: Claritas 2018 Population Estimate

## *4. Social and Community Context*

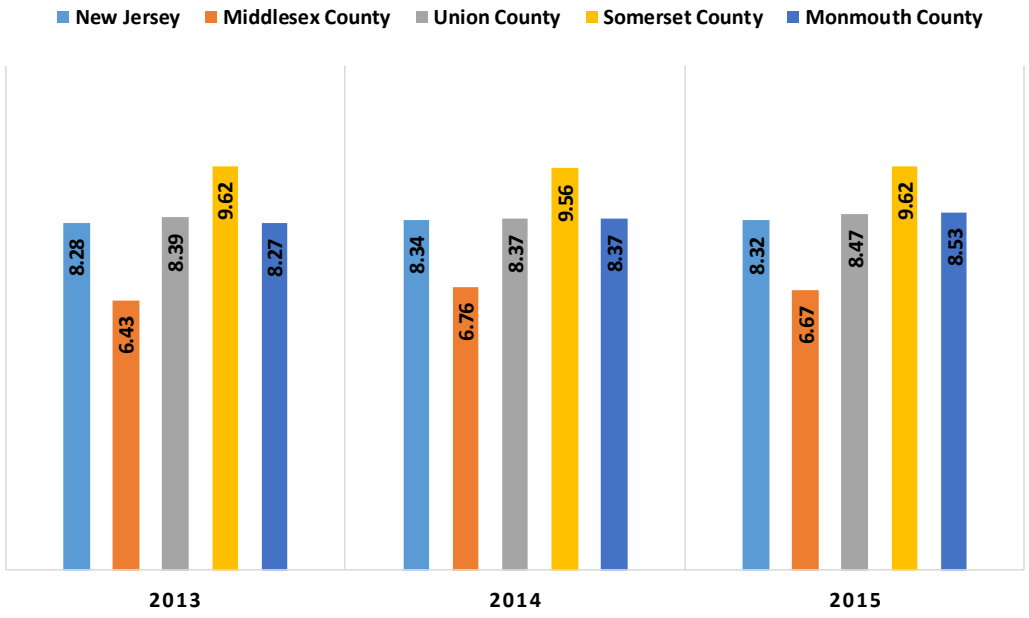
### *Social Associations*

Social isolation can negatively impact health outcomes. Having a strong social network is associated with healthy lifestyle choices, positive health status, and reduced morbidity and mortality. Participation in community organizations can enhance social trust and a sense of belonging.[26] Social associations include structured membership organizations such as civic organizations, bowling centers, golf clubs, fitness centers, sports organizations, religious organizations, political organizations, business and professional associations.

- Between 2013 and 2015, Middlesex County had the lowest membership association rates compared to New Jersey and its comparison counties.
- The membership association rate for Middlesex County falls within the worst performing quartile compared to all 21 counties statewide.

[26] http://www.countyhealthrankings.org/app/new-jersey/2015/measure/factors/140/description

**Number of Membership Organizations**
**State & County Comparisons, 2013-2016**




Source: County Health Rankings, CDC Wonder Mortality Data, 2013 - 2016

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
A Robert Wood Johnson Foundation program

*National Benchmark: 22.1*
*Middlesex County 2015: 6.7*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Membership Organizations** | N.A. | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *5. Health and Health Care*

Access to affordable quality health care is important to physical, social, and mental health. Health insurance helps individuals and families access needed primary care, specialists, and emergency care, but does not ensure access. It is also necessary for providers to offer affordable care, be available to treat patients and be near patients.[27]

[27] http://www.countyhealthrankings.org/our-approach/health-factors/access-care

***Health Insurance***

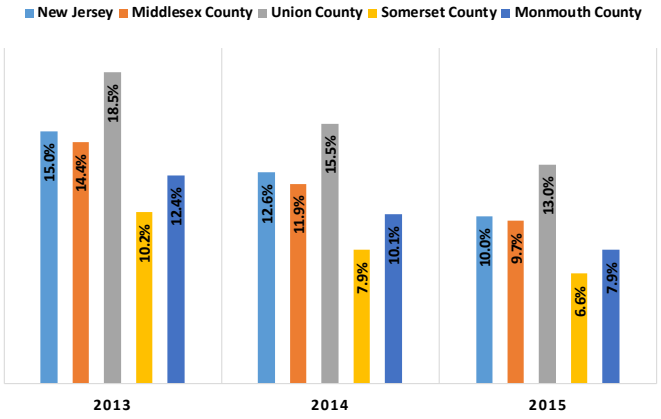
The expansion of Medicaid coverage and the Affordable Care Act's (ACA) coverage provisions, which began taking effect in 2010, helped decrease the nation's uninsured rate by 7.2 percentage points, from 16 percent in 2016. That translates into 20.4 million fewer people who lacked health insurance in 2016 compared to 2010. The uninsured rate is estimated to have increased to 15.5% in the first quarter of 2018, meaning another 4 million lost coverage since 2016 due to changes in health policy and insurance offerings. The uninsured are less likely to have primary care providers than the insured; they also receive less preventive care, dental care, chronic disease management, and behavioral health counseling. Those without insurance are often diagnosed at later, less treatable disease stages than those with insurance and, overall, have worse health outcomes, lower quality of life, and higher mortality rates.

Neighborhoods with low health insurance rates often have fewer providers, hospital beds and emergency resources than areas with higher rates. Even the insured have more difficulty getting care in these areas.

Cost can be a barrier to care even for those who have insurance. Lack of insurance creates barriers to timely access to care for patients and financial burdens to the providers who care for them.

- Since 2013, the non-elderly population without health insurance in Middlesex County has trended downward, decreasing from 14.4% in 2013 to 9.7% in 2015.
- From 2013 through 2015, Middlesex County had consistently lower rates of non-elderly population without health insurance than statewide.
- In 2015, Middlesex County's uninsured rate (9.7%) was higher than the ambitious *Healthy People 2020* target of no person without health coverage. Middlesex County also had a higher percentage of individuals without insurance than the CHR Benchmark.

**Non-elderly Population Without Health Insurance**
**State & County Comparisons 2013-2015**




Source: *Healthy People 2020* - CDC Behavioral Risk Factor Surveillance System
County Health Rankings - US Census Bureau's Small Area Health Insurance Estimates (SAHIE)

*Baseline: 10.0%*
*Target: 0.0%*
*Middlesex County 2015: 9.7%*

*National Benchmark: 6.0%*
*Middlesex County 2015: 9.7%*

### *Access to Care*

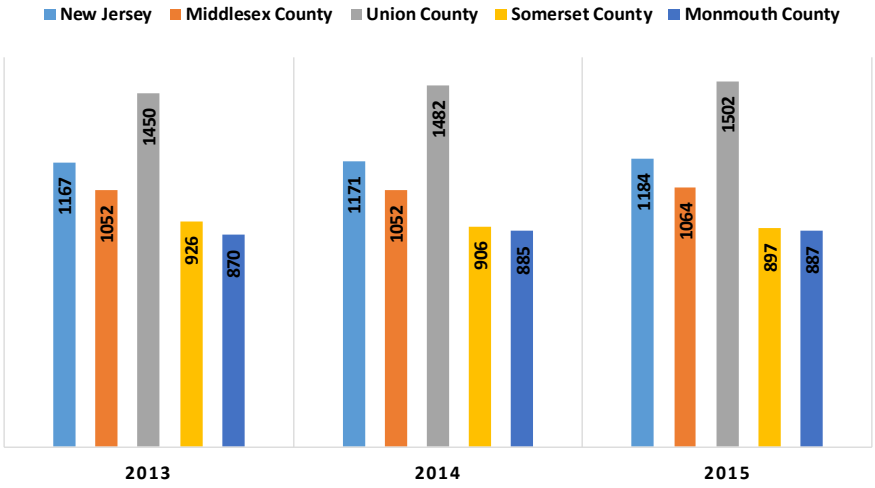
Access to affordable quality health care is important to ensuring physical, social, and mental health. Health insurance assists individuals and families to obtain primary care, specialists, and emergency care, but does not ensure access. Access to care goes beyond just insurance, it is also necessary for providers to offer affordable care, be available to treat patients and be near patients.[28]

### *Primary Care Physicians*

Nationally, many areas lack sufficient providers to meet patient needs; as of June 2014, there are about 7,200 primary care, 5,000 mental health and 5,900 dental federally designated Health Professional Shortage Areas in the US. Having a usual primary care provider is associated with a higher likelihood of appropriate care and better outcomes. In 2017, 88% of Americans had a usual source of care, but those with low incomes are less likely to than those with higher incomes, and the uninsured are twice as likely as the insured to lack a usual care source.[29,30]

- Between 2013 and 2015, the ratio of population to physicians in Middlesex County increased from 1,052:1 to 1,064:1.
- In 2015, the Middlesex County ratio for primary care providers was worse than the CHR national benchmark (1,030:1).
- Middlesex County performs in the middle quartile of all New Jersey counties for the ratio of primary care physicians to population.

**Ratio of Population to Primary Care Physicians**
**State & County Comparisons 2013 - 2015**




Source: County Health Rankings – HRSA Area Resource File

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
A Robert Wood Johnson Foundation program

*National Benchmark: 1030:1*
*Middlesex County 2016: 1064:1*

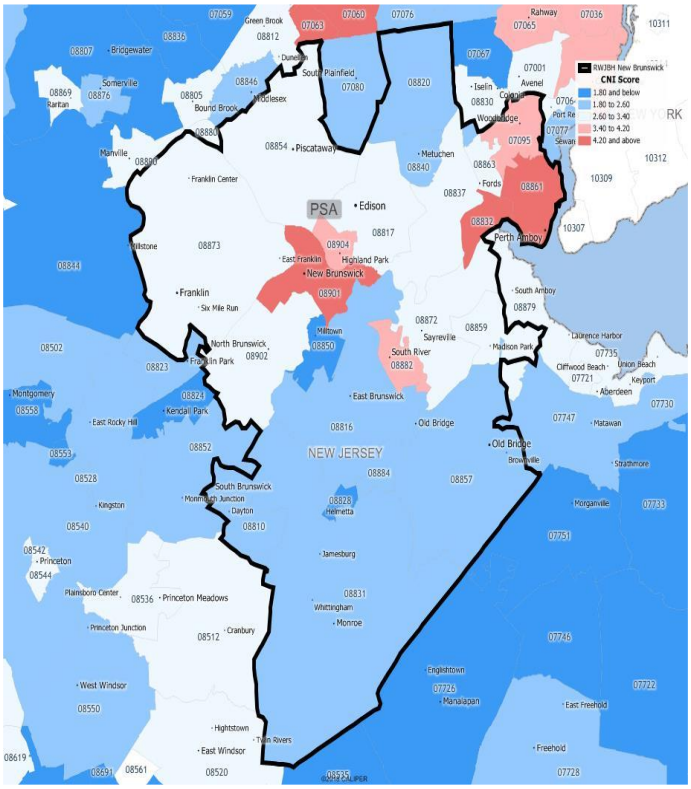
[28] http://www.countyhealthrankings.org/our-approach/health-factors/access-care
[29] http://www.countyhealthrankings.org/our-approach/health-factors/access-care
[30] http://www.cdc.gov/fastfactsaccesstohealthcare.htm

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Primary Care Physicians**<br>*Rate/ 100000 Population* | N.A | | |
| **Health Care Access/ Coverage**<br>*Do You Have Any Kind of Coverage*<br>*% No* | | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

### *Community Need Index* [31]

The Community Need Index (CNI), jointly developed by Dignity Health and Truven Health in 2004, is strongly linked to variations in community healthcare needs and is a strong indicator of a community's demand for services.




Based on a wide array of demographic and economic statistics, the CNI provides a score for every populated ZIP Code in the United States. A score of 1.0 indicates a ZIP Code with the least need and a score of 5.0 represents a ZIP Code with the most need. The CNI is useful as part of a larger community health needs assessment to pinpoint specific areas with greater need than others.

The CNI score is an average of five barrier scores that measure socio-economic indicators of each community using 2017 source data. The five barriers are:

1. Income Barrier
   - Percentage of households below poverty line, with head of household age 65 or older
   - Percentage of families with children under 18 below poverty line
   - Percentage of single female-headed families with children under 18 below poverty line
2. Cultural Barrier
   - Percentage of population that is minority (including Hispanic ethnicity)
   - Percentage of population over age 5 that speaks English poorly or not at all

[31] Truven Health Analytics, 2017; Insurance Coverage Estimates, 2017; Claritas, 2017; and Community Need Index, 2017. http://cni.chw-interactive.org/

3. Education Barrier
    - Percentage of population over 25 without a high school diploma
4. Insurance Barrier
    - Percentage of population in the labor force, aged 16 or more, without employment
    - Percentage of population without health insurance
5. Housing Barrier
    - Percentage of households renting their home

A comparison of CNI scores and hospital utilization reveals a strong correlation between need and use. Communities with low CNI scores can be expected to have high hospital utilization. There is a causal relationship between CNI scores and preventable hospitalizations and ED visits for manageable conditions. Communities with high CNI scores may have more hospitalization and ED visits that could have been avoided with improved healthy community structures and appropriate outpatient and primary care.

**Community Needs Index**

| | Service Area | ZIP Code | ZIP Code Description | CNI Score |
|---|---|---|---|---|
| Highest CNI Score (Highest Need) | PSA | 08832 | Keasbey | 4.6 |
| | | 08901 | New Brunswick | 4.6 |
| | | 08861 | Perth Amboy | 4.4 |
| | | 07095 | Woodbridge | 3.4 |
| | | 08882 | South River | 3.4 |
| Lowest CNI Score (Lowest Need) | PSA | 08884 | Spotswood | 2.2 |
| | | 08810 | Dayton | 2.0 |
| | | 08831 | Monroe Township | 2.0 |
| | | 08850 | Milltown | 1.8 |
| | | 08828 | Helmetta | 1.6 |

*Source: 2017 Dignity Health, Truven Health Analytics, 2016; Insurance Coverage Estimates, 2016; Claritas, 2016; and Community Need Index, 2016.*

Keasbey and New Brunswick share the highest CNI score (4.6) indicating highest need in the service area, followed by Perth Amboy (4.4), Woodbridge, South River and Highland Park at (3.4). Conversely, Helmetta (1.6) and Milltown (1.8) represented the lowest CNI scores in the Service Area.

***Timeliness of Service***

A key indicator of the timeliness of service is emergency department (ED) utilization for conditions that could have been treated in a primary care setting.

Reasons for accessing the ED instead of a more appropriate, lower acuity level of care include:

- No regular source of primary care
- Lack of health insurance
- Cost
- Transportation
- Office hours
- Citizenship status

***ED Utilization of Ambulatory Care Conditions***

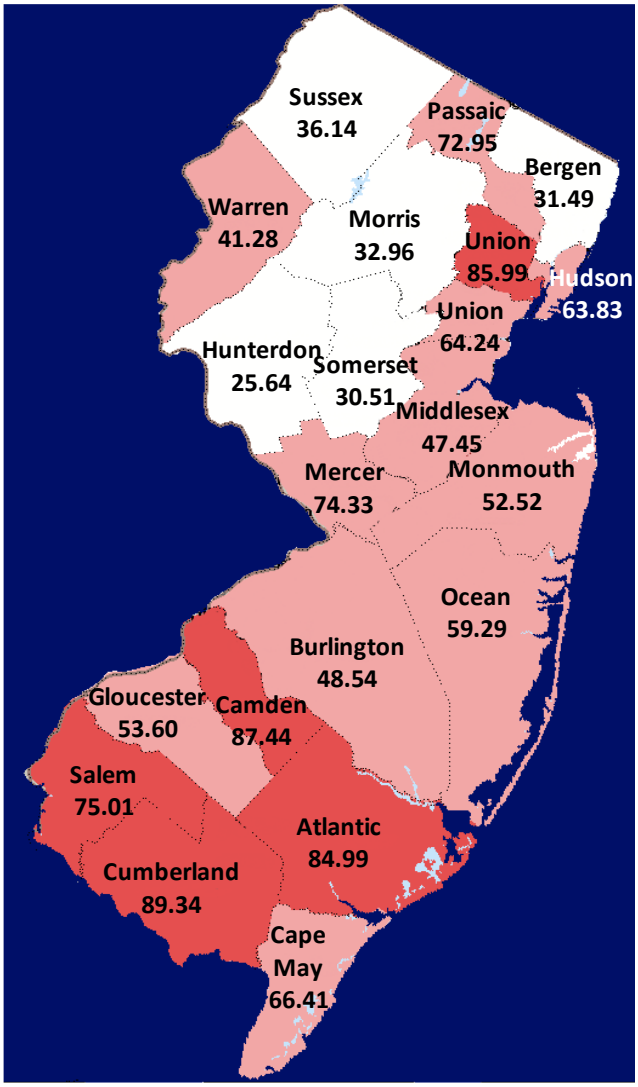
Ambulatory Care Sensitive Conditions (ACSC) are potentially preventable medical conditions that are treated in the ER although more appropriate care should have been provided in a non-emergent outpatient primary care setting. ED utilization rates may be reduced by addressing primary care access issues.

***ED Utilization for Ambulatory Care Sensitive Conditions***

Ambulatory Care Sensitive Conditions (ACSC) are potentially preventable medical conditions that are treated in the ED although more appropriate care should have been provided in a non-emergent outpatient primary care setting. ED utilization rates may be reduced by addressing primary care access issues. Higher rates of ACSC conditions in Emergency Departments may indicate primary care access issues poor(er) preventative care among the population and in some instances health barriers related to socio-economic status.

The map shows the total New Jersey ACSC Emergency Department Rate by county. Dark Red shading represents the counties with the 5 highest rates in the State. White Shading represents the counties with the 5 lowest rates in the State. Pink Shading represents counties between the highest and lowest "Top 5s".

- In 2016, Middlesex County's ACSC ED visit rate (at 47.45/1,000) was lower than the statewide rate (58.22/1,000).
- Middlesex County had the 7th lowest ACSC ED visit rate of the 21 counties in 2016, 47.45/1,000, this was a 1.01 percentage point decrease from the 2013 rate.



**Total ACSC ED Visits/Rate/1,000 Population**

| ACSC - ED Rate/1000 | | | |
|---|---|---|---|
| COUNTY | NJ 2013 | NJ 2016 | Change '13-'16 |
| CUMBERLAND | 82.08 | 89.34 | 7.26 |
| CAMDEN | 92.53 | 87.44 | (5.09) |
| Union | 81.43 | 85.99 | 4.56 |
| ATLANTIC | 85.64 | 84.99 | (0.65) |
| SALEM | 77.56 | 75.01 | (2.55) |
| MERCER | 73.13 | 74.33 | 1.20 |
| PASSAIC | 70.77 | 72.95 | 2.18 |
| CAPE MAY | 71.68 | 66.41 | (5.27) |
| UNION | 61.98 | 64.24 | 2.26 |
| HUDSON | 58.01 | 63.83 | 5.81 |
| OCEAN | 62.11 | 59.29 | (2.83) |

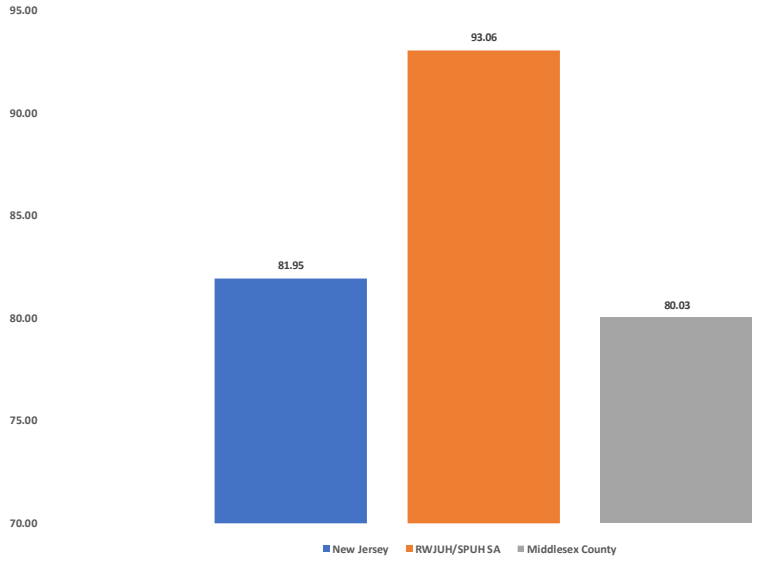
| ACSC - ED Rate/1000 | | | |
|---|---|---|---|
| COUNTY | NJ 2013 | NJ 2016 | Change '13-'16 |
| GLOUCESTER | 53.34 | 53.60 | 0.27 |
| MONMOUTH | 52.97 | 52.52 | (0.46) |
| BURLINGTON | 53.85 | 48.54 | (5.31) |
| MIDDLESEX | 48.46 | 47.45 | (1.01) |
| WARREN | 36.90 | 41.28 | 4.38 |
| SUSSEX | 25.76 | 36.14 | 10.38 |
| MORRIS | 30.40 | 32.96 | 2.56 |
| BERGEN | 31.74 | 31.49 | (0.25) |
| SOMERSET | 30.77 | 30.51 | (0.26) |
| HUNTERDON | 23.72 | 26.62 | 2.90 |
| STATEWIDE | 57.56 | 58.22 | 0.65 |

Source: NJDHSS 2013/2015 UB-04 Data – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

***Children***

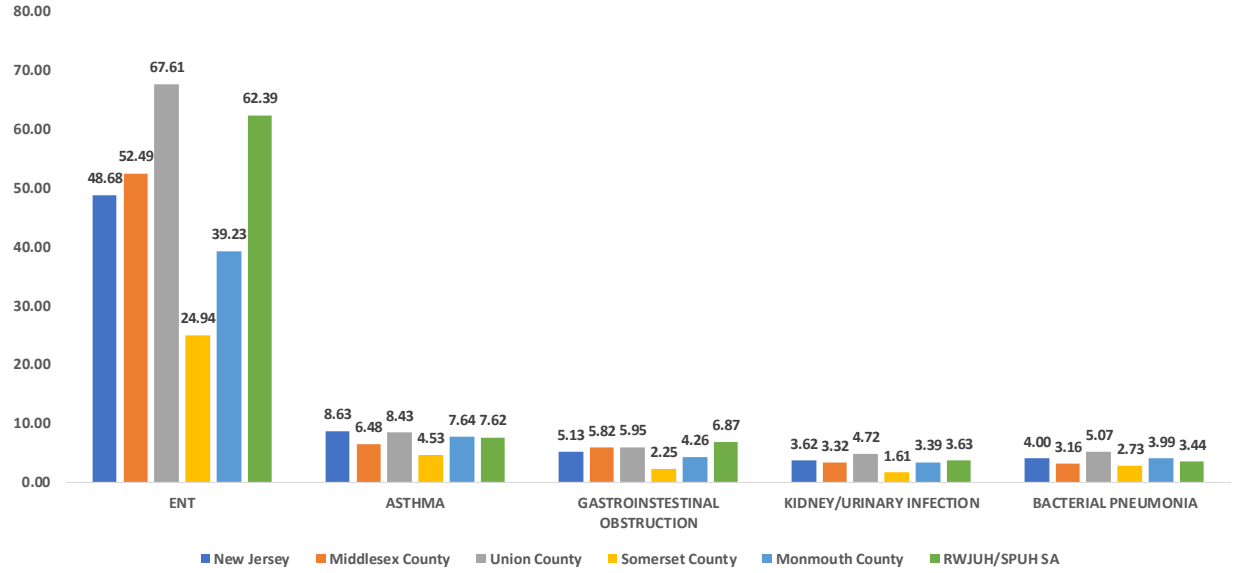
- In 2016, Middlesex County's ACSC ED visits for children age 0-17 (at 80.03/1,000) was lower than the statewide rate (81.95/1,000).
- The 2016 Middlesex County ACSC visit rate among children was also lower than the rate in the RWJUH/SPUH Service Area (93.06/1,000).

**Total ACSC ED Visits for Children (Age 0-17); Rate/1,000 Population**




Source: UB-04 2016 Discharges

**ED ACSC Volume: Top 5 by Service Area Zip Codes – Pediatric (Age 0-17), 2016**
**Rate/1,000 Population**




| ED ACSC (2016) Pediatrics (Age 0-17) | | | | |
|---|---|---|---|---|
| **Geographic Area** | **Rate** | **Geographic Area** | | **Rate** |
| Middlesex County | 80.03 | 08901 | New Brunswick | 333.52 |
| New Jersey | 81.95 | 08861 | Perth Amboy | 175.76 |
| RWJUH/SPUH SA | 93.06 | 08873 | Somerset | 106.44 |
| | | 08832 | Keasbey | 99.56 |
| | | 08882 | South River | 94.44 |

Source: UB-04 2016 Discharges

- The towns with the highest ACSC ED visit rate were New Brunswick (333.52/100,000) and Perth Amboy (175.76/100,000), which have rates above the RWJUH/SPUH Service Area.

**ACSC ED 2016 – Pediatric (Age 0-17)**
**Rate/1,000 Population**

| GEOGRAPHIC AREA | RATE | HIGHEST SERVICE AREA RATES | | |
|---|---|---|---|---|
| New Jersey | 81.95 | 08901 | New Brunswick | 333.52 |
| Middlesex County | 80.03 | 08861 | Perth Amboy | 175.76 |
| RWJUH/SPUH SA | 93.06 | 08873 | Somerset | 106.45 |
| | | 08832 | Keasbey | 99.56 |
| | | 08882 | South River | 94.44 |

- There was a total of 13,400 ACSC ED visits for children from the RWJUH/SPUH Service Area in 2016.
- ENT is the most common ACSC that resulted in an ED visit for children, followed by asthma, gastrointestinal obstruction, kidney/urinary infection, and bacterial pneumonia.

**ACSC ED Volume: Top 5 by Service Area – Pediatric (Age 0-17)**

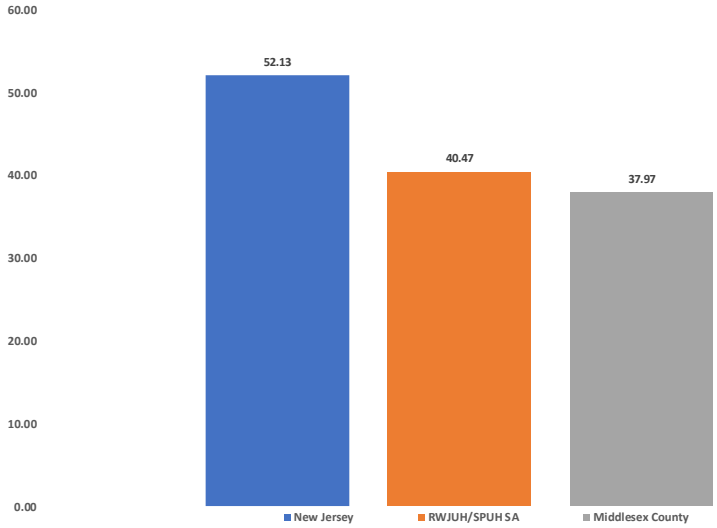
| EMERGENCY DEPARTMENT (2016) – AGE 18+ | | |
|---|---|---|
| Service Area | ACSC Description (Top 5 Combined Service Area) | TOTAL IN AREA |
| RWJUH/SPUH | ENT | 8,983 |
| | Asthma | 1,097 |
| | Kidney/Urinary Infection | 989 |
| | Bacterial Pneumonia | 522 |
| | Gastrointestinal Obstruction | 495 |
| | All Others | 1,314 |
| | TOTAL RWJUH/SPUH SA | 13,400 |

Top 5 Based on Total ACSCs in RWJUH/SPUH Service Area: 2016

*Adults*

- The 2016 Middlesex County's adult ED ACSC rate (37.97/1,000) is lower than the statewide rate (52.13).
- Middlesex County's adult ED ACSC rate is also lower than RWJUH/SPUH's Service Area rate (40.47).

**Total ACSC ED Visits for Adults (age 18+): Rate 1,000 Population**




Source: UB-04 2016 Discharges

- The 2016 adult ED ACSC rate for Perth Amboy was more than double the RWJUH/SPUH Service Area rate (40.47/1,000).
- In 2016, New Brunswick's (79.37/1.000) adult ED ACSC rate was almost double the RWJUH/SPUH Service Area rate.

**ACSC ED 2016 – Adults (Age 18+)**
**Rate/1,000 Population**

| GEOGRAPHIC AREA | RATE | Top 5 By Zip Code | RATE |
|---|---|---|---|
| New Jersey | 52.13 | 08861 Perth Amboy | 94.47 |
| Middlesex County | 37.97 | 08901 New Brunswick | 79.37 |
| RWJUH/SPUH SA | 40.47 | 08832 Keasbey | 64.04 |
| | | 07095 Woodbridge | 42.85 |
| | | 08873 Somerset | 42.18 |

Source: UB-04 2016 Discharges

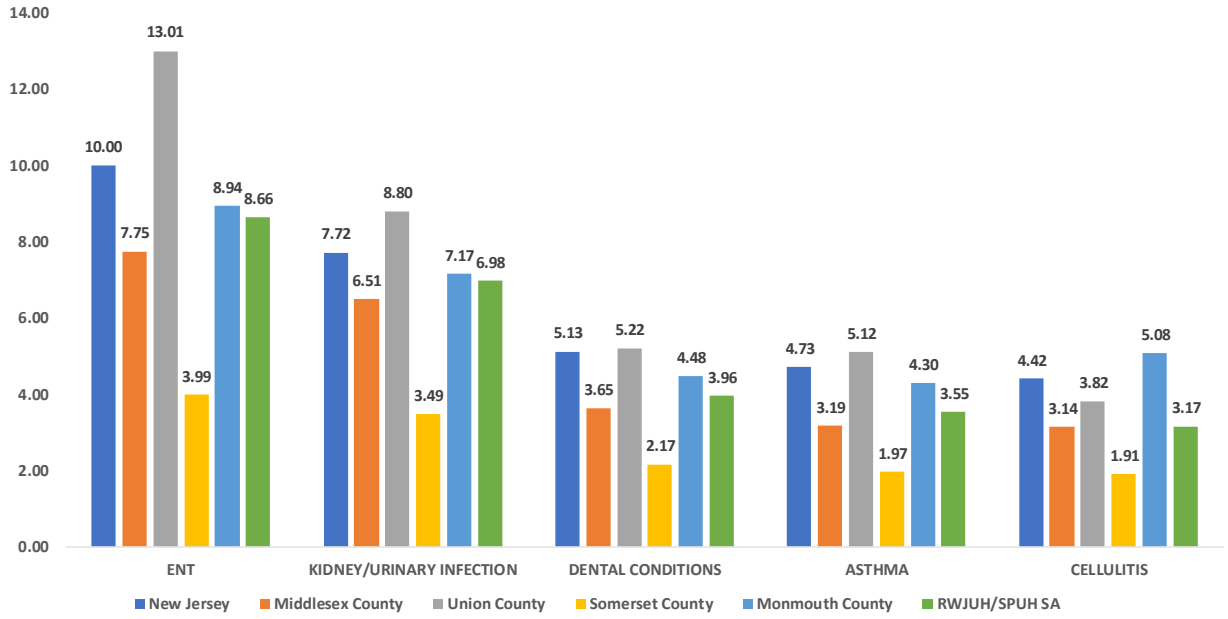
- There was a total of 20,775 adult ED ACSC visits in 2016 in the RWJUH/SPUH Service Area.

| EMERGENCY DEPARTMENT (2016) – AGE 18+ | | |
|---|---|---|
| Service Area | ACSC Description (Top 5 Combined Service Area) | TOTAL IN AREA |
| RWJUH/SPUH | ENT | 4,444 |
| | Kidney/Urinary Inf. | 3,581 |
| | Dental Conditions | 2,032 |
| | Asthma | 1,823 |
| | Cellulitis | 1,626 |
| | All Others | 7,269 |
| | TOTAL RWJUH/SPUH SA | 20,775 |

Top 5 Based on Total ACSCs in RWJUH/SPUH Service Area: 2016

- In 2016, ENT was the leading cause of adult ED ACSC followed by kidney/urinary infection, dental conditions, asthma, and cellulitis in the service area.
- In 2016, Middlesex County adults had an ED visit rate for all 5 top conditions that was lower than the State, Union and Monmouth Counties, and the RWJUH/SPUH Service Area, but higher than Somerset County.

**Total ACSC ED Visits for Adults (Age 18+): Rate/1,000 Population**
**Top 5 Conditions (2016)**




| ED ACSC (2016) Adults 18+ | | | | |
|---|---|---|---|---|
| **Geographic Area** | **Rate** | **Geographic Area** | | **Rate** |
| Middlesex County | 37.97 | 08861 | Perth Amboy | 94.47 |
| New Jersey | 52.13 | 08901 | New Brunswick | 79.37 |
| RWJUH/SPUH SA | 40.47 | 08832 | Keasbey | 64.04 |
| | | 07095 | Woodbridge | 42.85 |
| | | 08873 | Somerset | 42.18 |

Source: UB-04 2016 Discharges

***Inpatient Utilization for Ambulatory Care Sensitive Conditions***

Individuals may be admitted to the hospital due to an ACSC; higher rates of ACSC conditions among inpatients indicate primary care access issues, poor preventive care and barriers related to socioeconomic status.

- Middlesex County ranks 7/21 counties with 15.33/1,000 ACSC Inpatient admissions in 2016, a 1.74 percentage point decrease from 2013.
- In 2016, Middlesex County (15.33/1,000) had a lower rate of ACSC Inpatient admissions than the State (16.99/1,000).

**Total Ambulatory Care Sensitive Conditions (ACSCs) Inpatient Admissions, per 1,000 Population 2013-2016**

| ACSC - IP Rate/1000 | | | |
|---|---|---|---|
| COUNTY | NJ 2013 | NJ 2016 | Change '13-'16 |
| SALEM | 26.07 | 27.47 | (1.40) |
| CUMBERLAND | 24.18 | 26.12 | (1.94) |
| CAMDEN | 22.87 | 22.61 | (-0.26) |
| CAPE MAY | 20.71 | 22.36 | (1.65) |
| OCEAN | 24.79 | 20.19 | (-4.60) |
| ESSEX | 21.61 | 19.76 | (-1.85) |
| ATLANTIC | 23.63 | 19.66 | (-3.97) |
| BURLINGTON | 18.91 | 18.90 | (-0.01) |
| HUDSON | 20.58 | 17.35 | (-3.23) |
| PASSAIC | 20.78 | 17.32 | (-3.46) |
| MERCER | 20.17 | 17.23 | (-2.94) |

| ACSC - IP Rate/1000 | | | |
|---|---|---|---|
| COUNTY | NJ 2013 | NJ 2016 | Change '13-'16 |
| MONMOUTH | 19.07 | 17.22 | (-1.85) |
| GLOUCESTER | 19.84 | 15.85 | (-3.99) |
| WARREN | 15.94 | 15.69 | (-0.25) |
| MIDDLESEX | 17.07 | 15.33 | (-1.74) |
| UNION | 16.18 | 15.21 | (-0.97) |
| SUSSEX | 15.34 | 14.12 | (-1.22) |
| HUNTERDON | 13.81 | 13.90 | (0.09) |
| MORRIS | 15.04 | 13.13 | (-1.91) |
| BERGEN | 15.20 | 12.18 | (-3.02) |
| SOMERSET | 14.04 | 11.48 | (-2.56) |
| STATEWIDE | 19.13 | 16.99 | (-2.14) |

Source: NJDHSS 2013/2016 UB-04 Data – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

- In 2016, Perth Amboy had the highest inpatient admissions due to ACSC (25.24/1,000) followed by Monroe (23.91/1,000).
- The 2016 Inpatient ACSC for the RWJUH/SPUH Service Area (16.31/1,000) was lower than the State rate (16.99/1,000).

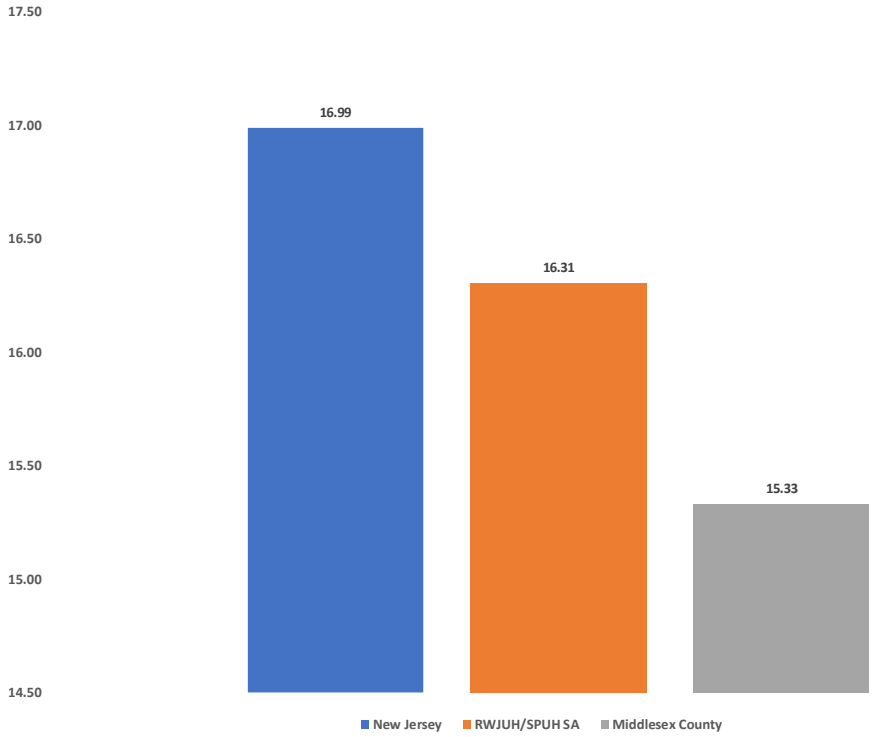
**Total ACSC Inpatient Admissions – Rate/1,000 Population All Ages 2016**

| GEOGRAPHIC AREA | RATE | HIGHEST SERVICE AREA RATES | |
|---|---|---|---|
| New Jersey | 16.99 | 08861 Perth Amboy | 25.24 |
| Middlesex County | 15.33 | 08831 Monroe Township | 23.91 |
| RWJUH/SPUH SA | 16.31 | 08884 Spotswood | 21.48 |
| | | 08882 South River | 19.51 |
| | | 08859 Parlin | 19.41 |

*Source: UB-04 2016 Discharges

- In 2016, RWJUH/SPUH's Service Area inpatient use rate for ACSC was higher than the Middlesex County rate, but lower than the statewide rate.

**Total ACSC Inpatient Admissions – All Ages per 1,000 Population, 2016**




Source: UB-04 2016 Discharges

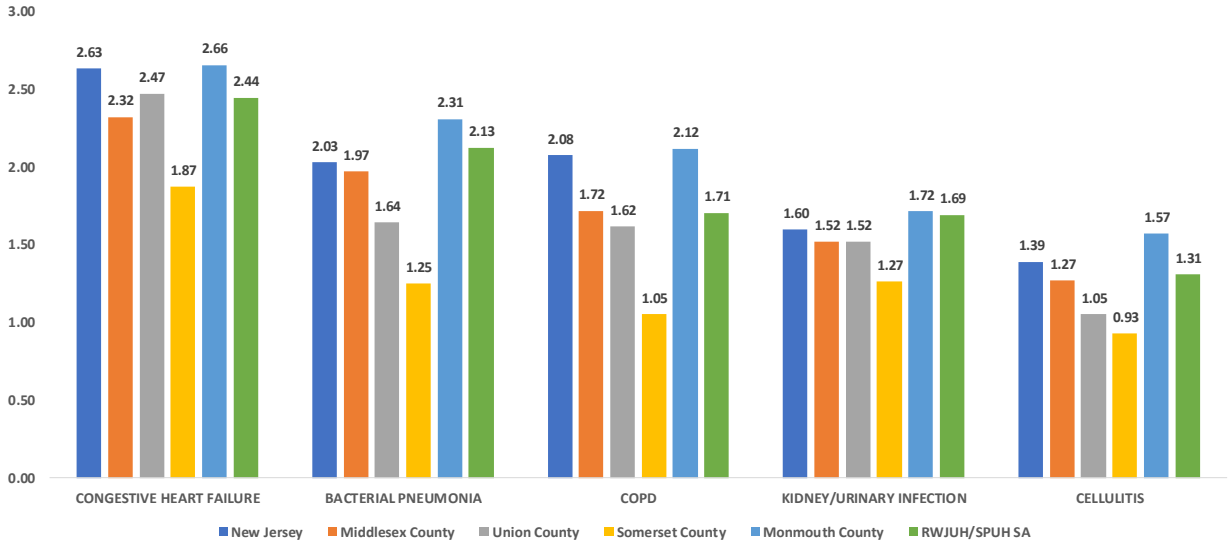
- In 2016, there were a total of 10,719 ACSC admissions from the RWJUH/SPUH Service Area.

| INPATIENT (2016) – ALL AGES | | |
|---|---|---|
| **SERVICE AREA** | **ACSC Description (Top 5)** | **TOTAL IN AREA** |
| RWJUH/SPUH | Congestive Heart Failure | 1,607 |
| | Bacterial Pneumonia | 1,397 |
| | COPD | 1,122 |
| | Kidney/ Urinary Infection | 1,113 |
| | Cellulitis | 859 |
| | All Others | 4,621 |
| | TOTAL RWJUH/SPUH SA | 10,719 |

Source: UB-04 2016 Discharges

- In 2016, congestive heart failure was the leading cause of inpatient ACSC admissions in the Service Area, followed by bacterial pneumonia, COPD, kidney/urinary infections, and cellulitis.
- The 2016 Middlesex County inpatient ACSC rates for all 5 conditions were lower than State rates.

**Total ACSC Inpatient Admissions (All Ages) by Top 5 Conditions, 2016: Rate/1,000 Population**




| IP ACSC (2016) All Ages | | | | |
|---|---|---|---|---|
| **Geographic Area** | **Rate** | **Geographic Area** | | **Rate** |
| Middlesex County | 15.33 | 08861 | Perth Amboy | 25.24 |
| New Jersey | 16.99 | 08831 | Monroe Township | 23.91 |
| RWJUH/SPUH SA | 16.31 | 08884 | Spotswood | 21.48 |
| | | 08882 | South River | 19.51 |
| | | 08859 | Parlin | 19.41 |

Source: UB-04 2016 Discharges

Additional information regarding Ambulatory Care Sensitive Conditions may be found in **Appendix E**: Discharges and Population 18-64 for Ambulatory Care Sensitive Conditions. Data contained in the Appendix shows a breakout for Adult Inpatient ACSC by Race.

### *6. Neighborhood and Built Environment*

The neighborhood and built environment contribute to health in a variety of ways. Pollution, crime, and access to healthy food and water are environmental and neighborhood factors that may be hazardous to a community's health.[32]

#### *Air Quality*

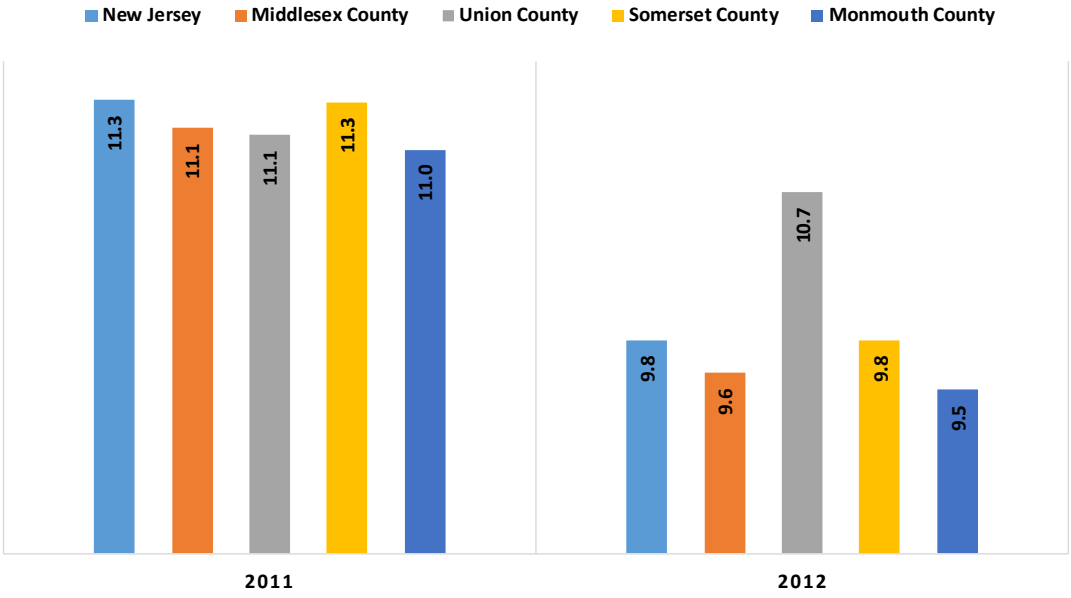
Outdoor air quality has improved since the 1990, but many challenges remain in protecting Americans from air quality problems. Air pollution may make it harder for people with asthma and other respiratory

[32] Source: Commission to Build a Healthier America, Robert Wood Johnson Foundation http://www.commissiononhealth.org/PDF/888f4a18-eb90-45be-a2f8-159e84a55a4c/Issue%20Brief%203%20Sept%2008%20-%20Neighborhoods%20and%20Health.pdf

diseases to breathe.[33] County level data masks ZIP Code level analysis that may reveal higher concentrations of air pollution, particularly in industrialized areas of a county.

- In 2012, the daily measure of fine particle matter in Middlesex County (9.6) was slightly lower than the State rate (9.8). Compared to all 21 counties, Middlesex County ranked in the middle performing quartile.
- Middlesex County experienced a reduction in fine particulate matter in between 2011 (11.1 per cubic meter) and 2012 (9.6 per cubic meter).
- In 2012, Middlesex County (9.6) average daily measure of fine particles was higher than the CHR national benchmark (6.7) placing it in the in the worst performing quartile.

**Average Daily Density of Fine Particulate Matter**
**State & County Comparisons, 2011-2012**




Source: County Health Rankings - Environmental Public Health Tracking Network

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*National Benchmark: 6.7*
*Middlesex County 2016: 9.6*

***Housing Built before 1950***

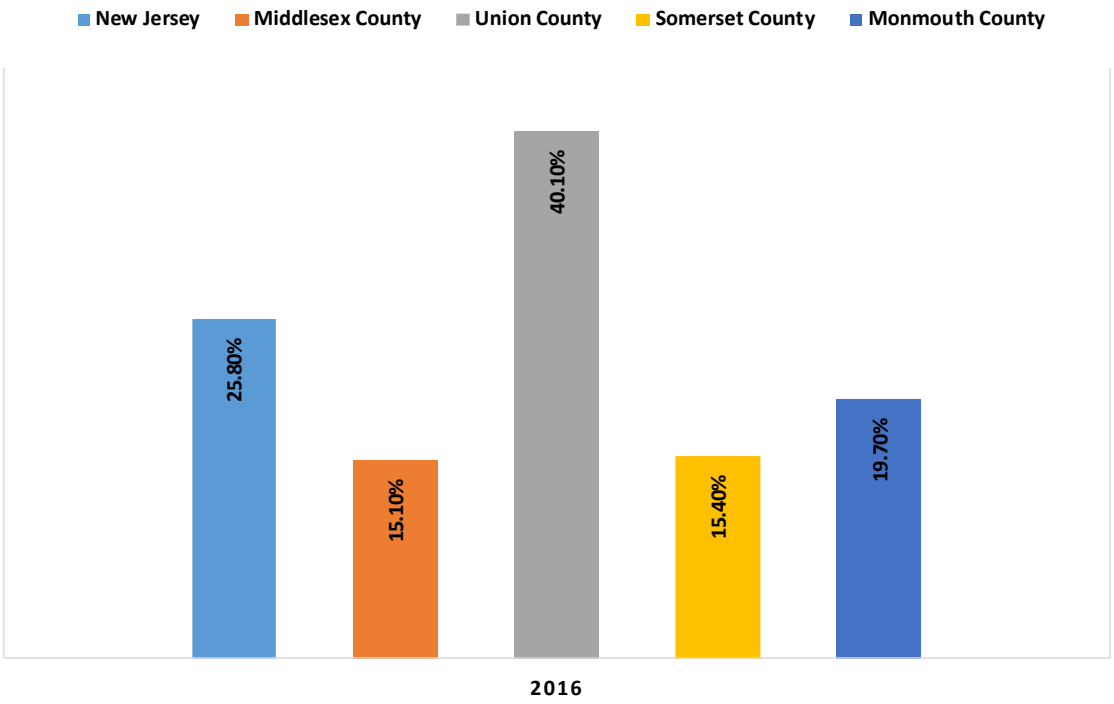
The potential for exposure to lead based paint in housing units built before 1950 is high. A main source of lead exposure is found in household dust with lead-based paint. Children are highly vulnerable to exposure to lead because of its adverse effects on the developing brain and nervous system.[34]

- In 2016, 15.10% of Middlesex County housing units were built before 1950, lower than New Jersey overall at 25.80%.

[33] http://www.cdc.gov/air/default.htm
[34] Report On the National Survey of Lead-Based Paint in Housing, https://www.epa.gov/sites/production/files/documents/r95-003.pdf

- Middlesex County (15.10%) ranked among the best performing quartiles of all counties in New Jersey, in terms of housing units built before 1950.

**Housing Built Before 1950 With Possible Lead-Based Paint Hazard**
**State & County Comparisons 2016**




Source: https://www26.state.nj.us/doh-shad/indicator/view/pre1950home.percent.html

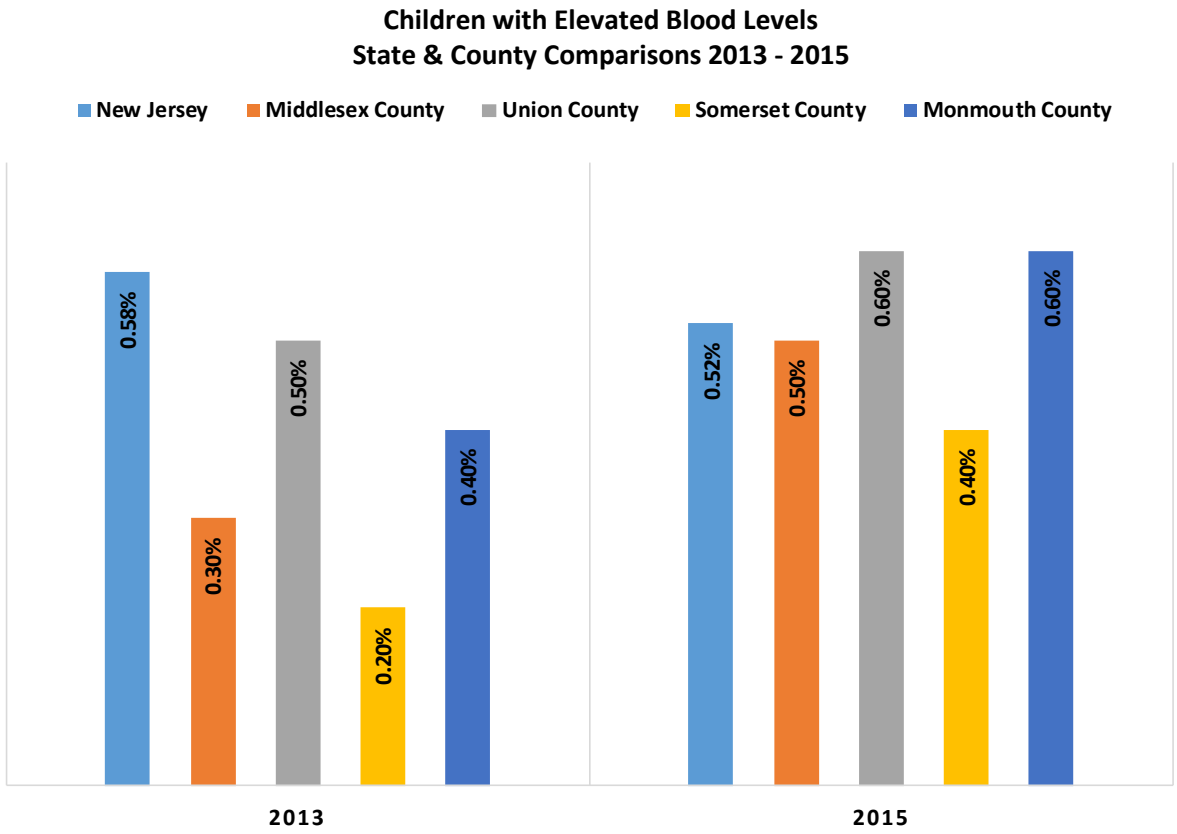
***Lead Hazards***

The Centers for Disease Control and Prevention (CDC) defines lead poisoning in children as a blood lead level of 10 micrograms per deciliter (µg/dL) or above. Young children can be exposed by swallowing lead dust or soil that gets on their hands or objects they put into their mouths such as toys; swallowing leaded paint chips; breathing leaded dust or lead contaminated air and eating food or drinking water that is contaminated with lead.

Very high levels of lead can cause seizures, brain damage, developmental or intellectual disabilities, coma and even death. Exposure to lead, even at low levels, has been associated with decrease hearing, lower intelligence, hyperactivity, attention deficit, and developmental problems.[35] County level analysis cannot reveal individual town disparities in blood lead levels particularly in towns with housing stock built before 1950.

- In 2015, 0.5% of Middlesex County children had elevated blood lead levels compared to 0.52% statewide.
- There was an increase in the percent of children with elevated blood lead levels from 2013 (0.3%) to 2015 (0.5%). In 2015, Middlesex County ranked in the middle performing quartile among counties statewide.

[35] http://www.nj.gov/ health/fhs/newborn/ lead.shtml



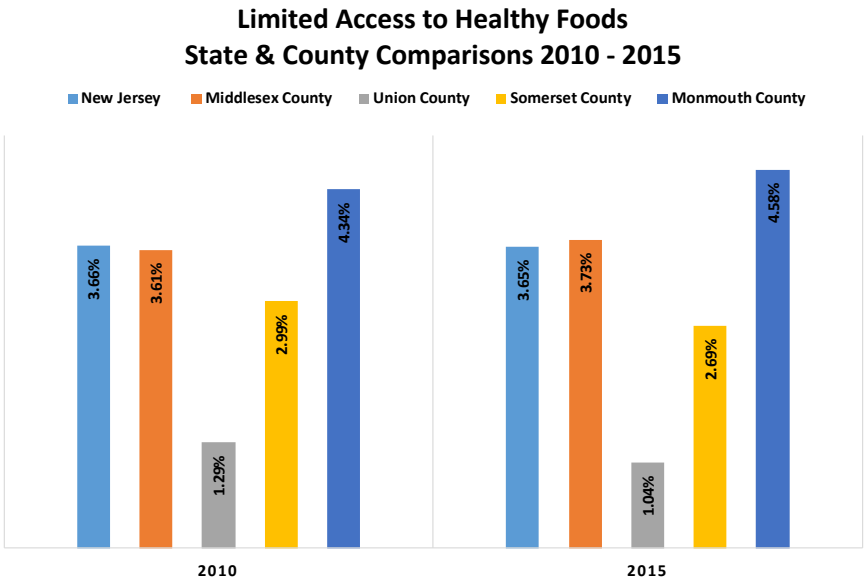

Source: https://www.cdc.gov/nceh/lead/data/state/njdata.htm

***Access to Healthy Foods***

Choices about food and diet are influenced by accessibility and affordability of retailers. Specifically, travel time to shopping, availability of healthy foods and food prices are key to decision making. Low-income families face greater barriers in accessing healthy and affordable food retailers, which in turn negatively affect diet and food security.[36]

- In 2010, 3.66% of New Jersey and 3.61% of Middlesex County residents suffered from limited access to healthy foods.
- Between 2010 and 2015, the percent of Middlesex County residents with limited access to healthy foods increased from 3.61% to 3.73%.

[36] https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/




Source: Map The Meal Gap

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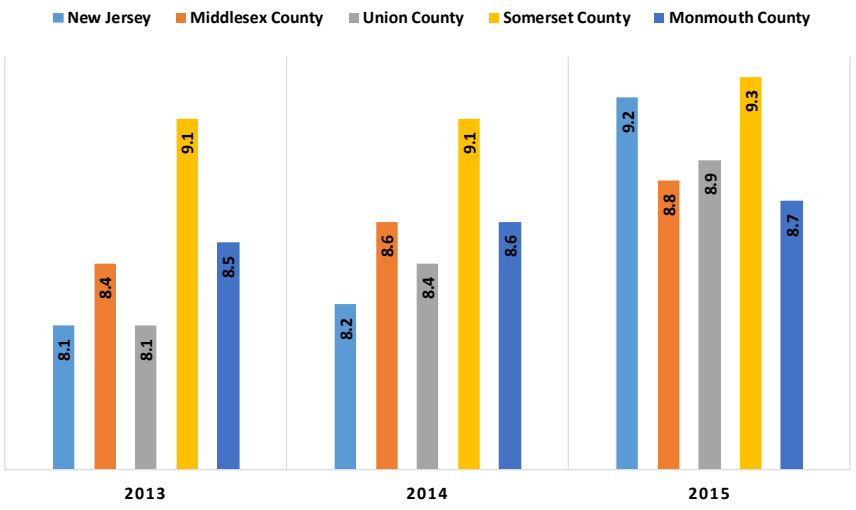
*National Benchmark: 2.0%*
*Union County 2016: 3.73%*

- In 2015, Middlesex County had a rate of 8.8 out of 10 on the food environment index which is an indicator of access to healthy foods. It ranked in the best performing quartile according to the County Health Rankings benchmark.




Source: USDA Food Environment Atlas, Map the Meal Gap from Feeding America, County Health Rankings

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*National Benchmark: 8.6*
*Middlesex County 2016: 8.8*

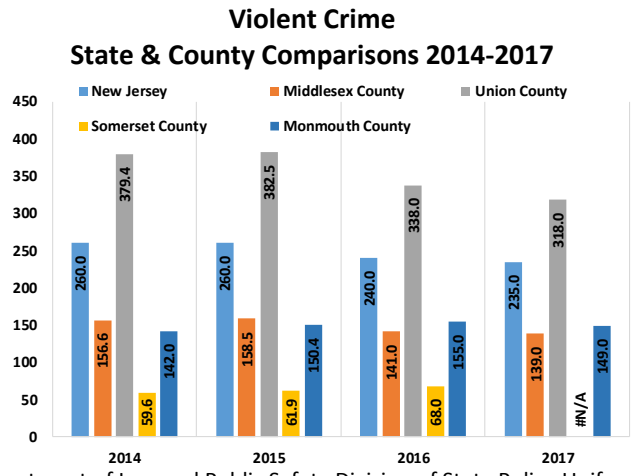
| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Limited Access to Healthy Foods** | | | |
| **Food Environment Index**<br>*Index of factors that contribute to a healthy food environment* | N.A. | | |
| **Housing Built Before 1950 with Possible Lead-Based Paint Hazard** | N.A | N.A. | |
| **Percent of Children With Elevated Blood Lead Levels**<br>*Percent of Children* | N.A | N.A. | |
| **Annual Number of Unhealthy Air Quality Days**<br>*Due to Fine Particulate Matter* | N.A | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

### *Injury and Crime Prevention*

Injuries and violence are widespread. Most events resulting in injury, disability or death are predictable and preventable. Individual behaviors, physical environment, access to health services and the social environment affect the risk of unintentional injury and violence. Violent crime, burglaries and motor vehicle crash deaths in Middlesex County have seen steady decreases and are lower than rates Statewide.

- In 2017, the violent crime rate in Middlesex County (139/100,000) was less than the violent crime rate in New Jersey (235/100,000).
- The violent crime rate for Middlesex County places it in the worst performing quartile with respect to the County Health Rankings benchmark.




Source: State of New Jersey Department of Law and Public Safety Division of State Police Uniform Crime Reporting Uniform Crime data count; retrieved on 05.10.2019 for the years 2014 ,2015, 2016 and 2017 (current) from URL https://www.njsp.org/ucr/uniform-crime-reports.shtml

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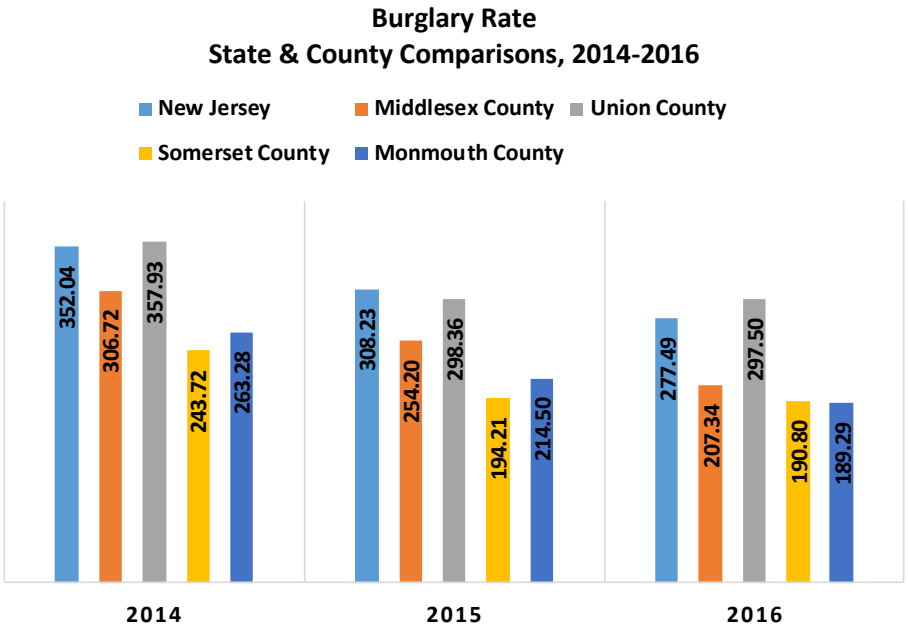
*National Benchmark: 62*
*Middlesex County 2016: 139*

***Burglaries***

- Middlesex County (207.34/100,000) had 25.2% less burglaries than New Jersey (277.49/100,000) in 2016.
- The Middlesex County burglary rate decreased from 306.72/100,000 in 2014 to 207.34/100,000 in 2016.
- Middlesex County's burglary rate ranks in the middle performing quartile of New Jersey counties.



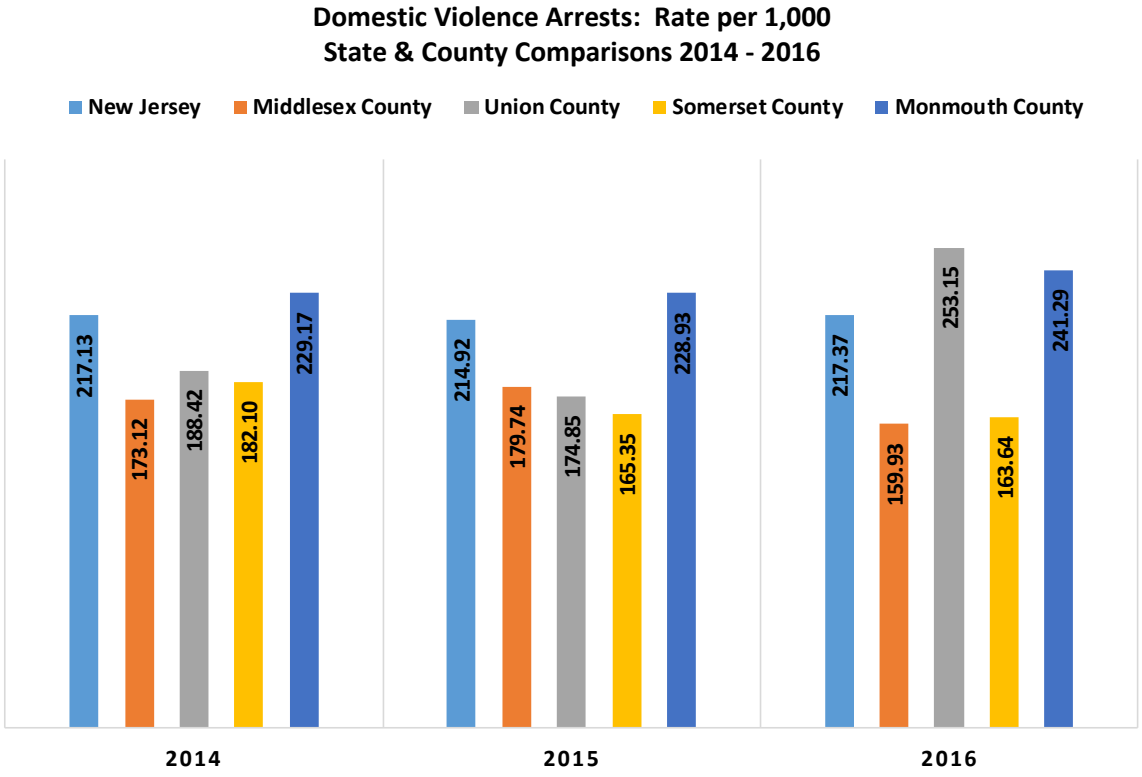

Source: http://www.njsp.org/ucr/2016/pdf/2015a_sect_7.pdf

***Domestic Violence Arrests***

Domestic violence can negatively impact a victim's health beyond the domestic violence incident. Victims of domestic violence exhibit physical and emotional problems including, but not limited to, chronic pain, depression, anxiety, eating disorders, and post-traumatic stress disorder.[37]

- In 2016, the Middlesex County domestic violence arrest rate was lower than the State.
- Between 2014 and 2016, the rate of domestic violence arrests in Middlesex County decreased by 7.6%.
- Middlesex County is within the best performing quartile compared to all New Jersey counties for arrests due to domestic violence.

[37] http://www.stopvaw.org/health_effects_of_domestic_violence

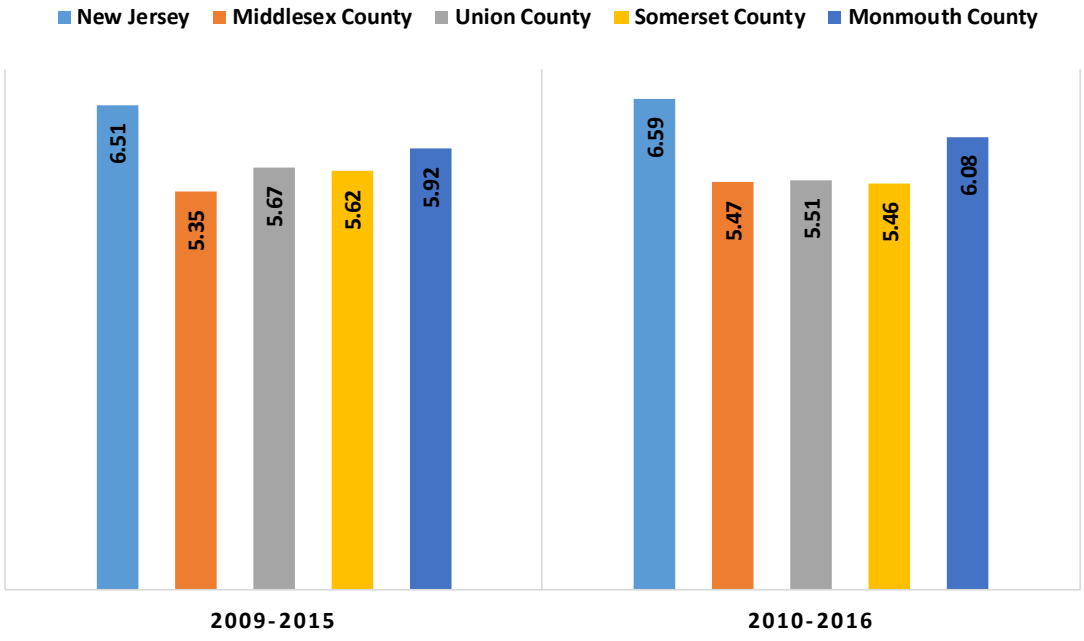



Source: County Health Rankings - The Uniform Crime Reporting (UCR) Program

***Motor Vehicle Crash Deaths***

- In 2010-2016, Middlesex County (5.47/100,000) had 17.0% fewer motor vehicle crash deaths than New Jersey (6.59/100,000).
- Deaths due to motor vehicle accidents increased slightly in Middlesex County between 2009-2015 (5.35/1,000) and 2010-2016 (5.47/1,000).
- Between 2010-2016 the rate of Middlesex County (5.47/1,000) motor vehicle accident related deaths occurred 126.7% less often than the *Healthy People 2020* target (12.4/1,000).

**Number of Motor Vehicle Crash Deaths**
**State & County Comparisons, 2009-2016**




Source: County Health Rankings, CDC Wonder Mortality Data, 2009 - 2016

Healthy People 2020

*Baseline: 13.8*
*Target: 12.4*
*Middlesex County 2016: 5.5*

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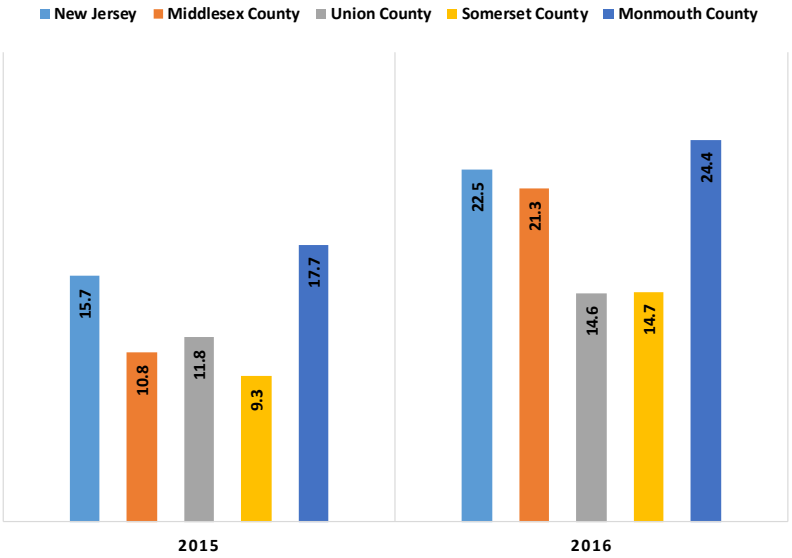
*National Benchmark: 9*
*Middlesex County 2016: 5.5*

***Accidental Poisoning and Exposure to Noxious Substances***

- In 2016, Middlesex County (21.3/100,000) had a lower death rate due to accidental poisoning and exposure to noxious substances than statewide (22.5/100,000).
- Middlesex County had double the amount of deaths due to accidental poisoning and exposure to noxious substances in 2016 than in 2015.
- Middlesex County ranks in the middle quartile in New Jersey, and in the worst performing quartile with respect to the *Healthy People 2020* target.

**Deaths Due to Accidental Poisoning and Exposure to Noxious Substances**
**State & County Comparisons 2015-2016**




Source: NJ SHAD

*Baseline: 13.2*
*Target: 13.2*
*Middlesex County 2016: 21.3*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Violent Crime** *Rate/ 100000 Population* | N.A | | |
| **Burglary** *Rate/ 1000 Population* | N.A | N.A. | |
| **Domestic Violence Arrests** *Rate/ 1000 Population* | N.A | N.A | |
| **Deaths Due to Motor Vehicle Crashes** *Rate/ 1000 Population* | | | |
| **Deaths Due to Poisoning** *Rate/ 1000 Population* | | N.A | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *D. HEALTH FACTORS*

Health factors represent the influences that impact one's health. These include demographic, social, environmental, economic, and individual behaviors as well as clinical care and access to services. Social determinants were described in Section B preceding Health Factors.

### *1. Clinical Care Measures*

#### *Inpatient and ED Utilization*

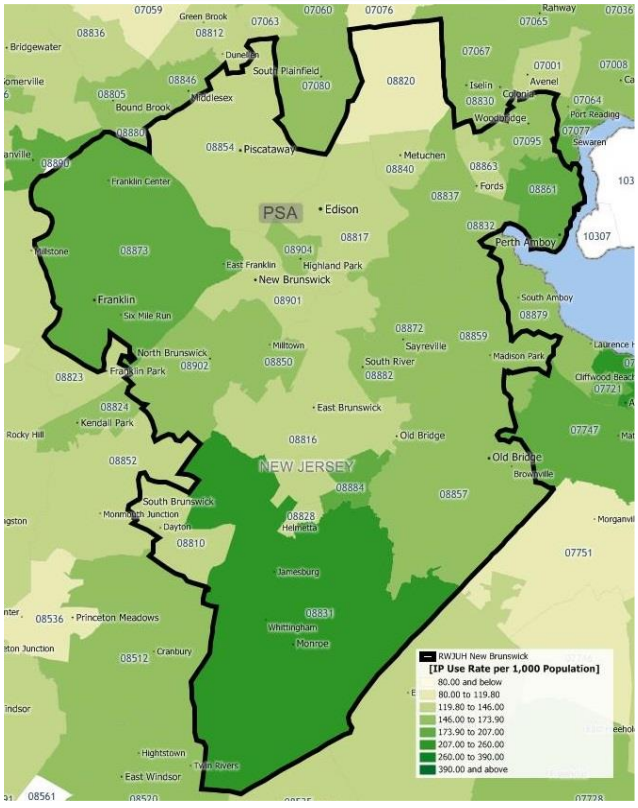
Factors impacting hospital utilization may include policy change, advances in technology, practice patterns and demographics. Many federal and state health care payment reforms, including the Affordable Care Act (ACA), were designed to improve care transitions, coordination of care, enhance ambulatory care and improve access to primary care. The anticipatory result would include improved coordinated care and declines in inpatient and ED utilization.

*Inpatient*

- Middlesex County's 2016 unadjusted inpatient utilization rate (153.90/1,000) was lower than the State (160.22/1,000).
- RWJUH/SPUH Service Area's inpatient rate (157.91/1,000) was higher than the Middlesex County rate, but lower than the State rate.
- Monroe had the highest inpatient use rate in the RWJUH/SPUH Service Area (221.22/1,000).

## Inpatient Use Rates per 1,000 Population 2016

| GEOGRAPHIC AREA | RATE |
|---|---|
| New Jersey | 160.22 |
| Middlesex County | 153.90 |
| RWJUH/SPUH SA | 157.91 |
| **TOP 5 BY ZIP CODE** | |
| Monroe Township (08831) | 221.22 |
| Perth Amboy (08861) | 195.68 |
| Spotswood (08884) | 188.41 |
| Somerset (08873) | 180.70 |
| South River (08882) | 170.57 |



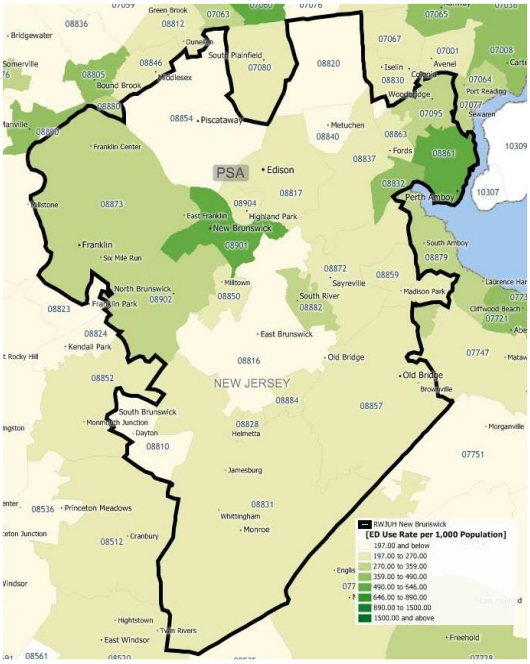

Source: UB-04 2016 Discharges Includes Inpatient & Same Day Stay, Excludes Normal Newborn; Population – Claritas 2016 Estimate

*Emergency Department*

- Middlesex County's 2016 ED visit rate (284.34/1,000) was 19.3% less than the State rate (352.20/1,000).
- RWJUH/SPUH's 2016 Service Area (302.59/1,000) ED use rate was lower than the State rate (352.2/1,000).
- In 2016, Perth Amboy's ED visit rate (604.29/1,000) was twice as large as the Service Area rate (302.59/1,000).
- In 2016, the ED visit rates of Perth Amboy, New Brunswick and Keasbey were greater than the statewide rate.

**ED Use Rate per 1,000 Population 2016**

| GEOGRAPHIC AREA | RATE |
|---|---|
| New Jersey | 352.20 |
| Middlesex County | 284.34 |
| RWJUH/SPUH SA | 302.59 |
| **TOP 5 BY ZIP CODE** | |
| Perth Amboy (08861) | 604.29 |
| New Brunswick (08901) | 592.01 |
| Keasbey (08832) | 426.88 |
| Somerset (08873) | 330.61 |
| South River (08882) | 323.84 |



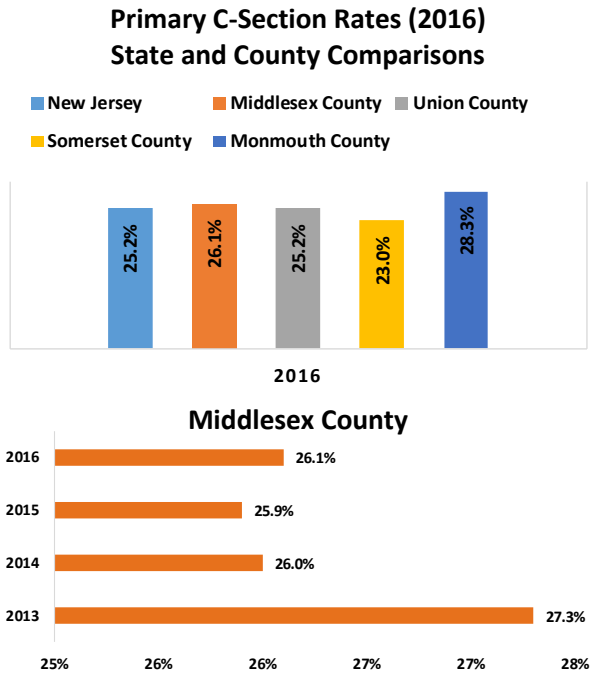

*Source: UB-04 2016 ED Discharges; Claritas 2016 Estimate

** Emergency Room Use Among Adults Aged 18–64: Early Release of Estimates From the National Health Interview Survey, January–June 2011; http ://www.cdc.gov/nchs/data/nhis/earlyrelease/emergency_room_use_january-june_2011.pdf

***Cesarean Section***

A Cesarean Section (C-section) is a major surgical procedure performed because of health problems in the mother, position of the baby, and/or distress in the infant.[38] The U.S. cesarean delivery rate reached a high of 32.9% of all births in 2009, rising 60% from 1996 (20.7%). Recently, the American College of Obstetricians and Gynecologists developed clinical guidelines for reducing the occurrence of non-medically indicated cesarean delivery and labor induction prior to 39 weeks. Efforts to reduce such births include initiatives to improve perinatal care quality, and changes in hospital policy to disallow elective delivery prior to 39 weeks and education of the public.[39]

- Middlesex County's 2016 primary C-section rate (26.1%) was higher than the State rate (25.2%).
- The 2016 Middlesex County primary C-section rate (26.1%) was higher than the Union (25.2%) and Somerset County (23.0%) rates.
- In 2016, the Middlesex County primary C-section rate was in the middle quartile of New Jersey counties, and the *Healthy People 2020* target.
- County-wide, women with a primary C-section trended downward from 2013 through 2016, decreasing from 27.3% in 2013, to 26.1% in 2016.



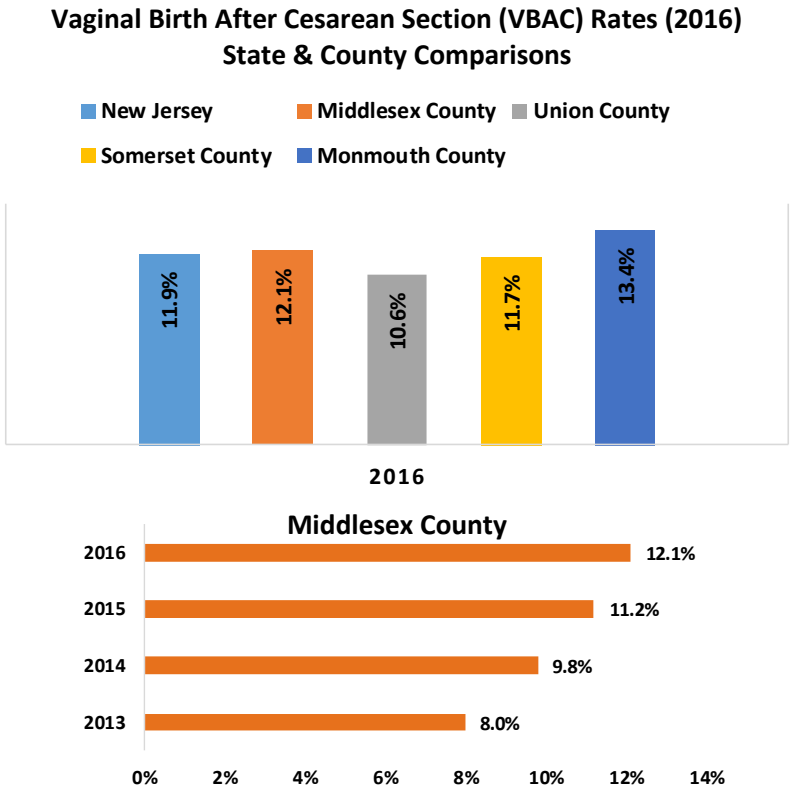

Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database http://www4.state.nj.us/dhss-shad/query/result/birth/BirthBirthCnty/Count.html
*Primary C-Section: Single >=37 Week Low Risk Births Delivered By C-Section/Single Live Births To Low Risk Females
**Repeat C-Section: Single >=37 Week Low Risk Births Delivered By C-Section With Prior Cesarean/Live Births To Low Risk Females With A Prior Cesarean

*Baseline: 26.5%*
*Target: 23.9%*
*Middlesex County 2016: 26.1%*

[38] http://www.nlm.nih.gov/medlineplus/cesareansection.html
[39] http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_01.pdf

*Vaginal Birth After C-Section (VBAC)*

- Middlesex County's 2016 VBAC rate (12.1%) is slightly higher than the State rate (11.9%). Middlesex County ranks in the middle performing quartile of all 21 New Jersey counties.
- County-wide women with a VBAC trended upward from 2013 through 2016, increasing from 8.0% in 2013 to 12.1% in 2016.




Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database http://www4.state.nj.us/dhss-shad/query/result/birth/BirthBirthCnty/Count.html
*Primary C-Section: Single >=37 Week Low Risk Births Delivered By C-Section/Single Live Births To Low Risk Females
**Repeat C-Section: Single >=37 Week Low Risk Births Delivered By C-Section With Prior Cesarean/Live Births To Low Risk Females With A Prior Cesarean

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Primary C-Section Rate**<br>*Single >=37 Week Low Risk Births Delivered By C-Section/Single Live Births To Low Risk Females* | | N.A. | |
| **VBAC Rate** | N.A | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *2. Health Behaviors*

### *Maternal / Fetal Health*

*Prenatal Care*

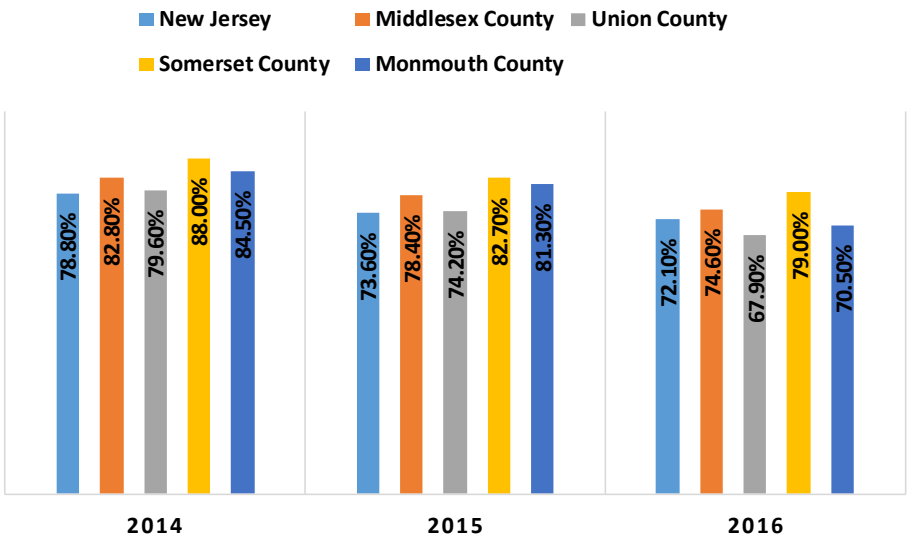
The medical care a woman receives during pregnancy monitors her health and the developing fetus. Low-risk pregnancies should visit a prenatal provider every four or six weeks through 28 weeks, then every two or three weeks from weeks 28-36, and finally every week in the ninth month until delivery. A high-risk pregnancy requires additional visits.[40] Pregnant women who do not receive adequate prenatal care risk undetected complications and an increased possibility of adverse outcomes.

Early and regular prenatal care is a strategy to improve health outcomes for mothers and infants. Two significant benefits are improved birth weight and decreased preterm delivery. Infants born to mothers who receive no prenatal care have an infant mortality rate five times higher than mothers who receive appropriate prenatal care in the first trimester of pregnancy. Enrollment in care during the first trimester of pregnancy reflects timely initiation of prenatal care.[41]

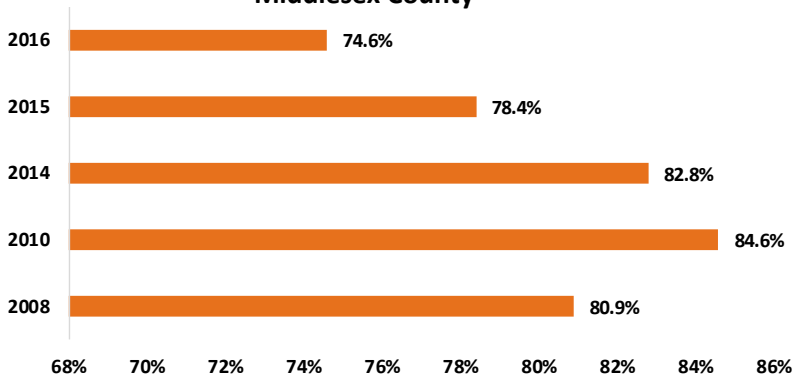
- In 2016, 74.6% of Middlesex County women entered prenatal care in the first trimester compared to 72.1% in New Jersey. As compared to other New Jersey counties, Middlesex County ranks in the middle performing quartile.
- Middlesex County women enrolled in first trimester prenatal care declined from 84.6% in 2010 to 74.6% in 2016.

[40] http://www.plannedparenthood.org/health-info/pregnancy/prenatal-care
[41] http://www.hrsa.gov/quality/toolbox/measures/prenatalfirsttrimester/index.html

**Percentage of Live Births with First Trimester Prenatal Care**
**State & County Comparisons 2014-2016**




**Middlesex County**

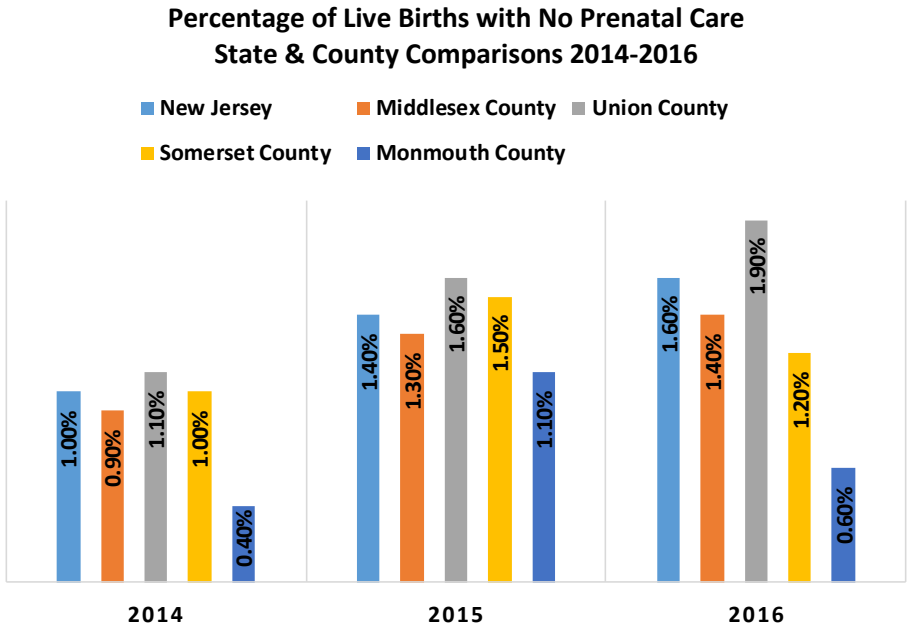


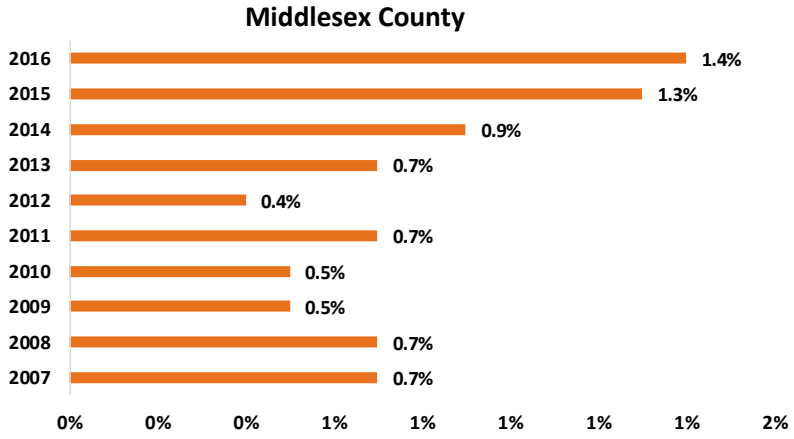

Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database
Note: Percentages are based on Total Number of Live Births for County and State

Healthy People 2020

*Baseline: 70.8%*
*Target: 77.9%*
*Middlesex County 2016: 74.60%*

- The percent of Middlesex County women without prenatal care ranged from a low of 0.4% in 2012 to a high of 1.4% in 2016.
- The 2016 Middlesex County rate for no prenatal care was less than the State rate of 1.6% and performed in the middle quartile.




Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database
Note: Percentages are based on Total Number of Live Births for County and State

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **First Trimester Prenatal Care**<br>*Percentage of Live Births* | | N.A. | |
| **No Prenatal Care**<br>*Percentage of Live Births* | N.A | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

### *High Risk Sexual Behaviors*

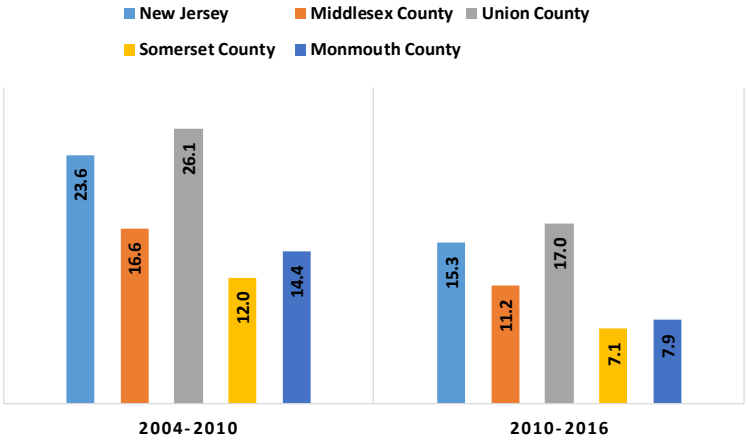
*Teen Pregnancy*

In 2016, there were 20.3 births/1,000 among American adolescent females aged 15-19 years; approximately 209,809 babies were born to teens, with nearly eighty-nine percent of these births occurring outside of marriage. The national teen birth rate has trended downward over the past 20 years. In 1991, the U.S. teen birth rate was 61.8 births/1,000 adolescent females. However, the U.S. teen birth rate remains higher than that of many other developed countries, including Canada and the United Kingdom.[42] Pregnant teens are less likely than older women to receive recommended prenatal care and are more likely to have pre-term or low birth weight babies. Teen mothers are often at increased risk for STIs and repeat pregnancies, are less likely than their peers to complete high school and more likely to live below the poverty level and rely on public assistance. Risky sexual behaviors can have high economic costs for communities and individuals.[43]

- The 2010-2016 Middlesex County birth rate among teens aged 15-19 (11.2/1,000) was lower than the State rate (15.3/1,000) and in the middle performing quartile statewide.
- The birth rate among Middlesex County teens aged 15-17 decreased from 7.5/1,000 in 2007-2011 to 4.7/1,000 in 2012-2016 and was in the middle performing quartile statewide.
- For both age cohorts, 15-17 and 15-19, the rate of Middlesex County teen births is consistently lower than statewide rates.
- The teen birth rate for ages 15-17 was in the best performing quartile for *Health People 2020*, and the teen birth rate for the 15-19 age cohort was in the best performing quartile for the CHR benchmark.

[42] http://www.hhs.gov/ash/oah/adolescent-health-topics/reproductive-health/teen-pregnancy/trends.html
[43] http://www.countyhealthrankings.org/our-approach/health-factors/sexual-activity

**Teen Births Age 15-19, Rate 1,000 Female Population**
**State & County Comparisons**




*Source:* NJDOH Center for Health Statistics State Health Assessment Data

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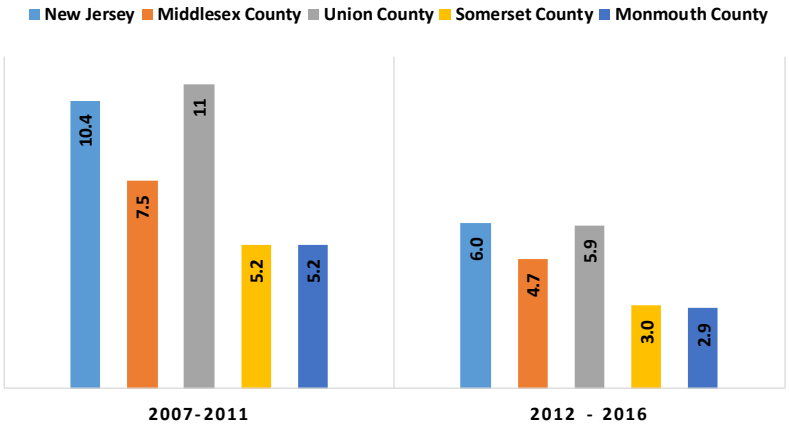
*National Benchmark: 15*
*Middlesex County 2016: 11.2*

**Teen Births Age 15-17, Rate 1,000 Female Population**
**State & County Comparisons**




*Source:* NJDOH Center for Health Statistics State Health Assessment Data

Healthy People 2020

*Baseline: 40.2*
*Target: 36.2*
*Middlesex County 2016: 4.7%*

In a 2016 CDC Teen Pregnancy Statistics data brief, *State Disparities in Teenage Birth Rates in the United States*, based upon 2014 data, New Jersey is one of 10 states with the lowest teen birth rates (<20/1,000) compared to National figures (41.5/1,000). However, the New Jersey rate shows tremendous variability when examined by town.

- The Perth Amboy 2016 birth rate for teens aged 15-19 (27.62/1,000) was more than twice the New Jersey rate (11.16/1,000).

**Teen Birth Rates 2016 – Deliveries Among 15-19 Year Old's**

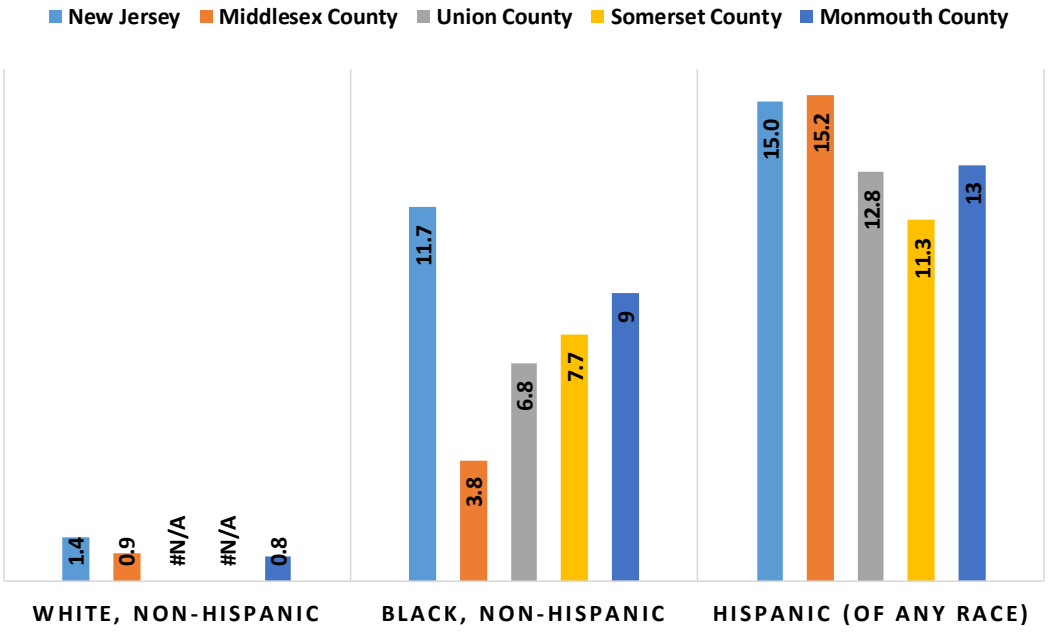
| GEOGRAPHIC AREA | RATE |
|---|---|
| New Jersey | 11.16 |
| Middlesex County | 9.09 |
| RWJUH/SPUH SA | 10.69 |
| TOP 5 BY ZIP CODE | |
| Perth Amboy (08861) | 27.62 |
| Keasbey (08832) | 22.25 |
| New Brunswick (08901) | 19.37 |
| Somerset (08873) | 18.08 |
| South River (08882) | 17.47 |

*Source: UB-04 2016 Discharges – All Deliveries To Mothers Age 15-19; Claritas Population Estimate
** NCHS Data Brief http://www.cdc.gov/nchs/data/databriefs/db46.pdf

*Teen Births by Mother's Race/Ethnicity (Age 15-17)*

- The 2012-2016 Middlesex County teen birth rate for Hispanics was the highest relative to New Jersey and the comparison counties.
- The rate among Middlesex County teens, 15-17, was highest among Hispanics (15.2/1,000).

**Teen Births by Mother's Race/Ethnicity, Aged 15-17**
**State & County Comparisons, 2012-2016**




Source: Age 15-19 - County Health Rankings National Center for Health Statistics; Age 15-17- NJDOH Center for Health Statistics State Health Assessment Data

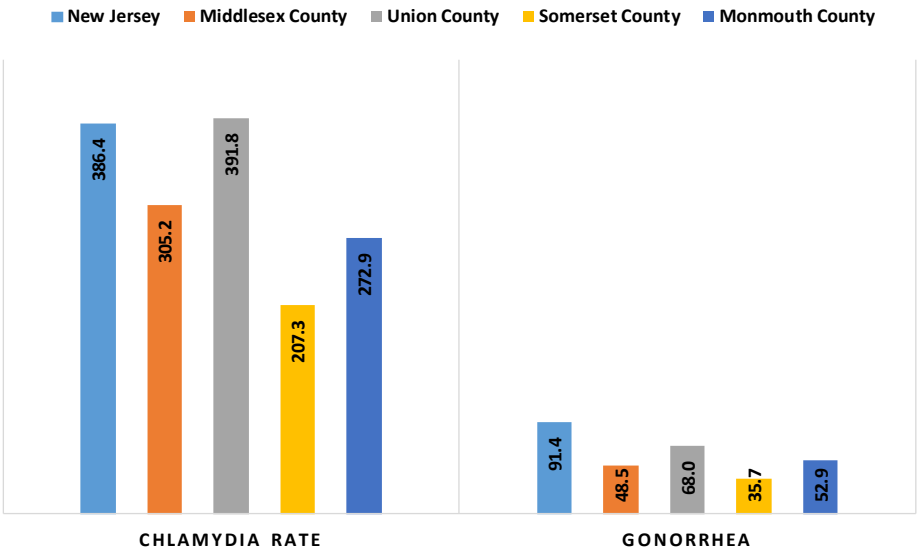
*Sexually Transmitted Infection*

Sexually transmitted infections (STI) are caused by bacteria, parasites and viruses contracted through relations with an infected individual. There are more than 20 types of STIs, including Chlamydia, Gonorrhea, Genital herpes, HIV/AIDS , HPV, Syphilis and Trichomoniasis. Most STIs affect both men and women, but in many cases health problems may be more severe for women. If pregnant, a STI can cause serious health complications for the baby.[44]

- Chlamydia is the most prevalent STI. In 2016, the Middlesex County rate (305.2/1,000) was less than the New Jersey rate (386.4/1,000).
- The rate of chlamydia in Middlesex County (305.2/1,000) was higher than the CHR national benchmark (145.1/1,000).
- In 2016, Middlesex County (48.5/100,000) had a lower gonorrhea rate than New Jersey (91.4/100,000).
- Middlesex County ranks in the middle performing quartile of New Jersey counties with regard to chlamydia and gonorrhea infection rates.

[44] http://www.nlm.nih.gov/medlineplus/sexuallytransmitteddiseases.html

**Sexually Transmitted Diseases: Rate / 100,000 Population**
**Chlamydia and Gonorrhea Rates**
**State & County Comparisons 2016**




Source: NJ SHAD

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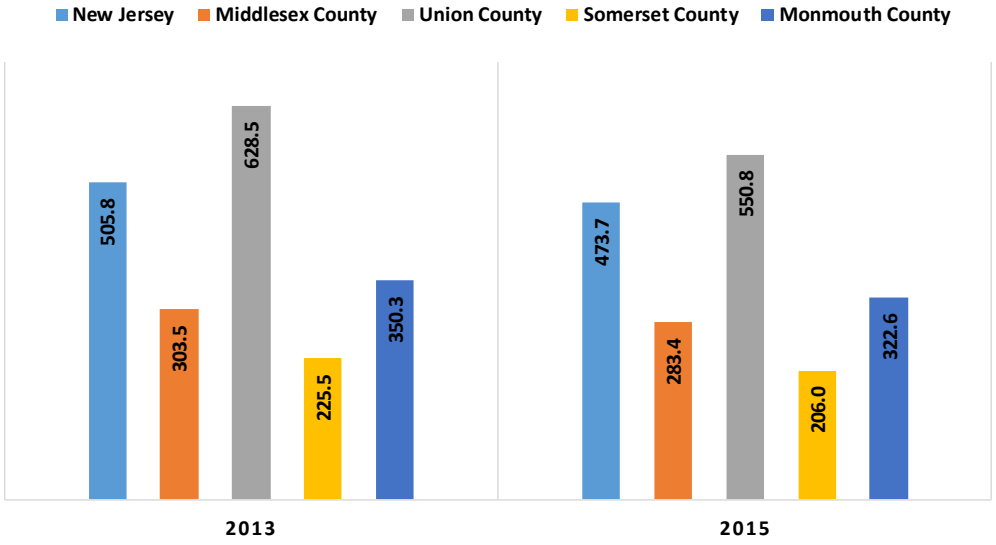
*National Benchmark: 145.1*
*Middlesex County 2016: 305.2*

*HIV/AIDS*

Human immunodeficiency virus (HIV) is spread mainly by having sex with someone infected with HIV or sharing needles with someone positive. Approximately 50,000 new HIV infections occur in the United States each year.

- County-wide HIV/AIDS prevalence rates declined between 2013 (303.5/100,000) and 2015 (283.4/100,000).
- In 2015, HIV/AIDS prevalence rate in Middlesex County (283.4/100,000) was less than the New Jersey rate (473.7/100,000). Middlesex County is in the middle performing quartile statewide.
- Middlesex County had less HIV/AIDS cases than neighboring Union and Monmouth Counties, but more cases than Somerset County.
- The prevalence rate was well above the CHR benchmark of 49/100,000.

**HIV Rates 2013-2015**
**State and County Comparisons**




Source: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, County Health Rankings

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*National Benchmark: 49*
*Middlesex County 2015: 283.4*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **STDs: Chlamydia** *Rate per 100,000 Population* | N.A. | | |
| **STDs: Gonorrhea** *Rate per 100,000 Population* | N.A. | N.A. | |
| **Teen Births Ages 15-19** *Rate per 100,000 Female Population* | N.A | | |
| **Teen Births Ages 15-17** *Rate per 100,000 Female Population* | | N.A. | |
| **Teen Births Ages 15-17 Race/Ethnicity(Blacks Non-Hispanics)** *Rate per 100,000 Female Population* | N.A. | N.A. | |
| **HIV/AIDS: Prevalence** *Rate per 100,000 Population* | N.A | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

***Individual Behavior***

A CDC report indicates that people can live longer if they practice one or more healthy lifestyle behaviors including: eating a healthy diet, not smoking, regular exercise and limiting alcohol consumption. People who engage in all of these behaviors are 66 percent less likely to die early from cancer, 65 percent less likely to die early from cardiovascular disease and 57 percent less likely to die early from other causes compared to those who do not engage in any of these behaviors.[45]

*Tobacco Use*

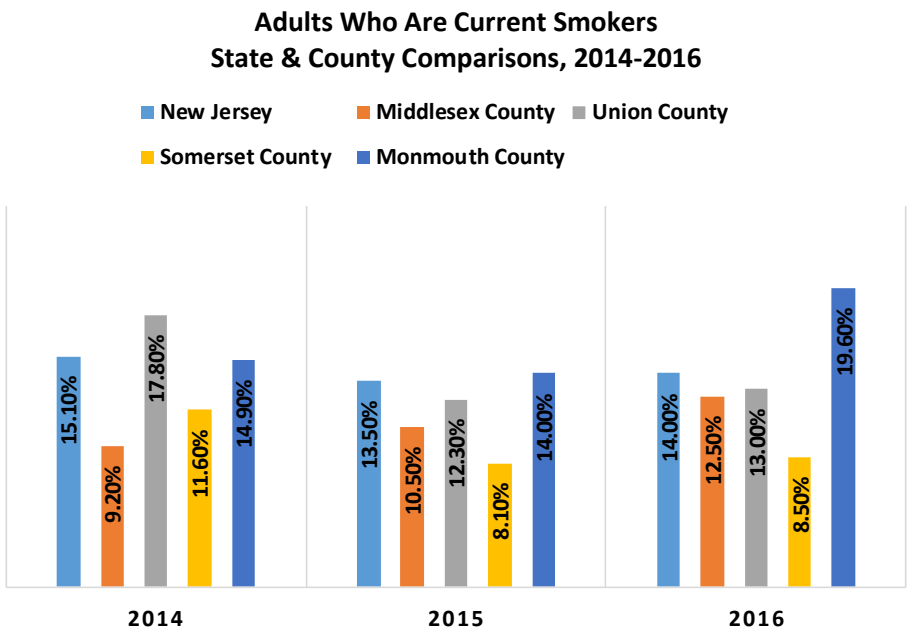
Tobacco use is the leading cause of preventable death in the United States. Smoking leads to disease and disability, and harms nearly every organ in the body, and causes cancer, heart disease, stroke, diabetes, and lung diseases such as emphysema, bronchitis, and chronic airway obstruction. Exposure to secondhand smoke can lead to lung cancer and heart disease. Each year, smoking kills approximately 480,000 Americans, including 41,000 from secondhand smoke. On average, smokers die 10 years earlier than nonsmokers.

About 15% of U.S. adults smoke. Each day, nearly 3,200 youth smoke their first cigarette, and 2,100 people transition from occasional to daily smokers. Smokeless tobacco also leads to various cancers, gum and teeth problems, and nicotine addiction. Almost 6% of young adults use smokeless tobacco and half of new users are younger than 18.[46], [47]

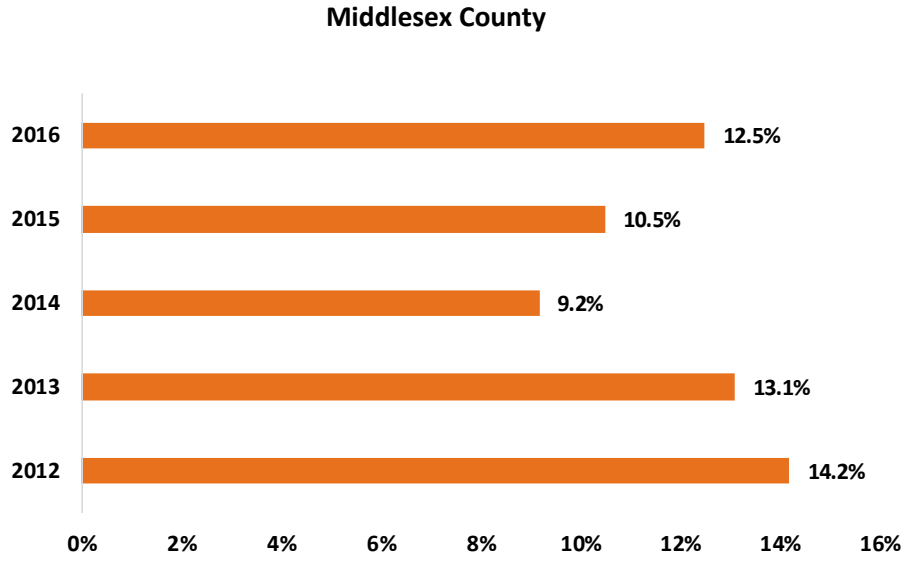
NJBRFS did not separate out use of nicotine vaping devices in the question regarding smoking. We are aware through information obtained from primary research conducted for this CHNA, that a majority of adolescents and young adults are choosing vaping products over the use of cigarettes and that some adolescents may not even be aware of the fact that vaping devices are just another form of nicotine delivery. Vaping among adolescents has been a major concern of community stakeholders and current news articles and reports of deaths and lung disease associated with vaping has become a major issue of concern.

- Between 2012 and 2016, smoking rates have fluctuated in Middlesex County with an overall decrease of 1.7 percentage points.
- In 2016, there were 10.7% less smokers in Middlesex County (12.5%) than New Jersey (14.0%). Middlesex County had more adult smokers than neighboring Somerset County (8.50%). Middlesex County performs in the middle quartile statewide.
- In 2016, Middlesex County was also in the best performing County Health Rankings benchmark and middle performing *Healthy People 2020* target.

[45] http://www.cdc.gov/features/livelonger/
[46] http://www.countyhealthrankings.org/our-approach/health-factors/tobacco-use
[47] http://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm




Source: CDC New Jersey Behavioral Risk Factor Surveillance System (NJBRFS)




Source: CDC New Jersey Behavioral Risk Factor Surveillance System (NJBRFS)

Healthy People 2020

*Baseline: 20.6%*
*Target: 12.0%*
*Middlesex County 2016: 12.5%*

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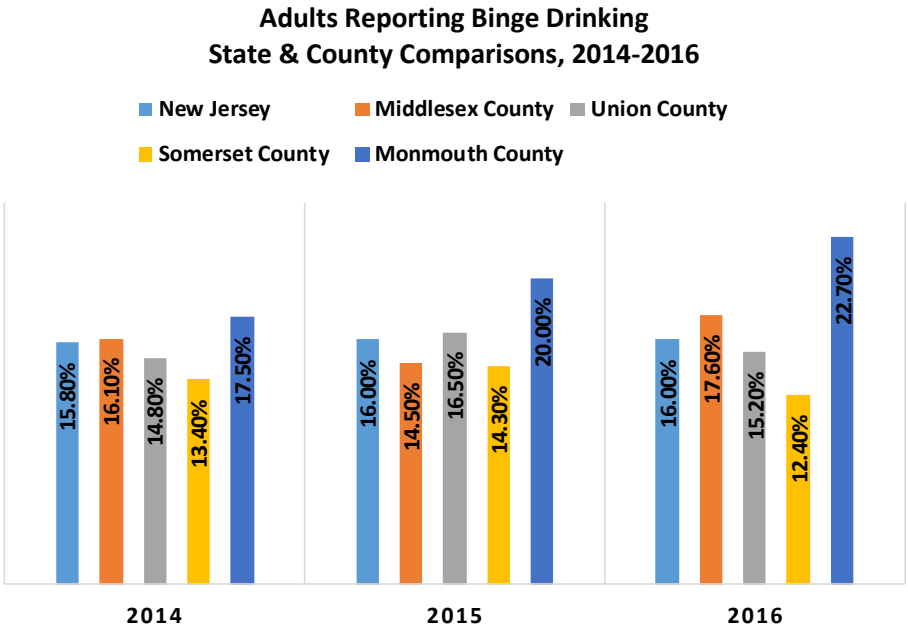
*National Benchmark: 14.0%*
*Middlesex County 2016: 12.5%*

*Alcohol Use*

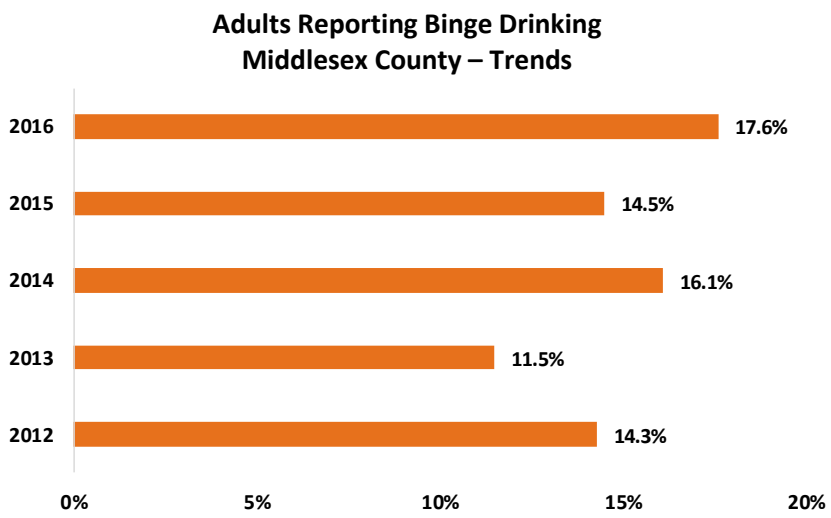
Although moderate alcohol use is associated with reduced risk of heart disease and diabetes, excessive consumption is the third leading cause of preventable death nationally. Excessive consumption considers both the amount and the frequency of drinking. Short-term, excessive drinking is linked to alcohol poisoning, intimate partner violence, risky sexual behaviors, failure to fulfill responsibilities and motor vehicle crashes. Over time, excessive alcohol consumption is a risk factor for hypertension, acute myocardial infarction, fetal alcohol syndrome, liver disease and certain cancers.[48]

- Binge drinkers, those men that consume more than 5 drinks and women that consume more than 4 drinks in one occasion, increased from 16.1% in 2014, to 17.6% in 2016.
- In 2016, 17.6% of Middlesex County residents were binge drinkers compared to 16% statewide. Middlesex County had fewer binge drinkers than Monmouth County, but more than Union and Somerset Counties.
- Statewide, Middlesex County performs in the middle quartile.




*Source: CDC New Jersey Behavioral Risk Factor Surveillance System*
Question: During the past 30 days how many days per week or per month did you have at least one drink of any alcoholic beverage? If response is not 0 then ask: Considering all types of alcoholic beverages how many times during the past 30 days did you have 5(for males)/4(for females) or more drinks on an occasion?
"Binge Drinking" is defined when someone has at least 5(for males)/4(for females) or more drinks on an occasion a month.

[48] http://www.countyhealthrankings.org/our-approach/health-factors/alcohol-drug-use




*Source: CDC New Jersey Behavioral Risk Factor Surveillance System*
Question: During the past 30 days how many days per week or per month did you have at least one drink of any alcoholic beverage? If response is not 0 then ask: Considering all types of alcoholic beverages how many times during the past 30 days did you have 5(for males)/4(for females) or more drinks on an occasion?
"Binge Drinking" is defined when someone has at least 5(for males)/4(for females) or more drinks on an occasion a month.

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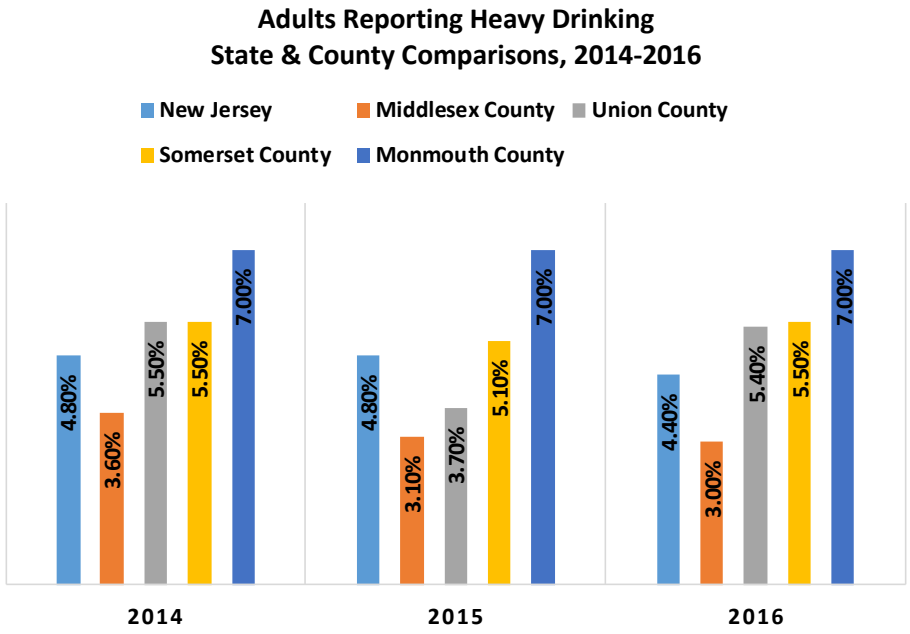
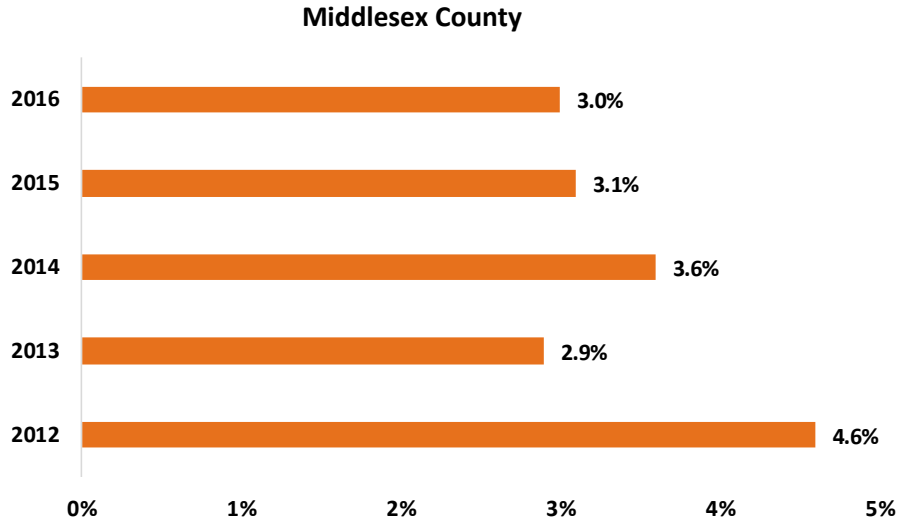
*National Benchmark: 13.0%*
*Middlesex County 2016: 17.6%*

Heavy drinking is defined when someone has at least 60 drinks a month (for males) and 30 (for females).

- County-wide, residents who were heavy drinkers decreased from 4.6% in 2012 to 3.0% in 2016.
- In 2016, Middlesex County had the lowest percent of residents reporting heavy drinking, relative to the State and the surrounding counties.
- Middlesex County ranked in the best performing quartile among the 21 counties in New Jersey.

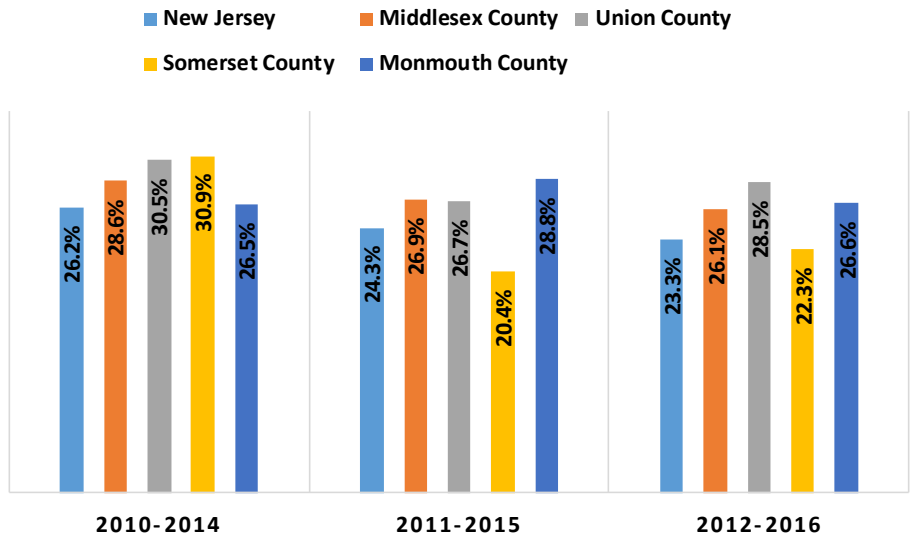


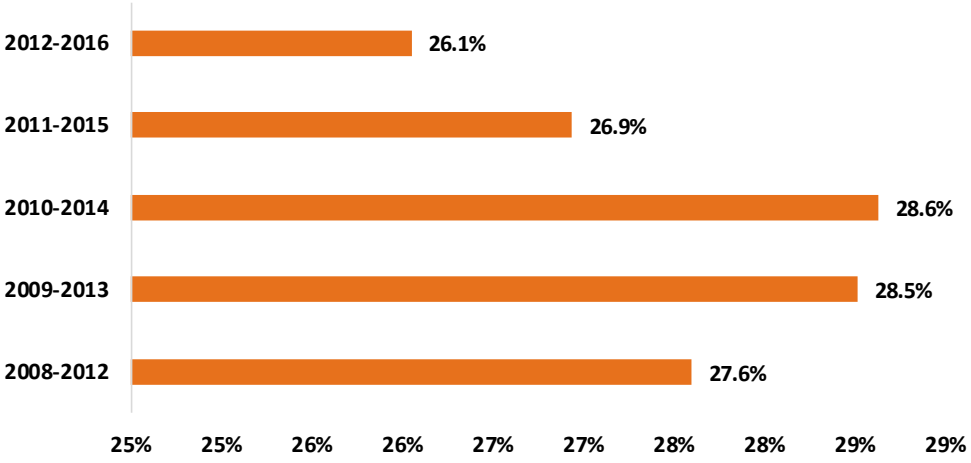

Source: CDC New Jersey Behavioral Risk Factor Surveillance System
Question: During the past 30 days how many days per week or per month did you have at least one drink of any alcoholic beverage? If response is not 0 then ask: Considering all types of alcoholic beverages how many drinks have you had during the past 30 days?
“Heavy Drinking" is defined when someone has at least 60(for males)/30(for females) or more drinks a month.

- Alcohol impaired driving deaths in Middlesex County have decreased from 27.6% in 2008-2012 to 26.1% in 2012-2016.
- The rate of alcohol impaired driving deaths in Middlesex County was historically higher than the rate in New Jersey.

**Alcohol-Impaired Driving Deaths**
**State & County Comparisons, 2010-2016**




**Middlesex County**




Source: NJDOH New Jersey Fatality Analysis Health Reporting System County Health Rankings

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*National Benchmark: 13.0%*
*Middlesex County 2016: 26.05%*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Excessive Drinking** *Binge Drinkers* | N.A. | | |
| **Excessive Drinking** *Heavy Drinkers* | N.A. | N.A. | |
| **Alcohol Impaired Driving Deaths** | N.A. | | |
| **Tobacco Use** *Adults Who Are Current Smokers* | | | |

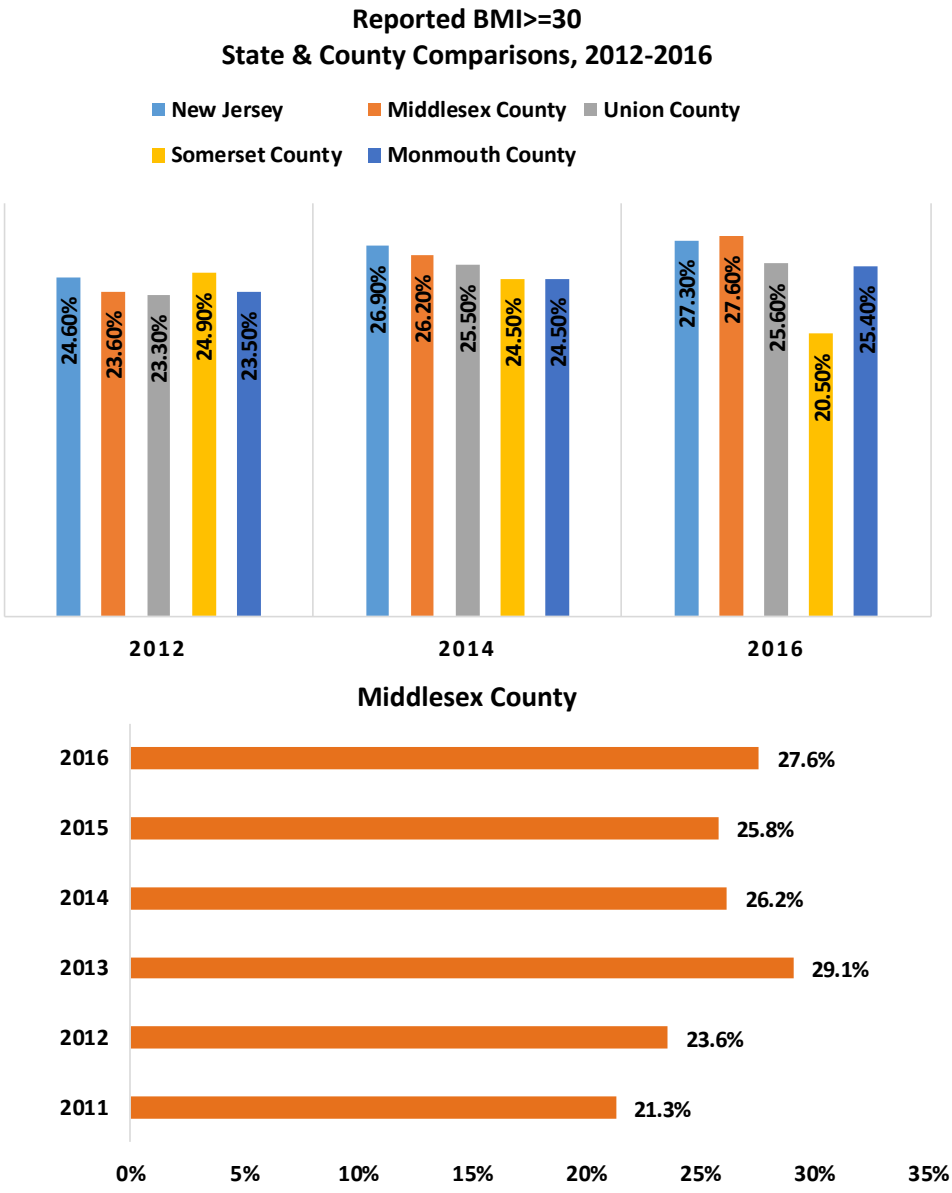
*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

*Obesity*

Healthy food is a key component to good health; insufficient nutrition hinders growth and development. As of 2016, 41 million Americans struggled with hunger in the U.S. A household that is food insecure has limited or uncertain access to enough food to support a healthy life. Obesity among food insecure people, as well as low income individuals, occurs in part because they are often subject to the same challenges as other Americans (more sedentary lifestyles, increased portion size) and because they face unique challenges in adopting and maintaining healthy behaviors, including limited resources and lack of access to affordable healthy food, cycles of food deprivation and overeating, high levels of stress and anxiety, fewer opportunities for physical activity, greater exposure to marketing of obesity promoting products, and limited access to health care.[49]

- The percent of Middlesex County residents with a Body Mass Index (BMI) >=30 trended upward from 21.3% in 2011, to 27.6% in 2016.
- In 2016, Middlesex County (27.6%) had a higher rate of obesity compared to the State and comparison counties.
- In 2016, a lower percent of Middlesex County residents (27.6%) were obese than the *Healthy People 2020* target (30.6%)
- In 2016, Middlesex County residents with a BMI>=30 ranked in the middle quartile in New Jersey and with regard to the County Health Rankings.

[49] http://www.frac.org




Source: CDC Behavioral Risk Factor Surveillance System

Healthy People 2020

*Baseline: 33.9%*
*Target: 30.5%*
*Middlesex County 2016: 27.6%*

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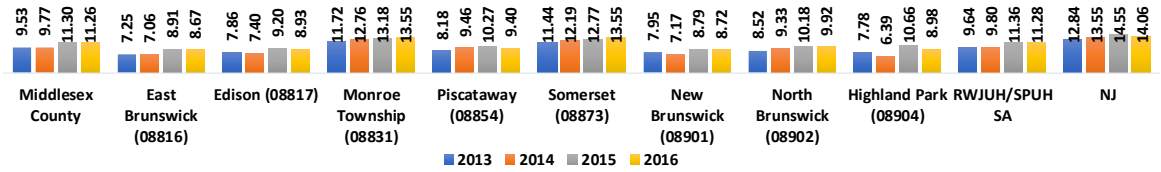
*National Benchmark: 26.0%*
*Middlesex County 2016: 27.6%*

- In 2016, Monroe and Somerset residents had a higher rate of patients hospitalized with a diagnosis of obesity (13.55/1,000) as compared to Middlesex County (11.26/1,000).
- In 2016, patients hospitalized from Middlesex County had slightly lower rates of obesity than hospitalized residents of RWJUH/SPUH's Service Area.

**Disease Incidence: Obesity, Rate per 1,000 Population**




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges For MS-DRGs In the Range 682-685

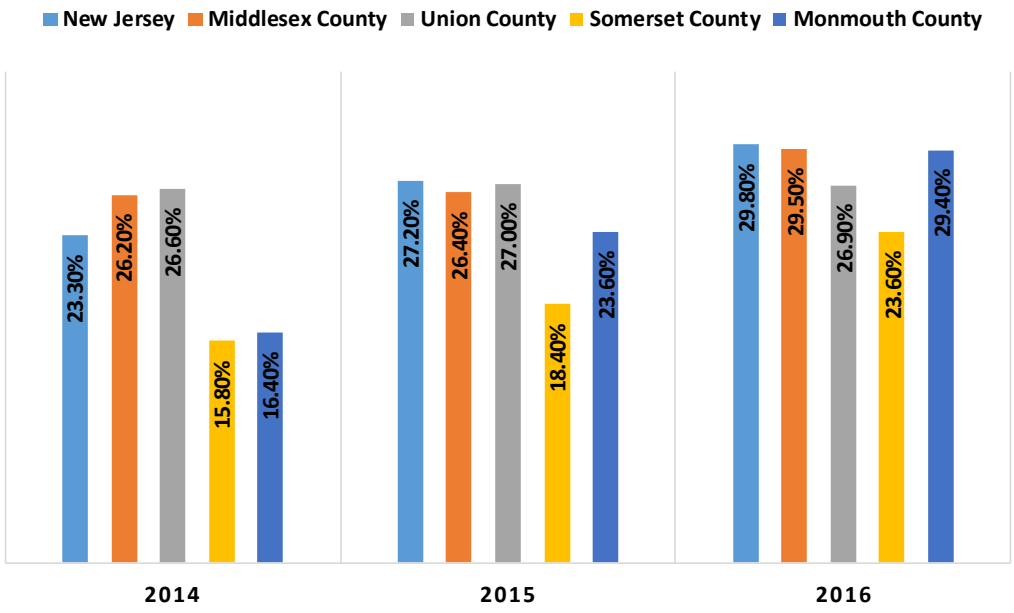
*Exercise*

Inadequate physical activity contributes to increased risk of coronary heart disease, diabetes and some cancers. Nationally, half of adults and nearly three-quarters of high school students do not meet the CDC's recommended physical activity levels.[50]

- Within Middlesex County, the percent of individuals reporting no leisure time physical activity trended upward from 26.20% in 2014, to 29.50% in 2016.
- From 2014 to 2016, Middlesex County had a higher percentage of residents reporting no leisure time physical activity than comparison counties, but a slightly lower percentage compared to the State.
- Compared to all counties statewide, Middlesex County performs in the middle quartile.
- Middlesex County performs in the lowest quartile compared to the County Health Rankings benchmark.

[50] http://www.county healthrankings.org/our-approach/health-factors/diet-and-exercise

**Percent of Adults Age 20+ Reporting No Leisure-Time Physical Activity**
**State and County Comparison 2014-2016**




Source: CDC Behavioral Risk Factor Surveillance System

Healthy People 2020

*Baseline: 36.2%*
*Target: 32.6%*
*Middlesex County 2016: 29.5%*

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*National Benchmark: 20.0%*
*Middlesex County 2016: 29.5%*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Obesity**<br>*Percent With Reported BMI >= 30* | | | |
| **Exercise: Adults**<br>*Percent of Adults Age 20+ Reporting No Leisure-Time Physical Activity* | | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

***Health Screenings***

Screening tests can detect disease and conditions in early stages, when they may be easier to treat.

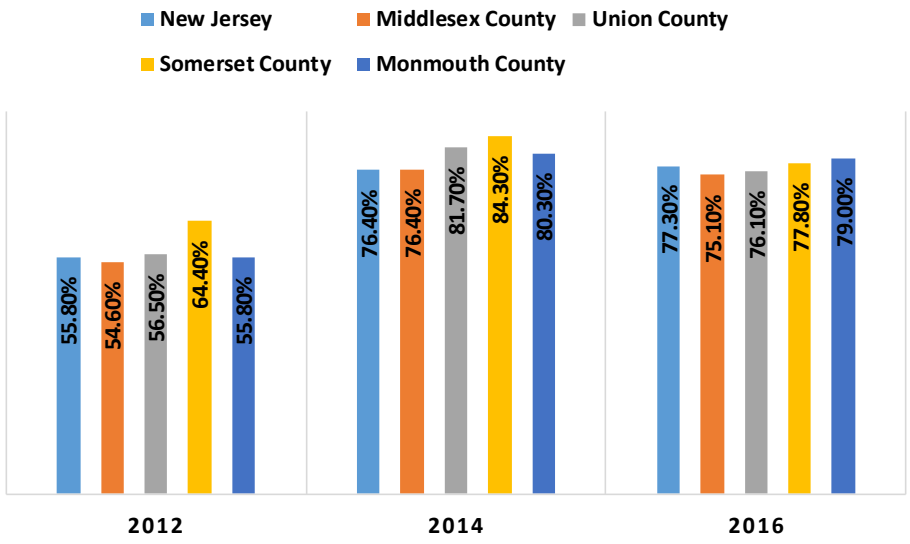
***Cancer Screening***

*Breast Cancer (mammography)*

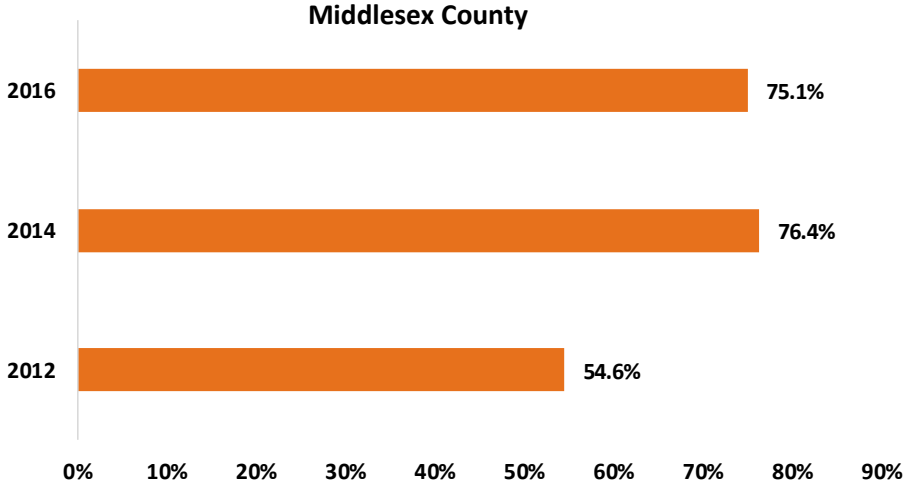
According to the American Cancer Association, women ages 40 to 44 should have the choice to start annual breast cancer screening with mammograms (x-rays of the breast) if they wish to do so. Women age 45 to 54 should get mammograms every year. Women 55 and older should switch to mammograms every 2 years or can continue yearly screening. Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer. Women should also know how their breasts normally look and feel and report any breast changes to a health care provider right away. Some women – because of their family history, a genetic tendency, or certain other factors – should be screened with MRIs along with mammograms. The number of women who fall into this category is very small.

- In 2016, 75.1% of Middlesex County women over age 40 had a mammography within the past two years, up 20.5 percentage points since 2012. Compared to all counties statewide, Middlesex County performs in the worst quartile.
- In 2016, Middlesex County performed in the top quartile in terms of the County Health Ranking benchmark and in the middle quartile in terms of the *Healthy People 2020* target.

**Women Age 50+ Who Had a Mammogram Within Past 2 Years**
**State & County Comparisons, 2012-2016**




**Middlesex County**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

Healthy People 2020

*Baseline: 69.8%*
*Target: 81.1%*
*Middlesex County 2016: 75.1%*

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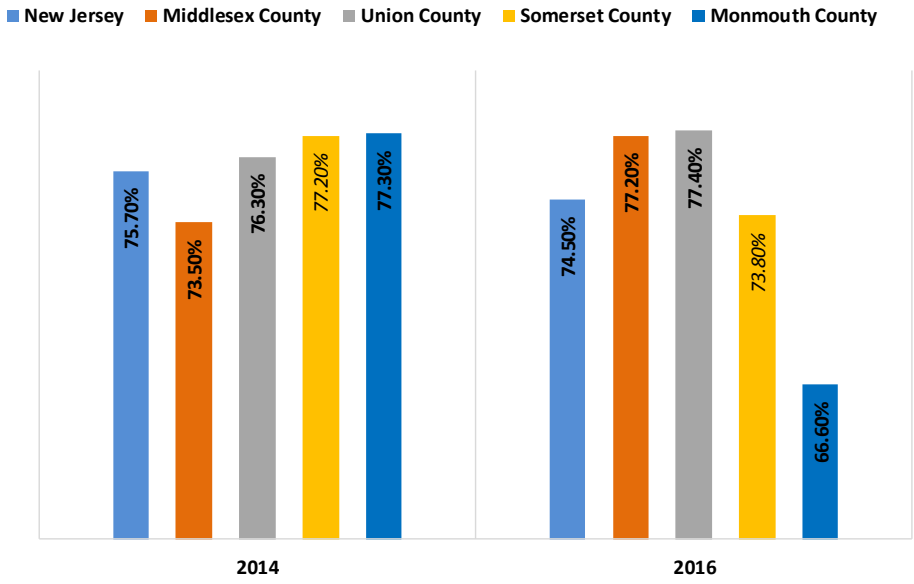
*National Benchmark: 71.0%*
*Middlesex County 2016: 75.1%*

*Cervical Cancer (pap smear)*

According to the American Cancer Association, cervical cancer testing should start at age 21. Women between the ages of 21 and 29 should have a Pap test done every 3 years. Women between the ages of 30 and 65 should have a Pap test plus an HPV test (called "co-testing") done every 5 years. Women over age 65 who have regular cervical cancer testing in the past 10 years with normal results should not be tested for cervical cancer. Women with a history of a serious cervical pre-cancer should continue to be tested for at least 20 years after that diagnosis, even if testing goes past age 65. Some women – because of their health history (HIV infection, organ transplant, DES exposure, etc.) – may need a different screening schedule for cervical cancer.

- In 2016, 77.2% of Middlesex County women over age 18 had a pap smear within the past three years as compared to 74.5% of New Jersey women 18+. Slightly fewer Middlesex County women over age 18 had a pap test within 3 years than in comparative Union County (77.4%).
- Between 2014 and 2016, Middlesex County women who had a pap test within the past three years increased 3.7 percentage points from 73.5% to 77.2%.
- Compared to the State overall, Middlesex County performs in the middle quartile.

**Women How Had Received a Pap Test**
**State & County Comparisons, 2014-2016**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

Healthy People 2020

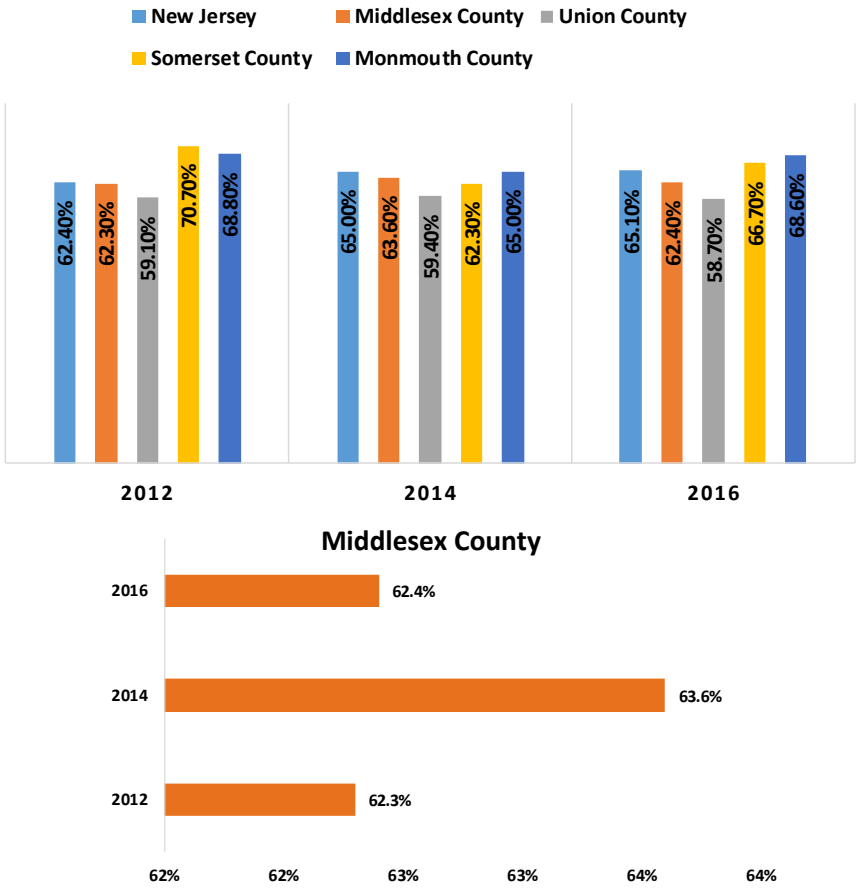
*Baseline: 60.20%*
*Target: 66.20%*
*Middlesex County 2016: 77.20%*

*Colon-rectal Cancer (sigmoidoscopy or colonoscopy)*

According to the American Cancer Association, starting at age 50, both men and women should follow one of these testing plans: colonoscopy every 10 years, CT colonography (virtual colonoscopy) every 5 years, flexible sigmoidoscopy every 5 years, or double-contrast barium enema every 5 years.

- In 2016, a lower percentage of Middlesex County adults over age 50 (62.40%) participated in colon-rectal screening than adults statewide (65.1%). Compared to all New Jersey counties, Middlesex County performs in the middle performing quartile.
- In 2016, slightly more Middlesex County adults (62.40%) over age 50 had a colonoscopy/ sigmoidoscopy than in 2012 (62.30%). Middlesex County was below the *Healthy People 2020* target of 70.5% of adults (50+) ever having colon-rectal screening in 2016.

**Adults Age 50+ Who Ever Had a Colonoscopy or Sigmoidoscopy**
**State & County Comparisons, 2012-2016**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

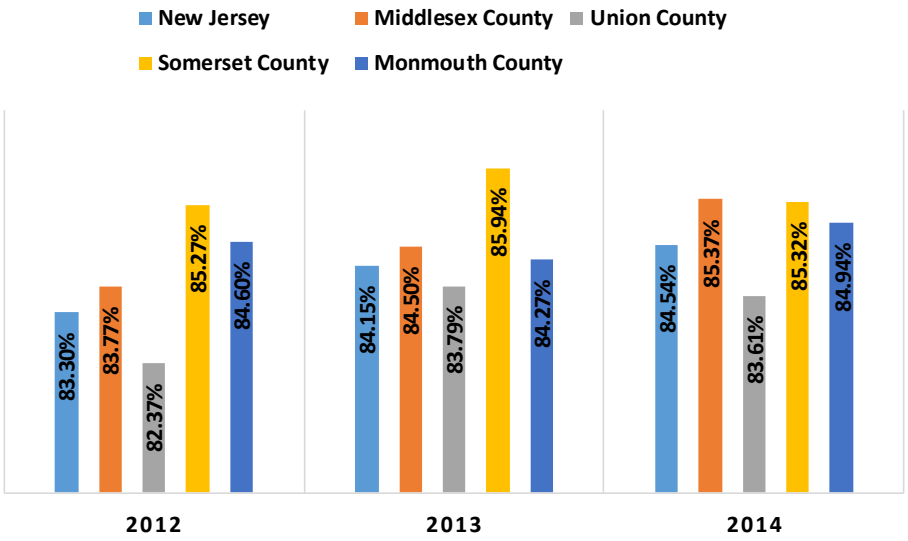
*Baseline: 52.1%*
*Target: 70.5%*
*Middlesex County 2016: 62.4%*

*Diabetes*

There are several ways to diagnose diabetes including A1C, Fasting Plasma Glucose (FPG), Oral Glucose Tolerance Test (OGTT) and Random (Casual) Plasma Glucose Test. Diabetes screenings are an effective means of diagnosing and managing illness.

- In 2014, 85.37% of Middlesex County diabetic Medicare enrollees received HbA1c screening, higher than the State and surrounding counties. As compared to all New Jersey counties, Middlesex County performs in the middle quartile.
- The percent of Middlesex County diabetic Medicare enrollees receiving HbA1c screening has trended upward since 2009.
- In 2014, fewer Middlesex County diabetic Medicare enrollees (85.37%) were screened than the CHR national benchmark (91%). Middlesex County ranked in the middle quartile of the CHR benchmark.

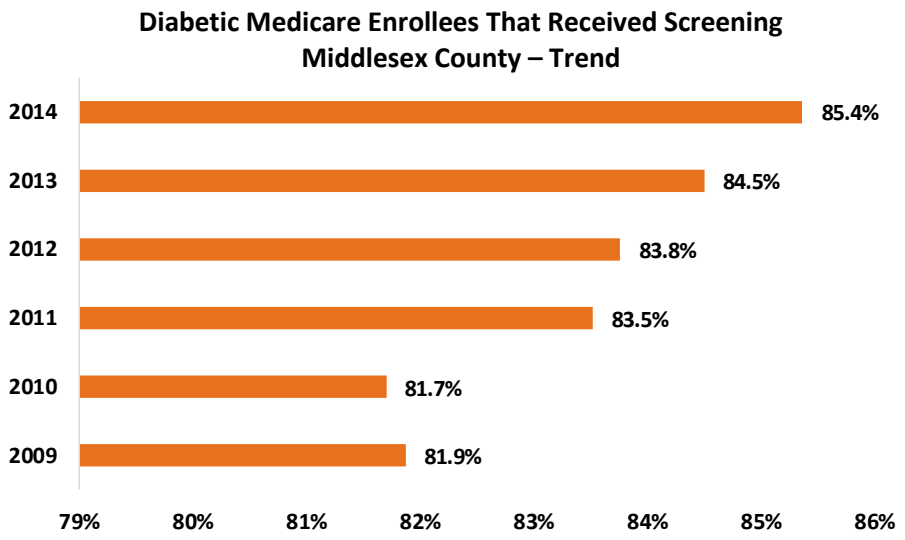
**Diabetic Medicare Enrollees That Received Screening**
**State & County Comparisons, 2012-2014**




Source: County Health Rankings – Dartmouth Atlas of Health Care

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
A Robert Wood Johnson Foundation program

*National Benchmark: 91.0%*
*Middlesex County 2016: 85.37%*




Source: County Health Rankings – Dartmouth Atlas of Health Care

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Mammograms**<br>*Women Age 50+ Who Have NOT Had a Mammogram Within Past Two Years* | | | |
| **Sigmoidoscopy/ Colonoscopy**<br>*Adults Age 50+ Who Have Ever Had a Sigmoidoscopy or Colonoscopy* | | N.A. | |
| **HbA1c Screening**<br>*% Diabetic Medicare Enrollees Receiving Screening* | N.A. | | |
| **Pap Test**<br>*Women Who Have Had a PAP Test Within Past Three Years* | | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

### *Immunizations*

It is better to prevent disease than to treat it after it occurs; vaccines prevent disease and save millions of lives. Vaccines introduce the antigens that cause diseases. Immunity, the body's means to preventing disease, recognizes germs and produces antibodies to fight them. Even after many years, the immune system continues to produce antibodies to thwart disease from recurring. Through vaccination we can develop immunity without suffering from disease.[51]

[51] http://www.cdc.gov/vaccines/vac-gen/howvpd.htm#why

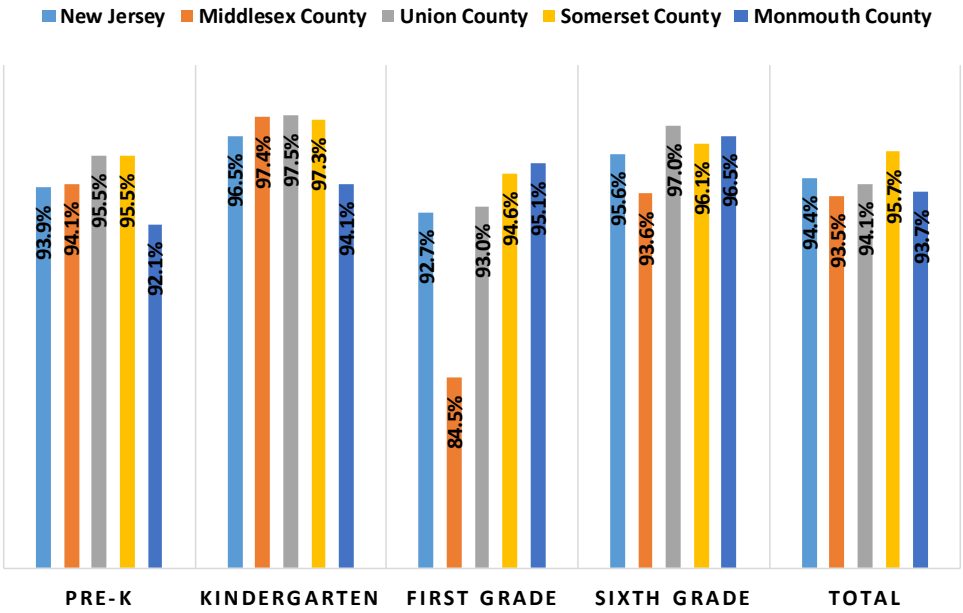
*Childhood Immunizations: DPT, polio, MMR & Hib (aged 19-35 months)*

Young children are readily susceptible to disease and the consequences can be serious or life-threatening. Childhood immunizations minimize impact of vaccine preventable diseases. Combined 4 vaccine series (4:3:1:3) refers to 4 or more doses of DTP/DT, 3 or more doses of poliovirus vaccine, 1 or more doses of MCV and 3 or more doses of Hib.[52] Conflicting information in the news and on the internet about children's immunizations may cause vaccine hesitancy among select parents. Health care providers have been encouraged to use interventions to overcome vaccine non-compliance, including parental counseling, increasing access to vaccinations, offering combination vaccines, public education, and reminder recall strategies.

Childhood immunization is an evidenced-based strategy, which is known to reduce the incidence, prevalence and mortality of many communicable diseases in many Western Countries including the U.S.

- In 2016, 84.5% of first grade students in Middlesex County had received all required immunizations compared to 92.7% statewide.
- 93.5% of all Middlesex County students (Pre-K – 6th grade) received all required immunizations, comparable to the statewide percentage (94.4%).
- Middlesex County is in the worst performing quartile statewide.

**Childhood Immunization: Percent of Children Meeting All Immunization Requirements**
**State and County Comparisons, 2016**




Source: NJDOH Annual Immunization Status Report
http://www.nj.gov/health/cd/documents/status_report/2016/all_schools_vac.pdf
Data are the most current County-Level figures available.

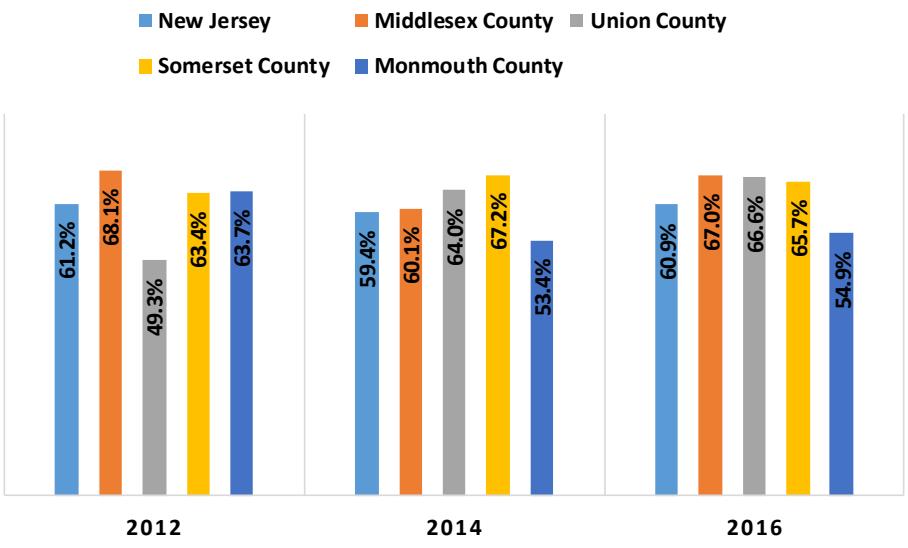
[52] http://www.cdc.gov/vaccines/imz-managers/coverage/nis/child/tech-notes.html)

*Adult Flu*

Immunizations are not just for children. As we age, the immune system weakens putting us at higher risk for certain diseases. Greater than 60 percent of seasonal flu-related hospitalizations occur in people 65 and older. The single best way to protect against the flu is an annual vaccination.[53]

- In 2016, Middlesex County had the highest percent of adults receiving flu shots in comparison to residents of New Jersey and the tri-county area.
- As compared to all counties statewide, Middlesex County performs in the top quartile.
- Between 2011 and 2016, the percentage of Middlesex County adults who had a flu shot fluctuated with an overall increase of 6.3 percentage points.
- The percent of 2016 Middlesex County adults who received the flu shot in the past year (67.0%) was lower than the *Healthy People 2020* target of 90.0%.
- Middlesex County performs in the lowest *Healthy People 2020* quartile.

**Adults Age 65+ Who Had a Flu Shot in the Past Year**
**State & County Comparisons, 2012-2016**

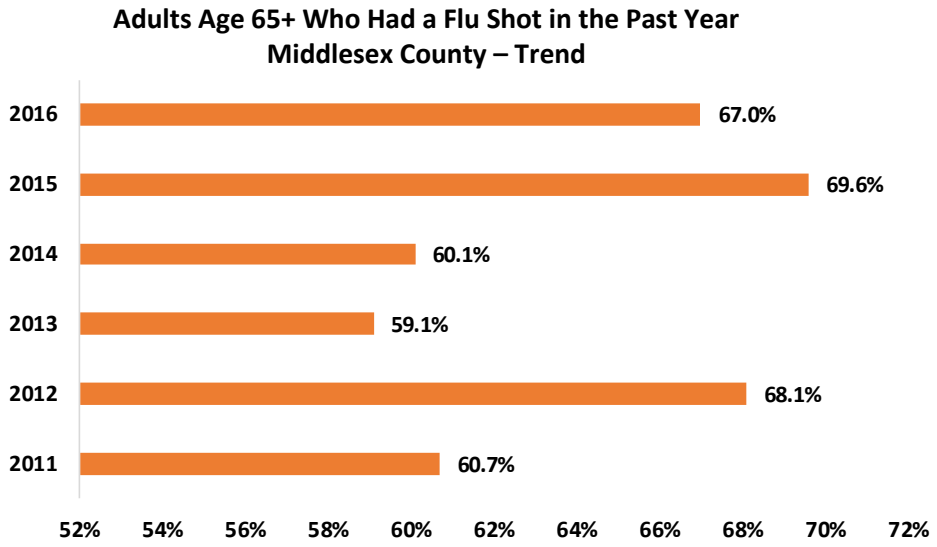



Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

Healthy People 2020

*Baseline: 66.6%*
*Target: 90.0%*
*Middlesex County 2016: 67.0%*

[53] http://www.cdc.gov/vaccines/adults/rec-vac/index.html)




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

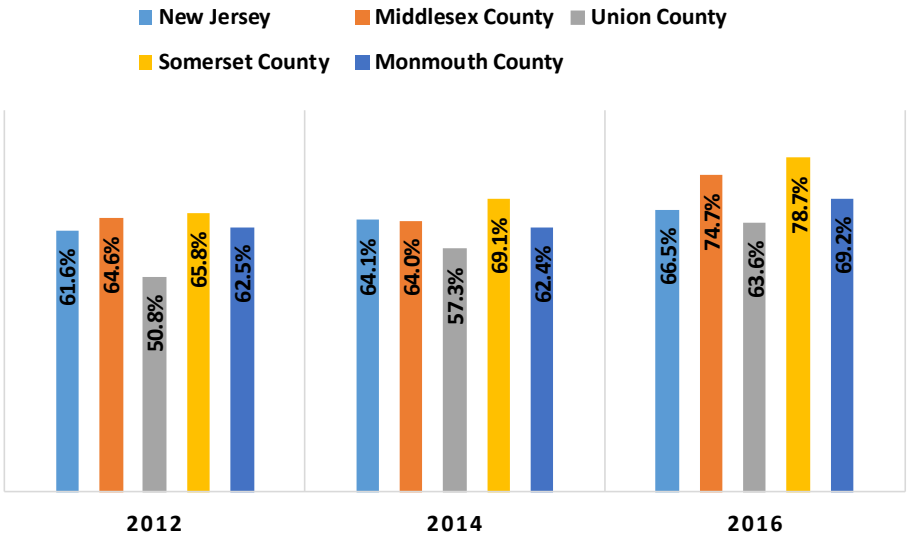
*Adult Pneumonia*

The pneumococcal vaccine protects against some of the 90 types of pneumococcal bacteria. Pneumococcal vaccine is recommended for all adults 65 years or older.[54]

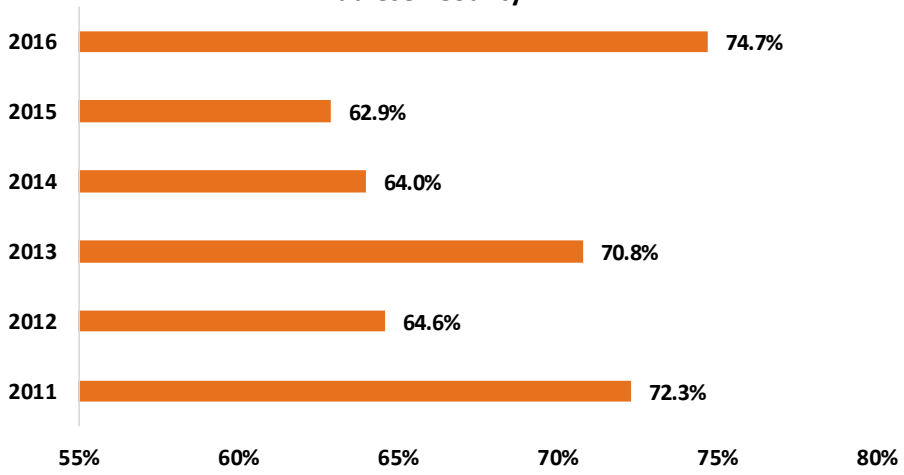
- The percent of Middlesex County adults age 65+ who had a pneumonia vaccine increased from 2011 through 2016, from 72.3% to 74.7%.
- In 2016, the percent of Middlesex County (74.7%) adults that have had a pneumonia vaccine is higher than statewide (66.5%) and less than the *Healthy People 2020* target (90.0%).
- As compared to all counties statewide, Middlesex County performs in the top quartile.
- Middlesex County performs in the middle quartile in the *Healthy People 2020* target.

[54] http://www.cdc.gov/pneumococcal/about/prevention.html

**Adults Age 65+ Who Had a Pneumonia Vaccination**
**State & County Comparisons, 2012-2016**




**Middlesex County**



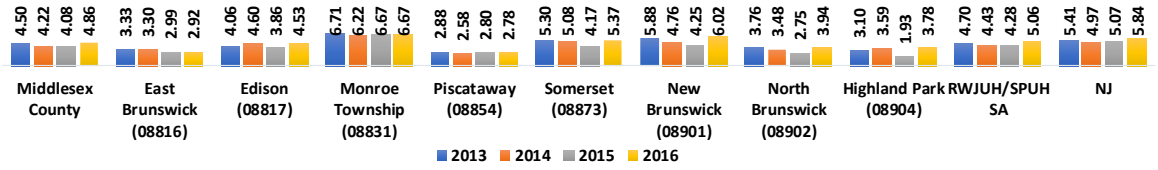

Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

Healthy People 2020

*Baseline: 60.0 %*
*Target: 90.0%*
*Middlesex County 2016: 74.7%*

- In 2016, Monroe residents who used a hospital service had the highest rate of pneumonia (6.67/1,000) and Piscataway at 2.78/1,000 was the lowest as compared to all geographies.

**Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population: Pneumonia**




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census Definition: Inpatient, Same Day Stay and ED Discharges – For MS-DRGs 177, 178, 179, 193, 194, 195

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Flu Shot**<br>*Adults Age 65+ Who Have NOT Had a Flu Shot in the Past Year*<br>*%No* | | N.A | |
| **Pneumonia Vaccination**<br>*Adults Age 65+ Who Have NOT Ever Had a Pneumonia Vaccination*<br>*%Never* | | N.A. | |
| **Children Meeting All Immunization Requirements** | N.A. | N.A. | |

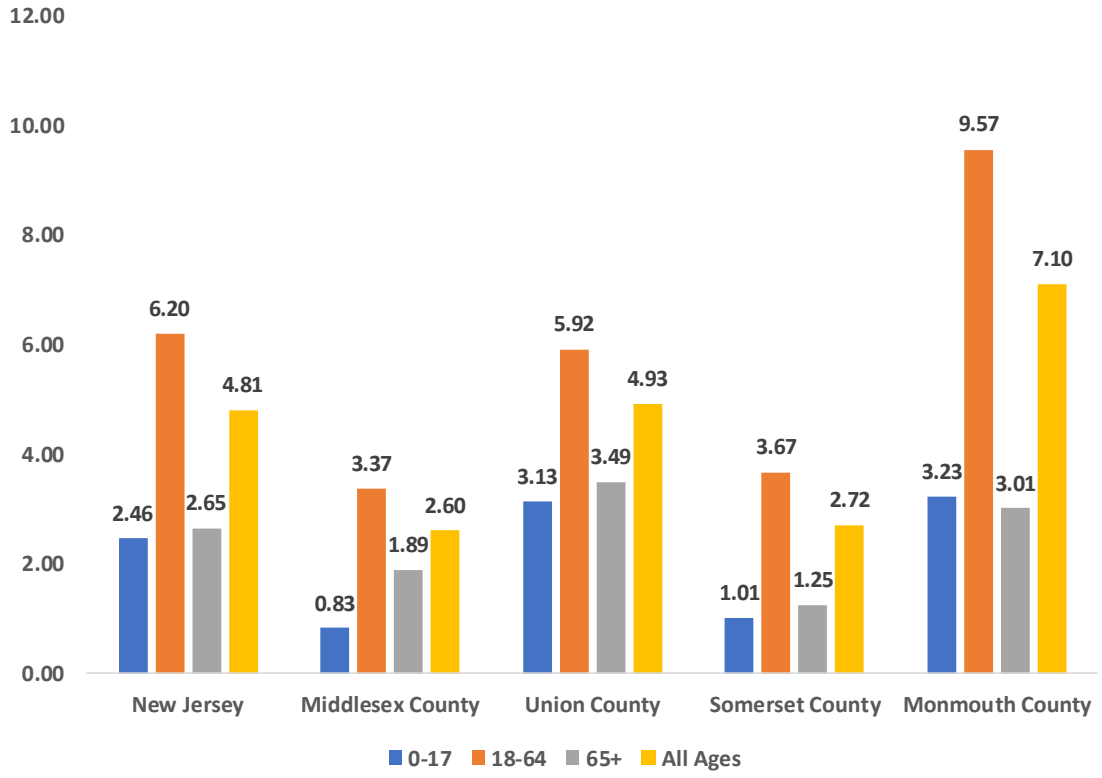
*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *4. Behavioral Health Utilization*

### *Mental Health*

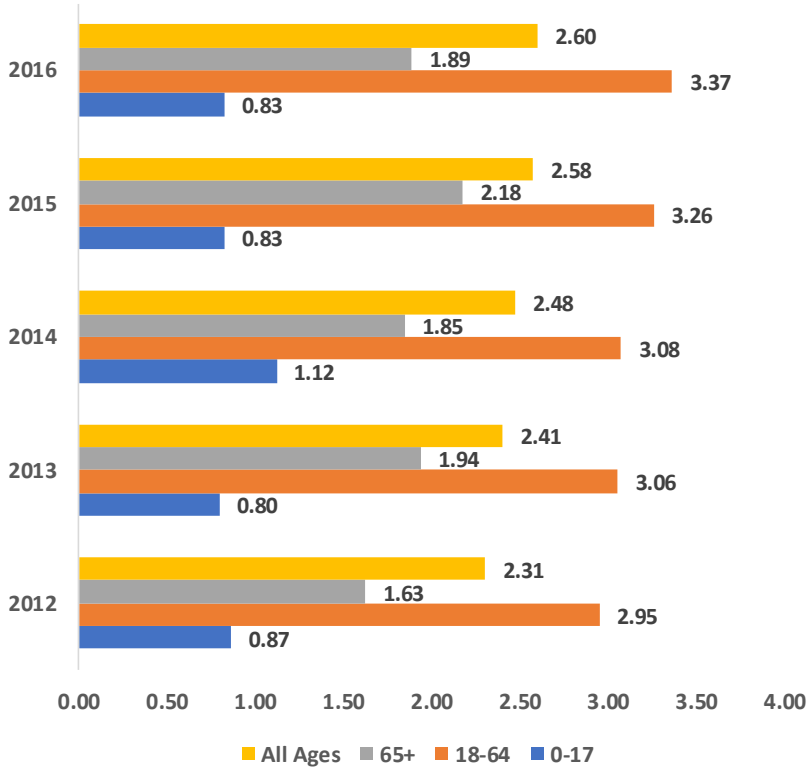
- In 2016, Middlesex County (2.60/1,000) had the lowest rate of residents with an inpatient hospitalization for a mental health condition across all age cohorts, as compared to the State and comparison counties.
- Within Middlesex County, by age cohort in 2016, adults 18-64 (3.37/1,000) had the highest rate of mental/behavioral health inpatient hospital admissions compared to older adults 65+ (1.89/1,000) and children (0.83/1,000).
- Middlesex County had slightly more inpatient hospitalizations for mental/behavioral health conditions in 2016 (2.60/1,000) than in 2012 (2.31/1,000).

**Inpatient Admissions for Mental/Behavioral Health Conditions**
**By Age; Rate / 1,000 Population**
**State & County Comparisons, 2016**




Source: NJDHSS 2012 - 2016 UB-04 Data MDC 19 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

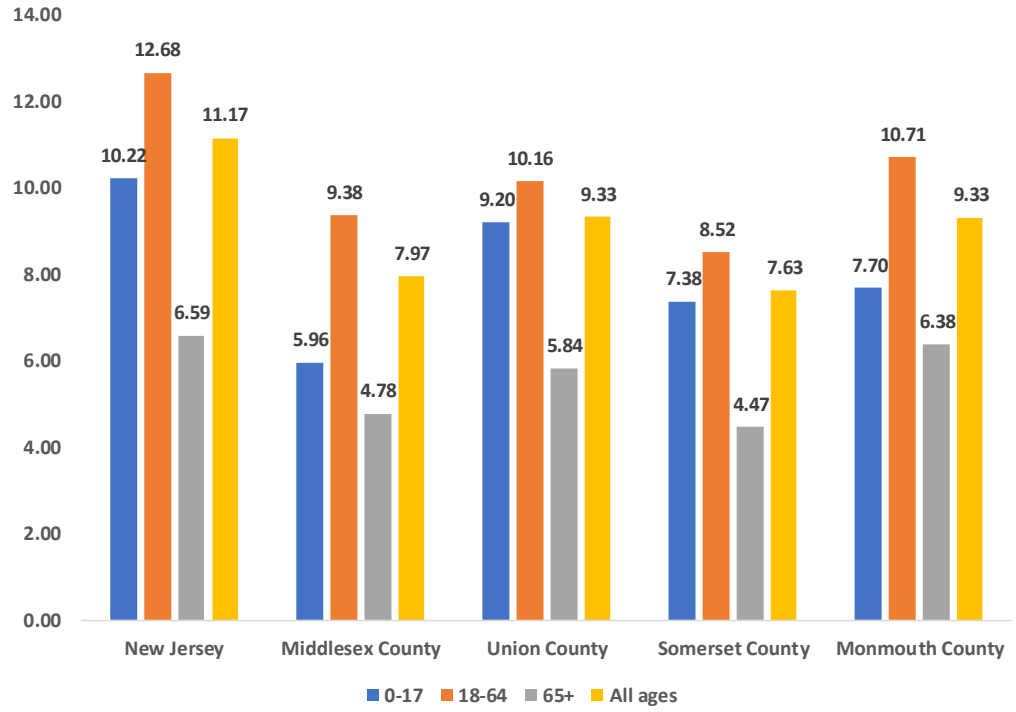
**Inpatient Admissions for Mental/Behavioral Health Conditions**
**By Age; Rate / 1,000 Population**
**Middlesex County – Trend**

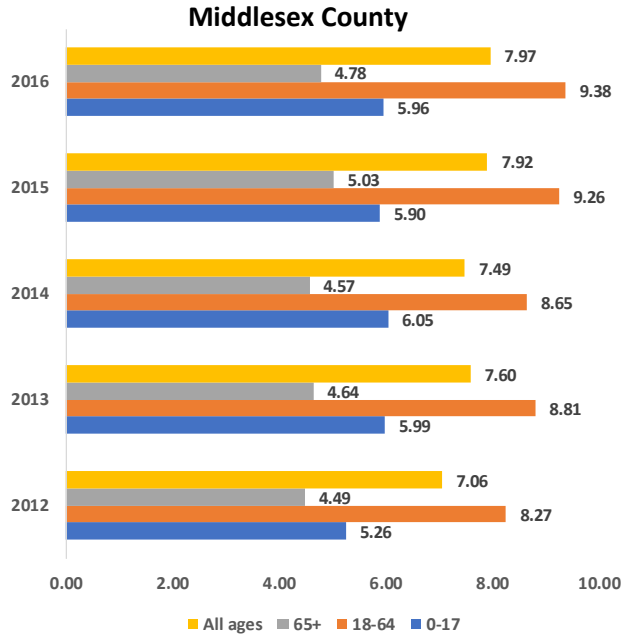



Source: NJDHSS 2012 - 2016 UB-04 Data MDC 19 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

- In 2016, Middlesex County (7.97/1,000) had a lower ED visit rate for mental health conditions than the State (11.17/1,000).
- In 2016, Middlesex County adults 18-64 (9.38/1,000) had the highest rate of ED visits compared to children (5.96/1,000) and older adults 65+ (4.78/1,000).
- Middlesex County ED visits for mental/behavioral health conditions increased between 2012 (7.06/1,000) and 2016 (7.97/1,000).

**ED Visits for Mental/Behavioral Health Conditions (2016): By Age; Rate / 1,000 Population**
**State & County Comparisons 2016**

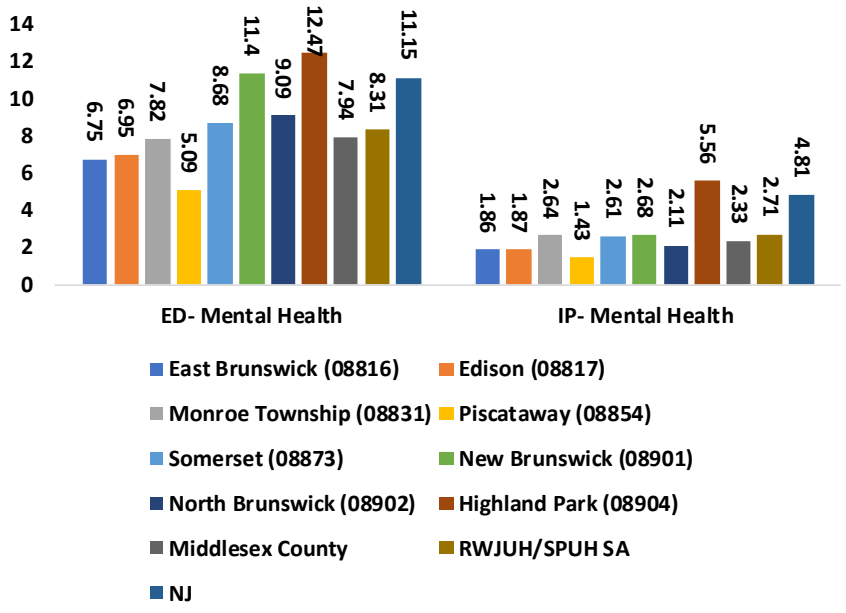



Source: NJDHSS 2012- 2016 UB-04 Data MDC 19 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

- In 2016, inpatient hospitalizations for mental/behavioral health for the RWJUH/SPUH Service Area (2.71/1,000) was lower than the New Jersey rate (4.81/1,000), but higher than the Middlesex County rate (2.33/1,000).
- In 2016, the emergency department rate for mental/behavioral health in Highland Park (12.47/1,000) was greater than Middlesex County (7.94/1,000) and greater than New Jersey (11.15/1,000).
- In 2016, the emergency department rate for mental health in Piscataway (5.09/1,000) was less than the New Jersey rate (11.15/1,000) and less than the Middlesex County rate (7.94/1,000).

**Mental Health Use Rate /1,000 Population: 2016**



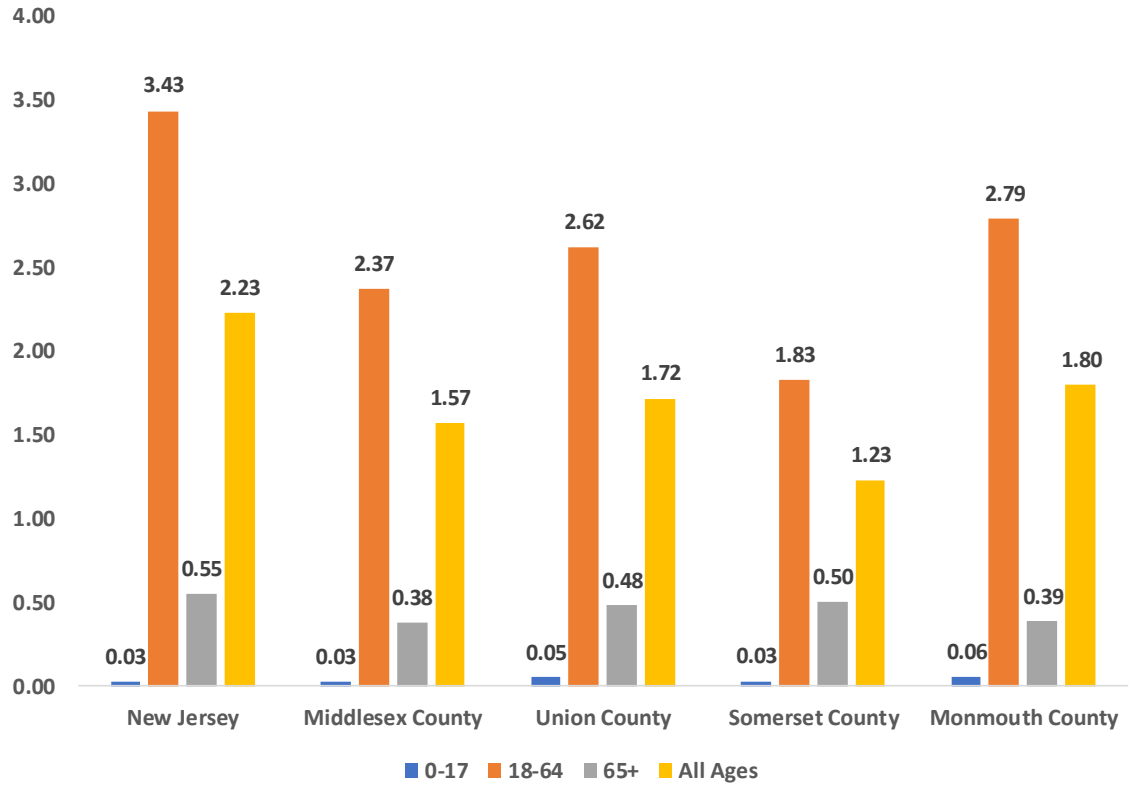

*Source: UB-04 2016 Discharges; Claritas Population Estimate
** Mental Health Defined as MDC 19, Substance Abuse Defined As MDC 20

***Substance Abuse***

Substance abuse has a major impact on individuals, families and communities. In 2005, an estimated 22 million Americans struggled with a drug or alcohol problem. Almost 95 percent of people with substance use problems are considered unaware of their problem. These estimates highlight the importance of increasing prevention efforts and improving access to treatment for substance abuse and co-occurring disorders.[55]

- In 2016, Middlesex County had a lower use rate for residents with an inpatient admission for substance abuse than the State and Union and Monmouth Counties.
- Inpatient use rates by age cohort in Middlesex County trended upward among those 18-64, from 2012 to 2016.

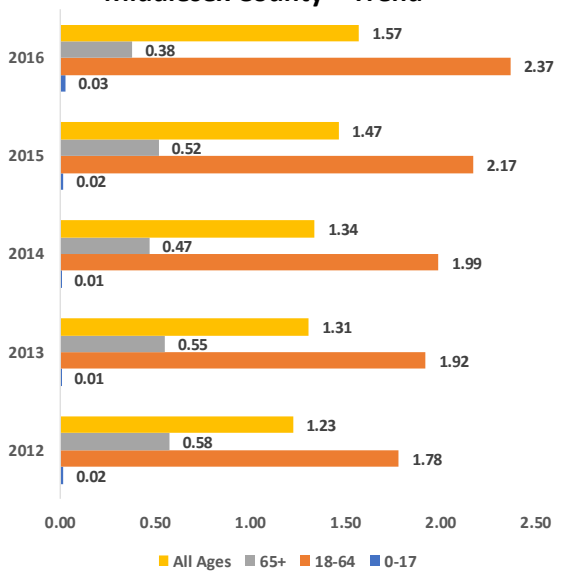
**Inpatient Substance Abuse Treatment Admissions: Rate / 1,000 Population**
**State & County Comparisons 2016**




Source: NJDHSS 2012 - 2016 UB-04 Data MDC 20 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

[55] http://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse

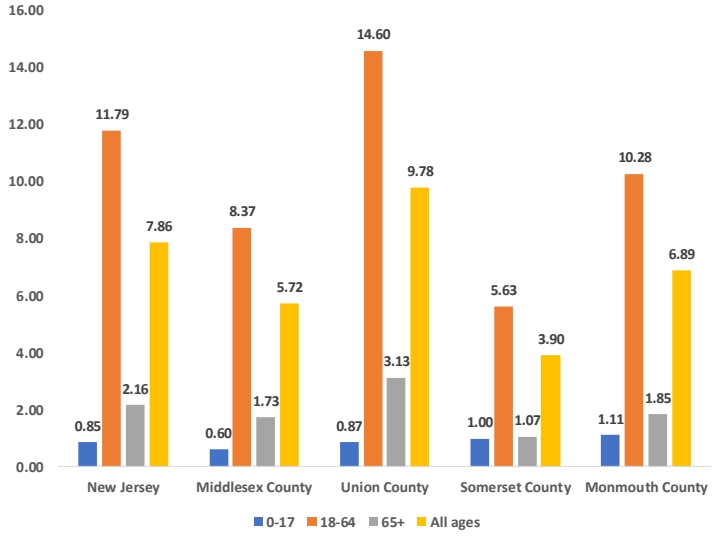
**Inpatient Substance Abuse Treatment Admissions: Rate / 1,000 Population**
**Middlesex County – Trend**




Source: NJDHSS 2012 - 2016 UB-04 Data MDC 20 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

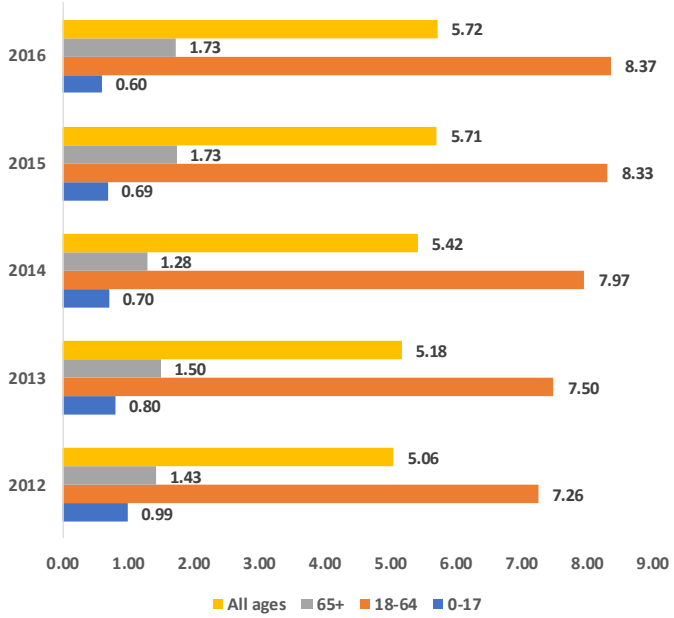
- In 2016, Middlesex County (5.72/1,000) had a lower ED visit rate for substance abuse than the State (7.86/1,000).
- Between 2012 and 2016, ED visit rate for substance abuse in Middlesex County increased from 5.06/1,000 to 5.72/1,000.
- In 2016, Middlesex County residents aged 18-64 had the second lowest rate of ED visits for substance abuse (8.37/1,000), above Somerset County (5.63/1,000).

**ED Visits for Substance Abuse: By Age; Rate / 1,000 Population**
**State & County Comparisons 2016**




Source: NJDHSS 2012 - 2016 UB-04 Data MDC 20 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

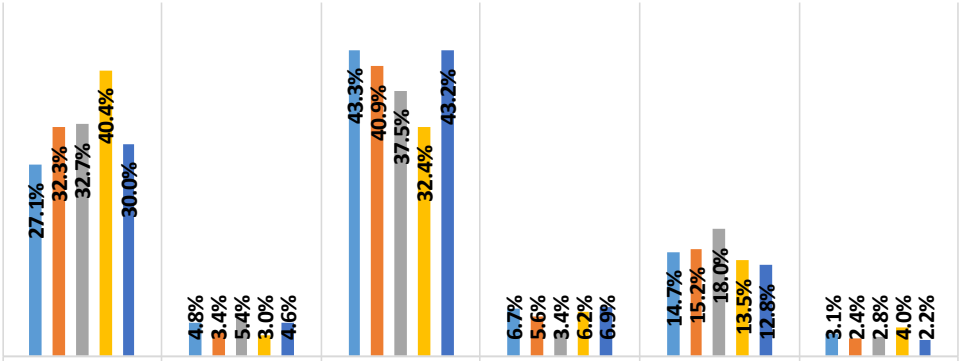
**ED Visits for Substance Abuse: By Age; Rate / 1,000 Population**
**Middlesex County – Trend**




Source: NJDHSS 2012 - 2016 UB-04 Data MDC 20 – NJ Residents; Population: United States Census American Community Survey 5yr Estimate

- In 2016, heroin was the leading reason for admission to a drug treatment center followed by alcohol for Middlesex County residents.

**Primary Drug Treatment Admissions**
**State & County Comparisons 2016**

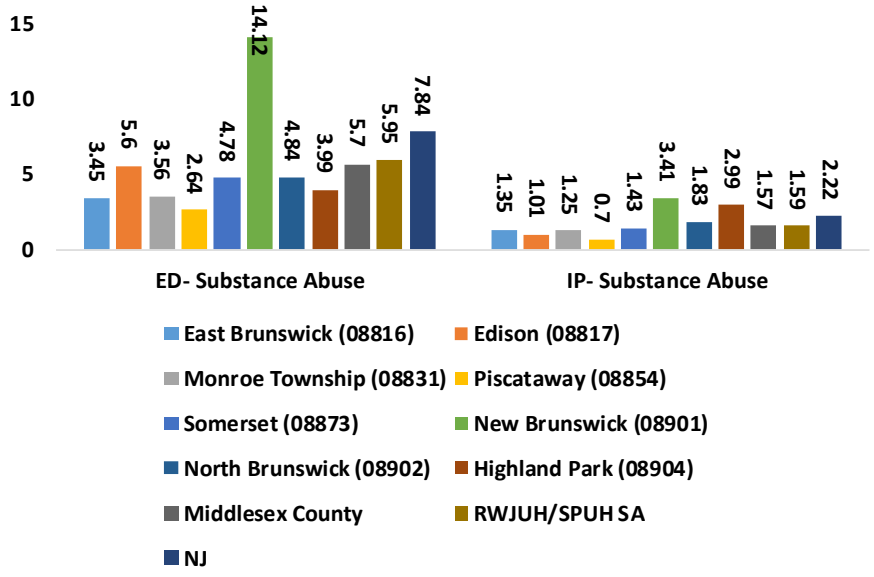



| | Alcohol | Cocaine/Crack | Heroin | Other Opiates | Marijuana/ Hashish | Other Drugs |
|---|---|---|---|---|---|---|
| New Jersey | 27.1% | 4.8% | 43.3% | 6.7% | 14.7% | 3.1% |
| Middlesex County | 32.3% | 3.4% | 40.9% | 5.6% | 15.2% | 2.4% |
| Union County | 32.7% | 5.4% | 37.5% | 3.4% | 18.0% | 2.8% |
| Somerset County | 40.4% | 3.0% | 32.4% | 6.2% | 13.5% | 4.0% |
| Monmouth County | 30.0% | 4.6% | 43.2% | 6.9% | 12.8% | 2.2% |

Source: http://www.nj.gov/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2016/statewide.pdf

- Inpatient hospitalization to general hospitals for substance abuse in the RWJUH/SPUH Service Area (1.59/1,000) was slightly higher than the County rate (1.57/1,000), but lower than the State rate (2.22/1,000).
- Piscataway's rate (0.70/1,000) for inpatient hospitalization for substance abuse was lower than Middlesex County (1.57/1,000).
- In 2016, emergency department visits for substance abuse in the RWJUH/SPUH Service Area (5.95/1,000) was higher than the Middlesex County rate (5.70/1,000) and lower than the New Jersey rate (7.84/1,000).
- In 2016, emergency department utilization rates for substance abuse in New Brunswick (14.12/1,000) was more than double the Middlesex County rate (5.70/1,000).

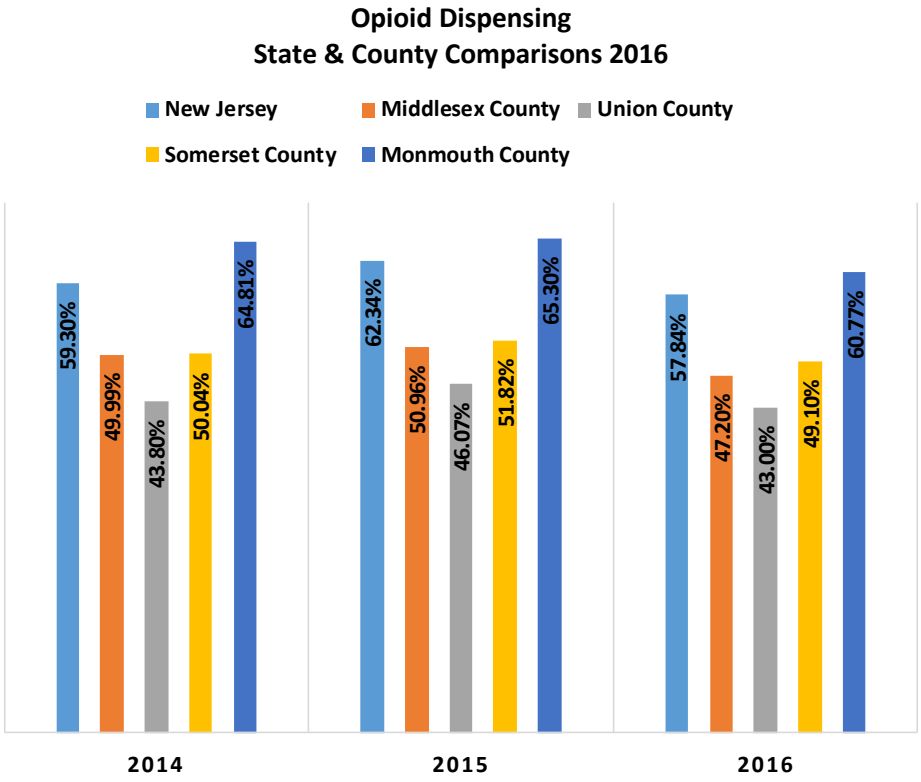
**Substance Abuse Use Rate 1,000 Population: 2016**




*Source: UB-04 2016 Discharges; Claritas Population Estimate
** Mental Health Defined as MDC 19, Substance Abuse Defined As MDC 20

Between 2014 and 2016, the number of drugs dispensed went down across the State, as well as in Middlesex County and the comparison counties.

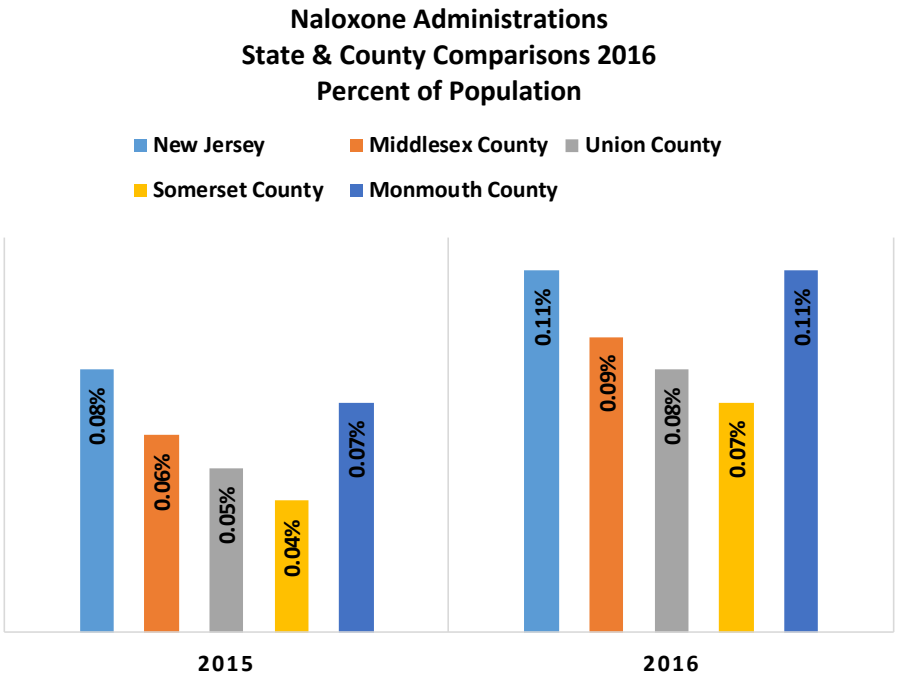
- In 2016, the number of drugs dispensed reached 47.20% of the Middlesex County population.



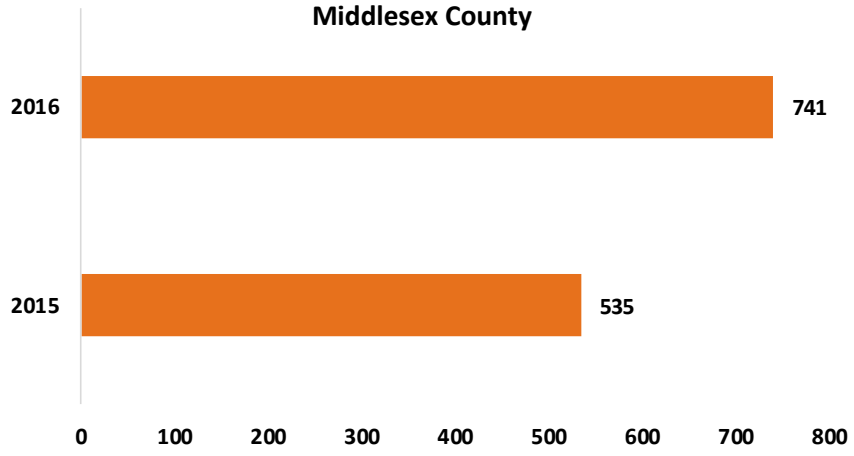

Source: http://www.nj.gov/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2016/statewide.pdf

Naloxone is a FDA approved medication to prevent overdose by opiods such as herion, morphine and oxycodone. It blocks opiod receptor sites reversing the toxic effects of overdose.

- Between 2015 and 2016, the number of Naloxone administrations increased statewide; and in Middlesex, Union, Somerset and Monmouth Counties. In Middlesex County, Naloxone administrations increased from 535 administrations to 741.




Source: http://www.nj.gov/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2016/statewide.pdf




Source: http://www.nj.gov/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2016/statewide.pdf

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| Treatment Admissions for Alcohol<br>*Percentage of Total Treatment Admissions* | N.A | N.A. | |
| Treatment Admissions for Heroin<br>*Percentage of Total Treatment Admissions* | N.A | N.A | |
| Treatment Admissions for Cocaine<br>*Percentage of Total Treatment Admissions* | N.A. | N.A | |
| Treatment Admissions for Marijuana<br>*Percentage of Total Treatment Admissions* | N.A | N.A. | |
| Treatment Admissions for Other Drugs<br>*Percentage of Total Treatment Admissions* | N.A | N.A | |
| Treatment Admissions for Opiates<br>*Percentage of Total Treatment Admissions* | N.A | N.A | |
| Total Opioid Dispensations<br>*Rate/ 100000 Population* | N.A | N.A | |
| Total Substance Abuse Treatment Admissions<br>*Rate/ 100000 Population* | N.A | N.A | |
| Total Naloxone Administrations<br>*Rate/ 100000 Population* | N.A | N.A | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *E. HEALTH OUTCOMES*

Disease-specific mortality, health status and morbidity are among the outcomes presented. Indicators of general health and mental health measures are also discussed in this section.

### *1. Mortality - Leading Cause of Death*

According to the CDC, mortality statistics are one of few data sets comparable for small geographic areas, available for long time periods and appropriate as a primary source for public health planning.

- Between 2013 and 2016, Middlesex County age-adjusted mortality rates (AAMR) improved (decreased) CLRD (-14.5%), stroke (10.1%), cancer (-7.9%), heart disease (-7.5%), diabetes (-4.1%) and influenza/pneumonia (-3.8%).
- Between 2013 and 2016, four of the top 10 leading causes of death for Middlesex County increased including: nephritis (40.4%), unintentional injuries (39.1%), Alzheimer's disease (18.2%), and septicemia (6.5%).

**Top 10 Causes of Death in Middlesex County**
**Age-Adjusted Rate/100,000 Population 2008-2016**

| Causes of Death | 2008 | 2013 | 2016 | Change 13'-16' |
|---|---|---|---|---|
| Diseases of heart | 193.8 | 166.2 | 153.8 | -7.5% |
| Cancer (malignant neoplasms) | 160.4 | 147.3 | 135.7 | -7.9% |
| Unintentional injuries | 25.1 | 27.4 | 38.1 | 39.1% |
| Stroke (cerebrovascular diseases) | 29.5 | 29.7 | 26.7 | -10.1% |
| Chronic lower respiratory diseases (CLRD) | 28.9 | 26.2 | 22.4 | -14.5% |
| Septicemia | 20.2 | 16.9 | 18.0 | 6.5% |
| Alzheimer's disease | 12.3 | 14.3 | 16.9 | 18.2% |
| Diabetes mellitus | 21.4 | 17.2 | 16.5 | -4.1% |
| Nephritis, nephrotic syndrome and nephrosis (kidney disease) | 19.5 | 10.4 | 14.6 | 40.4% |
| Influenza and pneumonia | 16.9 | 10.6 | 10.2 | -3.8% |

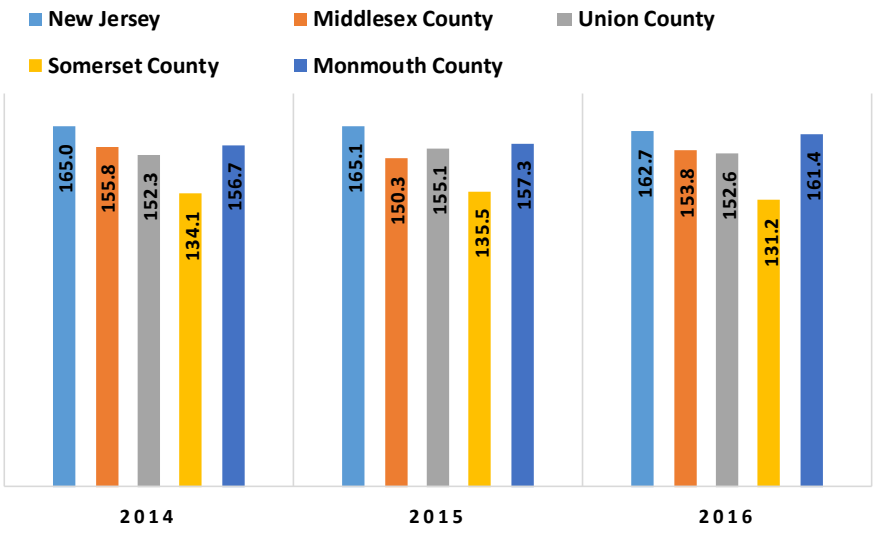
Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

***Heart Disease (1)***

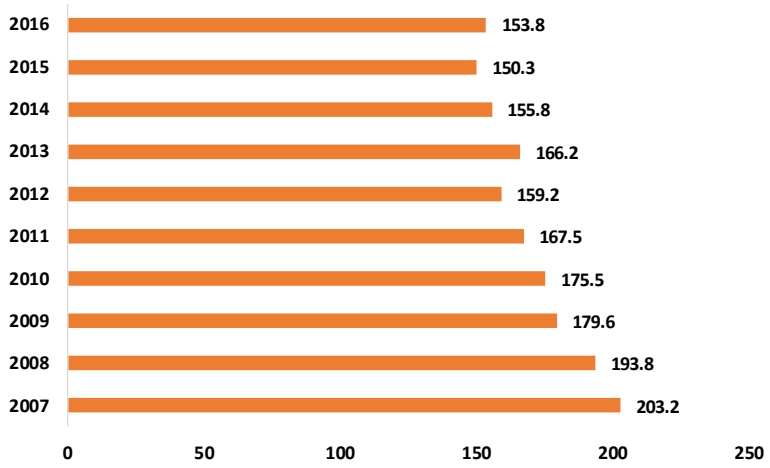
Heart disease includes several conditions, most commonly, coronary artery disease, angina, heart failure and arrhythmias. Nationally, statewide and in Middlesex County, heart disease remains the leading cause of death. Responsible for 1 in every 4 deaths, approximately 610,000 people die of heart disease in the United States each year.

- The AAMR for heart disease deaths decreased between 2007 (203.2/100,000) and 2016 (153.8/100,000).
- The 2016 Middlesex County mortality rate due to heart disease (153.8/100,000) was lower than statewide (162.7/100,000).
- In 2016, across the County, Whites (174.9/100,000) had the highest heart disease mortality rate as compared to Blacks (159.7/100,000) and Hispanics (99.7/100,000).

**Deaths Due to Diseases of the Heart: Age-Adjusted Rate/100,000 Population**
**State & County Comparisons 2014-2016**




**Middlesex County**

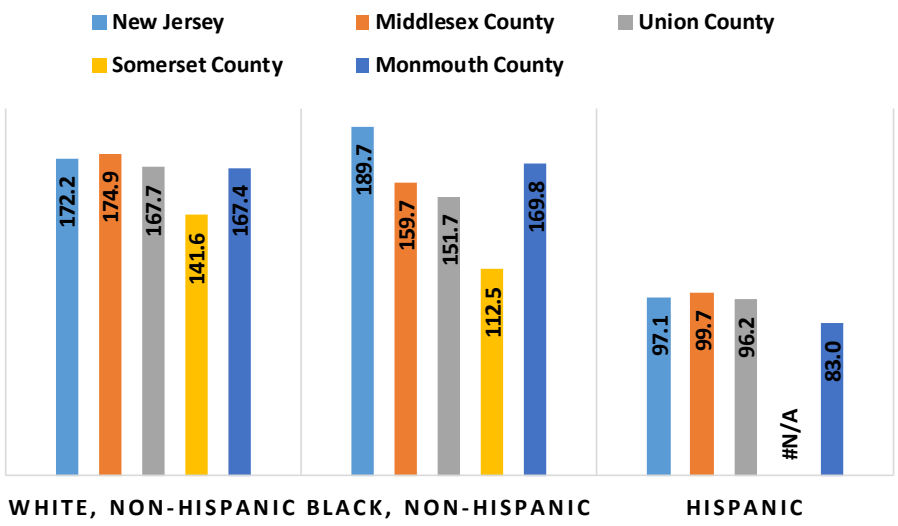



Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

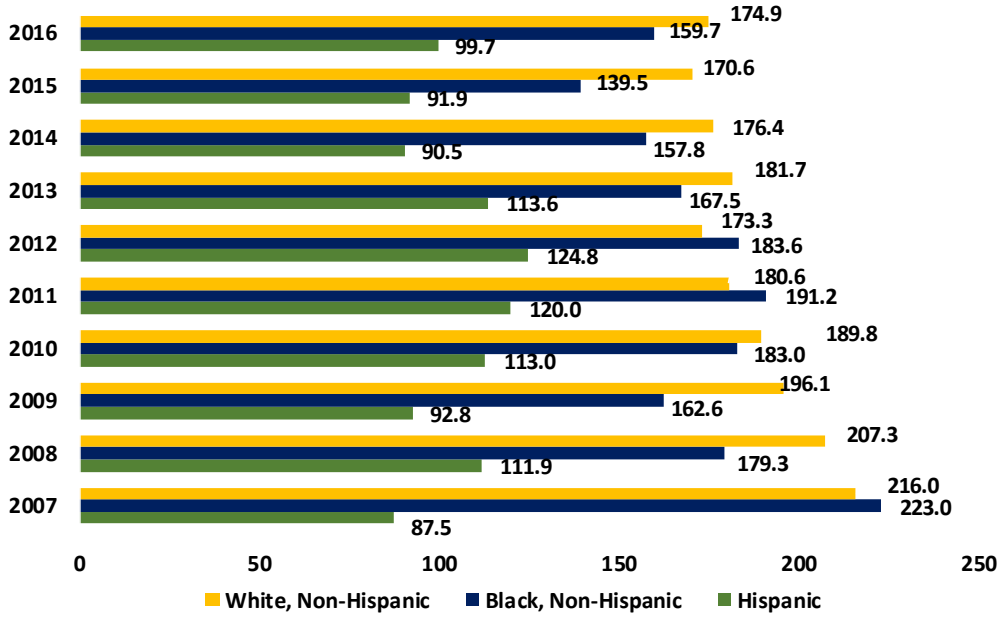
Healthy People 2020

***Baseline: 129.2***
***Target: 103.4***
***Middlesex County 2016: 153.8***

**Deaths Due to Diseases of the Heart by Race/Ethnicity, 2016**
**Middlesex County Age-Adjusted Rate/100,000 Population**




**Middlesex County**



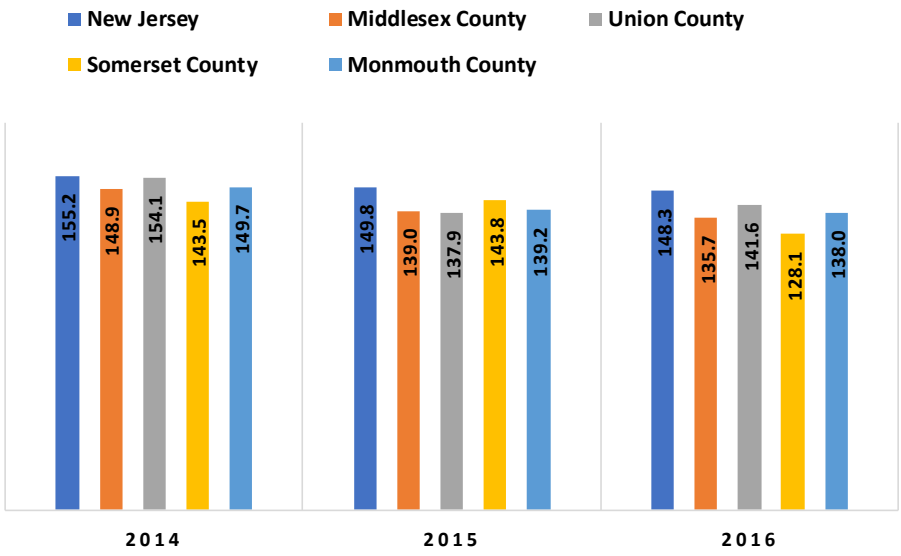

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

***Cancer (2)***

Although there are many types of cancer, all originate from abnormal cells with untreated disease.[56] Approximately half of American men and one-third of women will develop some form of cancer throughout their lifetimes. Cancer risk may be reduced by basic lifestyle modifications including limiting or avoiding tobacco, sun protection, being physically active and eating healthy foods. Early detection greatly improves positive outcomes. Cancer is the second leading cause of death in the United States, New Jersey and Middlesex County.[57]

- Middlesex County deaths due to cancer decreased from 2007 (169.1/100,000) to 2016 (135.7/100,000). The 2016 County mortality rate was lower than New Jersey (148.3/100,000) and ranks in the top performing quartile statewide.
- The 2016 Middlesex County cancer AAMR (135.7/100,000) performed better than the *Healthy People 2020* target of 161.4/100,000.

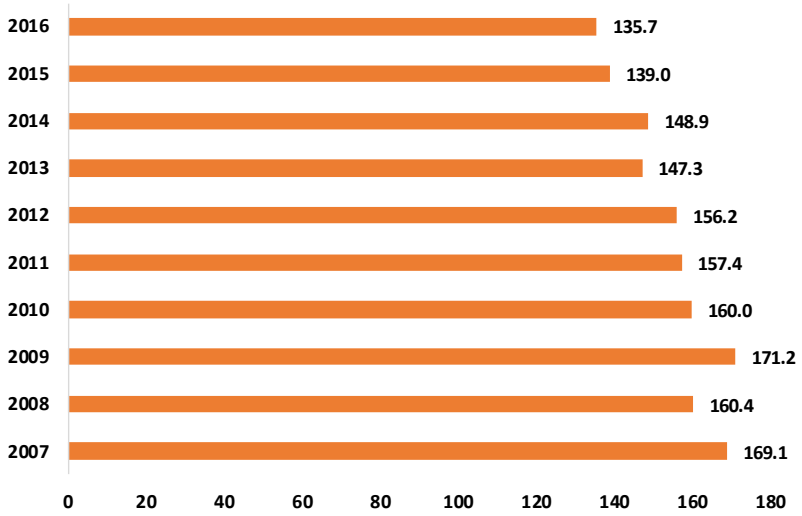
**Deaths Due to Malignant Neoplasms (Cancer): Age-Adjusted Rate/100,000 Population**
**State & County Comparisons, 2014-2016**




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

[56] http://www.cancer.org/cancer/cancerbasics/what-is-cancer
[57] http://www.cancer.org/cancer/cancerbasics/questions-people-ask-about-cancer

**Deaths Due to Malignant Neoplasms (Cancer): Age-Adjusted Rate/100,000 Population**
**Middlesex County – Trend**

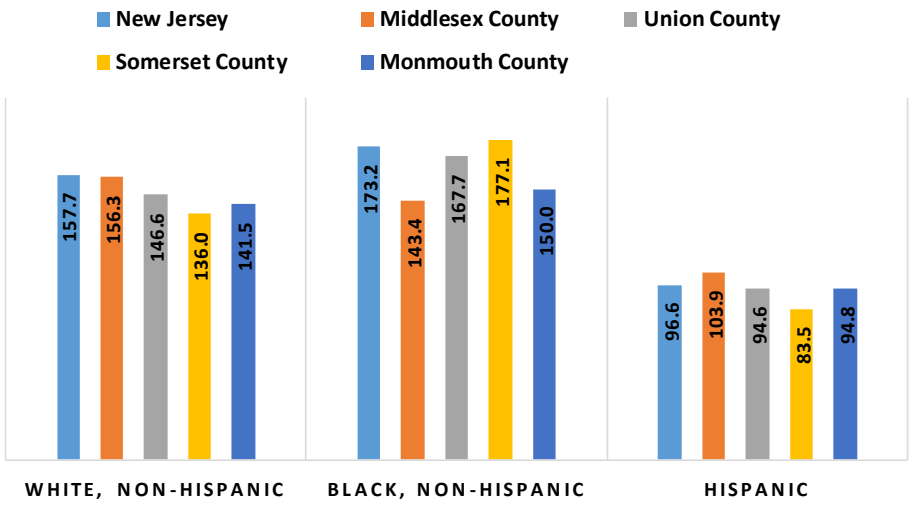


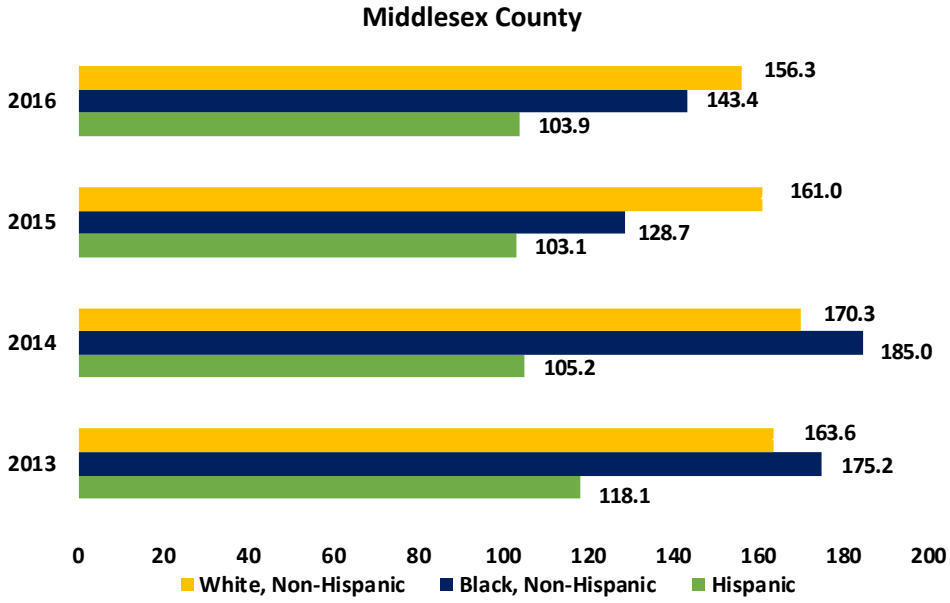

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

***Baseline: 179.3***
***Target: 161.4***
***Middlesex County 2016: 135.7***

- In 2016, the mortality rate for malignant neoplasm deaths among Whites in Middlesex County was higher than the rate for Blacks and Hispanics.
- The mortality rate for cancer among Whites in Middlesex County has historically been higher than Blacks who historically experienced a higher death rate than Hispanics.

**Deaths Due to Malignant Neoplasms (Cancer): By Race/Ethnicity**
**State & County Comparisons, 2014-2016**



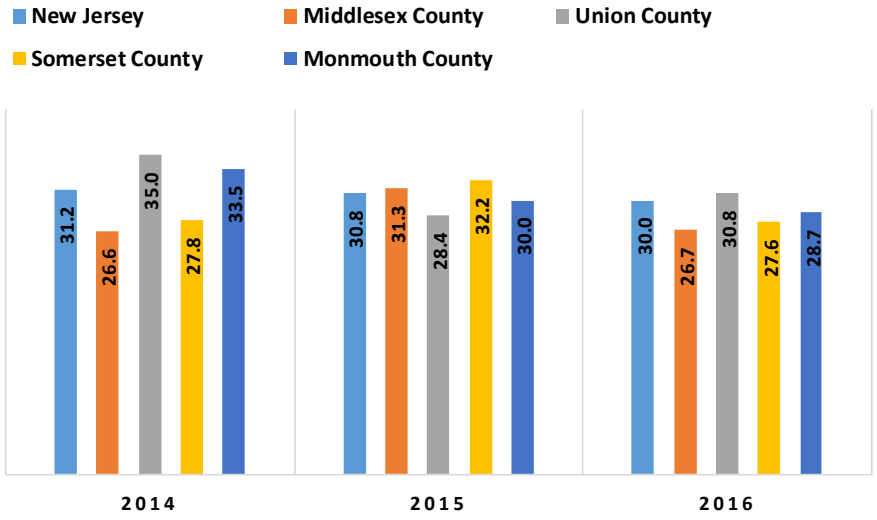

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

***Stroke (Cerebrovascular Diseases) (3)***

A stroke occurs when a clot blocks blood supply to the brain or if a blood vessel within the brain bursts.

- The stroke death rate decreased between 2007 (27.6/100,000) and 2016 (26.7/100,000) in Middlesex County. Middlesex County ranked in the best performing quartile among New Jersey counties.
- The 2016 Middlesex County stroke AAMR was 3.3 percentage points lower than the statewide rate.

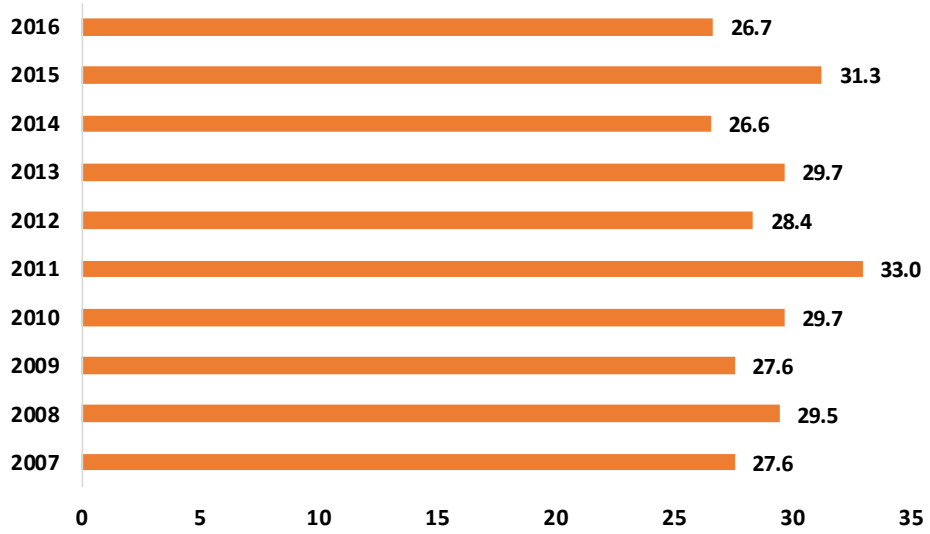
**Deaths Due to Stroke: Age-Adjusted Rate/100,000 Population**
**State & County Comparisons, 2014-2016**




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

***Baseline: 43.5***
***Target: 34.8***
***Middlesex County 2016: 26.7***

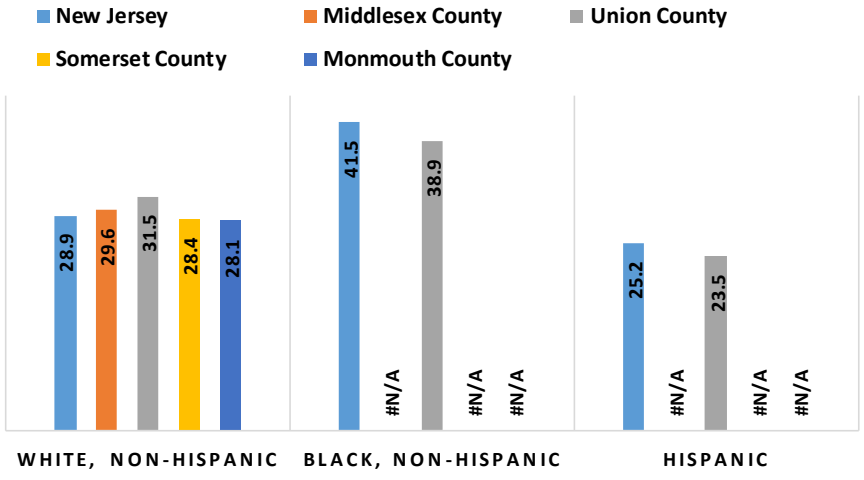
**Deaths Due to Stroke: Age-Adjusted Rate/100,000 Population**
**Middlesex County – Trend**



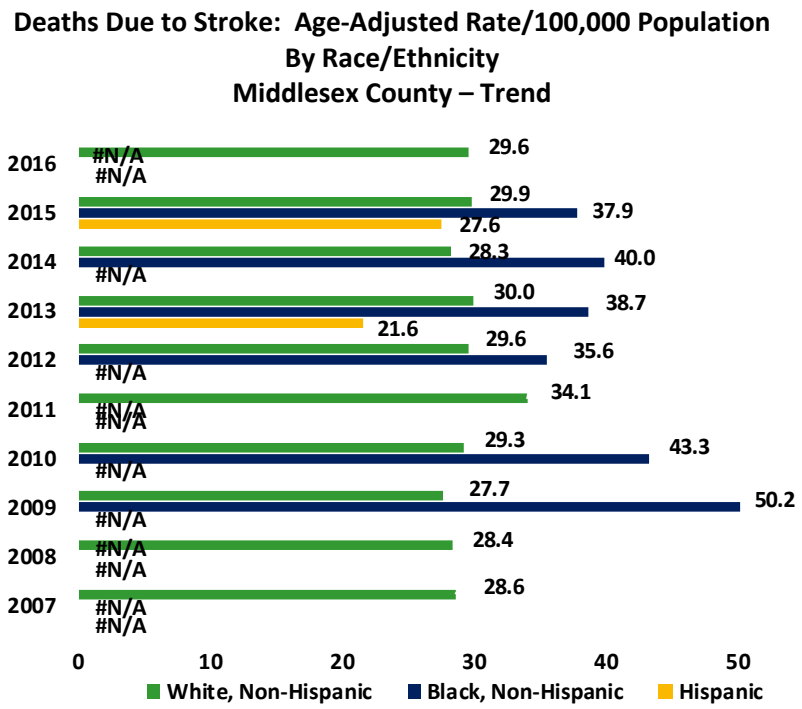

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

- The 2016 stroke death rate for Whites (29.6/100,000) in Middlesex County was higher than the rate for Whites (28.9/100,000) statewide.

**Deaths Due to Stroke: Age-Adjusted Rate/100,000 Population**
**By Race/Ethnicity**
**State & County Comparisons, 2014-2016**




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

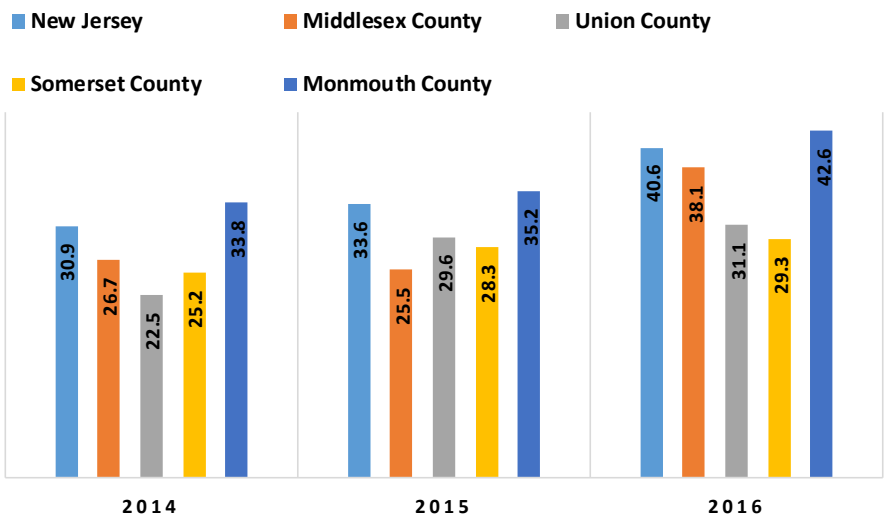
***Unintentional Injuries (4)***

The majority of unintentional injuries are preventable and predictable. Deaths due to unintentional injury often occur as a result of motor vehicle accidents, falls, firearms, drownings, suffocations, bites, stings, sports/recreational activities, natural disasters, fires, burns and poisonings. Public Health prevention strategies including minimum age drinking requirements, seatbelt and helmet laws, smoke alarms, exercise programs and other safety awareness campaigns reduce unintentional injury and death.[58]

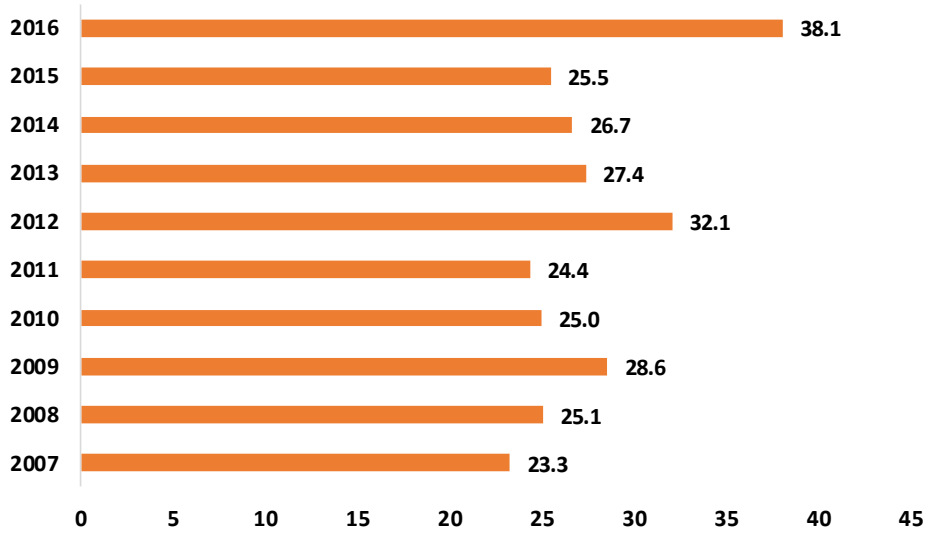
- The Middlesex County unintentional injuries AAMR increased from 2007 (23.3/100,000) to 2016 (38.1/100,000). In 2016, the County AAMR was higher than the *Healthy People 2020* target (36.4/100,000).
- The 2016 Middlesex County unintentional injury AAMR (38.1/100,000) was lower than the State (40.6/100,000) and ranks in the middle quartile statewide.

[58] http://www.cdph.ca.gov/programs/ohir/Pages/UnInjury2010Background.aspx

**Unintentional Injuries**
**State & County Comparisons, 2014-2016**




**Middlesex County**

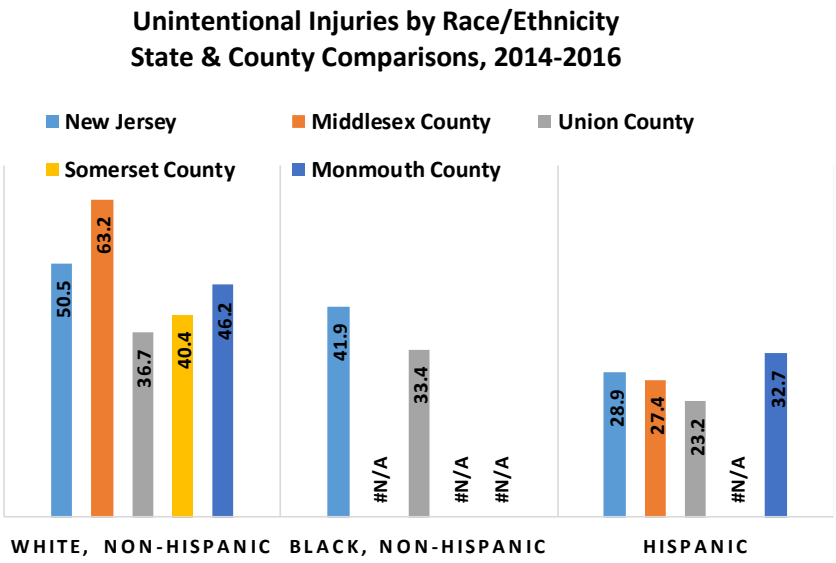


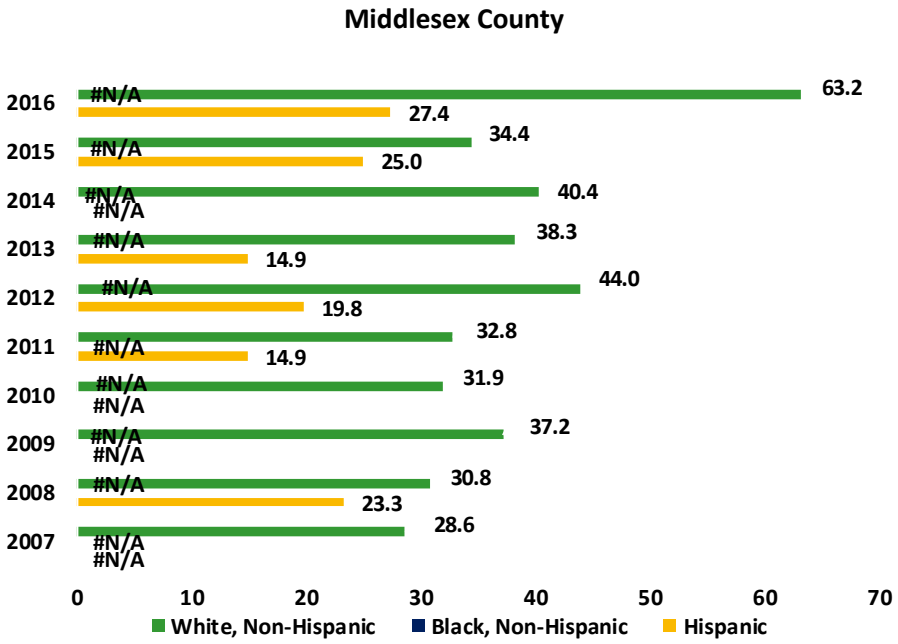

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

Healthy People 2020

***Baseline: 40.4***
***Target: 34.4***
***Middlesex County 2016: 38.1***

- By race/ethnicity, between 2014 and 2016, Whites (63.2/100,000) had a higher death rate due to unintentional injuries compared to Hispanics (27.4/100,000).



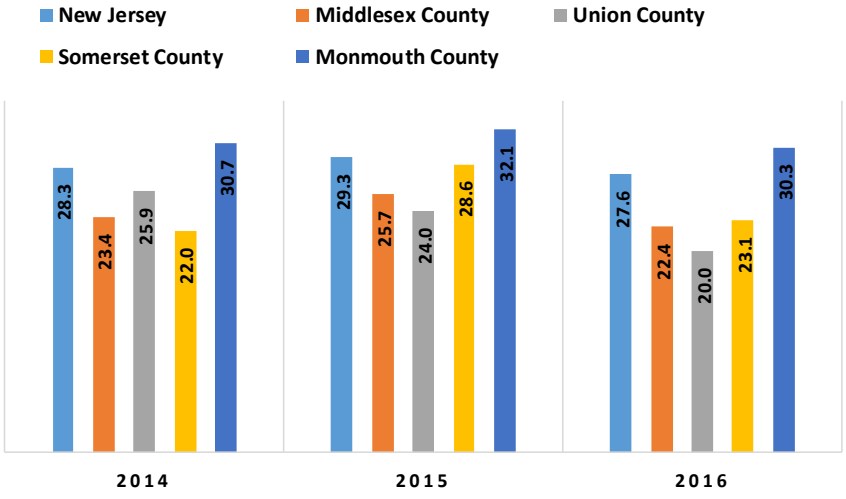

Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

**Chronic Lower Respiratory Disease (5)**

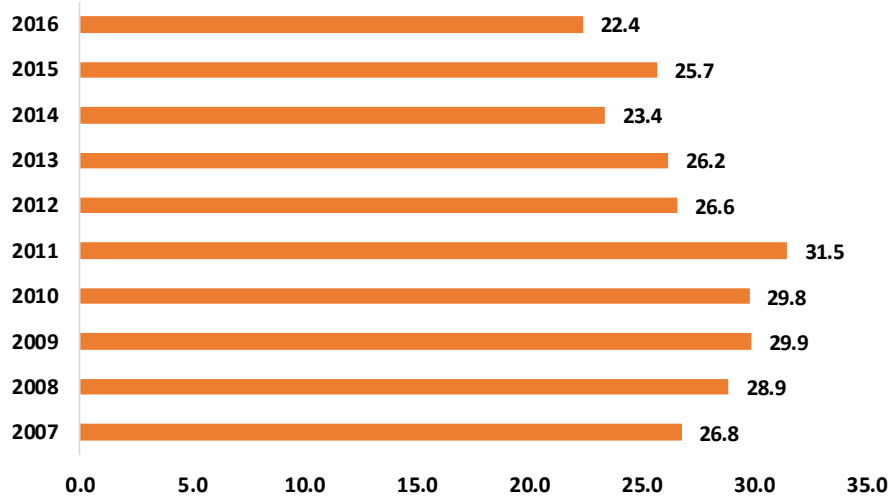
Chronic Lower Respiratory Diseases (CLRD) is the fourth leading cause of death in Middlesex County. CLRD includes chronic bronchitis, emphysema, and asthma, all characterized by shortness of breath caused by airway obstruction. The obstruction is irreversible in chronic bronchitis and emphysema and reversible in asthma.

- In 2016, the county-wide AAMR due to chronic lower respiratory disease in Middlesex County was lower than the statewide rate and the rate in Monmouth County.
- Since 2016, the AAMR for chronic lower respiratory disease has decreased from 26.8/100,000 in 2007 to 22.4/100,000.

**Chronic Lower Respiratory Disease**
**Age-Adjusted Rate/ 100,000 Population**
**State & County Comparisons, 2014-2016**



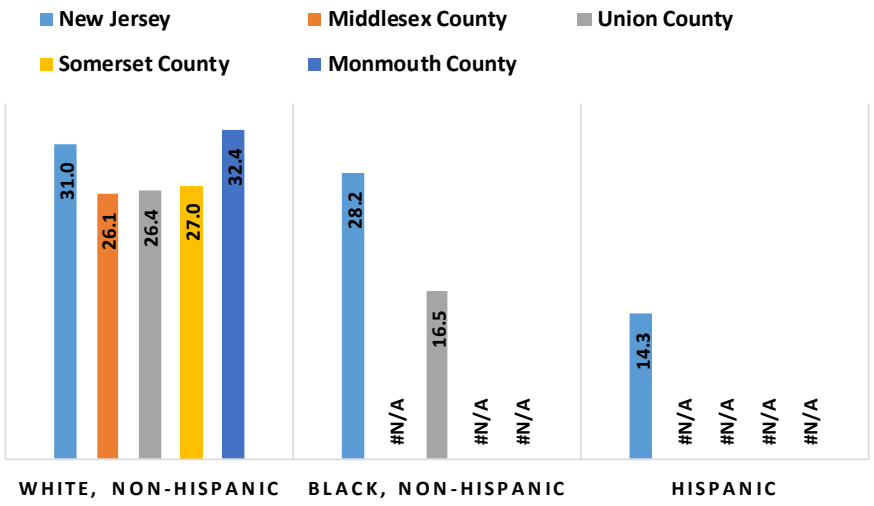

**Middlesex County**

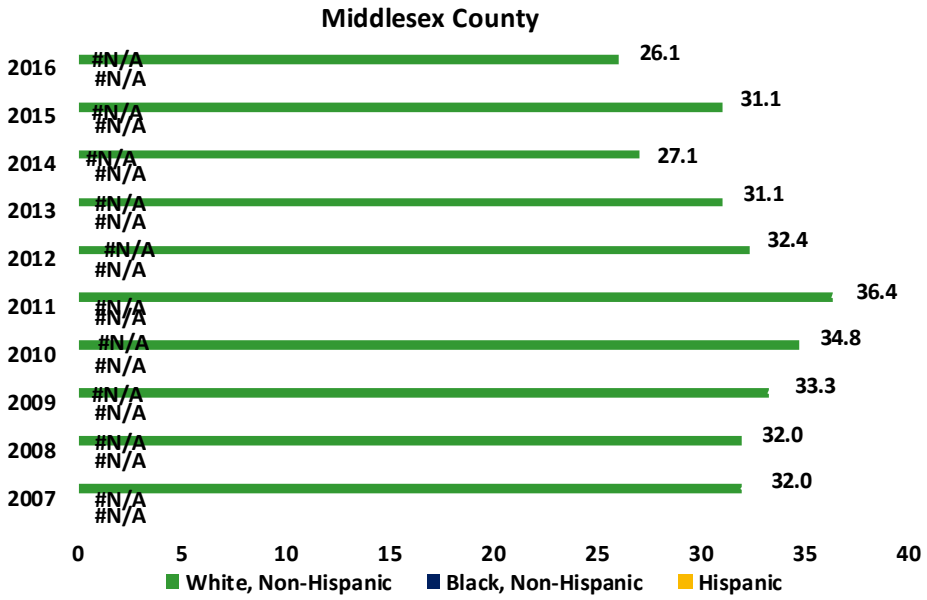



Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2016 is most recent year available.

- The CLRD mortality rate for Whites in Middlesex County (26.1/100,000) was lower than rate for Whites statewide.

**Chronic Lower Respiratory Disease**
**By Race/Ethnicity**
**State & County Comparisons, 2014-2016**



| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Deaths Due to Diseases of The Heart** *Age-Adjusted Rate/100000 Population* | | N.A. | |
| **Deaths Due to Diseases of The Heart (Black, Non-Hispanic)** *Age-Adjusted Rate/100000 Population* | N.A. | N.A. | |
| **Deaths Due to Malignant Neoplasms (Cancer)** *Age-Adjusted Rate/100000 Population* | | N.A. | |
| **Deaths Due to Malignant Neoplasms (Cancer) (Black, Non-Hispanic)** *Age-Adjusted Rate/100000 Population* | N.A. | N.A. | |
| **Deaths Due to Cerebrovascular Disease (Stroke)** *Age-Adjusted Rate/100000 Population* | | N.A. | |
| **Deaths Due to Cerebrovascular Disease (Stroke) (White, Non-Hispanic)** *Age-Adjusted Rate/100000 Population* | N.A | N.A. | |
| **Deaths Due to Unintentional Injuries** *Age-Adjusted Rate/100000 Population* | | N.A. | |
| **Deaths Due to Unintentional Injuries (White, Non-Hispanic)** *Age-Adjusted Rate/100000 Population* | N.A. | N.A. | |
| **Deaths Due to Chronic Lower Respiratory Disease** *Age-Adjusted Rate/100000 Population* | N.A. | N.A | |
| **Deaths Due to Chronic Lower Respiratory Disease (White, Non- Hispanic)** *Age-Adjusted Rate/100000 Population* | N.A. | N.A. | |

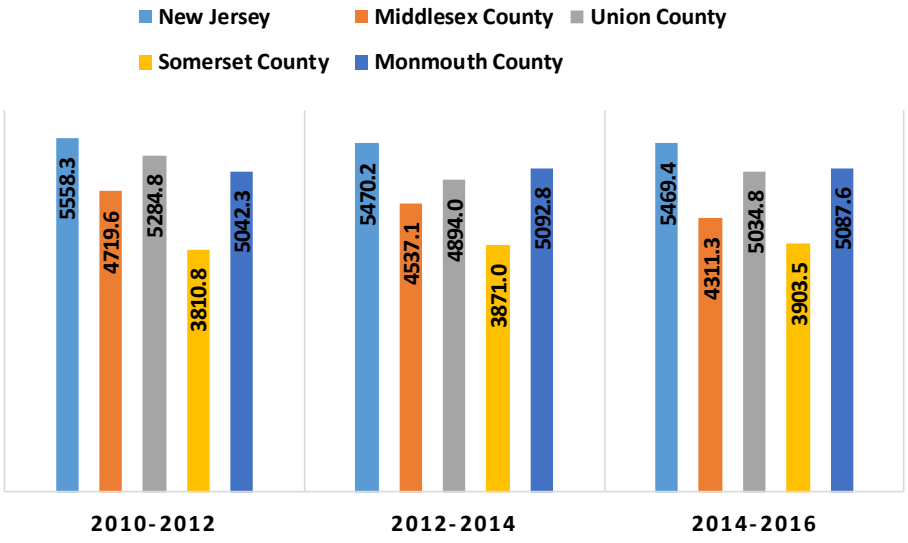
*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

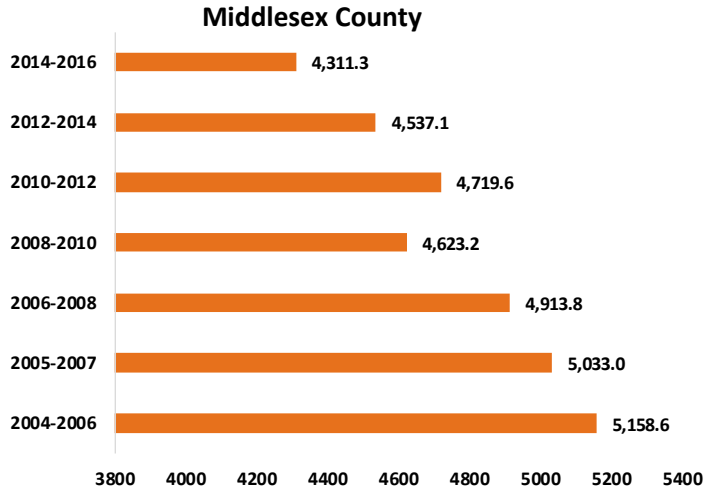
## *2. Premature Deaths*

An alternate method to reviewing crude or age-adjusted death rates as a measure of premature mortality is assessing Years of Potential Life Lost (YPLL). YPLL calculate the number of years of potential life lost for each death occurring before a predetermined end point, in this case, age 75 per 100,000 population. Premature deaths are reviewed to highlight potentially preventable adverse outcomes.

- The Middlesex County YPLL rate decreased from 4,719.6/100,000 for the period 2010-2012, to 4,311.3/100,000 for the period from 2014-2016. The Middlesex County YPLL rate (4,311.3/100,000) was lower than the statewide rate (5,469.4/100,000) and ranks in the best performing statewide quartile.
- The 2014-2016 Middlesex County YPLL rate (4,311.3/100,000) outperformed the County Health Ranking benchmark (5,300/100,000) and was in the best performing quartile.

**Premature Death: Years of Potential Life Lost Before Age 75: Age-Adjusted Rate/100,000 Population**
**State & County Comparisons, 2010-2016**




Source: County Health Rankings; National Vital Statistics System
Note: Every death occurring before the age of 75 contributes to the total number of years of potential life lost

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
A Robert Wood Johnson Foundation program

*National Benchmark: 5,300.00*
*Middlesex County 2014-2016: 4,311.3*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Premature Death: Years of Potential Life Lost Before Age 75**<br>*Rate of Infant (Under 1 Year) Deaths/ 1000 Live Births* | N.A. | | |

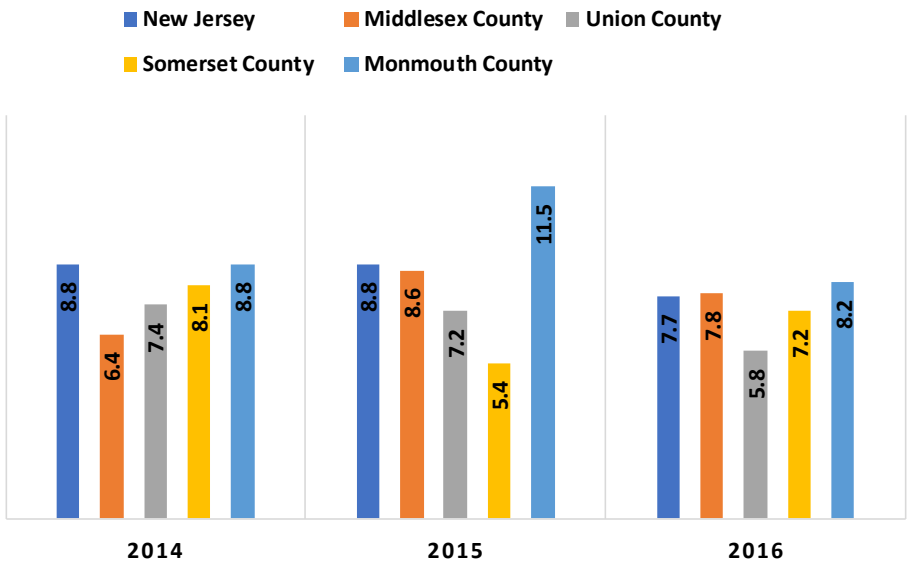
| |
|---|
| *RED: Poorest Performing Quartile* |
| *Yellow: Middle Quartiles* |
| *Green: Best Performing Quartile* |

### *3. Behavioral Health-Related Deaths*

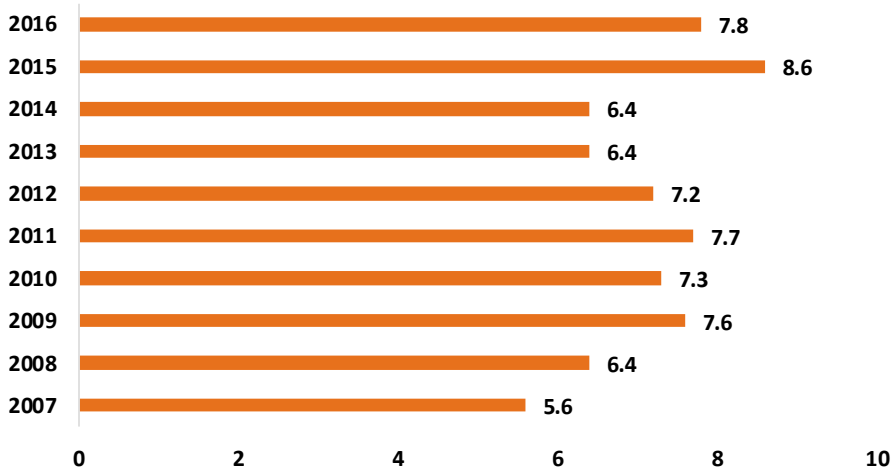
Mental health is a state of well-being in which an individual realizes his or her own abilities, copes with normal life stresses, works productively, and is able to contribute to his or her community. Mental illness is diagnosable mental disorders or health conditions characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning. Depression, the most common type of mental illness, is associated with higher rates of chronic disease, increased health care utilization, and impaired functioning. However, rates of mental illness treatment remain low, and often the treatment received is inadequate.

- Statewide deaths due to suicide decreased from 2014 (8.8/100,000) to 2016 (7.7/100,000), or 12.5%, while Middlesex County's suicide rate increased from 6.4/100,000 to 7.8/100,000 for the same time period.
- Middlesex County's 2016 suicide rate was slightly higher than the rate statewide.
- The 2016 Middlesex County suicide rate (7.8/100,000) is 30.8% lower than the *Healthy People 2020* target (10.2/100,000).

**Deaths Due to Suicide: Age-Adjusted Rate/100,000 Population**
**State & County Comparisons, 2014-2016**




**Middlesex County**

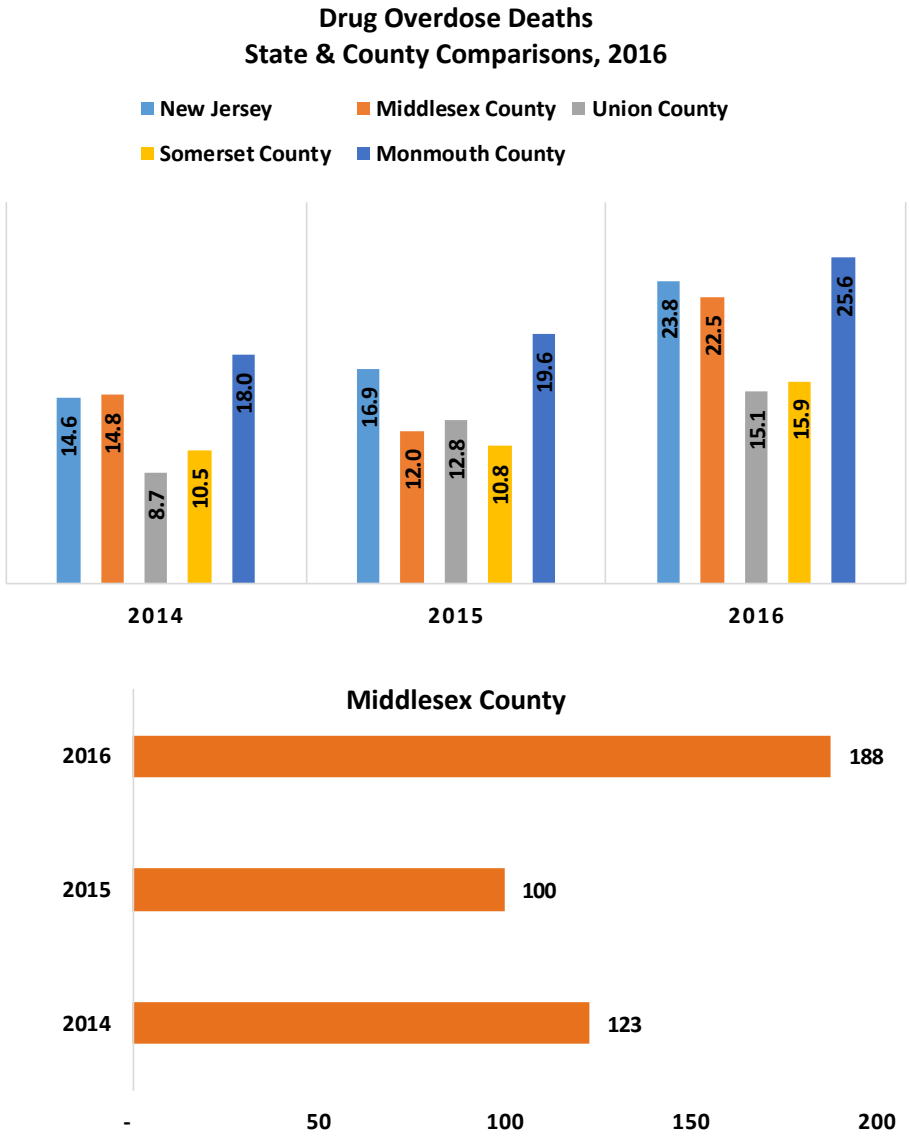



Source: NJDOH Center for Health Statistics; NJ State Health Assessment Data

Healthy People 2020

*Baseline: 11.3*
*Target: 10.2*
*Middlesex County 2016: 7.8*

- Between 2014 and 2016, the rate of drug overdose deaths in Middlesex County increased from 14.8/100,000 to 22.5/100,000.
- Drug overdose deaths in Middlesex County increased from 123 to 188.




Source: http://www.nj.gov/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2016/statewide.pdf

County Health Rankings & Roadmaps
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*National Benchmark: 10*
*Middlesex County 2016: 22.5*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Deaths Due to Suicide**<br>*Age-Adjusted Rate/100,000 Population* | | N.A. | |
| **Drug Overdose Deaths**<br>*Age-Adjusted Rate/100,000 Population* | N.A. | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

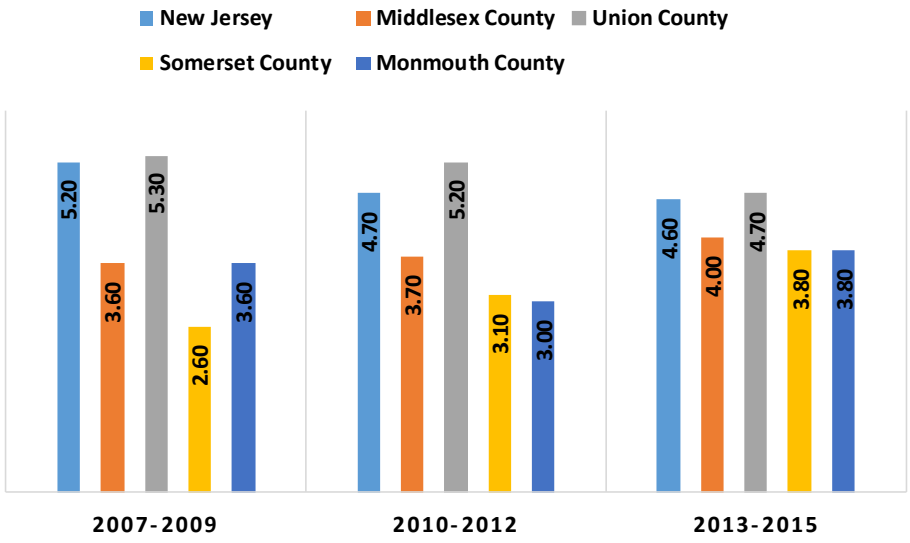
### *4. Infant Mortality*

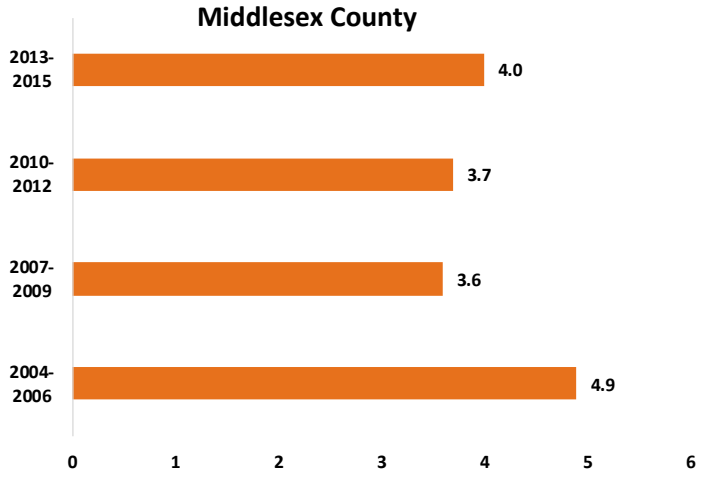
Infant mortality, the death of a baby prior to his or her first birthday, is t*raditionally* used as an indicator of the health and well-being of a nation. Infant mortality is calculated as the number of infant deaths under age 1 per 1,000 live births. Great disparities exist in infant mortality by age, race, and ethnicity. Most frequent causes are serious birth defect, preterm birth / low birth weight, Sudden Infant Death Syndrome (SIDS), maternal complications of pregnancy, and injury.[59]

- The overall infant mortality rate increased county-wide from the period 2007-2009 (3.6/1,000) to 2013-2015 (4.0/1,000).
- Middlesex County ranks in the middle performing quartile among New Jersey counties for overall infant mortality in 2013-2015 and in terms of the County Health Rankings benchmark, but ranks in the best performing quartile in terms of the *Healthy People 2020* target of 6.0/1,000.
- The Black infant mortality rate increased slightly between 2007-2009 from 7.8/1,000 to 8.0/1,000 in 2013-2015. Despite this increase, the Middlesex County Black infant mortality rate is still lower than that of the State (9.6/1,000).
- The Hispanic infant mortality rate increased from 3.8/1,000 to 4.8/1,000.
- Only the White infant mortality rate decreased (3.2/1,000 to 2.9/1,000).

[59] http://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm

**Infant Mortality Rate: Rate of Infant (Under 1 Year) Deaths/1,000 Live Births**
**State & County Comparisons, 2007-2015**




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2015 is most recent year available.

Healthy People 2020

*Baseline: 6.7*
*Target: 6.0*
*Middlesex County 2013-2015: 4.0*

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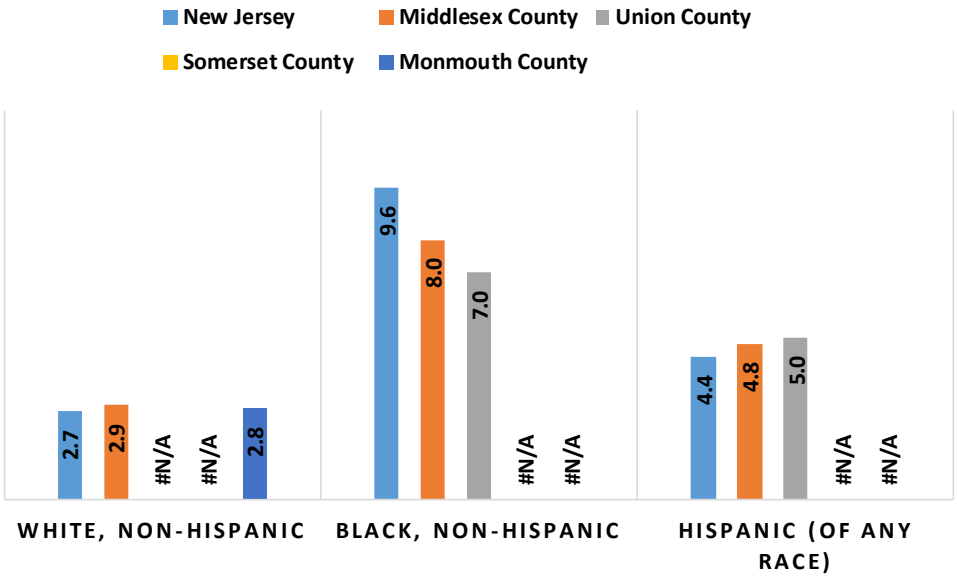
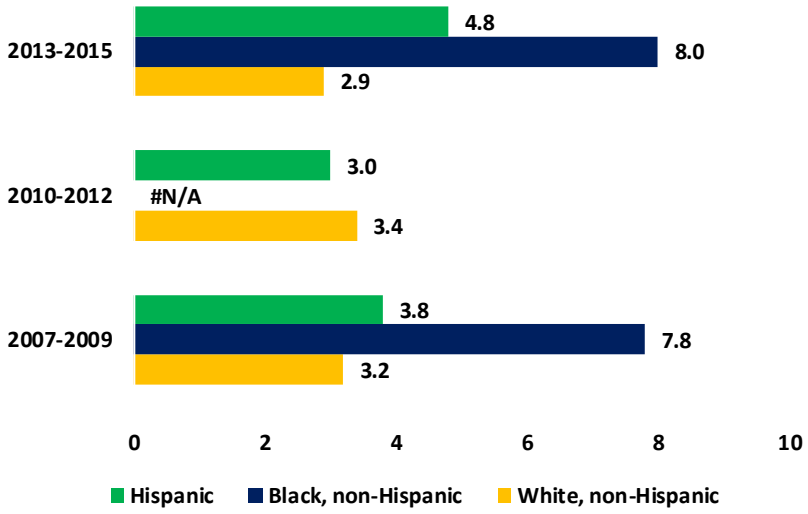
*National Benchmark: 4.0*
*Middlesex County 2016: 4.0*

**Infant Mortality Rate: Rate of Infant (Under 1 Year) Deaths/1,000 Live Births by Race/Ethnicity State & County Comparisons, 2013-2015**




**Middlesex County**




Source: NJDOH Center for Health Statistics NJ State Health Assessment Data – 2015 is most recent year available.

### *5. Low and Very Low Birth Weight Infants*

Birth weight is the most important factor affecting neonatal mortality and a significant determinant of post neonatal mortality. Low birth weight infants (less than 2,500 grams) are at an increased risk for health problems ranging from neurodevelopmental disabilities to respiratory disorders.[60] Racial disparities in low birth weight babies persist; nationally, non-Hispanic Black infants continue to die at nearly twice the rate of non-Hispanic Whites.

***Low Birth Weight***

- In 2016, Middlesex County had a higher percentage of low birth weight babies (8.0%) than its comparison counties.
- The 2016 percent of Middlesex County low birth weight babies was more than the *Healthy People 2020* target of 7.8%.
- The percentage of Middlesex County low birthweight babies was higher among Blacks (12.6%) than for Whites (6.5%) and Hispanics (7.1%) in 2016.

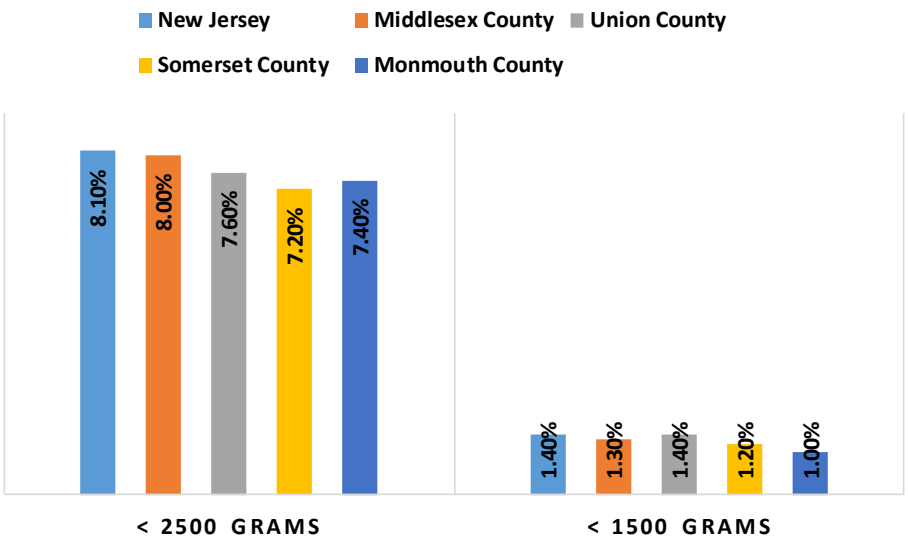
Very low birth weight babies (less than 1,500 grams) are at greater risk of adverse outcomes than low birth weight babies.

***Very Low Birth Weight***

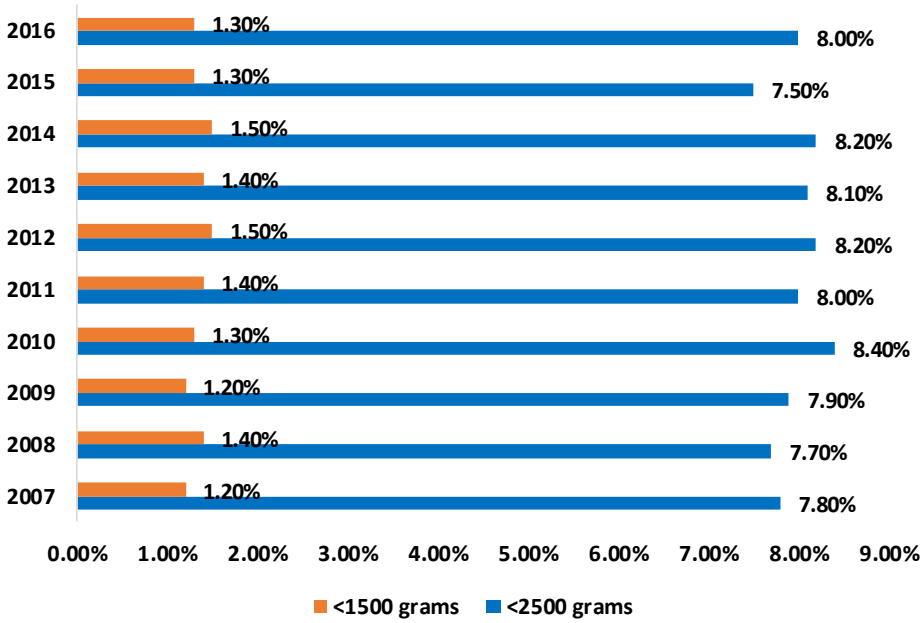
- In 2016, 1.3% of Middlesex County babies are very low birth weight as compared to 1.4% statewide.
- The 2016 percent of very low birth weight babies in Middlesex County was higher than the rates in Somerset (1.20%) and Monmouth (1.00%) Counties.
- By race, between 2011 and 2016, the percentage of very low birthweight babies: decreased for Whites from 1.3% to 0.8%; increased from 2.1% to 2.4% for Blacks; and decreased from 1.5% to 1.3% for Hispanics.

[60] http://www.cdc.gov/PEDNSS/how_to/interpret_data/case_studies/low_birthweight/what.htm

**Birth Weight: Percent of Live Births with Low and Very Low Birth Weight**
**State & County Comparisons, 2016**




**Middlesex County**

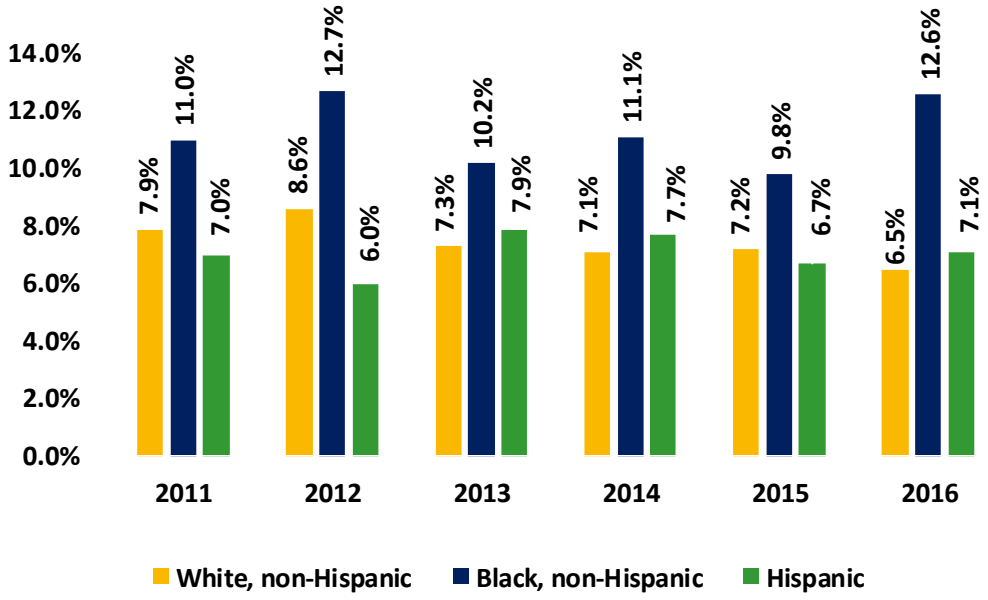



Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database
Note: Percentages are based on the total number of live births for the County and State

Healthy People 2020

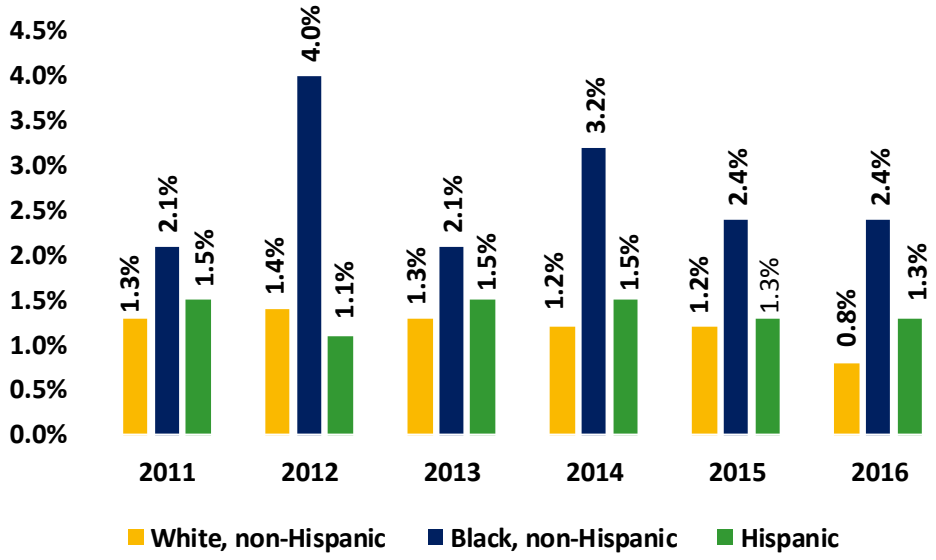
***<2500/<1500***
*Baseline: 8.20% / 1.50%*
*Target: 7.80% / 1.40%*
*Middlesex County 2016: 8.0% / 1.3%*

**Low Birth Weight by Mother's Race/Ethnicity: Percent of Live Births with Low Birth Weight**
**Middlesex County, 2011-2016**




Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database
Note: *Percentages are based on the total number of Low or Very Low Birth Weight Births / Live births for the County and State

**Very Low Birth Weight by Mother's Race/Ethnicity: Percent of Live Births with Very Low Birth Weight**
**Middlesex County, 2011-2016**




Source: NJDOH Bureau of Vital Statistics and Registration NJ Birth Certificate Database
Note: *Percentages are based on the total number of Low or Very Low Birth Weight Births / Live births for the County and State

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Infant Mortality Rate**<br>*Rate of Infant (Under 1 Year) Deaths/ 1000 Live Births* | | | |
| **Infant Mortality Rate (Black Non-Hispanic)**<br>*Rate of Infant (Under 1 Year) Deaths/ 1000 Live Births* | N.A. | N.A. | |
| **Low Birthweight (<2500 Grams)**<br>*Percentage of Live Births* | | N.A. | |
| **Low Birthweight (<2500 Grams) (Black Non-Hispanic)**<br>*Percentage of Live Births* | | N.A. | |
| **Very Low Birthweight (<1500 Grams)**<br>*Percentage of Live Births* | | N.A. | |
| **Very Low Birthweight (<1500 Grams) (Black Non-Hispanic)**<br>*Percentage of Live Births* | N.A. | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *6. Health Status and Behavioral Health Status*

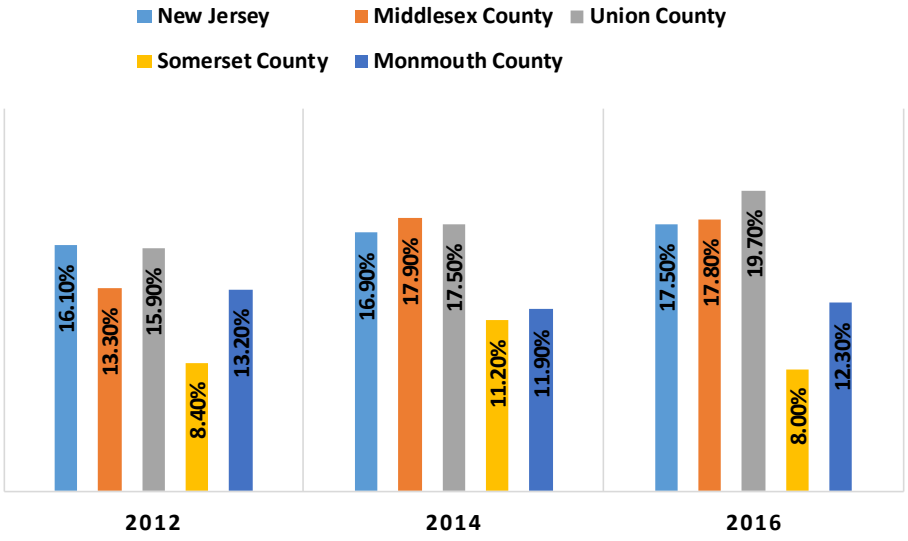
Health status and behavioral health status are broad multidimensional concepts including self-report measures of physical and mental health.

Behavioral Risk Factor Surveillance System (BRFSS), the nation's premier system of health-related telephone surveys, collects data about U.S. residents regarding health-related risk behaviors, chronic health conditions and use of preventive services. In 1984, the survey began collecting data in 15 states and is currently conducted in all states including Washington D.C. and three United States territories. The most recent data available are for the year 2016.

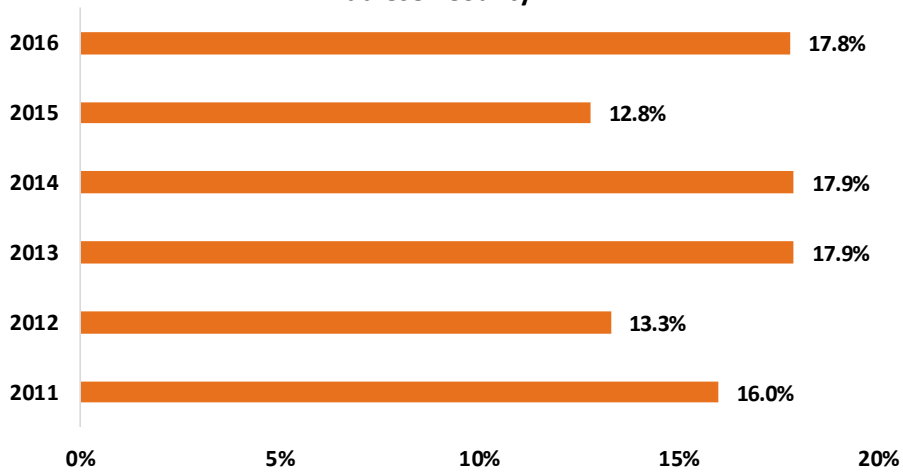
### *General Health Status*

- Between 2012 and 2016, BRFSS data reported an increase in the percent of Middlesex County residents who indicate their health as “fair or poor,” from 13.3% to 17.8%.
- In 2016, 17.5% of New Jersey respondents report that their health is “fair or poor,” lower than the rate among Middlesex County and Union County residents.
- As compared to all New Jersey counties, Middlesex County residents with “fair or poor” health rank in the middle performing quartile.
- As compared to the County Health Ranking, Middlesex County residents with “fair or poor” health rank in the poorest performing quartile.

**Percent of Respondents Reporting Their Health as "Fair or Poor"**
**State & County Comparisons, 2012-2016**




**Middlesex County**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

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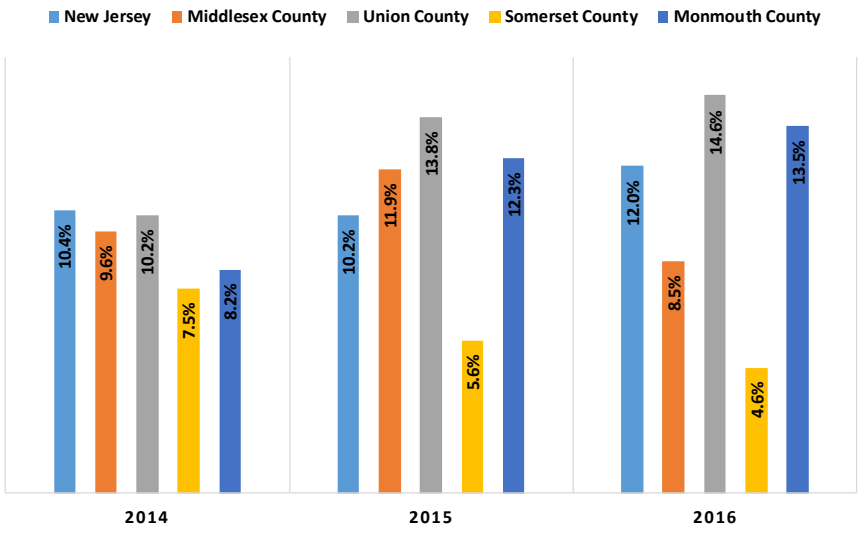
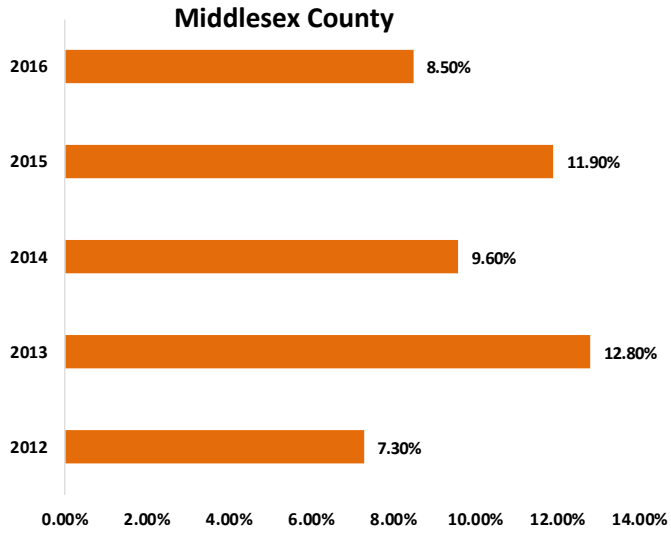
*National Benchmark: 12%*
*Middlesex County 2016: 17.80%*

- NJBRFSS reports that the number of Middlesex County adults with 14 or more physically unhealthy days (in the last 30 days) increased 1.2 percentage points between 2012 (7.30%) and 2016 (8.50%).
- Middlesex County residents with 14+/30 days of poor physical health rank in the poorest performing quartile compared to the County Health Ranking benchmark.

**Percent Reporting 14 or More of the Past 30 Days Physical Health Not Good: Age-Adjusted State & County Comparisons, 2014-2016**




Source: New Jersey Behavioral Risk Factor Survey
Note: The physical health measure is based on response to the question: "Now thinking about your physical health which includes physical illness and injury for how many days during the past 30 days was your physical health not good?"

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*National Benchmark: 3.0%*
*Middlesex County 2016: 8.50%*

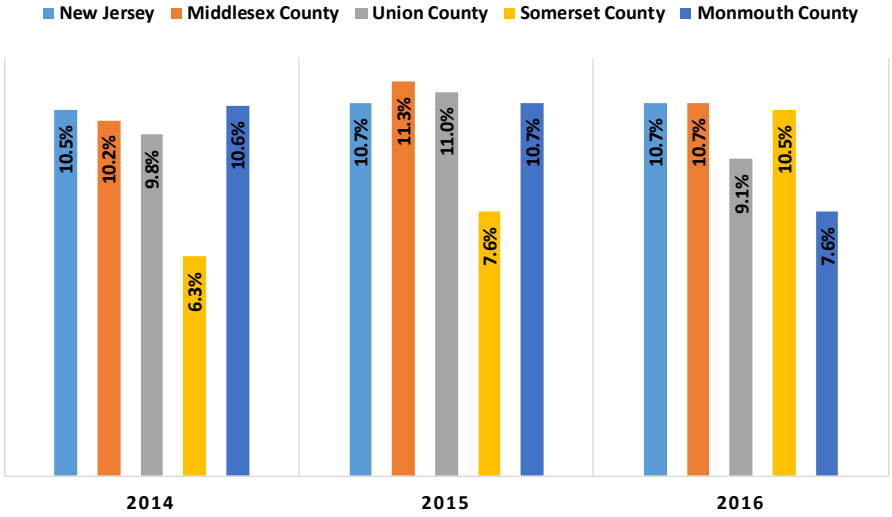
| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Reported "Fair" or "Poor" Health**<br>*Percentage of Respondents* | N.A. | | |
| **Physically Unhealthy Days Reported in the Past 30 Days**<br>*Average Age-Adjusted Number* | N.A. | | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

### *Behavioral Health Status*

- County-wide, adults who report 14 or more of the past 30 days with "not good" mental health status increased from 8.5% in 2012, to 10.7% in 2016. The 2016 Middlesex County report of 14+/30 days with "not good" mental health was equal to that of New Jersey.
- As compared to all New Jersey counties, Middlesex County residents with 14+/30 days in poor physical health ranks in the middle quartile.
- As compared to County Health Ranking Middlesex County ranks in the bottom quartile.

**Frequent Mental Distress**
**Percent Reporting 14 or More of the Past 30 Days Mental Health Not Good**
**State & County Comparisons, 2014-2016**




Source: New Jersey Behavioral Risk Factor Survey
Note: The physical health measure is based on response to the question: "Now thinking about your physical health which includes physical illness and injury for how many days during the past 30 days was your physical health not good?"

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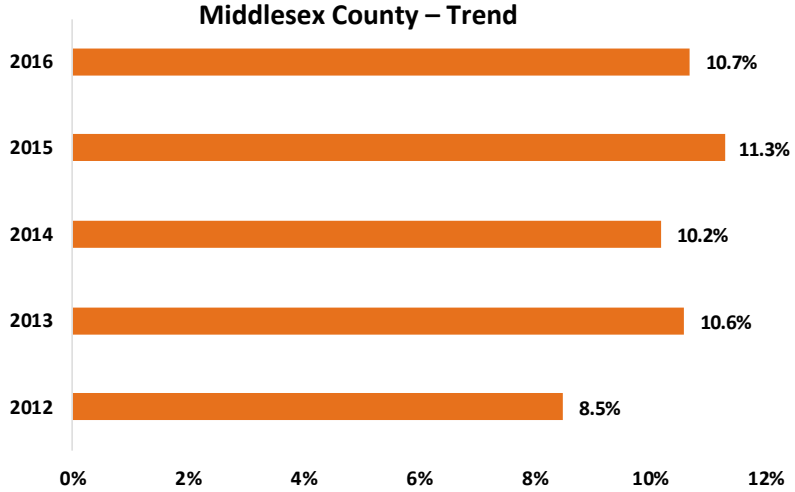
*National Benchmark: 3.1%*
*Middlesex County 2016: 10.7%*

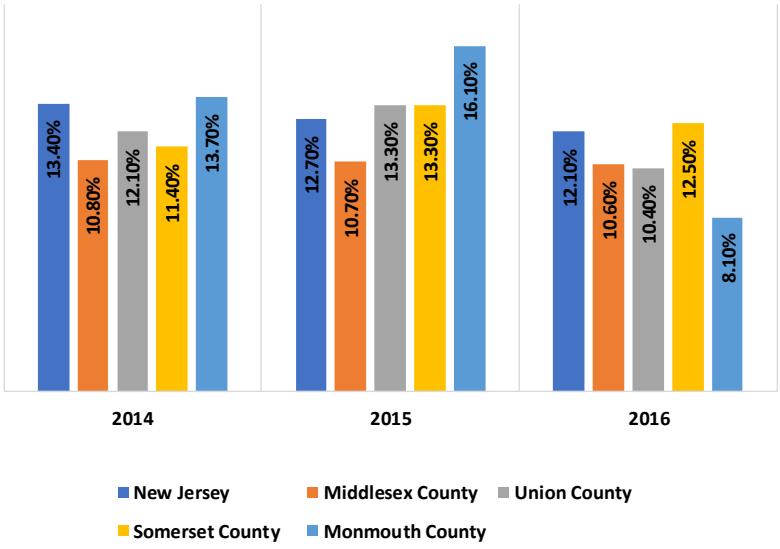
**Frequent Mental Distress**
**Percent Reporting 14 or More of the Past 30 Days Mental Health Not Good**
**Middlesex County – Trend**



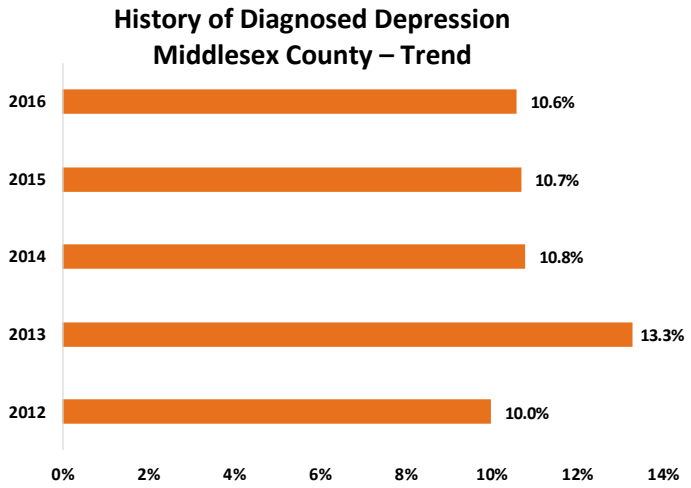

Source: New Jersey Behavioral Risk Factor Survey
Note: The physical health measure is based on response to the question: "Now thinking about your physical health which includes physical illness and injury for how many days during the past 30 days was your physical health not good?"

- Between 2014 and 2016, the percent of Middlesex County residents reporting a history of depression decreased from 10.8% to 10.6%.
- The Middlesex County rate for history of depression was lower than the statewide rate (12.1%) and ranked in the top performing quartile.

**History of Diagnosed Depression**
**State & County Comparisons 2014-2016**




Source: New Jersey Behavioral Risk Factor Survey
Note: The frequent mental distress health measure is based on response to the question: "Now thinking about your mental health which includes stress depression and problems with emotions for how many days during the past 30 days was your mental health not good?"




Source: New Jersey Behavioral Risk Factor Survey
Note: The frequent mental distress health measure is based on response to the question: "Now thinking about your mental health which includes stress depression and problems with emotions for how many days during the past 30 days was your mental health not good?"

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Mentally Unhealthy Days Reported in the Past 30 Days** *Average Age-Adjusted Number* | N.A. | | |
| **History of Diagnosed Depression** | N.A. | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

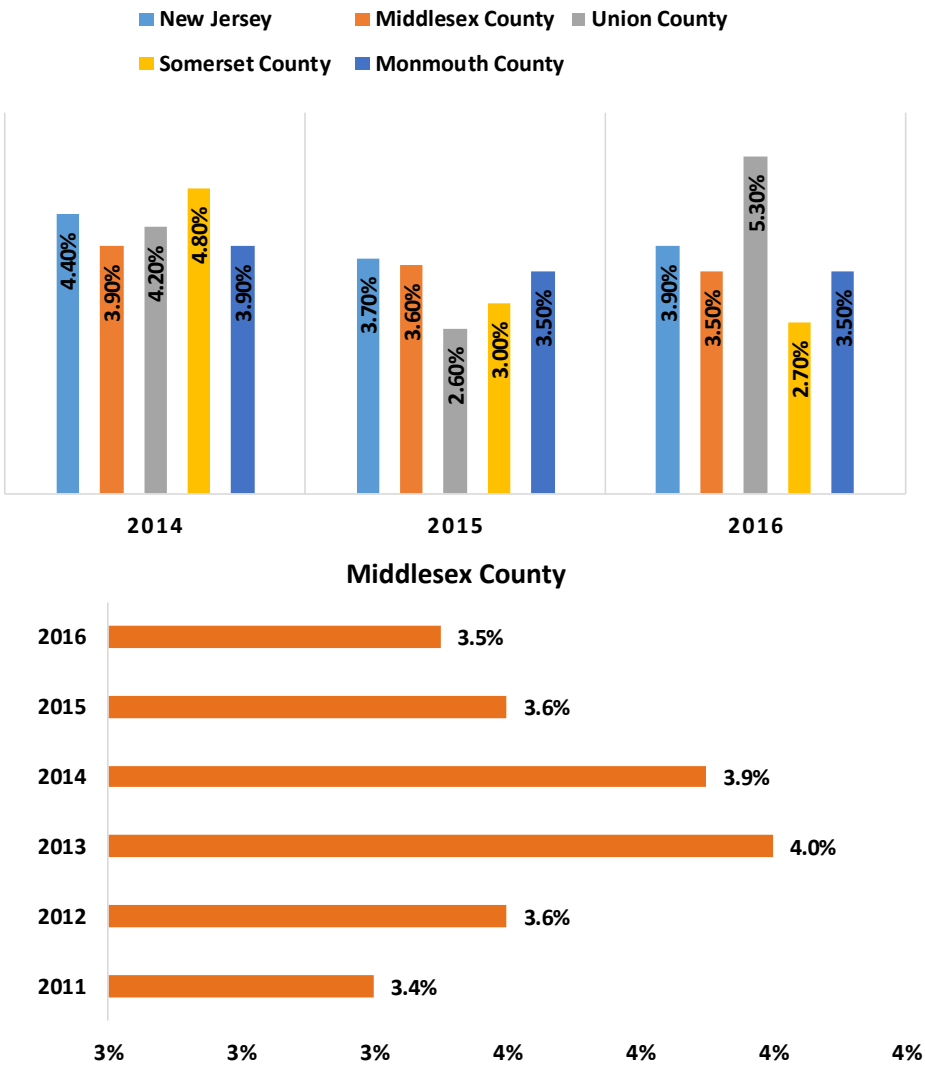
## *7. Morbidity*

Morbidity, the rate of disease incidence, is a measure of quality of life and how healthy a population is in terms of being disease free.

### *Heart Disease*

- According to BRFSS, the percent of Middlesex County residents told they have angina or coronary heart disease decreased from 3.9% in 2014, to 3.5% in 2016.
- In 2016, BRFSS indicates 3.9% of New Jersey respondents have angina or coronary heart disease.
- As compared to New Jersey, Middlesex County residents reporting angina or coronary heart disease ranks in the middle performing quartile.

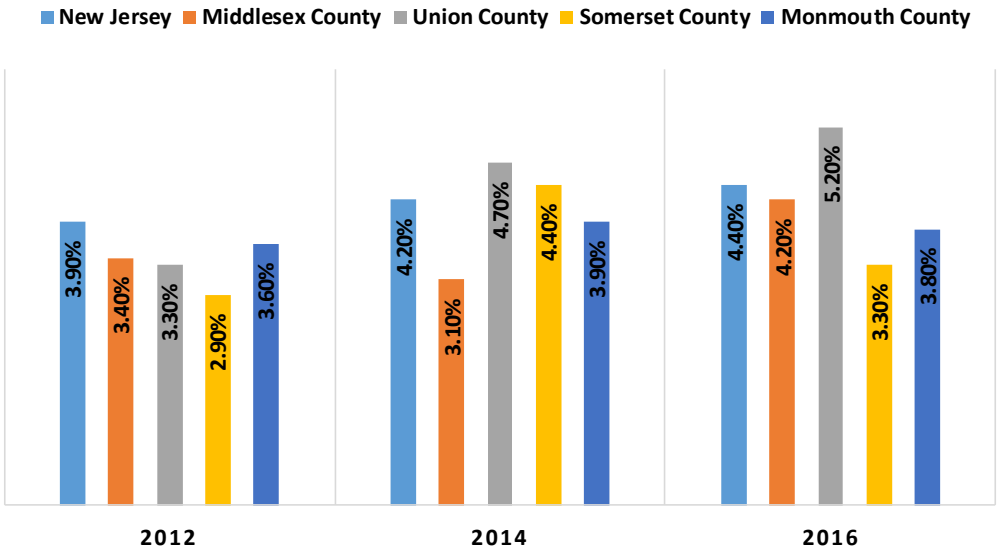
**Cardiovascular Disease (Percent "Yes")**
**Were You Ever Told You Had Angina or Coronary Heart Disease?**
**State & County Comparisons, 2014-2016**

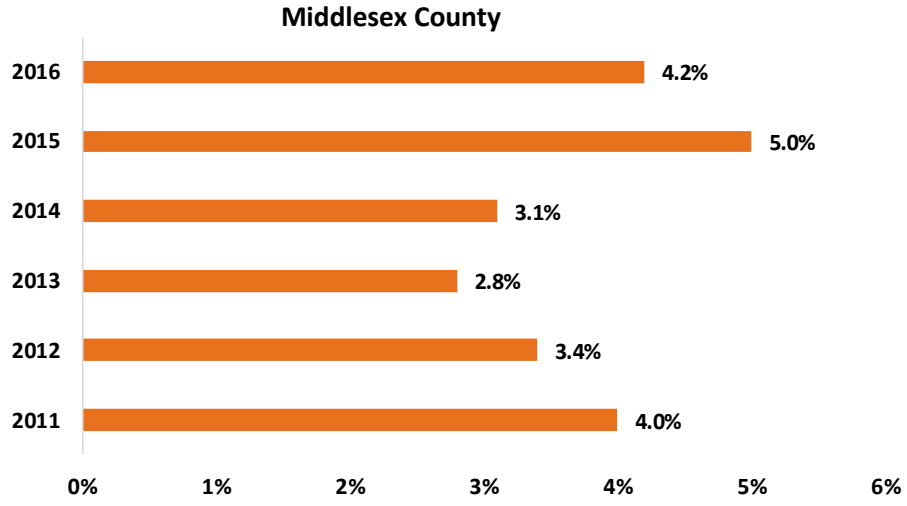



Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

- According to BRFSS, the percent of Middlesex County residents told they had a heart attack increased by 0.8 percentage points from 3.4% in 2012 to 4.2% in 2016.
- In 2016, BRFSS indicated 4.4% of New Jersey respondents were told they had a heart attack.
- Middlesex County ranks in the middle performing quartile compared to all 21 New Jersey counties for residents who had a heart attack.

**Cardiovascular Disease (Percent "Yes")**
**Were You Ever Told You Had a Heart Attack? (Myocardial Infarction)**



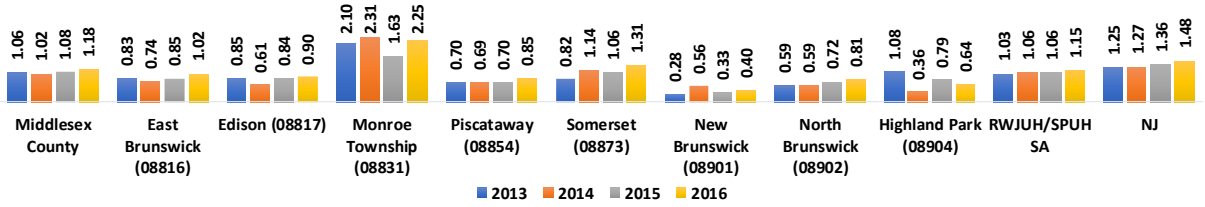




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

***Heart Disease Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns***

- The rate of Middlesex County residents hospitalized with a heart attack diagnosis (2013-2016) was lower than those in the State.
- In 2016, Monroe residents exhibited the highest rate of patients hospitalized with a diagnosis of heart attacks at 2.25/1,000 and New Brunswick residents reported the lowest rate of 0.40/1,000.

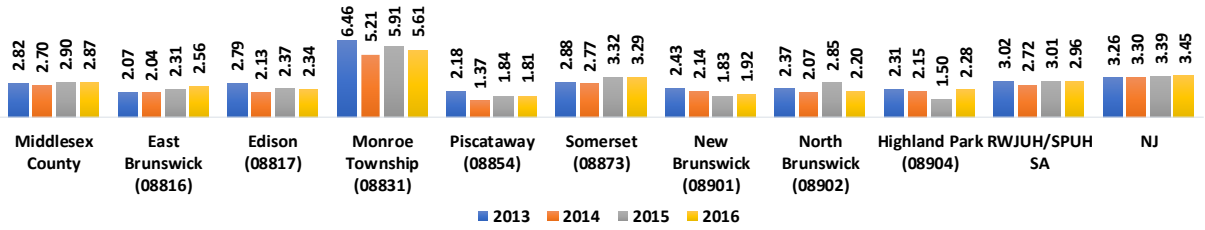
**Heart Attack: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges for MS-DRGs 280-285

- Between 2013 and 2016, the rate of patients hospitalized with a diagnosis of heart failure in Middlesex County was lower than the RWJUH/SPUH Service Area.
- In 2016, Monroe residents exhibited the highest rate of patients hospitalized with a diagnosis of heart failure/CHF at 5.61/1,000 and Piscataway residents had the lowest rate at 1.81/1,000.

**Heart Failure/CHF: Acute Care IP; Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**

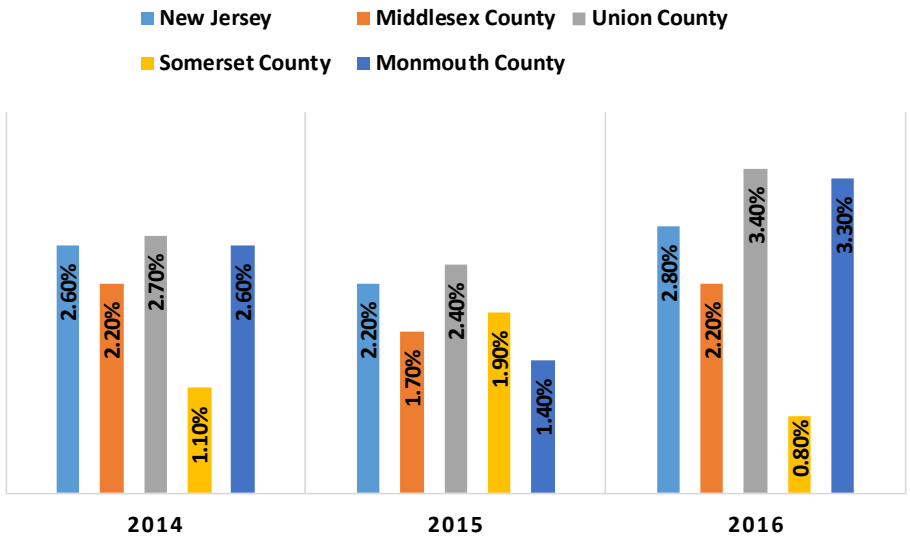


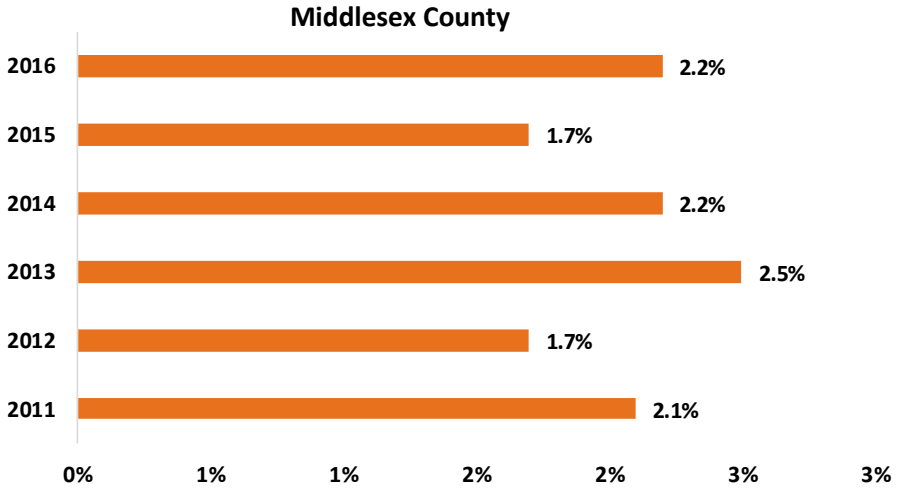

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges for MS-DRGs 291-293

***Stroke***

- In 2016, BRFSS reported 2.2% of Middlesex County residents indicated they had a stroke.
- In 2016, Middlesex County (2.2%) reported a higher rate of strokes than Somerset County (0.80%).
- Middlesex County ranks in the top performing quartile of New Jersey counties for percentage of the population that had a stroke.

**Cardiovascular Disease (Percent "Yes"): Have You Ever Been Told You Had a Stroke?**
**State & County Comparisons, 2014-2016**



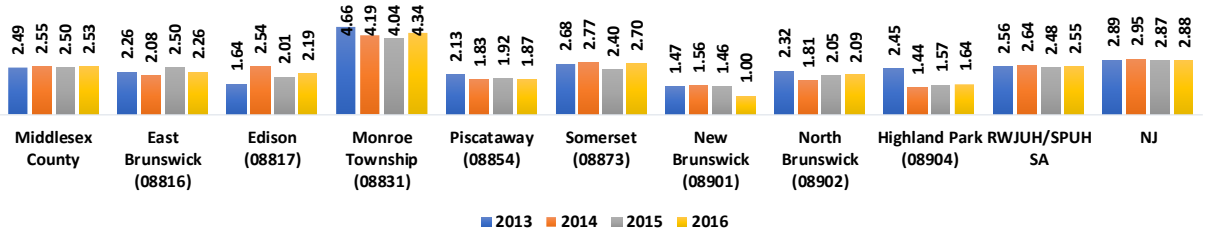




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

### *Stroke Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns*

- From 2013 through 2016, Middlesex County had a lower rate of patients using a hospital service with stroke/TIA diagnosis compared to the State.
- In 2016, Monroe (4.24/1,000) had the highest rate for patients hospitalized for stroke/TIA diagnosis in the region, and New Brunswick (1.00/1,000) had the lowest.

**Stroke/TIA: Acute Care IP; Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**



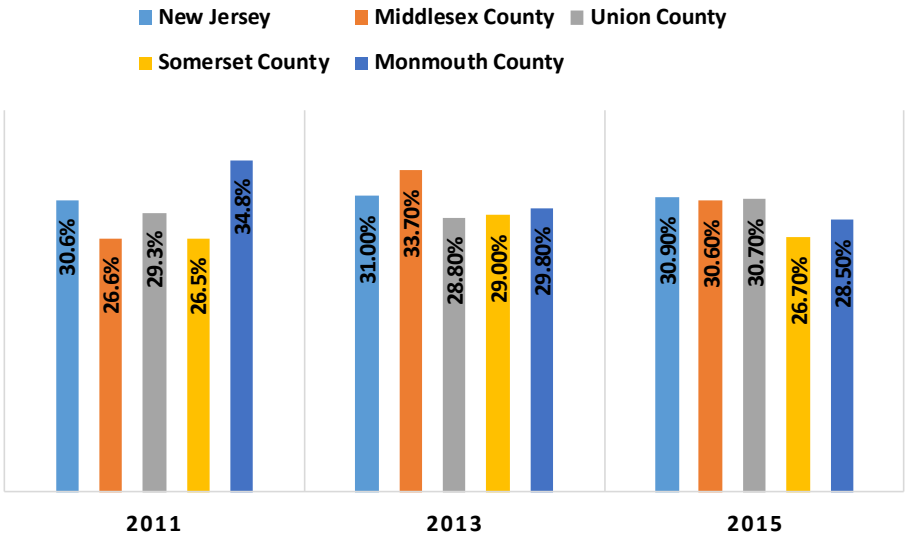

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges for MS-DRGs 061-069

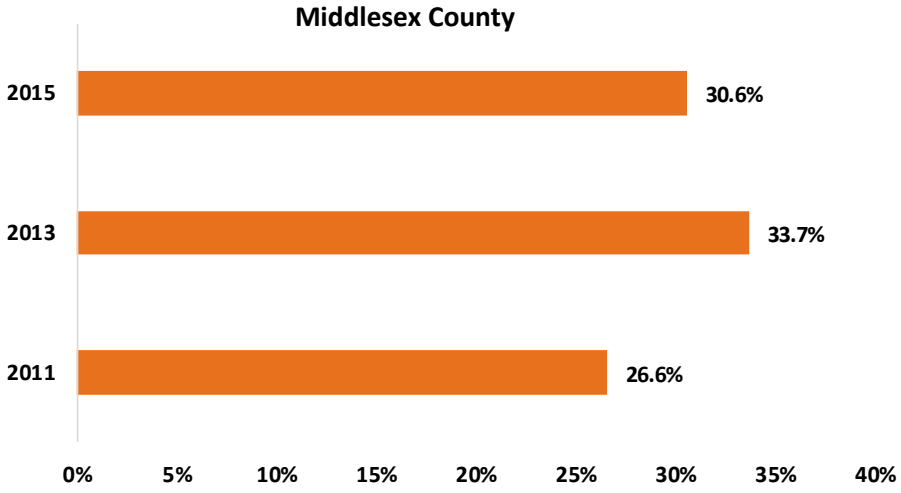
### *Hypertension and High Cholesterol*

According to the American Heart Association, risk factors associated with developing cardiovascular disease include: high blood pressure, high cholesterol, cigarette smoking, physical inactivity, poor diet, overweight and obesity and Diabetes.

- In 2015, BRFSS reported 30.6% of Middlesex County adults were aware that they suffered from hypertension, slightly less than New Jersey adults (30.9%).
- Between 2011 and 2015, Middlesex County adults who were told they had high blood pressure increased 4.0 percentage points.
- In 2015, Middlesex County rate (30.6%) was higher than the *Healthy People 2020* target (26.9%) for adults with high blood pressure.

**Adults Who Have Been Told They Have Hypertension**
**State & County Comparisons, 2011-2015**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

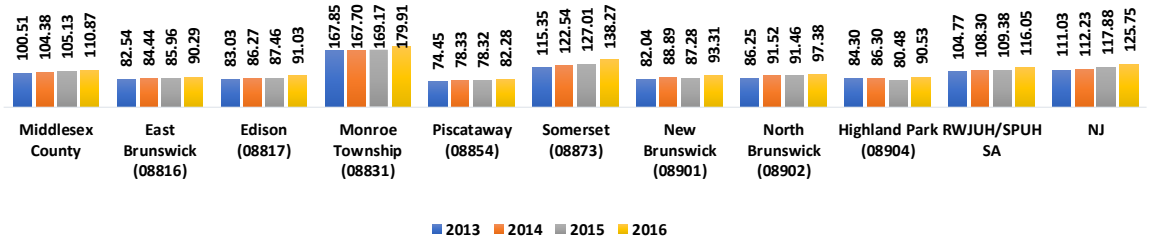
Healthy People 2020

*Baseline: 29.9%*
*Target: 26.9%*
*Middlesex County 2015: 30.6%*

***Hypertension Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns***

- Monroe had the highest rate of patients using a hospital service with a diagnosis of hypertension for each year from 2013 through 2016.
- In 2016, the RWJUH/SPUH Service Area (116.05/1,000) had a higher rate of patients using a hospital service with a hypertension diagnosis than Middlesex County (110.87/1,000).

**Hypertension: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**

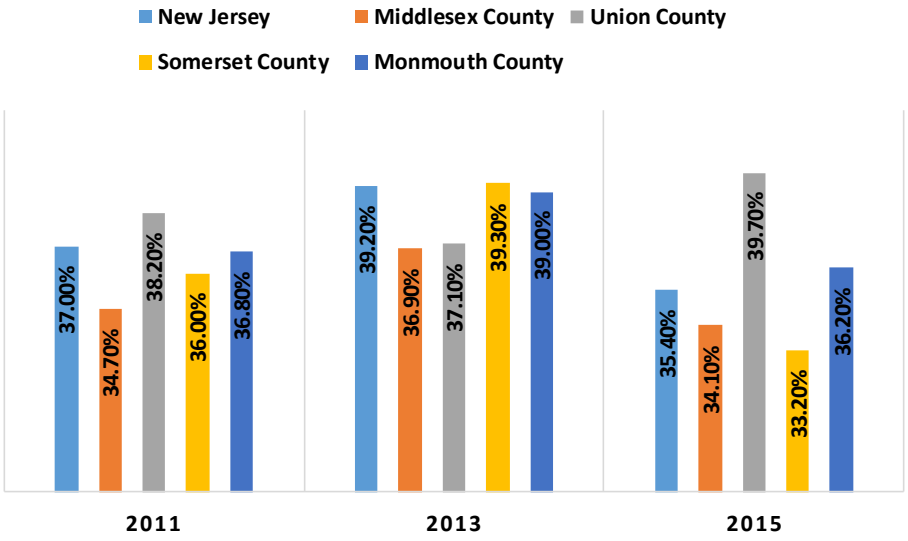


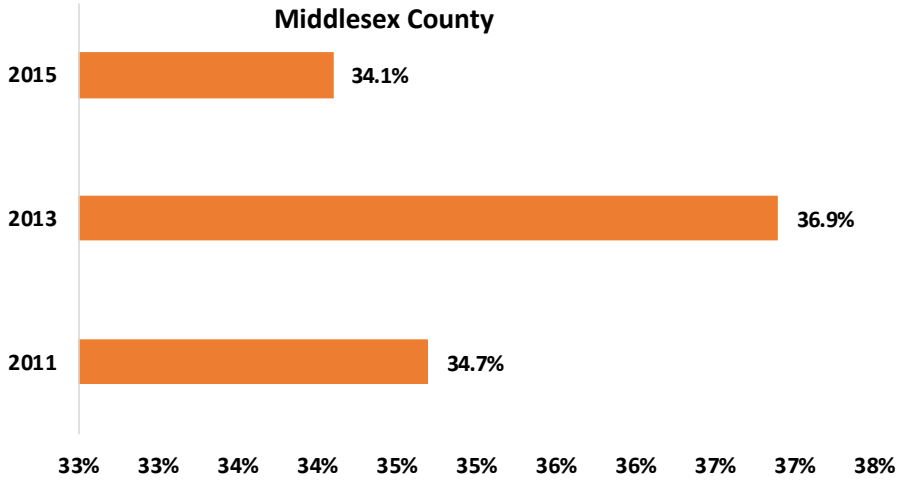

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges – ICD-9 DX Codes in Range 401-405.99 (Appearing Anywhere In First 13 DX Codes On Patient Record)

*Cholesterol*

- In the 2015 BRFSS, 34.1% of Middlesex County adults who had their cholesterol checked were told it was high, lower than all New Jersey adults (35.4%).
- The percent of Middlesex County adults reporting high cholesterol fluctuated but resulted in an overall decrease from 2011 (34.7%) to 2015 (34.1%).
- The 2015 Middlesex County percent of adults who had their cholesterol checked and were told it was high was more than double the *Healthy People 2020* target of 13.5%. Middlesex County is in the lowest performing quartile with respect to the *Healthy People 2020* target.

**Adults Who Have Had Their Cholesterol Checked and Told It Was High**
**State & County Comparisons, 2011-2015**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

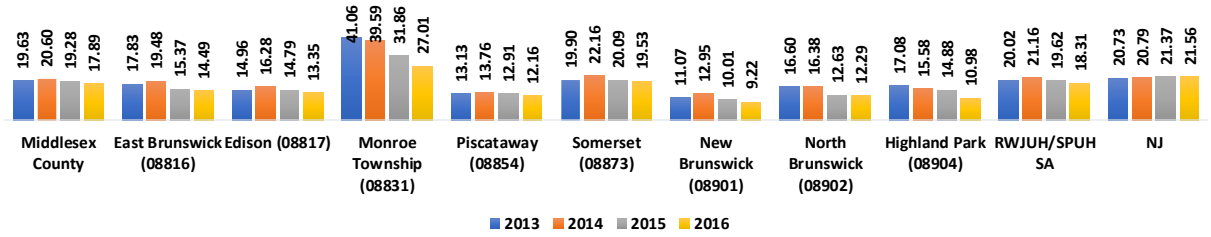
Healthy People 2020

*Baseline: 15.0 %*
*Target: 13.5%*
*Middlesex County 2015: 34.1%*

***High Cholesterol Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns***

- The rate of patients using a hospital service with a diagnosis of high cholesterol was highest in Monroe in 2016 (27.01/1,000) in the Service Area towns.
- In 2016, the rate of patients using a hospital service with a diagnosis of high cholesterol was lowest in New Brunswick (9.22/1,000).

**High Cholesterol: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**

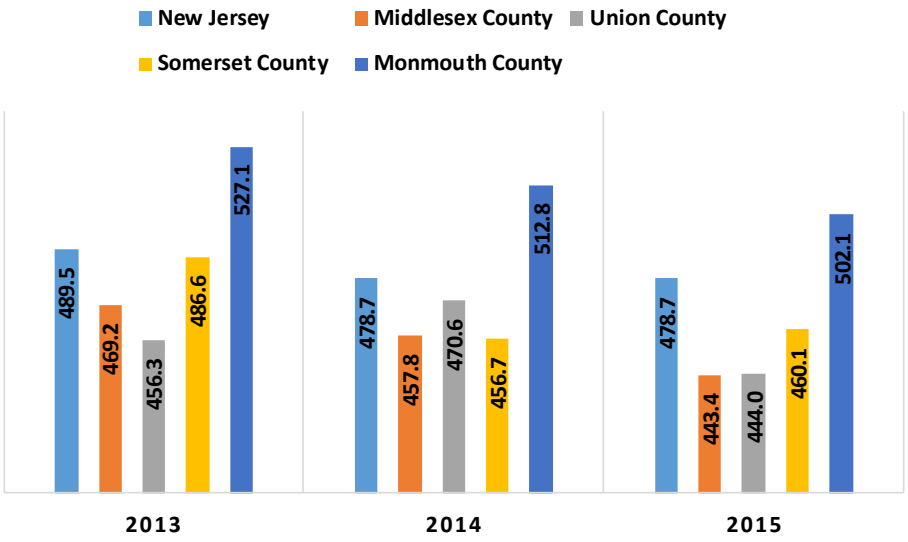



Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges – ICD-9 DX Codes 272.0 or 272.2 (Appearing Anywhere In First 13 DX Codes On Patient Record)

***Cancer***

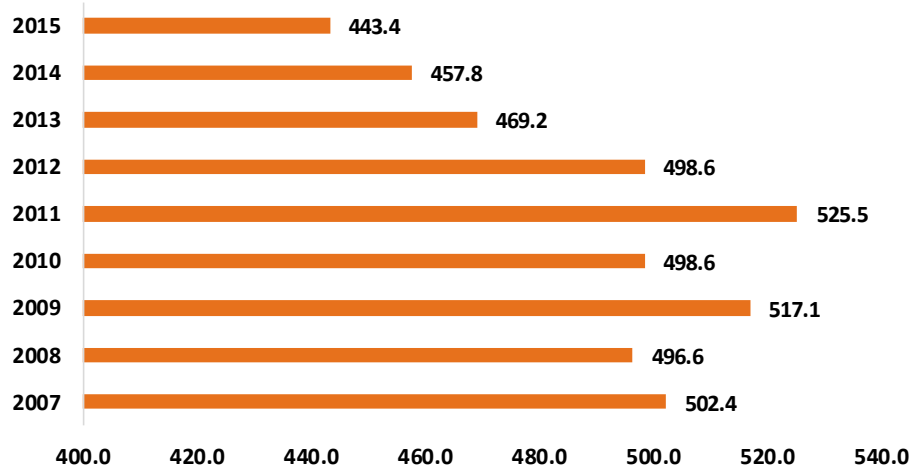
- Incidence of overall invasive cancer in Middlesex County decreased 11.7% from 502.4/100,000 in 2007, to 443.4/100,000 in 2015.
- In 2015, the overall incidence of cancer in Middlesex County was lower than the State and the comparison counties.

**Overall Invasive Cancer Incidence: Age-Adjusted Rate / 100,000 Population**
**State & County Comparisons, 2013-2015**




Source: NJDOH New Jersey Cancer Registry
Note: The Rate / 100,000 for Prostate Cancer is based on Males and the Rate / 100000 for Breast Cancer is based on Females

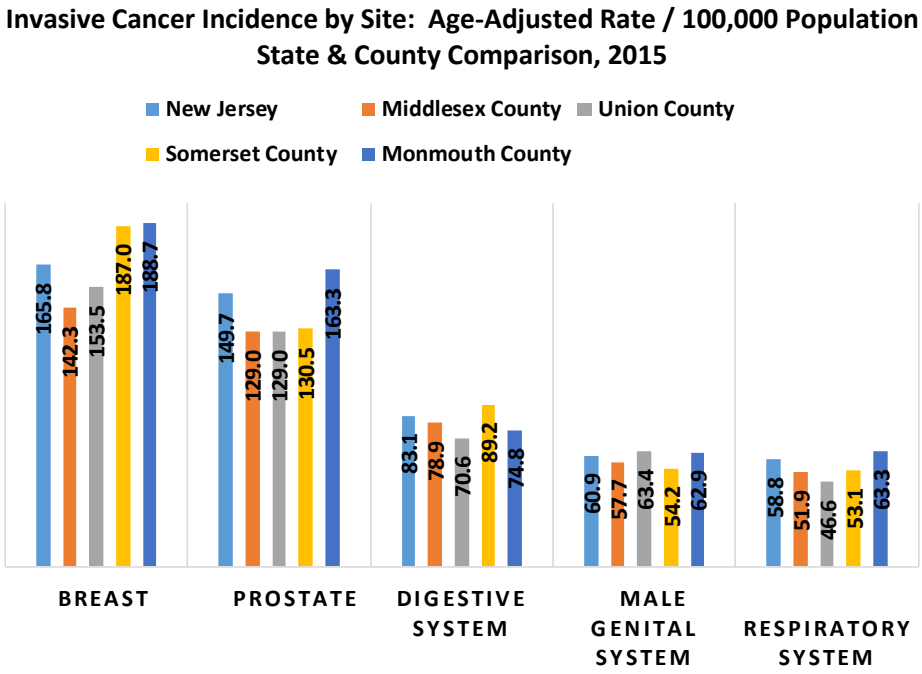
**Overall Invasive Cancer Incidence: Age-Adjusted Rate / 100,000 Population**
**Middlesex County – Trend**

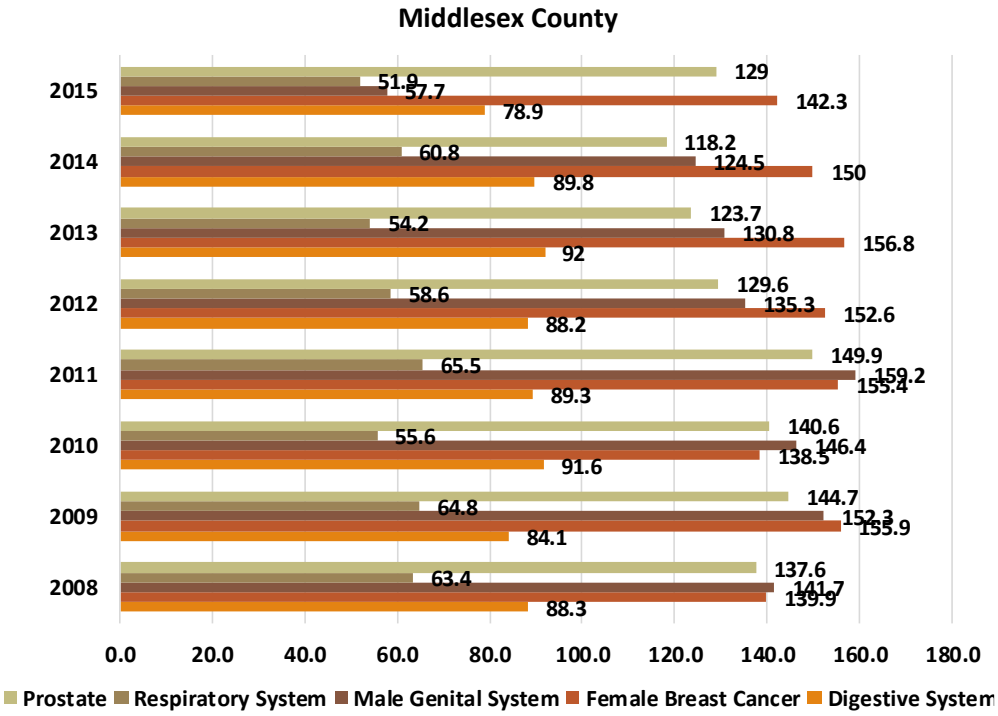



Source: NJDOH New Jersey Cancer Registry
Note: The Rate / 100,000 for Prostate Cancer is based on Males and the Rate / 100000 for Breast Cancer is based on Females

***Incidence by Site***

- In Middlesex County, breast (142.3/100,000) and prostate (129.0/100,000) cancers had the highest incidence rates among the top five cancers, followed by digestive system (78.9/100,000), male genital system (57.7/100,000), and respiratory system (51.9/100,000).
- In 2015, all of the top 5 cancer rates in Middlesex County were lower than New Jersey.
- Between 2008 and 2015, incidence trends for Middlesex County by site were:
    - Breast increased 1.7%
    - Digestive System decreased 10.6%
    - Prostate declined 6.3%
    - Male Genital System decreased 59.3%
    - Respiratory System decreased 18.1%
- Prostate, breast, digestive system and respiratory cancer incidence for Middlesex County perform in the top quartile in comparison to all 21 New Jersey counties. Male genital cancer incidence in Middlesex County performs in the middle quartile.

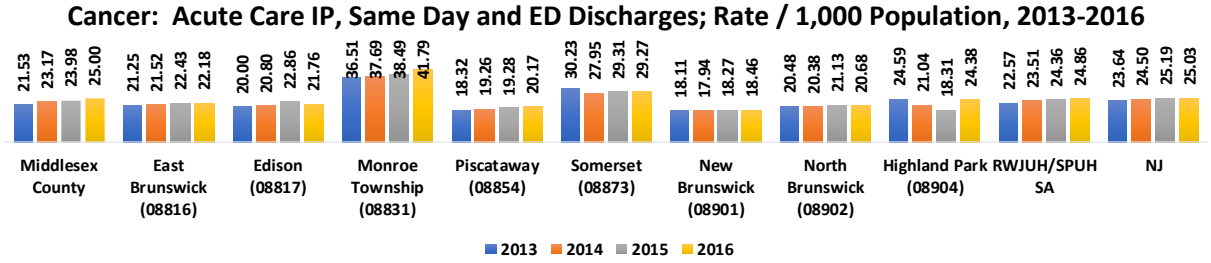



Source: NJDOH New Jersey Cancer Registry
Note: The Rate / 100000 for Prostate Cancer is based on Males and the Rate / 100000 for Breast Cancer is based on Females

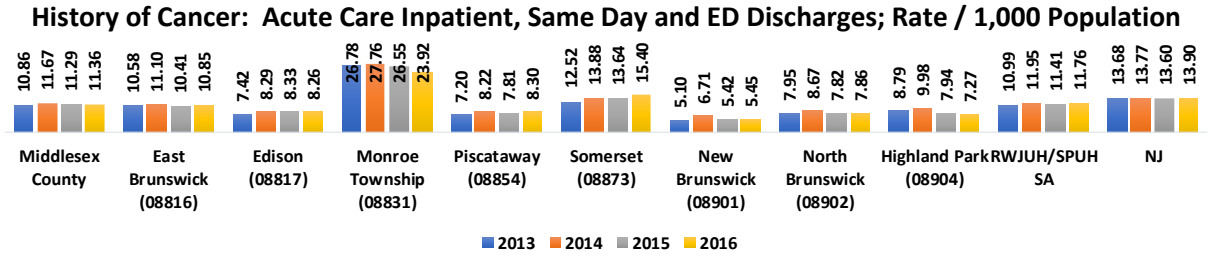
### *Cancer Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns*

- The 2016 rate of patients using a hospital service with a cancer diagnosis per 1,000 population was highest in Monroe (41.79/1,000).
- In 2016, the rate for patients discharged with a cancer diagnosis/1,000 population was slightly higher in the County (25.00/1,000) than in the RWJUH/SPUH Service Area (24.86/1,000).




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census Definition: Inpatient, Same Day Stay and ED Discharges – New Solution's Inc. Oncology Product Line (includes History of Cancer)

- The 2016 rate of residents using a hospital service that had a history of cancer diagnosis was highest in Monroe (23.92/1,000).
- In 2016, the rate of patients hospitalized with a history of cancer diagnosis/1,000 population was lowest in New Brunswick (5.45/1,000).




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census
Definition: Inpatient, Same Day Stay and ED Discharges – New Solution's Inc. Oncology Product Line (History of Cancer Only)

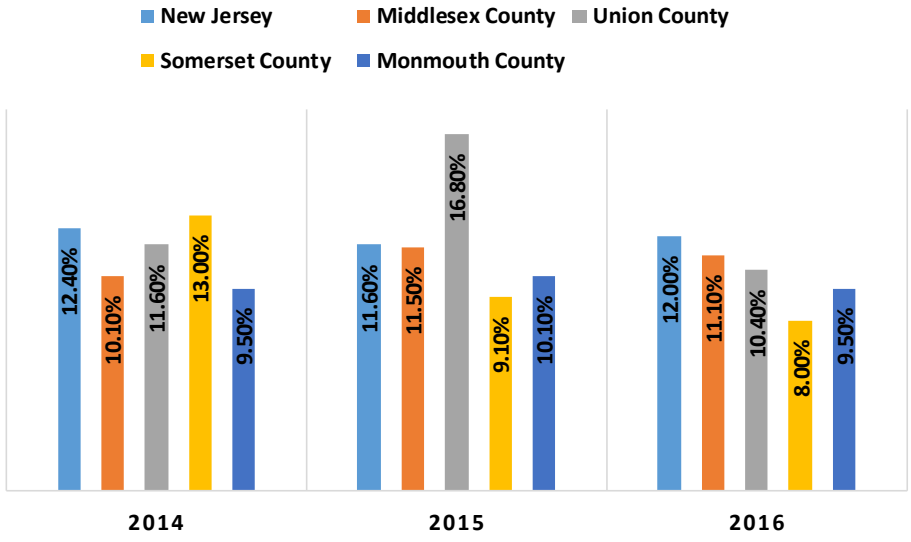
### *Asthma*

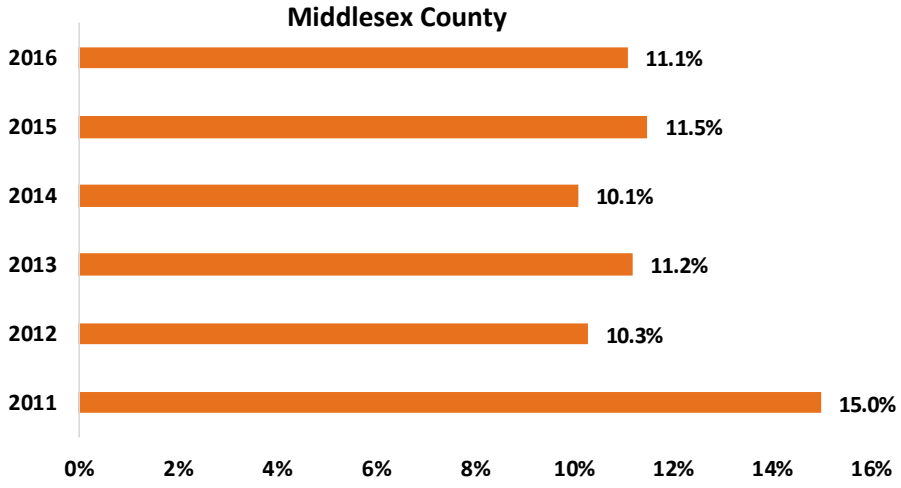
Asthma, a chronic lung disease often with childhood onset, inflames and narrows airways and causes recurring periods of wheezing, chest tightness, shortness of breath and coughing.[61] The exact cause of asthma is unknown; however, researchers believe genetic and environmental factors are involved. Factors may include: atopy, parents with asthma, certain respiratory infections during childhood and contact with some airborne allergens or exposure to some viral infections in infancy or in early childhood when the immune system is developing.[62]

[61] http://www.nhlbi.nih.gov/health/health-topics/topics/asthma
[62] ibid

- According to the 2016 BRFSS survey, 11.1% of Middlesex County adults reported ever being told they have asthma. This was up 1.0 percentage point from 2014.
- The percent of Middlesex County residents with asthma (11.1%) is lower than the State. Compared to all 21 New Jersey counties, Middlesex County was in the best performing quartile.

**Asthma (Percent "Yes"): Adults Who Have Ever Been Told They Have Asthma**
**State & County Comparisons, 2014-2016**



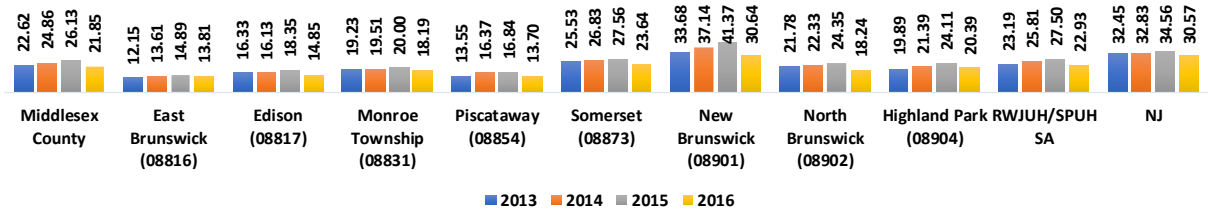




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

***Asthma Hospital Use Rates for County, RWJUH/SPUH Service Area, and Selected Towns***

- Rates of residents using a hospital service with a diagnosis of asthma were highest in New Brunswick in 2016 (30.64/1,000).
- In 2016, the rate of Middlesex County (21.85/1,000) residents using a hospital service with a diagnosis of asthma was lower than the New Jersey (30.57/1,000) rate. Rates were lowest in Piscataway (13.70/1,000).

**Asthma: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**



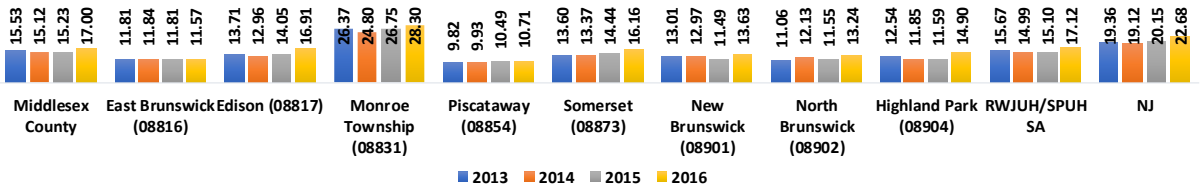

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges – ICD-9 DX Codes In the Range 493-493.9 (Appearing Anywhere In First 13 DX Codes On Patient Record)

***COPD (excluding Asthma)***

Chronic Obstructive Pulmonary Disease (COPD) is a group of diseases that cause airflow blockage and breathing-related problems including emphysema, chronic bronchitis. In the United States, tobacco smoke is a key factor in the development and progression of COPD, although exposure to air pollutants in the home and workplace, genetic factors, and respiratory infections also play roles.

- Rates of residents hospitalized with a diagnosis of COPD were highest in Monroe from 2013 through 2016.
- In 2016, the rate of hospitalization for patients with a diagnosis of COPD was highest in Monroe (28.30/1,000) and lowest in Piscataway (10.71/1,000).

**COPD (excluding Asthma): Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**




Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges – ICD-9 DX Codes In the Ranges 490-492 & 494-496 (Appearing Anywhere In First 13 DX Codes On Patient Record)

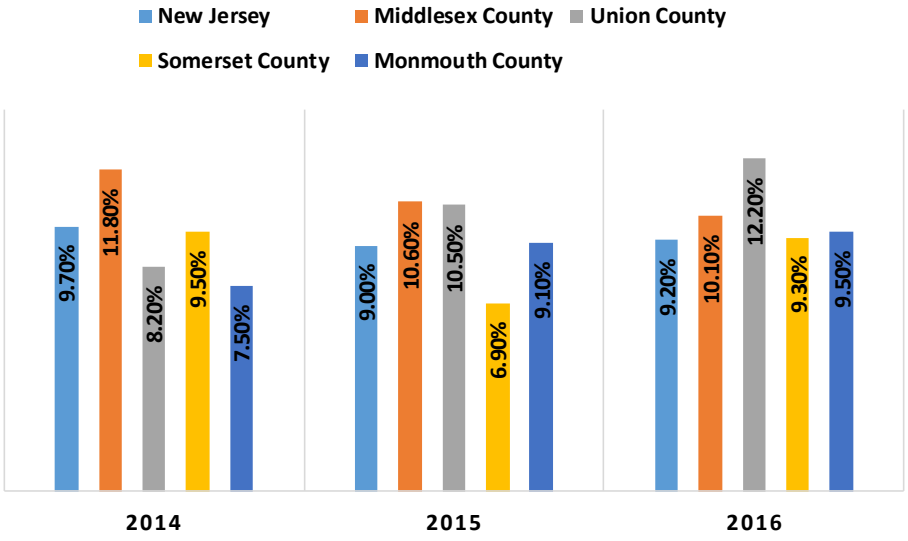
***Diabetes***

Diabetes is indicated by high levels of blood glucose as a result of problems in insulin production, effectiveness, or a combination of both. The three most common types of diabetes are Type 1, Type 2 and Gestational. Individuals with diabetes may develop serious health complications including heart disease, stroke, kidney failure, blindness, amputation and premature death.

Type 1 develops when insulin producing cells located in the pancreas are destroyed. There is no known way to prevent Type 1 diabetes. In order to survive, Type 1 diabetics must have insulin delivered by injection or pump. Type 2 primarily onsets with insulin resistance disorder in which cells within the muscles, liver, and fat tissue are unable to properly use insulin. Higher risk for developing Type 2 diabetes is associated with older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ethnicity. African Americans, Hispanics/Latinos, American Indians, some Asians, and Native Hawaiians or other Pacific Islanders are at particularly high risk for Type 2. Gestational diabetes is a form of glucose intolerance diagnosed during the second or third trimester of pregnancy. The risk factors for gestational diabetes are similar to those for type 2 diabetes.[63]

- Diabetes is decreasing among Middlesex County residents. Between 2014 (11.8%) and 2016 (10.1%), the rate decreased by 1.7 percentage points.
- In 2016, Middlesex County had a higher percentage of patients reporting diabetes than New Jersey (9.20%), Somerset County (9.30%), and Monmouth County (9.50%). Middlesex County is in the middle performing quartile for diabetes as compared to all 21 counties statewide.

**Diabetes (Percent "Yes"): Have You Ever Been Told by a Doctor That You Have Diabetes?**
**State & County Comparison, 2014-2016**



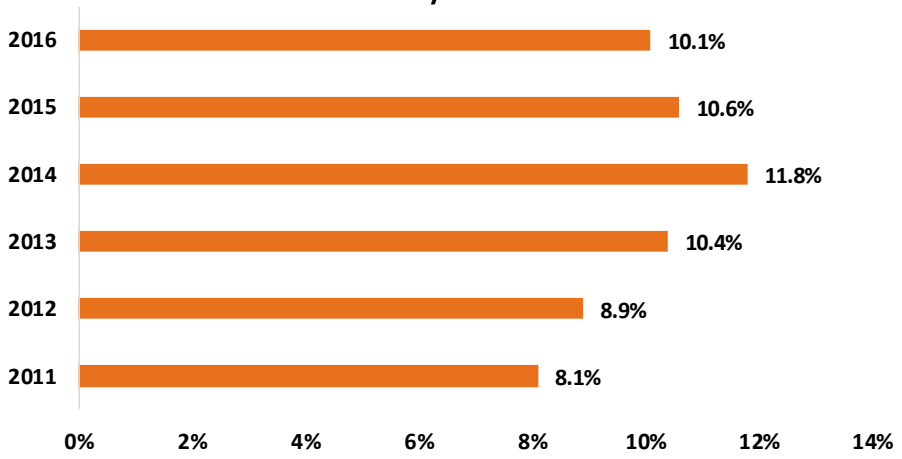

Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

County Health Rankings & Roadmaps
Building a Culture of Health, County by County
A Robert Wood Johnson Foundation program

*National Benchmark: 8.0%*
*Middlesex County 2016: 10.10%*

[63] http://www.cdc.gov/diabetes/pdfs/data/2014-report-generalinformation.pdf

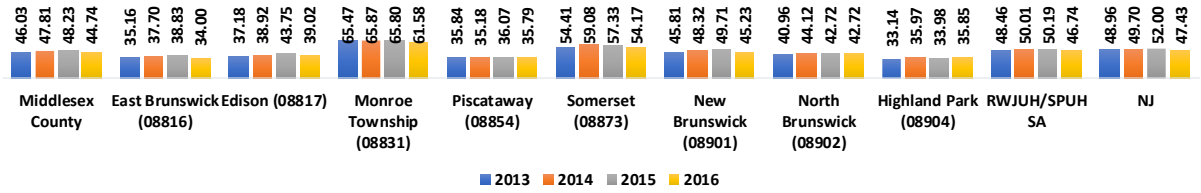
**Diabetes (Percent "Yes"): Have You Ever Been Told by a Doctor That You Have Diabetes?**
**Middlesex County – Trend**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

- Monroe had the highest rate of residents using a hospital service with a diabetes diagnosis (61.58/1,000) in 2016. Rates in Somerset were second highest in the region (54.17/1,000).
- In 2016, the rate of patients using a hospital service with diabetes diagnosis was higher in the RWJUH/SPUH Service Area (46.74/1,000) than in the County (44.74/1,000).

**Diabetes: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population 2013-2016**



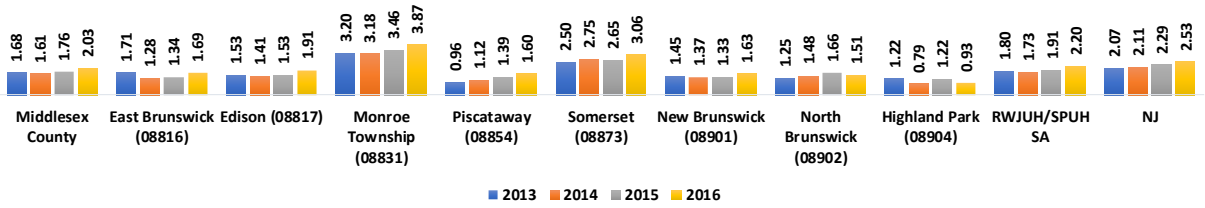

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges – ICD-9 DX Codes In The Range 249.00-250.03 (Appearing Anywhere In First 13 DX Codes On Patient Record)

Diabetes is a contributing factor to renal failure. More than 35% of U.S. adults with diabetes have chronic kidney disease. High blood sugar and high blood pressure increase the risk that chronic kidney disease will eventually lead to kidney failure.[64]

- In 2016, the rate of Middlesex County residents using a hospital service with diagnosis of renal failure was highest in Monroe (3.87/1,000) and lowest in Highland Park (0.93/1,000).
- The 2016 rate of Middlesex County residents using a hospital service with diagnosis of renal failure was lower than for New Jersey residents.

[64] http://www.cdc.gov/Features/WorldKidneyDay

**Renal Failure: Acute Care IP, Same Day and ED Discharges; Rate / 1,000 Population, 2013-2016**



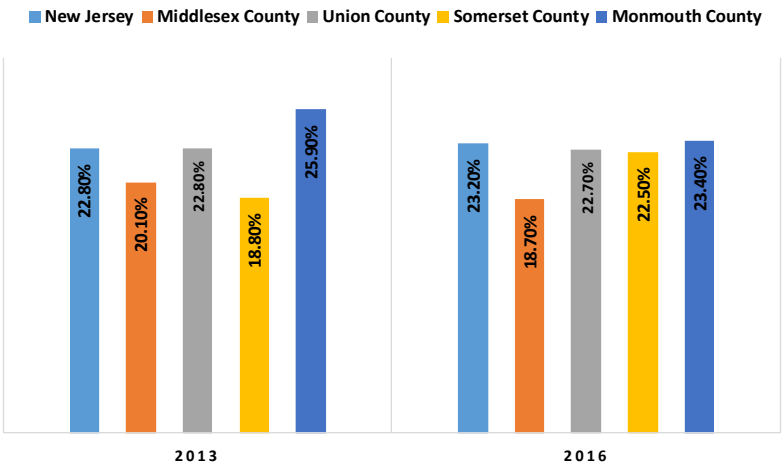

Source: NJ UB-04 Acute Care IP, Same Day Stay, ER Discharges (2013 – 2016), Population: 2010, 2016 Claritas/HCDA, 2011 Straight Line Value Based on 2000 and 2010 Census; Definition: Inpatient, Same Day Stay and ED Discharges For MS-DRGs In the Range 682-685

### *Arthritis*

Arthritis affects more than 1 in 5 adults and is the nation's most common cause of disability. A*rthritis* describes more than 100 rheumatic diseases and conditions that affect joints, the tissues which surround the joint and other connective tissue. The pattern, severity and location of symptoms vary depending on the specific form of the disease. Typically, rheumatic conditions are characterized by pain and stiffness in and around one or more joints. The symptoms can develop gradually or suddenly.[65]

- Between 2013 and 2016, the percentage of Middlesex County residents reporting arthritis decreased from 20.10% to 18.70%.
- The percentage of Middlesex County residents reporting arthritis was lower than the State and its comparison counties. As compared to 21 counties statewide, Middlesex County ranks in the best performing quartile.

**Arthritis (Percent "Yes"): Adults Who Have Ever Been Told They Have Arthritis**
**State and County Comparison 2013-2016**




Source: CDC Behavioral Health Risk Factor Surveillance System (BRFSS)

[65] http://www.cdc.gov/arthritis/basics.htm

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **Overall Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A | N.A. | |
| **Prostate Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A. | N.A. | |
| **Breast Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A. | N.A. | |
| **Respiratory System Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A. | N.A. | |
| **Digestive System Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A. | N.A. | |
| **Male Genital System Cancer Incidence**<br>*Age-Adjusted Rate per 100,000 Population* | N.A. | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

| Indicator | *Healthy People 2020* Target | County Health Rankings Benchmark | New Jersey |
|---|---|---|---|
| **CARDIOVASCULAR DISEASE**<br>***Were You Ever Told You Had Angina or Coronary Heart Disease?***<br>% Yes | N.A. | N.A. | |
| **CARDIOVASCULAR DISEASE**<br>***Were You Ever Told You Had a Heart Attack?***<br>% Yes | N.A. | N.A. | |
| **STROKE**<br>***Were You Ever Told You Had a Stroke?***<br>% Yes | N.A. | N.A. | |
| **Hypertension Awareness**<br>*Adults Who Have Been Told They Have High Blood Pressure* | | N.A. | |
| **Cholesterol Awareness**<br>*Adults Who Have Had Their Cholesterol Checked and Told it Was High* | | N.A. | |
| **ASTHMA**<br>***Adults Who Have Ever Been Told They Have Asthma***<br>% Yes | N.A | N.A. | |
| **DIABETES**<br>***Have You Ever Been Told by a Doctor That You Have Diabetes***<br>% Yes | N.A. | | |
| **ARTHRITIS**<br>***Adults Who Have Ever Been Told They Have Arthritis***<br>% Yes | N.A. | N.A. | |

*RED: Poorest Performing Quartile*
*Yellow: Middle Quartiles*
*Green: Best Performing Quartile*

## *6. ASSETS AND GAPS ANALYSIS*

The Assets and Gaps Analysis summarizes and highlights each component of the CHNA. Assets highlight Middlesex County or RWJUH/SPUH's Service Area information indicating improvement over time in comparison to other counties and the State or in comparison to other races and genders. Gaps focus on disparities in Middlesex County or in the RWJUH/SPUH Service Area that have a negative trend, in comparison to other counties and the State or in comparison to other races or genders.

### *A. HEALTH DISPARITIES*

#### *Economic Status*

**ASSETS**

- In 2016, the median household income for Middlesex County ($80,716) was $7,000 higher than the statewide median.
- In 2016, the median household income of East Brunswick residents was $101,245 higher than the County and State.
- The percent of people living in poverty in Monroe Township was 5.7% in 2016, lower than the State (10.9%) and County (8.9%).
- In 2016, the percent of unemployed people in Monroe Township (3.4%) was lower than the County (4.6%) and State (5.2%).
- Between 2015 and 2017, the percent of adults and children receiving TANF/WFNJ benefits in Middlesex County and State declined by 0.3% and 0.8%, respectively.
- Forty percent of Highland Park residents earned a graduate or professional degree, higher than the State and County.

**GAPS**

- In 2016, New Brunswick (36%) had a higher percentage of people living below the poverty level than the County (8.9%) and State (10.9%).
- The percent of children living in poverty in New Brunswick (42.3%) is nearly three times higher than the State (15.6%).
- Middlesex County reported a 7-percentage point increase in the number of students eligible for free lunch between 2012-2013 and 2015-2016.
- In 2016, 39.4% of New Brunswick residents did not complete high school, notably higher than the State (11.1%).

#### *Health and Health Care*

**ASSETS**

- Between 2013-2015, the non-elderly population without health insurance in Middlesex County decreased from 14.4% to 9.7%.
- The adult ED ACSC rate for the RWJUH/SPUH Service Area (40.47/1,000) was lower than the State rate (52.13/1,000).

- The 2016 inpatient ACSC for Middlesex County was lower than the State and RWJUH/SPUH Service Area.
- In 2016, the Middlesex County ACSC ED visits for children aged 0-17 was slightly lower than the statewide rate.

**GAPS**

- From 2013 to 2015, Middlesex County had a higher percentage of non-elderly population without health insurance than the national benchmark.
- The RWJUH/SPUH Service Area had a higher ACSC ED visit rate for children (93.06/1,000) than the State (81.95/1,000).
- New Brunswick had the highest ED visit rate for children (333.52/1,000) in the RWJUH/SPUH Service Area, higher than the County and State.

***Neighborhood and Built Environment***

**ASSETS**

- Middlesex County experienced a reduction in fine particulate matter between 2011 and 2012.
- Between 2010 and 2016, Middlesex County's motor vehicle crash deaths were lower than the national benchmark.
- In 2016, 15.1% of Middlesex County housing units were built before 1952, lower than New Jersey overall at 25.8%.
- The Middlesex County burglary rate decreased from 306.72/100,000 in 2014 to 207.34/100,000 in 2016.

**GAPS**

- Between 2013 and 2015, Middlesex County the percentage of children with elevated blood lead levels increased from .3% to .5%.
- The violent crime rate in Middlesex County ranked in the worst performing quartile.
- Between 2010 and 2015, the percent of Middlesex County residents with limited access to healthy foods increased.

***B. HEALTH FACTORS***

***Clinical Care Measures***

**ASSETS**

- The percentage of VBACs in Middlesex County trended upward from 2013 to 2016, increasing from 8% to 12.1% in 2016.

**GAPS**

- In 2016, the ED visit rate in Perth Amboy was nearly double the rate of the RWJUH/SPUH Service Area.
- Middlesex County's c-section rate in 2016 (26.1%) was higher than the State rate (25.2%).
- In 2016, RWJUH/SPUH's Service Area inpatient use rate (157.1/1,000) was slightly higher than the Middlesex County rate (153.9/1,000).
- RWJUH/SPUH's Service Area ED visit rate (302.59/1,000) was higher than the Middlesex County rate (284.34/1,000).

***Health Behaviors***

**ASSETS**

- The teen birth rate among Middlesex County residents (11.2/1,000) was lower than the State rate (15.3/1,000).
- In 2016, Middlesex County's chlamydia and gonorrhea rates were lower than the State rates.

**GAPS**

- In 2016, only 74.6% of Middlesex County women entered prenatal care in the first trimester, below the national benchmark.
- In 2016, the teen birth rate (15-19) for Perth Amboy was nearly 3 times higher than the County rate.
- In 2015, the HIV prevalence rate in Middlesex County was notably higher than the national benchmark.

***Individual Behaviors***

**ASSETS**

- Alcohol impaired driving deaths in the Middlesex County decreased from 27.6% in 2008-2012 to 26.1% in 2012-2016.
- In 2016, a lower percentage of Middlesex County residents were obese (27.6%) than the *Healthy People 2020* target (30.5%).
- Middlesex County had the lowest percentage of residents reporting heavy drinking relative to the State and surrounding counties.

**GAPS**

- Between 2014 and 2016, smoking rates steadily rose in Middlesex County with an overall increase of 3.3 percentage points.
- Adults reporting binge drinking in Middlesex County increased from 16.1% in 2014 to 17.6% in 2016.
- From 2014 to 2016, the percentage of Middlesex County residents reporting no leisure time physical activity steadily rose from 26.2% to 29.5%.

***Health Screenings and Immunizations***

**ASSETS**

- In 2016, 75.1% of Middlesex County women over age 40 had a mammogram in the last two years, up 20.5 percentage points from 2012.
- In 2016, 77.2% of Middlesex County women over 18 had a pap smear within the past three years, higher than the healthy people 2020 target of 66.2%.
- In 2014, 85.37% of Middlesex County diabetic Medicare enrollees received HbA1c screening, higher than the State and surrounding counties.

**GAPS**

- In 2016, a lower percentage of Middlesex County adults over 50 (62.4%) participated in colon-rectal screenings than residents statewide (65.1%).
- Middlesex County had a lower percentage of adults receiving flu shots (67%) compared to the healthy people 2020 target (90%).
- Middlesex County adults 65+ who had a pneumonia vaccine (74.7%) were lower than the healthy people 2020 target (90%).
- In 2016, 84.5% of first grade students in Middlesex County received all required immunizations, less than the State and other comparative counties.

***Behavioral Health Utilization***

**ASSETS**

- In 2016, ED visit rates for substance use in the RWJUH/SPUH Service Area was lower than the State rate.
- Inpatient hospitalizations and ED visit rates for mental health condition in the RWJUH/SPUH Service Area were lower than the State rate.

**GAPS**

- In 2016, Highland Park (5.56/1,000) had the highest rate of residents with an inpatient hospitalization for a mental health condition, compared to all comparative figures.
- In 2016, Highland Park (12.47/1,000) had a higher ED visit rate for mental health conditions than the RWJUH/SPUH Service Area, State, and County.
- In 2016, New Brunswick (3.41/1,000) had a higher use rate for residents with an inpatient admission for substance abuse than the State and other comparison figures.
- In 2016, New Brunswick (14.12/1,000) had a higher ED visit rate for substance abuse than the County and the State.
- Between 2015 and 2016, Naloxone administrations in Middlesex County increased from 535 to 741.

## *C. HEALTH OUTCOMES*

### ***Mortality***

**ASSETS**

- Since 2013, six out of the top ten causes of death declined with greatest improvements in Chronic Lower Respiratory Disease (14.5%) and Stroke (10.1%).
- Heart Disease and Cancer have historically been the top causes of death in Middlesex County, but recently on the decline since 2013 with respective decreases of 7.5% and 7.9%.
- Heart disease mortality rates fluctuated in Middlesex County with an overall decrease from 203.2/100,000 in 2007 to 153.8/100,000 in 2016.
- Mortality rates for cancer in Middlesex County decreased since 2007 from a rate of 169.1/100,000 to 135.7/100,000 in 2016.
- Over the last 10 years the stroke mortality rate per 100,000 has been fluctuating, with overall decrease from 27.6 in the year 2007 to 26.7 in the year 2016.
- In Middlesex County, death rates due to CLRD has been fluctuating but decreased overall to 22.4/100,000 In 2016.
- The years of potential life lost in Middlesex County (4,311.3/100,000) was better than the rate statewide (5,469.4/100,000).

**GAPS**

- The mortality rate for heart disease among Whites has historically been higher than Blacks, who historically experienced a higher death rate than Hispanics. In 2016, Whites experienced a heart disease mortality rate that was notably higher than that of Hispanics.
- The rate for unintentional injuries in Middlesex County has fluctuated, with the highest rate occurring in 2016 at 38.1/100,000.
- In 2016, the mortality rate for unintentional injury deaths among Whites in Middlesex County, 63.2/100,000 was the higher than the state rate and its comparison counties.
- The mortality rate for strokes amongst Whites statewide has increased from 2007 (28.6/100,000) to 2016 (29.6/100,000).
- The rate of drug overdose deaths in Middlesex County rose from 14.8/100,000 to 22.5/100,000 between 2014 and 2016.
- The infant mortality rate for Blacks (8.0/1,000) continues to be higher than for Whites (2.9/1,000) and Hispanics (4.8/1,000).
- From 2007 to 2016 suicide mortality rate in Middlesex County rose from 5.6/100,000 in 2007 to 7.8/100,000.
- The infant mortality rate in Middlesex County increased from 3.6/1,000 between 2007-2009, to 4.0/1,000 between 2013-2015.

### ***Maternal and Child Health***

**GAPS**

- Middlesex County's rate of low birth weight babies rose from 7.8% in 2007 to 8.0% in 2016.
- The percentage of low birth weight babies in Middlesex County were higher among Blacks (12.6%) than for Whites (6.5%) or Hispanics (7.1%).

***Health Status and Behavioral Health Status***

**ASSETS**

- County-wide, Middlesex County adults who reported 14 or more of the past 30 days with "not good" physical health decreased from 9.6% in 2014, to 8.5% in 2016.
- The percent of Middlesex County residents reporting a history of depression decreased from 10.8% to 10.6% from 2014 to 2016.

**GAPS**

- Between 2012 and 2016, there was an increase in the percent of Middlesex County residents who indicated their health was poor or fair from 13.3% to 17.8%.
- County-wide, Middlesex County adults who reported 14 or more of the past 30 days with "not good" mental health increased from 10.2% in 2014, to 10.7% in 2016.

***Morbidity***

**ASSETS**

- The percent of Middlesex County residents told they had angina or coronary heart disease decreased from 3.9% in 2014, to 3.5% in 2016.
- New Brunswick residents had the lowest rate of patients hospitalized with a heart attack in 2016 in the RWJUH/SPUH Service Area.
- Piscataway had the lowest rate of residents hospitalized with heart failure in 2016.
- From 2013 through 2016, Middlesex County had a lower rate of patients using a hospital service with a stroke/TIA diagnosis than the State.
- In 2016, the RWJUH/SPUH Service Area had a lower hospital use rate for hypertension than the State.
- In 2015, 34.1% of Middlesex County adults were told they had high cholesterol compared to 35.4% statewide.
- New Brunswick residents had the lowest use rate of patients using a hospital service with high cholesterol.
- The incidence of invasive cancer in Middlesex County decreased between 2007 and 2015.
- Between 2008 and 2015, digestive system, prostate, male genital system, and respiratory system cancers all decreased in Middlesex County.
- In 2016, the RWJUH/SPUH Service Area had a lower rate of patients using a hospital service with a diagnosis of cancer than the State.
- The percent of Middlesex County residents reporting diabetes decreased from 11.8% in 2014 to 10.1% in 2016.
- Between 2013 and 2016, the percentage of Middlesex County residents reporting arthritis decreased from 20.1% to 18.7%.

**GAPS**

- The percent of Middlesex County residents told they had a heart attack increased 0.8 percentage points from 2012 to 2016.
- Monroe Township residents had the highest rate of residents hospitalized with a heart attack and heart failure in 2016.
- In 2016, Monroe Township (4.34%) reported a higher rate of strokes than the State (2.88%).
- From 2011 to 2015, the percentage of Middlesex County adults aware they had hypertension rose from 26.6% to 30.6%.
- Monroe Township residents had the highest rate of hospital usage for hypertension from 2013 to 2016.
- Monroe Township residents with high cholesterol had the highest hospital use rate in the Service Area.
- In 2016, the rate of patients using a hospital with a cancer diagnosis was highest in Monroe Township.

# *APPENDICES*

**APPENDIX A: RWJUH CHNA IMPLEMENTATION PLAN RESULTS**

# Community Health Needs Assessment

Robert Wood Johnson University Hospital

RWJBarnabas HEALTH

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# Introduction

In 2016, Robert Wood Johnson University Hospital ("RWJUH") conducted and adopted its Community Health Needs Assessment ("CHNA") which consisted of a community needs survey of residents in our service area, a detailed review of secondary source data, a survey and meetings with local health officials and a Public Health Symposium made up of county public health officers and community representatives. The Plan can be accessed at https://www.rwjbh.org/~/rwj-university-hospital-new-brunswick/about/community-health-needs-assessment/ .

Through the CHNA process, health need priorities were chosen based on RWJUH's capacity, resources, competencies, and the needs specific to the population it serves. The Implementation Plan addresses the manner in which RWJUH will address each priority need and the expected outcome for the evaluation of its efforts. The implementation plan which follows is based on the four selected priority areas*:

- Collective Impact
- Access to Care and Services
- Health Risk Factors (Prevention)
- Disease Specific (Chronic Disease Treatment and Management)

This project was a collaboration between Saint Peter's University Hospital (SPUH) and Robert Wood Johnson University Hospital (RWJUH), as well as, the various community partners of Healthier Middlesex (formerly named the Community Health Consortium for Central Jersey).

** The four focus areas do not represent the full extent of the RWJUH's community benefit activities or its support of the community's health needs. Other needs identified through the CHNA may be better addressed by other agencies/organizations or deferred to another timeframe.*

## Goal #1: Establish and sustain effective partnerships to improve equitable access to, and utilization of, culturally and linguistically appropriate community health related resources

**Key CHNA Findings:**

- During the establishment of the Healthier Middlesex, it was agreed that the coalition would operate in accordance with Collective Impact Principles to ensure that the community health partners have clear methods for connecting with one another, collaborating and coordinating efforts, and communicating progress and processes with each other.

### Strategy/Initiative 1.1

**By 2019, increase effective communication among consortium partners regarding activities that impact community health priorities as outlined in the CHIP.**

- Articulate a vision for the Healthier Middlesex
- Develop a communication plan for the Healthier Middlesex partners

**Indicator/Metric**

- Awareness of partner activities that impact community health priorities in the CHIP

**Tracking/Outcome**

2016 Results: Emailed flyers for partner activities to all Steering Committee members on monthly basis, beginning in Fall of 2016

2017 Results: Approved written mission and vision for Healthier Middlesex

2018 Results: Working on written communication for Healthier Middlesex partners

### Strategy/Initiative 1.2

**By 2019, identify and engage relevant and integral stakeholders, at both individual and organizational levels, in activities that impact community health priorities as outlined in the CHIP.**

- Develop and implement an outreach strategy to connect and engage relevant and integral stakeholders in activities to effectively achieve the CHIP objectives

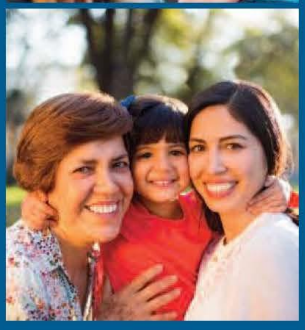
**Indicator/Metric**

- New and relevant stakeholders participating in consortium

**Tracking/Outcome**

2016 Results: 19 steering committee members

2017 Results: 23 steering committee members, including transportation and faith-based representatives added



## Goal #2: Ensure access to culturally and linguistically appropriate health care, services, and resources that equitably meet the needs of the diverse populations of Middlesex and Somerset Counties

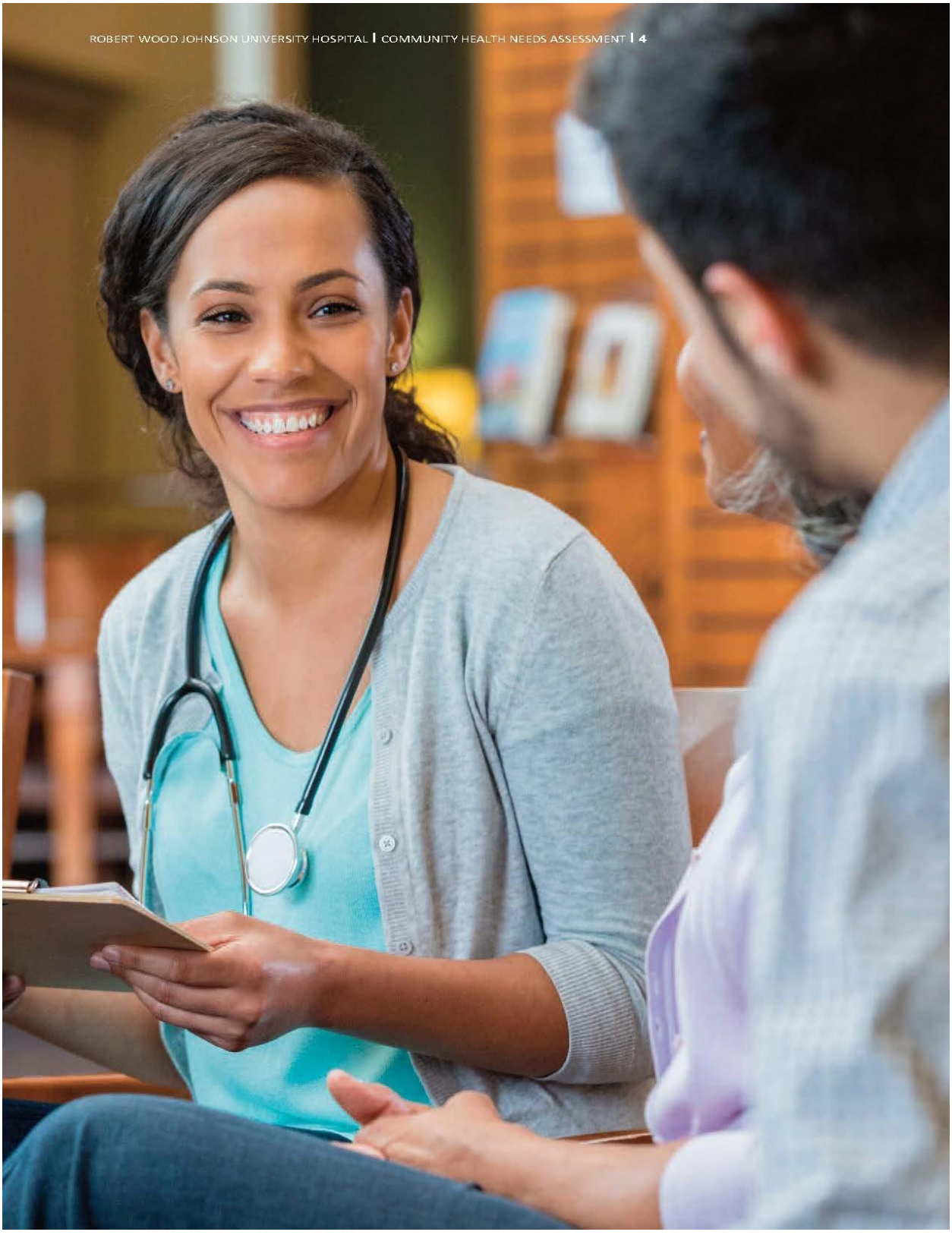
**Key CHNA Findings:**

- Middlesex County is one of the most racially/ethnically diverse counties in New Jersey.
- In Middlesex County, 49.2% are white non-Hispanic, followed by 22.3% Asian non-Hispanic, 17.9% Hispanic, 8.4% black non-Hispanic, and 2.2% other non-Hispanic. Somerset County has a larger white non-Hispanic population and smaller Hispanic and Asian populations (61.6%, 10.9%, and 15.4% respectively), while New Jersey overall has a larger white non-Hispanic population and a smaller Asian non-Hispanic population (59.9% and 8.7% respectively).
- There is concern about the ability of healthcare providers in communicating with its diverse and challenged population and providing continuity of care, as well as providing the outreach and education services that they felt was necessary for residents to learn about their health and how to navigate the health care system.
- Diversity also could create challenges for those who do outreach and education, requiring them to tailor their message and materials to many different audiences.

### Strategy/Initiative 2.1

**By 2019, increase the utilization of sources of health information among individuals to make informed health decisions.**

- Engage libraries, community health partners, and health professionals in fostering relationships to provide access to health information:
  - Use connections with CBOs to promote library resources
  - Continue to train/engage additional libraries (academic, public, private and schools)
  - Provide educational/informational sessions at libraries with resources from community partners



- Engage the coalition of school librarians and school nurses
- Evaluate health literacy needs and utilization of existing resources
- Disseminate information about library/health information events and encourage attendance

**Indicator/Metric**

- Increased internet traffic on websites
- Increased number of pieces of literature distributed
- Increased number of people making inquiries to libraries
- Positive evaluations from participants of information program

**Tracking/Outcome**

2016 Results: 874 people encounters in library; 286 information requests and a total of 178 research hours spent on inquiries to librarians

2017 Results: 1,050 people encounters in library; 964 information requests and a total of 190 research hours spent on inquiries to librarians; less than 10% of the encounters completed evaluations (of those completed, all were positive)

2018 Results: Healthier Middlesex website went live in June

## Strategy/Initiative 2.2

**By 2019, increase the percentage of the population that is provided with tools, resources, and guidance to navigate healthcare resources and providers by 20%.**

- Organize a symposium for transportation stakeholders to foster networking and awareness of resources, to promote multimodal transportation options, and increase multi-lingual transportation information in public areas
  - Identify target audiences
  - Develop conference committee
  - Identify information and topics and potential speakers
  - Secure location, develop budget, identify associated costs and available resources, identify potential funding sources, host, and evaluate

**Indicator/Metric**

- Increased use of current transportation services
- Increased funding/investment in public transportation
- Identified areas of transportation needs/limits.
- Number of people participating in the conference
- Number of connections made as a result of conference
- Documented list of transportation needs and limitations (from conference)


**Tracking/Outcome**

Data being gathered and transportation symposium planned for Fall 2018

## Goal #3: Promote healthy lifestyles through culturally and linguistically appropriate practices that reduce preventable risk factors

**Key CHNA Findings:**

- The assessment findings were grouped into four themes:
  - Diversity within the hospitals' service area and the need for cultural competence and person-centered care
  - Specific health conditions in need of intervention (mental illness, alcohol or substance abuse, smoking, dental problems, asthma, chronic kidney disease, vision problems in adults and children, and workplace injuries resulting in disability)
  - Gaps in services and barriers in access to care
  - The need for health information and education to reduce preventable risk factors

### Strategy/Initiative 3.1

**By 2019, increase the number of people engaged in obesity prevention programs.**

- Develop and sustain a Healthy Kids Camp model, which includes health and safety activities:
  - Work with committee to identify partners
  - Identify target locations/audiences
- Establish an MOU with partners:
  - Actively engage partners in implementation and evaluation
  - Provide sample policies for review and adoption by partners (i.e. sunscreen use)
  - Sponsor Healthy Kids Week activities

- Advocate for healthy concession and vending services at local municipalities and recreation sites:
  - Identify community providers and invite them to discuss healthy eating objectives
  - Design and disseminate a toolkit for healthy vending/concessions
  - Encourage providers to sign and adopt healthy vending/concessions agreements

**Indicator/Metric**

- Increase in the number of obesity prevention programs

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 3.2

**By 2019, reduce substance use among school-aged youth**

- Conduct community substance use education programs working with school-aged youth:
  - Identify towns not currently engaged in educational programming (by location and target population)
  - Target students with evidence-based curricula/activities
  - Utilize SPUH opioid task force activities to reach target audiences.
  - Provide schools with a list of evidence-based curricula/activities available for them to access (County Nurses)
- Promote awareness of substance abuse resources, including the use of medicine drop boxes:
  - Coordinate a mobile dropbox collection at senior centers (coordinate with officers available for collection)
  - Provide a list of dropbox location within the county (police department, pharmacy and other locations)

**Indicator/Metric**

- Reduced alcohol abuse among middle school students
- Reduced marijuana use among middle school students
- Reduced tobacco use among middle school students
- Reduced prescription drug misuse among middle school students
- Reduced alcohol abuse among high school students
- Reduced marijuana use among high school students
- Reduced tobacco use among high school students
- Reduced prescription drug misuse among high school students

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 3.3

**By 2019, reduce preventable injuries related to falls among the elderly.**

- Collaborate with community-based institutions (e.g., libraries, Y's, community centers) to distribute Home Safety checklists in paper and online versions to educate families on fall prevention safety for the elderly
- Implement evidence-based fall prevention program in senior centers and senior housing facilities

**Indicator/Metric**

- Decreased unintentional fall death rate ages 65+ years
- Decreased hospital stays for non-fatal, unintentional falls ages 65+ years
- Decreased emergency department visits for non-fatal, unintentional falls ages 65+

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 3.4

**By 2019, reduce preventable injuries related to transportation.**

- Enhance pedestrian safety awareness campaigns
- Collaborate with senior pedestrian safety program to extend fall prevention and safety messages

**Indicator/Metric**

- Decreased pedestrian injuries due to transportation

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 3.5

**By 2019, increase the number of families receiving home health and safety education.**

- Build partnerships with nonprofit community-based organizations that are engaged in advancing housing initiatives that will result in improved health and well-being
- Recruit and provide education to increase the number of healthy housing initiatives

**Indicator/Metric**

- Increased number of families receiving healthy housing education

**Tracking/Outcome**

2018 Results: 300 flyers/information packets distributed; 200 people approached with 96 individuals signed up for more information and 31 home assessments completed

## Strategy/Initiative 3.6

**By 2019, increase the number of children receiving the CDC recommended series of vaccinations.**

- In communities with low vaccination rates, implement education programs to increase the level of awareness about the importance of vaccines and dispel myths
- Educate and increase awareness about available resources, especially for patients without insurance
- Advocate for patient education policies in clinical care settings
- Educate providers on how to talk to patients and patients' family about the benefits and risks of vaccines
- Implement community-based vaccination opportunities to increase access

**Indicator/Metric**

- Increased number of children receiving CDC recommended vaccinations

**Tracking/Outcome**

2015-16 School Year Results: 43,880 total students enrolled in schools; 41,577 students fully vaccinated, 94.8%

2016-17 School Year Results: 47,315 total students enrolled in schools; 44,261 students fully vaccinated, 93.5%

## Goal #4: Decrease the prevalence and severity of leading chronic health conditions affecting Middlesex and Somerset counties through culturally and linguistically appropriate strategies that improve overall well-being

**Key CHNA Findings:**

- About 10.5% of the sample surveyed in CHNA reported an asthma diagnosis compared to 12.5% of the New Jersey sample.
- Approximately 8.9% of the sample surveyed reported a diabetes diagnosis (compared to 9.3% in the state sample) and diabetes was most prevalent amongst older adults, males and black non-Hispanics.
- The incidence of heart attack diagnosis was 3.2% in the sample surveyed and 3.9% in the state. In our catchment area, older adults, males and white non-Hispanics were more likely to report a heart attack.
- Overall, the incidence of stroke was low, 1.8% in the sample surveyed and 2.3% for the state.

### Strategy/Initiative 4.1

**By 2019 increase the number of individuals engaging in diabetes programs.**

- Increase the number of individuals routinely screened for prediabetes or diabetes using HbA1C levels:
  - Explore partnerships (with SPUH) to increase A1C testing and expand the reach of CBOs and other organizations in testing their constituents
  - Support testing within the MCOHS (i.e. TB patients)
  - Consider Y sponsored pre-diabetes program for pre-diabetics to identify through screening
- Collaborate to increase utilization of diabetes-focused programs through Patient-Centered Medical Homes, support groups, diabetes educators, and programs in multiple languages:
  - Collaborate with HQSI (East Brunswick) in reaching diabetic populations with educational programs. Utilize connection with MCOHS and ability to reach multiple languages
  - Develop a list of diabetes education program providers and service areas
  - Target Adult Active Living Communities for onsite diabetes education within their community space

**Indicator/Metric**

- Increased number of participating programs
- Increased number of participants in programs

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 4.2

**By 2019, increase the number of individuals engaging in cardiovascular health initiatives.**

- Increase the number of health risk behavior screenings in community-based settings (e.g., BP, BMI, and cholesterol screenings):
  - Increase screening through existing resources
  - Develop a list of screening services and locations from all partners
- Support clinically- and community-based nutrition and exercise programs designed for targeted populations:
  - Walk with the Doc (Identify target audiences/locations and docs/providers available to participate)
  - Support Ciclovia efforts including potential expansion
  - Support Mayors Wellness Council activities
  - Continue programming for Girl Scouts (and Boy Scouts) through programs at the Y and RWJUH
  - Identify winter walking/physical activity alternatives (i.e. walk in the mall) and encourage participation

**Indicator/Metric**

- Decrease blood pressure
- Decrease BMI
- Decrease cholesterol levels
- Decrease tobacco use

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 4.3

**By 2019, increase number of individuals engaging in respiratory health initiatives.**

- Promote Open Airways or similar programs within schools
- Utilize healthy housing activities to increase awareness of respiratory health issues at home and refer to appropriate programs and services
- Increase awareness of Special Child Health Services among community members and providers to increase referrals about respiratory health issues

**Indicator/Metric**

- Increase in the number of schools implementing "Open Airways" or similar programs
- Decreased visits to Emergency Department by children for asthma related conditions

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 4.4

**By 2019, increase number of community members/organizations engaging in mental health and awareness training and education.**

- Conduct trainings on the Behavioral Health Resource Guide for community-based and faith-based organizations to increase awareness of, and referral to, existing service providers:
  - Identify CBOs for targeted outreach and training.
  - Utilize the faith-based council (and Rutgers Seminary) to identify additional targets for training and dissemination of the mental health guide
  - Translate the mental health guide to Spanish (and other most commonly spoke languages if funding available)
  - Follow up with trainees/training participants about utilization
  - Update the guide on an annual basis
- Coordinate and implement Mental Health First Aid training for community-based and faith-based organizations to increase effective communication with behavioral health clients:
  - Follow up with trainees to assess utilization of resources and information
  - Identify sites and potential participants for MHFA training
  - Hold MHFA training sessions
  - Outreach to providers, community-based and faith-based organizations to coordinate support groups on general and specific mental health topic areas (e.g., migration, grief, stress, and depression)

**Indicator/Metric**

- Increased number of people trained in Mental Health First Aid
- Increased number of people trained in trauma-informed care
- Increased number of people appropriately referred to mental health and supportive services

**Tracking/Outcome**

Data being gathered

## Strategy/Initiative 4.5

**By 2019, increase the number of individuals who undergo HIV testing.**

- Outreach to diverse communities to increase awareness and promote routine HIV testing.
  - Identify high-risk areas/population for targeted outreach and testing
  - Coordinate screening events amongst partners
  - Encourage routine HIV testing during encounters with patients for other screening and immunization events
  - Implement an awareness campaign to increase routine testing by health providers
- Collaborate with state and local HIV counseling and testing service providers to assess data collection efforts and identify gaps in service areas:
  - Collaborate with the state (and MC Human Services) to collect data and identify areas of need
  - Identify areas for targeted HIV education to increase awareness and the need for testing

**Indicator/Metric**

- Increased number of people tested for HIV

**Tracking/Outcome**

Data from two of 12 testing sites in Middlesex County:
2016 Results: 490 individuals tested for HIV
2017 Results: 518 individuals tested for HIV

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6587-07/18nb

## APPENDIX B: SECONDARY DATA SOURCES

| Source | |
|---|---|
| **Advocates for Children of New Jersey** | http://acnj.org |
| **Agency for Healthcare Research and Quality** | http://www.ahrq.gov |
| **Alcohol Retail Density and Demographic Predictors of Health Disparities: A Geographic Analysis** | http://www.ncbi.nlm.nih.gov/ |
| **American Cancer Society Guidelines for Early Detection of Cancer** | http://www.cancer.org |
| **American Nutrition Association** | http://americannutritionassociation.org |
| **Annals of Family Medicine, Inc.** | http://www.annfammed.org |
| **Asthma and Allergy Foundation of America** | www.aafa.org |
| **BRFSS and Youth BRFSS** | www.cdc.gov |
| **Bruno and Ridgway Community Health Assessment Study** | |
| **Bureau of Labor Statistics** | http://data.bls.gov |
| **CDC** | http://www.cdc.gov |
| **CDC Community Health Indicators Service** | http://wwwn.cdc.gov/CommunityHealth |
| **CDC Division of Nutrition, Physical Activity, and Obesity** | http://www.cdc.gov/obesity |
| **CDC National Center for Environmental Health** | http://www.cdc.gov/nceh |
| **CDC National Center for Health Statistics** | http://www.cdc.gov/nchs/fastats/ |
| **CDC National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention** | https://www.cdc.gov/std |
| **CDC NCIRD** | http://www.cdc.gov/vaccines |
| **CDC Preventing Chronic Disease** | http://www.cdc.gov/pcd |
| **CDC WONDER** | http://wonder.cdc.gov |
| **Centers for Medicare and Medicaid Services (CMS)** | https://www.cms.gov |
| **Child Trends** | http://www.childtrends.org |
| **County Health Rankings** | http://www.countyhealthrankings.org |
| **Department of Numbers** | http://www.deptofnumbers.com |
| **Do Something** | https://www.dosomething.org |
| **Enroll America** | https://www.enrollamerica.org |
| **Free Clinic Directory** | http://freeclinicdirectory.org |
| **Gallup** | http://www.gallup.com |
| **Health Care Decision Analyst** | New Solutions, Inc. |
| **Healthgrades** | https://www.healthgrades.com |
| **Health Grove** | http://www.healthgrove.com |
| **Health Indicators Warehouse (BRFSS)** | www.healthindicators.gov |
| **Health Resources and Services Administration Data Warehouse** | https://datawarehouse.hrsa.gov |
| **Healthy People 2020** | https://www.healthypeople.gov |
| **Home Facts** | http://www.homefacts.com |
| **Institute of Medicine** | http://www.nap.edu |
| **Kaiser Family Foundation** | http://kff.org |
| **Kaiser Health News** | http://khn.org |
| **Kids Count** | http://www.datacenter.kidscount.org |
| **March of Dimes** | http://www.marchofdimes.org |
| **NJ Department Human Services, Division of Addiction Services, New Jersey Drug and Alcohol Abuse Treatment** | http://www.state.nj.us/humanservices/dmhas/home/ |
| **NJ Department of Health and Senior Services, Center for Health** | http://www.nj.gov/health/chs/ |
| **National Association for Convenience and Fuel Retailing** | http://www.nacsonline.com |
| **National Center for Biotechnology Information** | http://www.ncbi.nlm.nih.gov |
| **National Center for Health Statistics CDC** | http://www.cdc.gov/nchs/data |
| **National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention; Division of HIV/AIDS Prevention** | http://www.cdc.gov/hiv |
| **National Highway Traffic Safety Administration** | http://www-nrd.nhtsa.dot.gov |
| **National Institute for Mental Illness** | http://www.nami.org |
| **National Institute of Diabetes, Digestive & Kidney Diseases** | http://www.niddk.nih.gov |
| **National Institutes of Health Medline Plus Health Screening** | https://www.nlm.nih.gov/medlineplus |
| **National Poverty Center University of Michigan** | http://www.npc.umich.edu |

| Source | |
|---|---|
| **Neighborhood Scout** | http://www.neighborhoodscout.com/nj/crime/ |
| **New Jersey Council of Teaching Hospitals** | http://njcth.org |
| **New Jersey Death Certificate Database, Office of Vital Statistics and Registry** | http://www.nj.gov/health/vital/ |
| **New Jersey State Health Assessment Data Complete Indicator Profile of Risk Factor for Childhood Lead Exposure: Pre-1950 Housing** | https://www26.state.nj.us/doh-shad |
| **NIH Medline Plus** | https://www.nlm.nih.gov/medlineplus |
| **NJ Department of Education** | http://www.state.nj.us/education |
| **NJ DOH Family Health** | http://www.nj.gov/health/fhs |
| **NJ DOH, Division of Communicable Disease Services** | http://www.nj.gov/health/cd/ |
| **NJ DOH, New Jersey Cancer Registry** | http://www.cancer-rates.info/nj/ |
| **NJ DOH Division of HIV, STD, and TB Services** | http://www.nj.gov/health/hivstdtb/ |
| **NJ Department of Labor and Workforce Development** | http://lwd.dol.state.nj.us/labor |
| **NJ Department of Law and Public Safety, Uniform Crime Reporting Unit, US Census Bureau, American Community Survey** | http://www.njsp.org/ucr/crime-reports.shtml |
| **NJ State Police Uniform Crime Reporting Unit** | http://www.njcedv.org |
| **NJ Substance Abuse Monitoring System** | https://njsams.rutgers.edu/njsams |
| **NJ.Com** | http://www.nj.com |
| **NJ State Health Assessment Data (SHAD)** | https://www26.state.nj.us/doh-shad/home/Welcome.html |
| **Pro Publica** | https://propublica.org |
| **Rutgers Center for Health Policy** | http://www.cshp.rutgers.edu |
| **Substance Abuse and Mental Health Services Administration** | http://www.samhsa.gov |
| **The Annie E. Casey Foundation Kids Count Data Center Children Receiving TANF (Welfare)** | http://www.datacenter.kidscount.org |
| **United States Department of Agriculture Economic Research Service** | http://www.ers.usda.gov |
| **United States Department of Health and Human Services** | http://www.hhs.gov/healthcare |
| **United States Department of Health and Human Services, Agency for Healthcare Research and Quality Understanding Quality Measurement 2016** | http://www.ahrq.gov |
| **United Way** | http://www.unitedwaynj.org/ourwork/alicenj.php |
| **University of Nevada** | https://www.unce.unr.edu |
| **US Department of Education** | http://www.ed.gov |
| **US Department of Health and Human Services, Maternal and Child Health Bureau** | http://mchb.hrsa.gov |
| **US DHHS Administration for Children and Families** | http://www.acf.hhs.gov |
| **Washington Post** | https://www.washingtonpost.com |
| **World Health Organization** | http://www.who.int |

**APPENDIX C1: CANCER INCIDENCE RATE REPORT: CANCER PATIENT ORIGIN**
**MIDDLESEX COUNTY 2017**

Twenty-five and nine tenth percent of RWJUH's cancer inpatients and 20.7% of cancer outpatients resided in the Primary Service Area. In total, 50.7% of inpatients and 45.7% of outpatients resided in Essex County. Monroe (08831) and New Brunswick (08901) represent the largest segment of RWJUH's inpatient cancer patients. Likewise, Monroe (08831) and Edison (08817) represent the largest segments of RWJUH's outpatient cancer patients. The health factors and outcomes explored in the CHNA bear relevance to the oncology services and its review of specific cancer needs for the community.

| CANCER PATIENT ORIGIN | 2017 RWJUH IP VOLUME | % | 2017 RWJUH OP VOLUME | % |
|---|---|---|---|---|
| Middlesex County | 3,092 | 50.7% | 3,562 | 45.7% |
| Primary Service Area | 1,576 | 25.9% | 1,614 | 20.7% |
| Secondary Service Area | 2,674 | 43.9% | 3,504 | 45.0% |
| Out of Service Area (NJ) | 1,743 | 28.6% | 2,426 | 31.1% |
| Out of State | 101 | 1.7% | 250 | 3.2% |
| **TOTAL** | **6,094** | **100.0%** | **7,794** | **100.0%** |
| Monroe (08831) | 365 | 6.0% | 279 | 3.6% |
| New Brunswick (08901) | 274 | 4.5% | | |
| Edison (08817) | | | 279 | 3.6% |

*Source: Decision Support; IP volume includes cases with ICD10 principal or secondary codes C00 thru D49.9 (Neoplasms); OP volume includes cases with ICD10 principal or secondary codes Z51.0 or Z51.11 (Chemo and Radiation Therapy).*

**APPENDIX C2: CANCER INCIDENCE RATE REPORT: MIDDLESEX COUNTY 2011-2015**

| INCIDENCE RATE REPORT FOR MIDDLESEX COUNTY 2011-2015 | | | | |
|---|---|---|---|---|
| Cancer Site | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend |
| All Cancer Sites | 455.8 | 4118 | falling | -1 |
| Bladder | 23.1 | 205 | stable | -0.3 |
| Brain & ONS | 6.3 | 55 | falling | -1 |
| Breast | 129.2 | 625 | falling | -0.5 |
| Cervix | 6.1 | 28 | falling | -2.3 |
| Colon & Rectum | 41.6 | 375 | falling | -2.5 |
| Esophagus | 4 | 37 | falling | -1.1 |
| Kidney & Renal Pelvis | 14.8 | 135 | rising | 0.9 |
| Leukemia | 15 | 133 | rising | 0.6 |
| Liver & Bile Duct | 7.4 | 68 | rising | 3 |
| Lung & Bronchus | 52.3 | 466 | falling | -1.6 |
| Melanoma of the Skin | 17.9 | 161 | rising | 1.8 |
| Non-Hodgkin Lymphoma | 22.4 | 199 | rising | 0.6 |
| Oral Cavity & Pharynx | 10.4 | 95 | stable | 0.1 |
| Ovary | 11.8 | 57 | falling | -2 |
| Pancreas | 13.3 | 120 | stable | 0.2 |
| Prostate | 127.3 | 542 | falling | -3.4 |
| Stomach | 7.4 | 67 | falling | -1.8 |
| Thyroid | 19.1 | 167 | rising | 5.8 |
| Uterus (Corpus & Uterus, NOS) | 32.2 | 68 | stable | 0.7 |

*The Source for C2 and following tables C3, C4, C5 and C6 is :*

*https://statecancerprofiles.cancer.gov*

**APPENDIX C3: CANCER INCIDENCE DETAILED RATE REPORT: MIDDLESEX COUNTY 2011-2015**
**SELECT CANCER SITES: RISING INCIDENCE RATES**

| | | Kidney & Renal Pelvis | Leukemia | Liver & Bile Duct | Melanoma of the Skin | Non-Hodgkin Lymphoma | Thyroid |
|---|---|---|---|---|---|---|---|
| INCIDENCE RATE REPORT FOR MIDDLESEX COUNTY 2011-2015 All Races (includes Hispanic), All Ages | Age-Adjusted Incidence Rate - cases per 100,000 | 14.8 | 15 | 7.4 | 17.9 | 22.4 | 19.1 |
| | Average Annual Count | 135 | 133 | 68 | 161 | 199 | 167 |
| | Recent Trend | rising | rising | rising | rising | rising | rising |
| | Recent 5-Year Trend in Incidence Rates | 0.9 | 0.6 | 3 | 1.8 | 0.6 | 5.8 |
| White Non-Hispanic, All Ages | Age-Adjusted Incidence Rate - cases per 100,000 | 16.3 | 16 | 6.5 | 27.3 | 25 | 21.6 |
| | Average Annual Count | 92 | 89 | 40 | 147 | 141 | 97 |
| | Recent Trend | rising | rising | rising | rising | rising | stable |
| | Recent 5-Year Trend in Incidence Rates | 1.1 | 0.9 | 2.8 | 3.3 | 1 | -3.9 |
| Black (includes Hispanic), All Ages | Age-Adjusted Incidence Rate - cases per 100,000 | 16.4 | 10.5 | 7.6 | * | 16.4 | 12.1 |
| | Average Annual Count | 14 | 8 | 6 | <=3 | 14 | 11 |
| | Recent Trend | * | stable | * | * | stable | rising |
| | Recent 5-Year Trend in Incidence Rates | * | -1 | * | * | -0.2 | 4.5 |
| Asian or Pacific Islander (includes Hispanic), All Ages | Age-Adjusted Incidence Rate - cases per 100,000 | 6.8 | 7.7 | 8 | * | 11.8 | 14.4 |
| | Average Annual Count | 12 | 11 | 12 | <=3 | 18 | 29 |
| | Recent Trend | * | * | * | * | stable | * |
| | Recent 5-Year Trend in Incidence Rates | * | * | * | * | 0.8 | * |
| Hispanic (any race), All Ages | Age-Adjusted Incidence Rate - cases per 100,000 | 13.2 | 15.8 | 10.1 | 3.5 | 22.3 | 19.5 |
| | Average Annual Count | 16 | 16 | 10 | 5 | 23 | 27 |
| | Recent Trend | stable | * | stable | * | stable | * |
| | Recent 5-Year Trend in Incidence Rates | 1.1 | * | 2.3 | * | 1 | * |
| MALES | Age-Adjusted Incidence Rate - cases per 100,000 | 19.5 | 18.9 | 11.5 | 21.9 | 26.2 | 8.6 |
| | Average Annual Count | 81 | 74 | 48 | 87 | 103 | 36 |
| | Recent Trend | stable | stable | rising | rising | stable | rising |
| | Recent 5-Year Trend in Incidence Rates | 0.5 | 0.3 | 2.9 | 1.6 | 0.6 | 4.4 |
| FEMALES | Age-Adjusted Incidence Rate - cases per 100,000 | 11 | 12.2 | 4 | 15.3 | 19.6 | 29.3 |
| | Average Annual Count | 53 | 60 | 20 | 73 | 96 | 131 |
| | Recent Trend | rising | rising | rising | rising | stable | stable |
| | Recent 5-Year Trend in Incidence Rates | 1.3 | 0.8 | 3 | 2 | 0.5 | 1.8 |

** Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3).*

## APPENDIX C4: CANCER MORTALITY RATE REPORT: MIDDLESEX COUNTY 2011-2015

| MORTALITY RATE REPORT FOR MIDDLESEX COUNTY 2011-2015 | | | | | |
|---|---|---|---|---|---|
| Cancer Site | Met Healthy People Objective | Age-Adjusted Death Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend |
| All Cancer Sites | Yes | 149.2 | 1340 | falling | -1.8 |
| Bladder | *** | 4.5 | 40 | stable | -0.6 |
| Brain & ONS | *** | 3.7 | 33 | stable | -0.4 |
| Breast | No | 21.3 | 108 | falling | -2.5 |
| Cervix | Yes | 1.7 | 9 | falling | -2.5 |
| Colon & Rectum | Yes | 13.8 | 126 | falling | -3.5 |
| Esophagus | *** | 3.4 | 31 | stable | -0.4 |
| Kidney & Renal Pelvis | *** | 3 | 27 | falling | -1.7 |
| Leukemia | *** | 6.6 | 58 | falling | -0.8 |
| Liver & Bile Duct | *** | 4.8 | 44 | stable | 0.9 |
| Lung & Bronchus | Yes | 34.8 | 310 | falling | -3 |
| Melanoma of the Skin | Yes | 1.9 | 17 | falling | -2.5 |
| Non-Hodgkin Lymphoma | *** | 5.6 | 50 | falling | -2.9 |
| Oral Cavity & Pharynx | Yes | 2.3 | 21 | stable | 6.3 |
| Ovary | *** | 7.2 | 36 | falling | -2 |
| Pancreas | *** | 10.9 | 98 | stable | -0.5 |
| Prostate | Yes | 17.8 | 63 | falling | -4.2 |
| Stomach | *** | 3.6 | 32 | falling | -3.3 |
| Thyroid | *** | 0.4 | 4 | * | * |
| Uterus (Corpus & Uterus, NOS) | *** | 5.9 | 30 | stable | 1.3 |

**** No Healthy People 2020 Objective for this cancer.*

** Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3).*

## APPENDIX C5: CANCER MORTALITY DETAILED RATE REPORT (Highest Volume): MIDDLESEX COUNTY 2011-2015

| | | Breast | Colon & Rectum | Lung & Bronchus |
|---|---|---|---|---|
| MORTALITY RATE REPORT FOR MIDDLESEX COUNTY 2011-2015 All Races (includes Hispanic), All Ages | Met Healthy People Objective | No | Yes | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 21.3 | 13.8 | 34.8 |
| | Average Annual Count | 108 | 126 | 310 |
| | Recent Trend | falling | falling | falling |
| | Recent 5-Year Trend in Death Rates | -2.5 | -3.5 | -3 |
| White Non-Hispanic, All Ages | Met Healthy People Objective | No | No | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 23.3 | 15.5 | 41.8 |
| | Average Annual Count | 78 | 97 | 255 |
| | Recent Trend | falling | falling | falling |
| | Recent 5-Year Trend in Death Rates | -2.2 | -3.2 | -1.7 |
| Black (includes Hispanic), All Ages | Met Healthy People Objective | No | No | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 27.2 | 19.2 | 30 |
| | Average Annual Count | 13 | 13 | 22 |
| | Recent Trend | stable | falling | falling |
| | Recent 5-Year Trend in Death Rates | -1.1 | -2.4 | -3.9 |
| Asian or Pacific Islander (includes Hispanic), All Ages | Met Healthy People Objective | Yes | Yes | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 8.6 | 5.3 | 14.9 |
| | Average Annual Count | 12.1 | 7 | 18 |
| | Recent Trend | 7 | * | * |
| | Recent 5-Year Trend in Death Rates | * | * | * |
| Hispanic (any race), All Ages | Met Healthy People Objective | Yes | Yes | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 17.8 | 11.5 | 16.9 |
| | Average Annual Count | 10 | 9 | 15 |
| | Recent Trend | stable | stable | stable |
| | Recent 5-Year Trend in Death Rates | -0.8 | 0.7 | -1.7 |
| MALES | Met Healthy People Objective | n/a | No | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | n/a | 18.1 | 41.2 |
| | Average Annual Count | n/a | 69 | 156 |
| | Recent Trend | n/a | falling | falling |
| | Recent 5-Year Trend in Death Rates | n/a | -3.7 | -3.4 |
| FEMALES | Met Healthy People Objective | No | Yes | Yes |
| | Age-Adjusted Death Rate - cases per 100,000 | 21.3 | 10.5 | 30.3 |
| | Average Annual Count | 108 | 57 | 154 |
| | Recent Trend | falling | falling | falling |
| | Recent 5-Year Trend in Death Rates | -2.5 | -3.4 | -2.2 |

**** No Healthy People 2020 Objective for this cancer.*

** Data has been suppressed to ensure confidentiality and stability of rate estimates. Counts are suppressed if fewer than 16 records were reported in a specific area-sex-race category. If an average count of 3 is shown, the total number of cases for the time period is 16 or more which exceeds suppression threshold (but is rounded to 3).*

## APPENDIX C6: CANCER INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| ALL SITES: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 441.2 | 1,580,653 | falling | -1.4 |
| New Jersey | 477.5 | 49,332 | falling | -0.9 |
| Atlantic County | 490.9 | 1,646 | falling | -0.6 |
| Bergen County | 462 | 5,311 | falling | -1.1 |
| Burlington County | 521.7 | 2,845 | stable | -1 |
| Camden County | 513.9 | 2,982 | stable | -1.4 |
| Cape May County | 557.2 | 864 | stable | -0.1 |
| Cumberland County | 502.9 | 862 | stable | 0.1 |
| Essex County | 452.1 | 3,717 | falling | -1.2 |
| Gloucester County | 529.7 | 1,753 | stable | -1.7 |
| Hudson County | 391.1 | 2,429 | falling | -1.5 |
| Hunterdon County | 481.7 | 762 | stable | -0.2 |
| Mercer County | 498.1 | 2,058 | falling | -0.4 |
| Middlesex County | 455.8 | 4,118 | falling | -1 |
| Monmouth County | 511.5 | 3,950 | falling | -1.6 |
| Morris County | 470.4 | 2,848 | falling | -1.7 |
| Ocean County | 515.9 | 4,370 | falling | -0.7 |
| Passaic County | 441.4 | 2,378 | falling | -0.9 |
| Salem County | 534.1 | 443 | stable | 0.1 |
| Somerset County | 461.1 | 1,761 | falling | -1.4 |
| Sussex County | 489.7 | 863 | falling | -0.5 |
| Union County | 451.9 | 2,692 | falling | -1.2 |
| Warren County | 497.8 | 665 | falling | -0.5 |
| Bladder: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 20.3 | 72,640 | falling | -1.7 |
| New Jersey | 23.6 | 2,449 | falling | -1.5 |
| Atlantic County | 27.9 | 94 | stable | 0.2 |
| Bergen County | 23 | 272 | falling | -0.8 |
| Burlington County | 26.7 | 147 | stable | 0 |
| Camden County | 25.3 | 146 | stable | 0 |
| Cape May County | 35 | 58 | rising | 1.3 |
| Cumberland County | 26.4 | 45 | stable | 1 |
| Essex County | 19.1 | 153 | stable | -0.4 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Gloucester County | 28.4 | 91 | rising | 0.7 |
| Hudson County | 17.5 | 102 | falling | -1.5 |
| Hunterdon County | 28.2 | 44 | rising | 1.4 |
| Mercer County | 22.1 | 91 | stable | -0.5 |
| Middlesex County | 23.1 | 205 | stable | -0.3 |
| Monmouth County | 25.8 | 202 | stable | -0.2 |
| Morris County | 24.3 | 149 | stable | -0.3 |
| Ocean County | 24.4 | 230 | falling | -3.5 |
| Passaic County | 21.2 | 113 | stable | -0.6 |
| Salem County | 29.5 | 25 | stable | 0.3 |
| Somerset County | 21.3 | 81 | stable | 0.3 |
| Sussex County | 26.6 | 45 | stable | -0.3 |
| Union County | 20.1 | 119 | falling | -3.7 |
| Warren County | 27.6 | 37 | stable | -0.6 |
| Brain & ONS: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 6.5 | 22,226 | falling | -0.9 |
| New Jersey | 6.9 | 669 | falling | -0.3 |
| Atlantic County | 7.3 | 22 | stable | 0.3 |
| Bergen County | 7.7 | 81 | stable | -0.4 |
| Burlington County | 7.2 | 36 | stable | 0.5 |
| Camden County | 7.2 | 39 | stable | 0 |
| Cape May County | 7.1 | 9 | stable | 0 |
| Cumberland County | 7.1 | 12 | stable | -0.8 |
| Essex County | 5.1 | 42 | falling | -1.4 |
| Gloucester County | 7.3 | 23 | stable | -0.3 |
| Hudson County | 5.7 | 37 | falling | -1.2 |
| Hunterdon County | 7.8 | 10 | stable | -0.5 |
| Mercer County | 7.1 | 27 | stable | -0.5 |
| Middlesex County | 6.3 | 55 | falling | -1 |
| Monmouth County | 7.3 | 54 | stable | 0.5 |
| Morris County | 7.9 | 43 | stable | 0.1 |
| Ocean County | 7.7 | 54 | stable | 0.4 |
| Passaic County | 6.7 | 35 | falling | -0.9 |
| Salem County(7) | 7.3 | 5 | * | * |
| Somerset County | 6.1 | 22 | stable | -0.5 |
| Sussex County | 7.7 | 12 | stable | -0.5 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Union County | 6.2 | 36 | falling | -1 |
| Warren County | 10.4 | 13 | stable | 1.6 |
| Breast: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 124.7 | 234,445 | stable | 0.2 |
| New Jersey | 133.4 | 7,357 | rising | 0.4 |
| Atlantic County | 132.5 | 236 | stable | -0.1 |
| Bergen County | 135.5 | 822 | falling | -0.6 |
| Burlington County | 139.6 | 405 | stable | -0.1 |
| Camden County | 140.1 | 440 | stable | 0.4 |
| Cape May County | 129.9 | 100 | falling | -0.7 |
| Cumberland County | 113.9 | 101 | falling | -0.8 |
| Essex County | 133.5 | 610 | rising | 5.7 |
| Gloucester County | 142.6 | 257 | stable | 0 |
| Hudson County | 104.4 | 356 | falling | -0.5 |
| Hunterdon County | 155.1 | 133 | stable | -0.1 |
| Mercer County | 140 | 309 | stable | -0.4 |
| Middlesex County | 129.2 | 625 | falling | -0.5 |
| Monmouth County | 144.1 | 594 | stable | -0.1 |
| Morris County | 144.4 | 465 | stable | -0.3 |
| Ocean County | 130.8 | 567 | falling | -0.6 |
| Passaic County | 117 | 344 | falling | -0.5 |
| Salem County | 126.1 | 55 | stable | -0.5 |
| Somerset County | 140.4 | 290 | stable | 0.4 |
| Sussex County | 134.3 | 125 | stable | -0.2 |
| Union County | 133.4 | 433 | falling | -0.4 |
| Warren County | 127.7 | 91 | stable | -0.3 |
| Cervix: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 7.5 | 12,529 | stable | 0.2 |
| New Jersey | 7.6 | 380 | falling | -2.6 |
| Atlantic County | 9.8 | 15 | falling | -3.6 |
| Bergen County | 6.7 | 36 | falling | -2 |
| Burlington County | 6.1 | 15 | stable | -9.4 |
| Camden County | 7.8 | 22 | falling | -2.4 |
| Cape May County | 10.2 | 5 | stable | -0.4 |
| Cumberland County | 12 | 9 | falling | -3.8 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Essex County | 9.5 | 42 | falling | -3.7 |
| Gloucester County | 6.9 | 11 | falling | -2.5 |
| Hudson County | 10.1 | 35 | falling | -2.7 |
| Hunterdon County | 5.3 | 4 | falling | -2.3 |
| Mercer County | 5.5 | 11 | falling | -3.3 |
| Middlesex County | 6.1 | 28 | falling | -2.3 |
| Monmouth County | 6.9 | 26 | falling | -2.6 |
| Morris County | 5.9 | 18 | falling | -2.2 |
| Ocean County | 8.7 | 28 | falling | -2.1 |
| Passaic County | 7.9 | 21 | falling | -2.2 |
| Salem County(7) | * | 3 or fewer | * | * |
| Somerset County | 8.3 | 15 | stable | -1.3 |
| Sussex County | 5.8 | 5 | falling | -3.1 |
| Union County | 8.5 | 26 | falling | -1.9 |
| Warren County | 7.8 | 5 | falling | -3.1 |
| Colon & Rectum: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 39.2 | 139,950 | falling | -1.7 |
| New Jersey | 41.9 | 4,346 | falling | -1.6 |
| Atlantic County | 42.1 | 143 | falling | -2.7 |
| Bergen County | 38.3 | 447 | stable | 0.4 |
| Burlington County | 46.8 | 256 | falling | -2.1 |
| Camden County | 45.5 | 263 | falling | -2.9 |
| Cape May County | 46.2 | 72 | falling | -2.8 |
| Cumberland County | 49.3 | 84 | falling | -1.4 |
| Essex County | 43.3 | 355 | stable | 0.4 |
| Gloucester County | 44.1 | 144 | falling | -2.2 |
| Hudson County | 41.4 | 254 | falling | -2.5 |
| Hunterdon County | 41 | 65 | falling | -2.8 |
| Mercer County | 39.5 | 164 | falling | -4.4 |
| Middlesex County | 41.6 | 375 | falling | -2.5 |
| Monmouth County | 41.9 | 326 | falling | -3.7 |
| Morris County | 36.5 | 224 | falling | -3 |
| Ocean County | 45.5 | 406 | falling | -3 |
| Passaic County | 40 | 215 | falling | -3.6 |
| Salem County | 47.4 | 40 | falling | -2.1 |
| Somerset County | 35.9 | 139 | falling | -2.4 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Sussex County | 42.5 | 71 | falling | -2.9 |
| Union County | 40.4 | 241 | falling | -2.5 |
| Warren County | 46.3 | 62 | falling | -2.9 |
| Esophagus: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 4.6 | 16,795 | falling | -0.9 |
| New Jersey | 4.4 | 465 | falling | -1 |
| Atlantic County | 4.4 | 15 | falling | -2.5 |
| Bergen County | 3.3 | 39 | falling | -1.8 |
| Burlington County | 5.3 | 30 | stable | -0.1 |
| Camden County | 5.2 | 31 | stable | -1 |
| Cape May County | 5.5 | 8 | stable | -0.8 |
| Cumberland County | 5.6 | 10 | stable | 0.6 |
| Essex County | 3.9 | 32 | falling | -3.1 |
| Gloucester County | 6.3 | 22 | stable | 1.1 |
| Hudson County | 3 | 18 | falling | -2.9 |
| Hunterdon County | 4.6 | 8 | stable | -0.4 |
| Mercer County | 4.7 | 19 | stable | -1.3 |
| Middlesex County | 4 | 37 | falling | -1.1 |
| Monmouth County | 4.6 | 36 | stable | -0.4 |
| Morris County | 4.6 | 29 | stable | 0.3 |
| Ocean County | 5.7 | 51 | stable | 5.5 |
| Passaic County | 4.4 | 24 | stable | -1.1 |
| Salem County | 5.4 | 5 | stable | -2 |
| Somerset County | 3.2 | 12 | falling | -1.6 |
| Sussex County | 5.5 | 10 | stable | 0.2 |
| Union County | 3.6 | 22 | falling | -1.7 |
| Warren County | 5.8 | 8 | stable | 1.4 |
| Kidney & Renal Pelvis.: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 16.4 | 58,599 | rising | 0.8 |
| New Jersey | 16 | 1,655 | stable | 0.2 |
| Atlantic County | 17.2 | 58 | rising | 1.4 |
| Bergen County | 16.1 | 186 | rising | 1 |
| Burlington County | 19.9 | 108 | rising | 2.6 |
| Camden County | 19.5 | 112 | rising | 2 |
| Cape May County | 18.1 | 29 | rising | 1.9 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Cumberland County | 22.6 | 38 | rising | 4.2 |
| Essex County | 13 | 108 | rising | 0.8 |
| Gloucester County | 19.2 | 65 | rising | 2 |
| Hudson County | 12.4 | 79 | stable | 0.7 |
| Hunterdon County | 13.4 | 22 | rising | 1.6 |
| Mercer County | 16.2 | 68 | rising | 2.1 |
| Middlesex County | 14.8 | 135 | rising | 0.9 |
| Monmouth County | 16.7 | 131 | rising | 1.3 |
| Morris County | 13.7 | 83 | stable | 0.9 |
| Ocean County | 17.7 | 144 | rising | 1.7 |
| Passaic County | 15.9 | 85 | rising | 1.6 |
| Salem County | 18.1 | 15 | stable | 1 |
| Somerset County | 13.8 | 54 | rising | 1.7 |
| Sussex County | 14.1 | 27 | stable | 0.1 |
| Union County | 15.1 | 90 | rising | 1 |
| Warren County | 16.3 | 21 | rising | 1 |
| Leukemia: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 13.6 | 47,270 | falling | -1.6 |
| New Jersey | 15.2 | 1,523 | rising | 0.6 |
| Atlantic County | 14.5 | 47 | stable | 0.5 |
| Bergen County | 16.1 | 182 | rising | 0.8 |
| Burlington County | 15.3 | 80 | rising | 1.2 |
| Camden County | 15.2 | 86 | rising | 0.9 |
| Cape May County | 15.9 | 24 | rising | 1.2 |
| Cumberland County | 15.3 | 26 | rising | 2 |
| Essex County | 13.1 | 104 | stable | -0.3 |
| Gloucester County | 17.3 | 55 | rising | 1.6 |
| Hudson County | 12.1 | 73 | falling | -0.7 |
| Hunterdon County | 13.2 | 20 | stable | -0.8 |
| Mercer County | 15.8 | 65 | stable | 0.6 |
| Middlesex County | 15 | 133 | rising | 0.6 |
| Monmouth County | 15.7 | 118 | rising | 1.1 |
| Morris County | 16 | 94 | stable | 0.6 |
| Ocean County | 16 | 132 | stable | 0.3 |
| Passaic County | 15.1 | 78 | stable | 0.1 |
| Salem County | 12.9 | 10 | stable | 0.8 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Somerset County | 15.3 | 56 | stable | 0.6 |
| Sussex County | 16.5 | 28 | stable | 1 |
| Union County | 16 | 92 | rising | 1.2 |
| Warren County | 15.6 | 20 | stable | 0.1 |
| Liver & Bile Duct: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 8.1 | 30,492 | rising | 2.2 |
| New Jersey | 7.5 | 808 | rising | 2.2 |
| Atlantic County | 8.2 | 30 | rising | 2.9 |
| Bergen County | 6.8 | 81 | rising | 1.6 |
| Burlington County | 7.4 | 42 | rising | 3.2 |
| Camden County | 9.1 | 55 | rising | 3.8 |
| Cape May County | 8.8 | 15 | rising | 5.4 |
| Cumberland County | 10.7 | 19 | rising | 6.8 |
| Essex County | 7.7 | 67 | rising | 1.8 |
| Gloucester County | 8.6 | 30 | rising | 4 |
| Hudson County | 7.8 | 49 | rising | 2.2 |
| Hunterdon County(7) | 5.8 | 10 | * | * |
| Mercer County | 8.4 | 36 | rising | 4.1 |
| Middlesex County | 7.4 | 68 | rising | 3 |
| Monmouth County | 6.8 | 56 | rising | 1.9 |
| Morris County | 5.7 | 36 | rising | 1.3 |
| Ocean County | 8.1 | 71 | rising | 4.3 |
| Passaic County | 8.2 | 46 | rising | 2.9 |
| Salem County | 10.9 | 9 | rising | 4.6 |
| Somerset County | 6.6 | 27 | rising | 3.2 |
| Sussex County | 7.2 | 13 | rising | 1.9 |
| Union County | 6 | 37 | rising | 2.4 |
| Warren County | 7.4 | 10 | stable | 1 |
| Lung & Bronchus: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 60.2 | 217,545 | falling | -2.1 |
| New Jersey | 57.3 | 5,940 | falling | -2.2 |
| Atlantic County | 68.2 | 232 | falling | -2.8 |
| Bergen County | 50.9 | 596 | falling | -1.3 |
| Burlington County | 63.1 | 344 | falling | -0.9 |
| Camden County | 71.4 | 415 | falling | -0.6 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Cape May County | 79.3 | 131 | stable | -0.2 |
| Cumberland County | 70.9 | 122 | falling | -2.7 |
| Essex County | 48.7 | 392 | falling | -2.4 |
| Gloucester County | 76 | 249 | falling | -0.5 |
| Hudson County | 46.3 | 274 | falling | -2 |
| Hunterdon County | 52.1 | 80 | falling | -1.5 |
| Mercer County | 58.9 | 242 | falling | -1 |
| Middlesex County | 52.3 | 466 | falling | -1.6 |
| Monmouth County | 61.6 | 478 | falling | -2.5 |
| Morris County | 48 | 291 | falling | -1.5 |
| Ocean County | 70.3 | 647 | falling | -1.6 |
| Passaic County | 49.6 | 266 | stable | -5.7 |
| Salem County | 76.5 | 66 | stable | -0.6 |
| Somerset County | 47.1 | 177 | falling | -1.2 |
| Sussex County | 62.4 | 109 | falling | -1.1 |
| Union County | 47.5 | 275 | falling | -1.6 |
| Warren County | 63.4 | 87 | falling | -1 |
| Melanoma of the Skin: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 21.3 | 74,467 | rising | 2.1 |
| New Jersey | 22.1 | 2,251 | stable | 0.2 |
| Atlantic County | 25.5 | 85 | stable | -1.5 |
| Bergen County | 17.8 | 203 | falling | -2.3 |
| Burlington County | 26.6 | 145 | stable | 0.8 |
| Camden County | 20.7 | 120 | stable | -0.3 |
| Cape May County | 45 | 68 | rising | 3.9 |
| Cumberland County | 16.2 | 28 | rising | 1.9 |
| Essex County | 13.1 | 106 | stable | 0.8 |
| Gloucester County | 26.9 | 86 | stable | 0.1 |
| Hudson County | 7.9 | 50 | stable | -0.6 |
| Hunterdon County | 39.1 | 61 | rising | 5 |
| Mercer County | 23.4 | 95 | stable | -8.1 |
| Middlesex County | 17.9 | 161 | rising | 1.8 |
| Monmouth County | 31.6 | 237 | rising | 2 |
| Morris County | 26.5 | 159 | stable | -0.4 |
| Ocean County | 34.3 | 277 | rising | 3.7 |
| Passaic County | 14 | 74 | rising | 1.8 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Salem County | 36.8 | 28 | rising | 5.3 |
| Somerset County | 24.1 | 91 | stable | -1.2 |
| Sussex County | 28.7 | 49 | rising | 2.7 |
| Union County | 15.3 | 91 | rising | 1.1 |
| Warren County | 26 | 33 | rising | 1.7 |
| Non-Hodgkin Lymphoma: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 18.9 | 66,509 | falling | -1 |
| New Jersey | 21.6 | 2,188 | stable | -0.2 |
| Atlantic County | 20.9 | 67 | stable | -0.3 |
| Bergen County | 22.4 | 255 | stable | -0.1 |
| Burlington County | 21.8 | 116 | rising | 0.6 |
| Camden County | 19.8 | 114 | stable | 0.1 |
| Cape May County | 20.2 | 31 | stable | -0.2 |
| Cumberland County | 21.7 | 37 | stable | 0.4 |
| Essex County | 19.4 | 157 | stable | 0 |
| Gloucester County | 22.2 | 71 | stable | 0.7 |
| Hudson County | 17.7 | 110 | stable | -0.4 |
| Hunterdon County | 23.4 | 36 | stable | 0.6 |
| Mercer County | 21.7 | 88 | stable | 0.4 |
| Middlesex County | 22.4 | 199 | rising | 0.6 |
| Monmouth County | 23.4 | 177 | stable | -0.6 |
| Morris County | 22.7 | 134 | stable | -0.7 |
| Ocean County | 22.6 | 195 | stable | 0.6 |
| Passaic County | 19.5 | 101 | stable | 0.4 |
| Salem County | 20.7 | 17 | stable | 0.6 |
| Somerset County | 21 | 80 | stable | 0.8 |
| Sussex County | 22.2 | 38 | stable | 0.3 |
| Union County | 22.4 | 134 | stable | -0.3 |
| Warren County | 23.2 | 30 | stable | 0.6 |
| Oral Cavity & Pharynx: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 11.6 | 42,585 | stable | 0.4 |
| New Jersey | 10.6 | 1,118 | stable | 0.6 |
| Atlantic County | 14.1 | 49 | stable | 0.3 |
| Bergen County | 9.4 | 109 | stable | 0.1 |
| Burlington County | 11.4 | 63 | stable | 0 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Camden County | 11.6 | 69 | stable | 0.4 |
| Cape May County | 13 | 20 | stable | 0.4 |
| Cumberland County | 13.1 | 23 | stable | 0.6 |
| Essex County | 8.9 | 75 | falling | -2.1 |
| Gloucester County | 11.1 | 39 | stable | 0.8 |
| Hudson County | 7.9 | 50 | falling | -2.4 |
| Hunterdon County | 9.4 | 17 | stable | 0.6 |
| Mercer County | 9.3 | 40 | falling | -1.6 |
| Middlesex County | 10.4 | 95 | stable | 0.1 |
| Monmouth County | 11.9 | 96 | stable | 0.2 |
| Morris County | 10.5 | 66 | stable | 0.3 |
| Ocean County | 11.8 | 100 | stable | 0.2 |
| Passaic County | 9.9 | 55 | falling | -1.1 |
| Salem County | 14 | 11 | stable | 1.5 |
| Somerset County | 10.1 | 41 | rising | 1 |
| Sussex County | 13.3 | 24 | stable | 0.5 |
| Union County | 9.5 | 59 | stable | -0.3 |
| Warren County | 11.3 | 16 | stable | 0.5 |
| Ovary: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 11.3 | 21,476 | falling | -1.6 |
| New Jersey | 12.3 | 692 | falling | -1.9 |
| Atlantic County | 11.5 | 20 | falling | -1.7 |
| Bergen County | 12.1 | 75 | falling | -2.5 |
| Burlington County | 14.1 | 42 | falling | -1.2 |
| Camden County | 13 | 41 | falling | -1.4 |
| Cape May County | 15.2 | 12 | stable | -0.8 |
| Cumberland County | 8.4 | 8 | falling | -2.5 |
| Essex County | 12.2 | 56 | falling | -2 |
| Gloucester County | 13.3 | 25 | stable | -1.2 |
| Hudson County | 11.4 | 39 | falling | -2 |
| Hunterdon County | 11 | 10 | falling | -3.1 |
| Mercer County | 14.3 | 32 | stable | -0.6 |
| Middlesex County | 11.8 | 57 | falling | -2 |
| Monmouth County | 12.3 | 53 | falling | -1.9 |
| Morris County | 12.1 | 40 | falling | -1.9 |
| Ocean County | 12.6 | 57 | falling | -1.8 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Passaic County | 12.1 | 36 | falling | -1.9 |
| Salem County | 13.6 | 6 | stable | 0 |
| Somerset County | 12.3 | 26 | falling | -1.1 |
| Sussex County | 13.8 | 13 | stable | -1.4 |
| Union County | 10.7 | 36 | falling | -2.6 |
| Warren County | 12.6 | 9 | stable | -1.2 |
| Pancreas: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 12.6 | 45,703 | rising | 0.6 |
| New Jersey | 14 | 1,465 | rising | 1.2 |
| Atlantic County | 13.3 | 45 | stable | -0.2 |
| Bergen County | 13.8 | 164 | stable | 0.2 |
| Burlington County | 15.7 | 87 | rising | 3 |
| Camden County | 13.6 | 79 | stable | 0.6 |
| Cape May County | 13.9 | 23 | stable | 0.9 |
| Cumberland County | 14.5 | 25 | rising | 1.6 |
| Essex County | 14.6 | 117 | stable | 0 |
| Gloucester County | 13.8 | 46 | rising | 1.6 |
| Hudson County | 13.1 | 78 | rising | 3.8 |
| Hunterdon County | 15.1 | 24 | rising | 1.4 |
| Mercer County | 17.1 | 70 | rising | 2.4 |
| Middlesex County | 13.3 | 120 | stable | 0.2 |
| Monmouth County | 14.2 | 113 | stable | 0.5 |
| Morris County | 13.4 | 83 | rising | 1.5 |
| Ocean County | 15.2 | 140 | rising | 1.1 |
| Passaic County | 13.2 | 72 | stable | 0.4 |
| Salem County | 12.6 | 11 | stable | 1.3 |
| Somerset County | 12.9 | 49 | rising | 1.3 |
| Sussex County | 13.1 | 22 | stable | 0.2 |
| Union County | 12.9 | 77 | stable | 0 |
| Warren County | 15 | 21 | rising | 1.5 |
| Prostate: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 109 | 190,639 | falling | -7.3 |
| New Jersey | 134.7 | 6,575 | falling | -6 |
| Atlantic County | 120.7 | 199 | falling | -3 |
| Bergen County | 131.1 | 714 | falling | -4 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Burlington County | 147.8 | 390 | falling | -6.3 |
| Camden County | 141.7 | 385 | stable | -0.7 |
| Cape May County | 161.5 | 126 | falling | -1.5 |
| Cumberland County | 127.2 | 103 | falling | -1.2 |
| Essex County | 158.8 | 580 | falling | -4.8 |
| Gloucester County | 136.8 | 219 | falling | -7.5 |
| Hudson County | 111.8 | 297 | falling | -4.4 |
| Hunterdon County | 103 | 83 | falling | -2.1 |
| Mercer County | 147 | 285 | falling | -1.7 |
| Middlesex County | 127.3 | 542 | falling | -3.4 |
| Monmouth County | 144.9 | 544 | falling | -1.8 |
| Morris County | 135.5 | 397 | falling | -7.8 |
| Ocean County | 125.8 | 506 | falling | -2.9 |
| Passaic County | 137.1 | 342 | falling | -1.4 |
| Salem County | 138.9 | 57 | stable | -1 |
| Somerset County | 125.2 | 228 | falling | -2.3 |
| Sussex County | 122.5 | 115 | falling | -6.8 |
| Union County | 138.4 | 378 | falling | -6 |
| Warren County | 125.2 | 84 | falling | -8.3 |
| Stomach: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 6.6 | 23,501 | falling | -1.2 |
| New Jersey | 8 | 827 | falling | -1.6 |
| Atlantic County | 7.5 | 25 | falling | -1.5 |
| Bergen County | 9.1 | 107 | falling | -1.1 |
| Burlington County | 6.4 | 36 | falling | -1.6 |
| Camden County | 8.9 | 51 | stable | -0.5 |
| Cape May County | 5.8 | 9 | stable | -0.4 |
| Cumberland County | 7.4 | 12 | falling | -1.7 |
| Essex County | 9.3 | 75 | falling | -2 |
| Gloucester County | 6.7 | 22 | falling | -1.5 |
| Hudson County | 10 | 61 | falling | -0.9 |
| Hunterdon County | 5 | 8 | falling | -3.4 |
| Mercer County | 8.2 | 33 | falling | -2.2 |
| Middlesex County | 7.4 | 67 | falling | -1.8 |
| Monmouth County | 6.1 | 49 | falling | -2.3 |
| Morris County | 7.1 | 43 | falling | -1.2 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Ocean County | 7.6 | 68 | falling | -1.6 |
| Passaic County | 9.8 | 53 | stable | -0.8 |
| Salem County | 6.6 | 5 | stable | -1.3 |
| Somerset County | 6.9 | 26 | falling | -1.7 |
| Sussex County | 6.8 | 11 | falling | -2.5 |
| Union County | 9.4 | 55 | falling | -1.5 |
| Warren County | 6.8 | 9 | falling | -2.6 |
| Thyroid: All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 14.5 | 47,777 | stable | 0.6 |
| New Jersey | 19.2 | 1,833 | stable | 0.8 |
| Atlantic County | 14.9 | 44 | stable | -2.3 |
| Bergen County | 19.6 | 201 | stable | -2.1 |
| Burlington County | 21.4 | 105 | stable | 2.1 |
| Camden County | 22.2 | 119 | rising | 3.2 |
| Cape May County | 16.9 | 18 | rising | 6 |
| Cumberland County | 17.2 | 28 | stable | -7.2 |
| Essex County | 12.6 | 103 | rising | 5.1 |
| Gloucester County | 21.7 | 67 | rising | 4.9 |
| Hudson County | 14.8 | 105 | stable | -0.3 |
| Hunterdon County | 16.5 | 23 | rising | 4.5 |
| Mercer County | 24.1 | 96 | rising | 7.2 |
| Middlesex County | 19.1 | 167 | rising | 5.8 |
| Monmouth County | 24.4 | 166 | stable | 0.2 |
| Morris County | 20.6 | 111 | stable | -1.9 |
| Ocean County | 23.1 | 142 | stable | -2.8 |
| Passaic County | 17 | 87 | rising | 6.7 |
| Salem County | 19.2 | 13 | rising | 7.3 |
| Somerset County | 22.6 | 83 | stable | -4.5 |
| Sussex County | 17.1 | 28 | rising | 6.6 |
| Union County | 18.1 | 105 | stable | -7.1 |
| Warren County | 17.3 | 21 | rising | 4.9 |
| Uterus (Corpus & Uterus, NOS): All Races (includes Hispanic), Both Sexes, All Ages | | | | |
| US (SEER+NPCR) | 26.2 | 51,560 | rising | 1.2 |
| New Jersey | 31.3 | 1,822 | rising | 0.7 |
| Atlantic County | 30.5 | 57 | stable | 0.6 |

| INCIDENCE RATE REPORT: ALL COUNTIES 2011-2015 | | | | |
|---|---|---|---|---|
| County | Age-Adjusted Incidence Rate - cases per 100,000 | Average Annual Count | Recent Trend | Recent 5-Year Trend in Incidence Rates |
| Bergen County | 29.8 | 193 | stable | 0.4 |
| Burlington County | 33.4 | 102 | rising | 1.1 |
| Camden County | 34.3 | 113 | stable | -0.8 |
| Cape May County | 32.5 | 28 | rising | 1.3 |
| Cumberland County | 36.1 | 34 | stable | 1 |
| Essex County | 31.8 | 151 | rising | 1.3 |
| Gloucester County | 33.1 | 62 | rising | 1.1 |
| Hudson County | 23.9 | 84 | stable | 0 |
| Hunterdon County | 32.7 | 30 | stable | -0.2 |
| Mercer County | 34.5 | 79 | rising | 0.8 |
| Middlesex County | 31.7 | 161 | rising | 0.8 |
| Monmouth County | 30 | 131 | stable | -5 |
| Morris County | 32.9 | 111 | stable | 0.5 |
| Ocean County | 31.7 | 144 | stable | 0.3 |
| Passaic County | 26.8 | 82 | stable | 0.3 |
| Salem County | 37.4 | 17 | stable | 1.2 |
| Somerset County | 33.7 | 73 | stable | 0.8 |
| Sussex County | 35.5 | 35 | stable | -0.1 |
| Union County | 32.2 | 107 | stable | 0.4 |
| Warren County | 35.9 | 27 | stable | -0.5 |

## APPENDIX C7: RWJUH - TUMOR REGISTRY SUMMARY

In 2016, RWJUH's tumor registry data showed that 10.7% and 14.8% of overall cases were Stage 3 and Stage 4 respectively. The following primary sites were made up of more than 25% of Stage 4 cases: Oral Cavity and Pharynx (65.1%), Digestive System (27.2%), Respiratory System (35.4%), and Lymphoma (38.9%).

Compared to 2015, there was an increase of 89 cases (+3.1%) in 2016. The three biggest increases in overall cases occurred in Male Genital System (+47, +17.7%), followed by Endocrine System (+37, +32.5%), and Leukemia (+35, +32.1%). Please note that case volume counts smaller than 10 are suppressed. Staging percentages are calculated on analytic cases only.

| | Cases (both analytic and non-analytic | | 2015 | | | 2016 | | | 2015 - 2016 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diagnostic Site | 2015 | 2016 | % Stage III | % Stage IV | Total % Stage III & IV | % Stage III | % Stage IV | Total % Stage III & IV | Change in Case Volume | Change in % points for Stage III | Change in % points for Stage IV | Change in % points for Stage III & IV |
| | | | | | | | | | | | | |
| ORAL CAVITY, PHARYNX | 18 | 43 | 16.7% | 55.6% | 72.2% | 11.6% | 65.1% | 76.7% | 25 | (5.0) | 9.6 | 4.5 |
| DIGESTIVE SYSTEM | 391 | 360 | 15.9% | 28.9% | 44.8% | 15.3% | 27.2% | 42.5% | (31) | (0.6) | (1.7) | (2.3) |
| RESPIRATORY SYSTEM | 240 | 268 | 14.2% | 36.7% | 50.8% | 16.4% | 35.4% | 51.9% | 28 | 2.3 | (1.2) | 1.0 |
| BONES, JOINTS | | | 0.0% | 40.0% | 40.0% | 0.0% | 20.0% | 20.0% | 0 | 0.0 | (20.0) | (20.0) |
| SOFT TISSUE INCLUDING HEART | 29 | 33 | 3.4% | 6.9% | 10.3% | 12.1% | 6.1% | 18.2% | 4 | 8.7 | (0.8) | 7.8 |
| SKIN | 502 | 500 | 8.2% | 1.4% | 9.6% | 10.4% | 1.4% | 11.8% | (2) | 2.2 | 0.0 | 2.2 |
| BREAST | 369 | 308 | 8.9% | 5.1% | 14.1% | 4.9% | 6.2% | 11.0% | (61) | (4.1) | 1.0 | (3.1) |
| FEMALE GENITAL SYSTEM | 222 | 209 | 15.8% | 14.4% | 30.2% | 16.7% | 13.9% | 30.6% | (13) | 1.0 | (0.5) | 0.4 |
| MALE GENITAL SYSTEM | 265 | 312 | 12.1% | 12.5% | 24.5% | 15.7% | 15.4% | 31.1% | 47 | 3.6 | 2.9 | 6.6 |
| URINARY SYSTEM | 237 | 233 | 14.3% | 11.8% | 26.2% | 9.4% | 16.7% | 26.2% | (4) | (4.9) | 4.9 | 0.0 |
| EYE, ORBIT | | | 0.0% | 0.0% | 0.0% | 0.0% | 50.0% | 50.0% | 2 | 0.0 | 50.0 | 50.0 |
| BRAIN, OTHER NERVOUS SYSTEM | 102 | 92 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | (10) | 0.0 | 0.0 | 0.0 |
| ENDOCRINE SYSTEM | 114 | 151 | 11.4% | 6.1% | 17.5% | 11.3% | 4.0% | 15.2% | 37 | (0.1) | (2.2) | (2.3) |
| LYMPHOMA | 132 | 149 | 10.6% | 39.4% | 50.0% | 9.4% | 38.9% | 48.3% | 17 | (1.2) | (0.5) | (1.7) |
| MYELOMA | 46 | 52 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 6 | 0.0 | 0.0 | 0.0 |
| LEUKEMIA | 109 | 144 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 35 | 0.0 | 0.0 | 0.0 |
| MESOTHELIOMA | | | 14.3% | 28.6% | 42.9% | 16.7% | 33.3% | 50.0% | (1) | 2.4 | 4.8 | 7.1 |
| KAPOSI SARCOMA | | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | (1) | 0.0 | 0.0 | 0.0 |
| MISCELLANEOUS | 40 | 51 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 11 | 0.0 | 0.0 | 0.0 |
| OTHER SITE: BENIGN, BORDERLINE | | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0 | 0.0 | 0.0 | 0.0 |
| **TOTALS** | **2,830** | **2,919** | **10.7%** | **14.0%** | **24.7%** | **10.7%** | **14.8%** | **25.6%** | **89** | **0.0** | **0.9** | **0.9** |

## APPENDIX D: RESOURCE INVENTORY

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Acute Care Family Support | Rutger's University Behavioral Health Care | 671 Hoes Lane | Piscataway | 08855 | (732) 235-6184 |
| Adult Day Health Care | 2nd Home Perth Amboy, LLC | 420 Fayette Street | Perth Amboy | 08861 | (732) 826-8012 |
| Adult Day Health Care | Edison Adult Day Care Center, LLC | 1655-150 Oak Tree Road | Edison | 08820 | (732) 494-1001 |
| Adult Day Health Care | Golden Path Adult Day Health Care, Inc | 50-52 Charles Street | New Brunswick | 08901 | (732) 640-1122 |
| Adult Day Health Care | Always at Home | 8A Jocama Blvd | Old Bridge | 08857 | (732) 591-9155 |
| Adult Day Health Care | Buckingham Place | 700 Woods Lane, Suite A | Monmouth Junction | 08852 | (732) 329-8954 |
| Adult Day Health Care | Circle of Life Adult Day Services | 3000 Hadley Road | South Plainfield | 07080 | (732) 839-3333 |
| Adult Day Health Care | Golden Era Medical Adult Day Care | 36 Meridian Road | Edison | 08820 | (732) 549-2273 |
| Adult Day Health Care | Grace Senior Care | 217-225 Durham Avenue | South Plainfield | 07080 | (732) 791-4888 |
| Adult Day Health Care | Graceland Adult Medical Day Care | 316 Madison Avenue | Perth Amboy | 08861 | (732) 826-0680 |
| Adult Day Health Care | Harmony Adult Medical Day Care Center | 220 Centennial Avenue | Piscataway | 08854 | (732) 667-5527 |
| Adult Day Health Care | Iselin Adult Day Care Center | 477 Lincoln Highway 27 | Iselin | 08830 | (732) 283-1373 |
| Adult Day Health Care | JFK Adult Medical Day Program | 3 Progress Street, Suite 103 | Edison | 08820 | (908) 912-1910 |
| Adult Day Health Care | Just Home Medical Adult Day | 7 Edgeboro Road | East Brunswick | 08816 | (732) 432-9990 |
| Adult Day Health Care | Just Like Home | 426 Raritan Street, Raritan Center | Sayreville | 08872 | (732) 721-9200 |
| Adult Day Health Care | Nirvana Adult Day Care | 2050 Oak Tree Road | Edison | 08820 | (848) 200-7343 |
| Adult Day Health Care | Parker at Monroe Adult Day Health Services Center | 200 Overlook Drive, Pondview Plaza | Monroe Township | 08831 | (609) 655-6853 |
| Adult Day Health Care | Parker At The Pavilion Adult Day Health Services Center, Inc | 443 River Road | Highland Park | 08904 | (732) 565-2440 |
| Adult Day Health Care | Princeton Adult Day Care | 2245 Route 130 South, Suite 106 | Dayton | 08810 | (732) 783-7997 |
| Adult Day Health Care | Second Inning Adult Day Care Center | 1501 Livingston Avenue | North Brunswick | 08902 | (732) 626-5544 |
| Adult Day Health Care | Sewa Adult Day Care | 1020 Route 18 North, Suite M | East Brunswick | 08816 | (732) 210-2727 |
| Adult Day Health Care | South Amboy Adult Day Health Care Center | 540 Bordentown Avenue | South Amboy | 08879 | (732) 553-1600 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Adult Day Health Care | Sterling Adult Day Care Center LLC | 119-120 North Center Drive | North Brunswick | 08902 | (732) 951-2020 |
| Adult Day Health Care | Sunny Days Adult Day Care Center | 1 Ethel Road, Suite 106c | Edison | 08817 | (732) 791-4888 |
| Adult Day Health Care | Vatsalya Adult Day Care | 1412 Stelton Road, Unit 6-10 | Piscataway | 08854 | (732) 331-8966 |
| Adult Day Health Care | Vcare Adult Center | 121 Ethel Road West | Piscataway | 08854 | (732) 640-0455 |
| Ambulatory Care | A. P. Diagnostic Imaging, Inc. | 1692 Oak Tree Road, Suite 25 | Edison | 08820 | (732) 635-9729 |
| Ambulatory Care | Advanced Medical Imaging Of Old Bridge | 3548 Route 9 South | Old Bridge | 08857 | (732) 970-0420 |
| Ambulatory Care | Chop Care Network Specialty Care Princeton At Plainsboro | 101 Plainsboro Road | Plainsboro | 08536 | (609) 520-1717 |
| Ambulatory Care | Comprehensive Health And Wellness, LLC | 2477 Route 516 | Old Bridge | 08857 | (732) 588-5511 |
| Ambulatory Care | Diagnostic Imaging Center, LLC | 1921 Oaktree Road | Edison | 08820 | (732) 331-8966 |
| Ambulatory Care | East Brunswick Imaging Center, LLC | 647 Route 18 South | East Brunswick | 08816 | (732) 613-6300 |
| Ambulatory Care | East Brunswick Open Upright MRI LLC | 620 Cranbury Road, Suite 10 | East Brunswick | 08816 | (732) 698-1717 |
| Ambulatory Care | Jersey Advanced MRI & Diagnostic Center Of Edison, Inc. | 1907 Oak Tree Road, Suite 101 | Edison | 08820 | (732) 243-9909 |
| Ambulatory Care | Jewish Renaissance Foundation Community Health Center | 1931 Oak Tree Road | Edison | 08820 | (732) 324-2114 |
| Ambulatory Care | Medical Walk-In And Wellness | 162 Main Street | Metuchen | 08840 | (732) 494-8100 |
| Ambulatory Care | MRI Of Woodbridge | 1500 Saint Georges Avenue | Avenel | 07001 | (732) 574-8999 |
| Ambulatory Care | NJIN Of Edison | 3826-3830 Park Avenue | Edison | 08820 | (732) 494-9061 |
| Ambulatory Care | NJIN Of Menlo Park | 10 Parsonage Road | Edison | 08837 | (732) 494-9061 |
| Ambulatory Care | Perth Amboy Diagnostic Imaging | 607 Amboy Avenue | Perth Amboy | 08861 | (732) 442-5444 |
| Ambulatory Care | Princeton Orthopaedic Associates | 11 Centre Drive | Monroe Township | 08831 | (609) 924-8131 |
| Ambulatory Care | Princeton Radiology Associates, PA | 9 Centre Drive | Jamesburg | 08831 | (609) 655-1448 |
| Ambulatory Care | Princeton Radiology Associates, PA | 9 Centre Drive, Suite 115 | Jamesburg | 08831 | (609) 655-1448 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Ambulatory Care | Raritan Bay Diagnostic Imaging, L.L.C. | 551 New Brunswick Avenue | Perth Amboy | 08861 | (732) 666-7206 |
| Ambulatory Care | Regional Cancer Care Associates LLC | 9 Centre Drive, Suite 115 | Jamesburg | 08831 | (609) 655-5755 |
| Ambulatory Care | Stelton Radiology Corporation | 1092 Stelton Road | Piscataway | 08854 | (732) 287-8747 |
| Ambulatory Care | University Radiology At Robert Wood Johnson LLC | 10 Plum Street | New Brunswick | 08901 | (732) 249-4410 |
| Ambulatory Care | University Radiology Group, P.C. | 3900 Park Avenue | Edison | 08820 | (732) 548-6800 |
| Ambulatory Care | University Radiology Group, PC | 260-264 Amboy Avenue | Metuchen | 08840 | (732) 548-2322 |
| Ambulatory Care | University Radiology Group, PC | 111 Union Valley Road | Monroe Township | 08831 | (732) 390-0040 |
| Ambulatory Care | University Radiology Group, PC | 483 Cranbury Road | East Brunswick | 08816 | (732) 390-0030 |
| Ambulatory Care | Wellness Center Of South Plainfield | 3000 Hadley Road | South Plainfield | 07080 | (973) 714-9337 |
| Ambulatory Care | Woodbridge Radiology | 530 Green Street | Iselin | 08830 | (732) 326-1515 |
| Ambulatory Care - Satellite | Jewish Renaissance Medical Center Mobile Van | 275 Hobart Street | Perth Amboy | 08861 | (732) 376-9333 |
| Ambulatory Care - Satellite | JRMC-SBHC Mobile Van | 275 Hobart Street | Perth Amboy | 08861 | (732) 376-9333 |
| Ambulatory Care - Satellite | Planned Parenthood Of NCSNJ | 10 B Industrial Drive | New Brunswick | 08901 | (732) 246-2411 |
| Ambulatory Care - Satellite | Planned Parenthood Of NCSNJ | 450 Market Street | Perth Amboy | 08861 | (732) 442-4499 |
| Ambulatory Care - Satellite | Planned Parenthood Of Northern, Central & Southern New Jersey, Inc. | 12 Snowhill Road, Suite 3 | Spotswood | 08884 | (732) 723-9192 |
| Ambulatory Surgery | Ambulatory Surgery Center At Old Bridge | 400 Perrine Road, Suite 408 | Old Bridge | 08857 | (732) 553-9222 |
| Ambulatory Surgery | Ambulatory Surgical Pavilion At Robert Wood Johnson | 10 Plum Street, Fourth Floor | New Brunswick | 08901 | (732) 289-9100 |
| Ambulatory Surgery | AP Surgery Center | 1692 Oak Tree Road | Edison | 08820 | (732) 635-9729 |
| Ambulatory Surgery | Cares Surgi Center, L.L.C. | 240 Easton Avenue | New Brunswick | 08901 | (732) 565-5400 |
| Ambulatory Surgery | May Street Surgi Center, LLC | 205 May Street, Suite 103 | Edison | 08837 | (732) 661-9075 |
| Ambulatory Surgery | Menlo Park Surgery Center, LLC | 10 Parsonage Road, Suite 204 | Edison | 08837 | (732) 243-9500 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Ambulatory Surgery | Metropolitan Surgical Institute L.L.C. | 540 Bordentown Avenue | South Amboy | 08879 | (732) 525-2227 |
| Ambulatory Surgery | Middlesex Surgery Center | 1921 Oaktree Road | Edison | 08820 | (732) 494-8800 |
| Ambulatory Surgery | Park Avenue Surgery Center, L.L.C. | 3848 Park Avenue | Edison | 08820 | (732) 243-9478 |
| Ambulatory Surgery | Robert Wood Johnson-Endosurgical Center LLC | 800 Ryders Lane | East Brunswick | 08816 | (732) 432-6880 |
| Ambulatory Surgery | Same Day Surgery Center Of Central Jersey | 225 May Street | Edison | 08837 | (732) 661-0570 |
| Ambulatory Surgery | Specialty Surgical Center Of North Brunswick LLC | 1520 Highway 130, Suite 204 | North Brunswick | 08902 | (732) 422-9900 |
| Ambulatory Surgery | Surgery Center Of Central New Jersey | 107 North Center Drive | North Brunswick | 08902 | (732) 297-8001 |
| Ambulatory Surgery | University Surgicenter | 561 Cranbury Road | East Brunswick | 08816 | (732) 390-4300 |
| Assisted Living Program | Heritage At Clara Barton | 1015 Amboy Avenue | Edison | 08837 | (732) 225-5990 |
| Assisted Living Residence | The Chelsea At East Brunswick | 606 Cranbury Road | East Brunswick | 08816 | (732) 651-6100 |
| Assisted Living Residence | The Chelsea At Forsgate | 319 Forsgate Drive | Jamesburg | 08831 | (732) 656-1000 |
| Assisted Living Residence | Artis Senior Living Of Princeton Junction | 861 Alexander Road | Princeton | 08540 | (703) 992-7753 |
| Assisted Living Residence | Brighton Gardens Of Edison | 1801 Oak Tree Road | Edison | 08820 | (732) 767-1031 |
| Assisted Living Residence | Brookdale Monroe | 380 Forsgate Drive | Monroe Township | 08831 | (609) 409-7525 |
| Assisted Living Residence | Heritage At Clara Barton | 1015 Amboy Avenue | Edison | 08837 | (732) 225-5990 |
| Assisted Living Residence | Monroe Village Assisted Living | One David Brainerd Drive | Monroe Township | 08831 | (732) 521-6400 |
| Assisted Living Residence | Parker At Stonegate | 443 River Road | Highland Park | 08904 | (732) 565-2500 |
| Assisted Living Residence | Reformed Church Home | 1990 Route 18 North | Old Bridge | 08857 | (732) 607-9230 |
| Assisted Living Residence | Sunrise Assisted Living Of East Brunswick | 190 Summerhill Road | East Brunswick | 08816 | (732) 613-1355 |
| Assisted Living Residence | Whispering Knoll Assisted Living | 62 James Street | Edison | 08820 | (732) 744-5541 |
| Children Rehab Hospital | Children's Specialized Hospital | 200 Somerset Street | New Brunswick | 08901 | (732) 258-7050 |
| Comp. Outpatient Rehab | Community Rehabilitation Center | 1692 Oak Tree Road | Edison | 08820 | (732) 635-9729 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Comp. Personal Home Care | St. Joseph's Seniors' Home Nursing Center & Assisted Living | 1-3 St. Joseph's Terrace | Woodbridge | 07095 | (732) 634-0004 |
| Comp. Rehab Hospital | JFK Johnson Rehabilitation Institute | 65 James Street | Edison | 08818 | (732) 321-7051 |
| County Mental Health Board | Middlesex Co. Office Of Human Services | JFK Square - 5th Floor | New Brunswick | 08901 | (732) 745-4313 |
| Deaf Enhanced Screening Center | Trinitas Regional Medical Center | 925 East Jersey Street | Elizabeth | 07201 | (908) 994-8131 |
| Deaf Enhanced STCF | Trinitas Regional Medical Center | 655 East Jersey Street | Elizabeth | 07201 | (908) 994-7205 |
| Early Intervention Support Services (Crisis Intervention Services) | Rutger's University Behavioral Health Care North | 667 Hoes Lane West | Piscataway | 08855 | (732) 235-4422 |
| Emergency Services - Affiliated w/Screening Center | Raritan Bay Medical Center | 530 New Brunswick Avenue | Perth Amboy | 08861 | (732) 442-3794 |
| End Stage Renal Dialysis | Bio-Medical Applications Of Colonia | 1250 Route #27 | Colonia | 07067 | (732) 382-7333 |
| End Stage Renal Dialysis | Bio-Medical Applications Of South Plainfield | 2201 South Clinton Avenue | South Plainfield | 07080 | (908) 668-8007 |
| End Stage Renal Dialysis | Dialysis Clinic Inc - North Brunswick | 105 North Center Drive | North Brunswick | 08902 | (732) 940-8368 |
| End Stage Renal Dialysis | Dialysis Clinic Inc Monroe | 2 Research Way | Monroe Township | 08831 | (609) 356-7200 |
| End Stage Renal Dialysis | Durham Corners Dialysis | 241 Durham Avenue | South Plainfield | 07080 | (908) 222-2971 |
| End Stage Renal Dialysis | East Brunswick Dialysis Center | 629 Cranbury Road, Suite 101 | East Brunswick | 08816 | (732) 238-1909 |
| End Stage Renal Dialysis | Edison Dialysis | 29 Meridian Road | Edison | 08820 | (732) 205-9883 |
| End Stage Renal Dialysis | Fresenius Medical Care Edison | 2 Olsen Avenue | Edison | 08820 | (732) 549-3286 |
| End Stage Renal Dialysis | Garden State Kidney Center | 345 Main Street | Woodbridge | 07095 | (732) 855-2100 |
| End Stage Renal Dialysis | Metuchen Dialysis | 319 Lake Avenue | Metuchen | 08840 | (732) 906-5714 |
| End Stage Renal Dialysis | Monroe Township Dialysis | 298 Applegarth Road | Monroe Township | 08831 | (609) 409-4259 |
| End Stage Renal Dialysis | New Brunswick Dialysis | 303 George Street, Suite G-8 | New Brunswick | 08901 | (732) 937-4791 |
| End Stage Renal Dialysis | Old Bridge Dialysis | 262 Texas Road | Old Bridge | 08857 | (732) 360-1034 |
| End Stage Renal Dialysis | Perth Amboy Dialysis | 271 King Street | Perth Amboy | 08861 | (732) 442-3836 |
| End Stage Renal Dialysis | Plainsboro Dialysis | 100 Plainsboro Road, Suite 1a | Plainsboro | 08536 | (609) 599-2778 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| End Stage Renal Dialysis | Renal Center Of Monroe | 300 Overlook Drive, Pondview Plaza, Bldg C | Monroe | 08831 | (609) 642-8124 |
| End Stage Renal Dialysis | Woodbridge Dialysis Center | 541 Main Street | Woodbridge | 07095 | (732) 750-0639 |
| FQHC | Jewish Renaissance Medical Center | 275 Hobart Street | Perth Amboy | 08861 | (732) 376-9333 |
| FQHC | Rutgers RWJ Eric B Chandler Health Center | 1000 Somerset Street | New Brunswick | 08901 | (732) 235-7435 |
| FQHC | Rutgers RWJ Eric B. Chandler Health Center | 277 George Street | New Brunswick | 08901 | (732) 235-6700 |
| FQHC | Rutgers RWJ Eric B. Chandler Health Center | 123 Church Street | New Brunswick | 08901 | (732) 235-2052 |
| General Acute Care Hospital | Anthony M. Yelencsics Community Hospital | 65 James Street | Edison | 08818 | (732) 321-7000 |
| General Acute Care Hospital | Penn Medicine Princeton Medical Center | One Plainsboro Road | Plainsboro | 08536 | (866) 460-4776 |
| General Acute Care Hospital | Raritan Bay Medical Center Perth Amboy Division | 530 New Brunswick Ave | Perth Amboy | 08861 | (732) 442-3700 |
| General Acute Care Hospital | Raritan Bay Medical Center-Old Bridge Division | One Hospital Plaza | Old Bridge | 08857 | (732) 442-3700 |
| General Acute Care Hospital | Robert Wood Johnson University Hospital | One Robert Wood Johnson Place | New Brunswick | 08901 | (732) 937-8525 |
| General Acute Care Hospital | Saint Peter's University Hospital | 254 Easton Ave | New Brunswick | 08901 | (732) 745-8600 |
| Home Health Agency | Robert Wood Johnson Visiting Nurses, Inc | 972 Shoppes Boulevard | North Brunswick | 08902 | (732) 224-6991 |
| Homeless Service (PATH) | Rutger's University Behavioral Health Care | 151 Centennial Avenue | Piscataway | 08855 | (732) 235-6184 |
| Homeless Services (PATH) | Catholic Charities, Diocese Of Metuchen | 26 Safran Avenue | Edison | 08837 | (732) 738-1323 |
| Hospice Care | Caring Hospice Services Of Central Jersey, L.L.C. | 1090 King Georges Post Road #703 | Edison | 08837 | (732) 661-9373 |
| Hospice Care | Grace Healthcare Services L.L.C. | 105 Fieldcrest Avenue, Suite 402 | Edison | 08837 | (732) 225-4100 |
| Hospice Care | Haven Hospice At JFK Medical Center | 65 James Street | Edison | 08818 | (732) 321-7769 |
| Hospice Care | Kindred Hospice | 242 Old New Brunswick Road, Suite 140 | Piscataway | 08854 | (732) 562-8800 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Hospice Care | Robert Wood Johnson Visiting Nurse, Inc. | 972 Shoppes Boulevard | North Brunswick | 08902 | (732) 224-6991 |
| Amb. Care-Hosp.-Based, Off-Site | Center For Ambulatory Surgery-Monroe | 8 Centre Drive | Monroe Township | 08831 | (866) 460-4766 |
| Amb. Care-Hosp.-Based, Off-Site | Children's Specialized Hospital-NB Physician Services | 10 Plum Street | New Brunswick | 08901 | (908) 233-3720 |
| Amb. Care-Hosp.-Based, Off-Site | Comprehensive Care Group At Cares | 240 Easton Avenue | New Brunswick | 08901 | (732) 745-8600 |
| Amb. Care-Hosp.-Based, Off-Site | For Keeps Children's Acute Partial Hospitalization | 123 How Lane | New Brunswick | 08901 | (732) 745-8600 |
| Amb. Care-Hosp.-Based, Off-Site | Gamma Knife Center At RWJUH, The | 10 Plum Street - Medical Office Building | New Brunswick | 08903 | (732) 418-8002 |
| Amb. Care-Hosp.-Based, Off-Site | JFK Imaging Center | 60 James Street | Edison | 08820 | (732) 321-7000 |
| Amb. Care-Hosp.-Based, Off-Site | Newark Beth Israel Medical Center Specialty Services At Edison | 102 James Street | Edison | 08820 | (732) 494-4958 |
| Amb. Care-Hosp.-Based, Off-Site | Pre Admission Testing Services | 10 Plum Street, Third Floor | New Brunswick | 08903 | (732) 937-8746 |
| Amb. Care-Hosp.-Based, Off-Site | Princeton Healthcare Occupational Health | 2 Centre Drive, Suite 400 | Monroe Township | 08831 | (866) 460-4776 |
| Amb. Care-Hosp.-Based, Off-Site | Robert Wood Johnson University Hospital - EHS | 181 Somerset Street, Suite 300 | New Brunswick | 08903 | (732) 937-8714 |
| Amb. Care-Hosp.-Based, Off-Site | RWJ Center For Wound Healing | 48 French Street | New Brunswick | 08901 | (732) 418-8084 |
| Amb. Care-Hosp.-Based, Off-Site | RWJUH Proton Therapy Center | 141 French Street | New Brunswick | 08901 | (732) 253-3176 |
| Amb. Care-Hosp.-Based, Off-Site | Saint Peter's Community Mobile Health Unit | 254 Easton Avenue | New Brunswick | 08901 | (732) 745-8600 |
| Amb. Care-Hosp.-Based, Off-Site | Saint Peter's Family Health Center | 123 How Lane | New Brunswick | 08901 | (732) 745-8600 |
| Amb. Care-Hosp.-Based, Off-Site | Saint Peter's University Hospital's Cancer Center | 215 Easton Avenue | New Brunswick | 08901 | (732) 745-7944 |
| Amb. Care-Hosp.-Based, Off-Site | SPUH Outpatient Wound Care Center At Monroe | 294 Applegarth Road | Monroe Township | 08831 | (732) 745-8600 |
| Amb. Surgery-Hosp.-Based, Off-Site | Mediplex Surgery Center | 98 James Street | Edison | 08820 | (732) 632-1600 |
| Integrated Case Management Services | Rutger's University Behavioral Health Care | 151 Centennial Avenue | Piscataway | 08855 | (732) 235-6184 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Intensive Family Support Services | Rutger's University Behavioral Health Care | 151 Centennial Avenue | Piscataway | 08855 | (732) 235-6184 |
| Intensive Outpatient Treatment and Support Services (IOTSS) | Rutger's University Behavioral Health Care | 303 George Street | New Brunswick | 08901 | (732) 235-6800 |
| Long Term Care | The Elms Of Cranbury | 61 Maplewood Avenue | Cranbury | 08512 | (609) 395-0641 |
| Long Term Care | The Gardens At Monroe Healthcare And Rehabilitation | 189 Applegarth Road | Monroe Township | 08831 | (609) 448-7036 |
| Long Term Care | Preferred Care At Old Bridge, LLC | 6989 Rt18 | Old Bridge | 08857 | (732) 360-2277 |
| Long Term Care | St. Joseph's Home Assisted Living & Nursing Ctr Inc Dba St. Joseph's Senior Home | 1-3 St Joseph's Terrace | Woodbridge | 07095 | (732) 750-0077 |
| Long Term Care | The Venetian Care & Rehabilitation Center | 275 John T O'Leary Boulevard | South Amboy | 08879 | (732) 721-8200 |
| Long Term Care | Alameda Center For Rehabilitation And Healthcare | 303 Elm Street | Perth Amboy | 08861 | (732) 442-9540 |
| Long Term Care | Amboy Care Center | 1 Lindberg Avenue | Perth Amboy | 08861 | (732) 826-0500 |
| Long Term Care | Aristacare At Cedar Oaks | 1311 Durham Avenue | South Plainfield | 07080 | (732) 287-9555 |
| Long Term Care | Brighton Gardens Of Edison | 1801 Oaktree Road | Edison | 08820 | (732) 767-1031 |
| Long Term Care | Care One At East Brunswick | 599 Cranbury Road | East Brunswick | 08816 | (732) 967-0100 |
| Long Term Care | Care One At The Highlands | 1350 Inman Avenue | Edison | 08820 | (908) 754-7100 |
| Long Term Care | Cranbury Center | 292 Applegarth Road | Monroe Township | 08831 | (609) 860-2500 |
| Long Term Care | Francis E Parker Memorial Home New Brunswick | Easton Ave At Landing Lane | New Brunswick | 08901 | (732) 545-3110 |
| Long Term Care | Francis E Parker Memorial Home Piscataway | 1421 River Road | Piscataway | 08854 | (732) 545-8330 |
| Long Term Care | Hartwyck At Oak Tree | 2048 Oak Tree Road | Edison | 08820 | (732) 906-2100 |
| Long Term Care | JFK Hartwyck At Edison Estates | 10 Brunswick Avenue | Edison | 08817 | (732) 985-1500 |
| Long Term Care | Merwick Care & Rehabilitation Center | 100 Plainsboro Road | Plainsboro | 08536 | (609) 759-6000 |
| Long Term Care | New Jersey Veterans Memorial Home Menlo Park | 132 Evergreen Rd | Edison | 08818 | (732) 452-4100 |
| Long Term Care | Park Place Center | 2 Deer Park Drive | Monmouth Junction | 08852 | (732) 274-1122 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Long Term Care | Parker At Monroe | 395 School House Road | Monroe | 08831 | (732) 992-5200 |
| Long Term Care | Powerback Rehabilitation Piscataway | 10 Sterling Drive | Piscataway | 08854 | (732) 917-2900 |
| Long Term Care | Reformed Church Home | 1990 Route 18 North | Old Bridge | 08857 | (732) 607-9230 |
| Long Term Care | Roosevelt Care Center | 118 Parsonage Road | Edison | 08837 | (732) 321-6800 |
| Long Term Care | Roosevelt Care Center At Old Bridge | 1133 Marlboro Road | Old Bridge | 08857 | (732) 360-9830 |
| Long Term Care | Rose Mountain Care Center | Routes 1 & 18 | New Brunswick | 08901 | (732) 828-2400 |
| Long Term Care | Summer Hill Nursing Home | 111 Route 516 | Old Bridge | 08857 | (732) 254-8200 |
| Long Term Care | Village Point | Three David Brainerd Drive | Monroe Township | 08831 | (732) 786-4175 |
| Maternal & Child Health Consortium | Central Jersey Family Health Consortium | 2 King Arthur Court, Suite B | North Brunswick | 08902 | (732) 937-5437 |
| Outpatient | Rutger's University Behavioral Health Care | 100 Metroplex | Edison | 08817 | (800) 969-5300 |
| Outpatient | Catholic Charities, Diocese Of Metuchen | 288 Rues Lane | East Brunswick | 08816 | (732) 257-6100 or (800) 655-9491 |
| Outpatient | Rutger's University Behavioral Health Care | 303 George Street | New Brunswick | 08901 | (800) 969-5300 |
| Outpatient | Rutger's University Behavioral Health Care | 4326 Route 1 No. | Monmouth Junction | 08852 | (732) 235-8799 |
| Outpatient | George J. Otlowski Mental Health Center | 570 Lee Street | Perth Amboy | 08861 | (732) 442-1666 |
| Partial Care | Rutger's University Behavioral Health Care | 667 Hoes Lane | Piscataway | 08855 | (732) 235-5910 |
| Partial Care | George J. Otlowski Mental Health Center | 570 Lee Street | Perth Amboy | 08861 | (732) 442-1666 |
| Pediatric Day Health Care | Little Stars Children's Medical Day Care | 225 North Center Drive | North Brunswick | 08902 | (732) 658-6881 |
| Primary Screening Center for Middlesex | Rutger's University Behavioral Health Care | 671 Hoes Lane | Piscataway | 08855 | 1 (855) 515-5700 or 1 (855) 515-5001 |
| Program of Assertive Community Treatment (PACT) | Catholic Charities, Diocese Of Metuchen | 26 Safran Avenue | Edison | 08837 | (732) 646-4039 (PACT I) |
| Program of Assertive Community Treatment (PACT) | Catholic Charities, Diocese Of Metuchen | 288 Rues Lane | East Brunswick | 08816 | (732) 387-1307 (PACT II) |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Program of Assertive Community Treatment (PACT) | Catholic Charities, Diocese Of Metuchen | 319 Maple Street | Perth Amboy | 08861 | (732) 857-3894 (PACT III) |
| Psychiatric Hospital | Rutgers Health - University Behavioral Health Care | 671 Hoes Lane West | Piscataway | 08854 | (732) 235-5900 |
| Residential Dementia Care Home | Fox Trail Memory Care Living Green Brook | 205 Rock Avenue | Green Brook | 08812 | (732) 968-9385 |
| Residential Dementia Care Home | Fox Trail Memory Care Living South River | 69 Burton Avenue | South River | 08882 | (732) 390-4663 |
| Residential Dementia Care Home | Goldenview Living | 1313 Aaron Road | North Brunswick | 08902 | (732) 820-9700 |
| Residential Dementia Care Home | Millennium Memory Care At Monroe | 310 Buckelew Avenue | Monroe | 08831 | (201) 529-4660 |
| Residential Health Care | Hartwyck At Oak Tree | 2048 Oak Tree Road | Edison | 08820 | (732) 906-2100 |
| Residential Intensive Support Team (RIST) | Bridgeway Rehabilitation Services, Inc. | 720 King Georges Road, Suite 111 | Fords | 08863 | (732) 771-2300 |
| Residential Services | Volunteers Of America - Northern NJ | 205 West Milton Avenue | Rahway | 07065 | (732) 827-2444 |
| Residential Services | Easter Seal Society Of NJ Middlesex Behavioral Health Services | 1 Kimberly Road | East Brunswick | 08816 | (908) 257-6662 |
| Residential Services | Triple C Housing | 1 Distribution Way | Monmouth Junction | 08852 | (609) 655-3950 or (732) 745-0920 |
| Residential Services | Rutger's University Behavioral Health Care | 671 Hoes Lane | Piscataway | 08855 | (732) 235-5353 |
| Residential Services | SERV Centers Of NJ | 491 S. Washington Avenue | Piscataway | 08854 | (732) 968-7111 |
| Self-Help Center | Moving Forward SHC | 35 Elizabeth St., 2nd Fl., Suite 2a | New Brunswick | 08901 | (732) 317-2920 |
| Short Term Care | Monmouth Medical Center/Barnabas | 300 Second Avenue | Long Branch | 07740 | (732) 923-6901 |
| Short Term Care | Raritan Bay Medical Center | 530 New Brunswick Avenue | Perth Amboy | 08861 | (732) 324-5119 |
| Special Hospital | Care One At Raritan Bay Medical Center, LLC | 530 New Brunswick Avenue, 2nd Floor Green | Perth Amboy | 08861 | (732) 324-6090 |
| Supported Education | Bridgeway Rehabilitation Services LEARN Of Central NJ | 1023 Commerce Avenue, 2nd Floor | Union | 07083 | (908) 686-2956, ext. 104 |

| Provider Type | Provider Name | Street Address | Town | ZIP Code | Phone |
|---|---|---|---|---|---|
| Supported Employment | Rutger's University Behavioral Health Care | 195 New Street | New Brunswick | 08901 | (732) 235-6903 |
| Supportive Housing | Volunteers Of America | 205 West Milton Avenue | Rahway | 07065 | (732) 827-2444 |
| Supportive Housing | Rutger's University Behavioral Health Care | 100 Bayard Street | New Brunswick | 08901 | (732) 235-5353 |
| Supportive Housing | SERV Centers Of NJ | 491 So. Washington Avenue | Piscataway | 08854 | (732) 968-7111 |
| Surgical Practice | Advanced Surgical Arts Center, LLC | 1150 Amboy Avenue | Edison | 08837 | (732) 548-8194 |
| Surgical Practice | Ambulatory Surgery Center Of New Jersey | 5 Progress Street-Suite 2 | Edison | 08820 | (908) 755-9671 |
| Surgical Practice | Center For Advanced Reproductive Medicine & Fertility | 4 Ethel Road, Suite 405a | Edison | 08817 | (732) 339-9300 |
| Surgical Practice | Contemporary Plastic Surgicenter, LLC | 579a Cranbury Road, Suite 202 | East Brunswick | 08816 | (732) 254-1919 |
| Surgical Practice | Edison Surgery Center LLC | 10 Parsonage Road, Suite 206 | Edison | 08837 | (732) 243-9798 |
| Surgical Practice | Endo Surgi Center Of Old Bridge LLC | 42 Throckmorton Lane | Old Bridge | 08857 | (732) 679-8808 |
| Surgical Practice | Highland Park Surgical Associates, PA | 215a North Center Drive | New Brunswick | 08902 | (732) 305-6556 |
| Surgical Practice | James F McGuckin, M.D., P.A. | 1 Wills Way, Central Nj Medical Park | Piscataway | 08854 | (732) 529-0223 |
| Surgical Practice | Jersey Ambulatory Surgery, L.L.C. | 561 Cranbury Road - Suite D | East Brunswick | 08816 | (732) 651-1300 |
| Surgical Practice | Oak Tree Surgery Center, L.L.C. | 1931 Oak Tree Road | Edison | 08820 | (732) 603-8603 |
| Surgical Practice | Precision Surgical Center | 620 Cranbury Road, Suite 115 | East Brunswick | 08816 | (732) 432-6680 |
| Surgical Practice | Reproductive Center Of Central New Jersey | 3000 Hadley Road | South Plainfield | 07080 | (908) 412-9909 |
| Systems Advocacy | Central Jersey Legal Services, Inc. | 317 George Street, Suite 20 | New Brunswick | 08901 | (732) 249-7600 |
| Voluntary Unit | Raritan Bay Medical Center | 530 New Brunswick Avenue | Perth Amboy | 08861 | (732) 324-5101 |
| Voluntary Unit | UMDNJ-UBHC | 671 Hoes Lane | Piscataway | 08855 | (732) 895-3952 |

## APPENDIX E: DISCHARGES AND POPULATION 18-64 FOR AMBULATORY CARE SENSITIVE CONDITIONS

| ACSC Discharges from NJ Hospitals | Total ACS Discharges | ANGINA | ASTHMA | BACTERIAL PNEUMONIA | CELLULITIS | CONGESTIVE HEART FAILURE | CONVULSION | COPD | DEHYDRATION | DENTAL CONDITIONS | DIABETES | ENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALL RACES** | | | | | | | | | | | | |
| Statewide | 55,565 | 603 | 3,780 | 6,170 | 6,230 | 5,260 | 963 | 6,355 | 2,923 | 761 | 7,624 | 533 |
| RWJNB PSA | 1,614 | 11 | 109 | 174 | 183 | 145 | 25 | 159 | 64 | 18 | 241 | 33 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **WHITE** | | | | | | | | | | | | |
| Statewide | 27,668 | 276 | 1,289 | 3,316 | 4,150 | 2,014 | 528 | 3,729 | 1,469 | 379 | 3,271 | 237 |
| RWJNB PSA | 609 | 6 | 34 | 65 | 93 | 43 | 10 | 91 | 25 | 8 | 75 | 7 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **BLACK** | | | | | | | | | | | | |
| Statewide | 15,535 | 160 | 1,363 | 1,578 | 892 | 2,180 | 242 | 1,792 | 740 | 186 | 2,603 | 134 |
| RWJNB PSA | 449 | 3 | 31 | 45 | 32 | 58 | 11 | 45 | 13 | 7 | 75 | 5 |

| ACSC Discharges from NJ Hospitals | Total ACS Discharges | GASTRO-INSTESTINAL OBSTRUCTION | GRAND MAL STATUS/OTHER EPILEPTIC CONVULSION | HYPERTENSION | HYPOGLYCEMIA | IMMUNIZATION RELATED PREVENTABLE | KIDNEY/URINARY INFECTION | NUTRITION DEFICIENCIES (til 12/14 DSCHG) | OTHER TUBERCULOSIS | PELVIC INFLAMMATORY DISEASE | PULMONARY TUBERCULOSIS | SKIN GRAFTS W CELLULITIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALL RACES** | | | | | | | | | | | | |
| Statewide | 55,565 | 1,936 | 4,534 | 994 | 60 | 8 | 4,164 | 2,068 | 33 | 359 | 73 | 134 |
| RWJNB PSA | 1,614 | 59 | 147 | 32 | 3 | | 144 | 52 | 2 | 9 | 4 | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **WHITE** | | | | | | | | | | | | |
| Statewide | 27,668 | 969 | 2,226 | 346 | 25 | 3 | 2,051 | 1,203 | 4 | 110 | 6 | 67 |
| RWJNB PSA | 609 | 25 | 56 | 3 | | | 49 | 18 | | 1 | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **BLACK** | | | | | | | | | | | | |
| Statewide | 15,535 | 437 | 1,293 | 427 | 26 | 2 | 841 | 462 | 10 | 118 | 16 | 33 |
| RWJNB PSA | 449 | 16 | 39 | 19 | 2 | | 27 | 20 | | 1 | | |

*Population Source: Claritas Inc via New Solutions*

| ACSC 2016 Discharge Rate per 1,000 population | Est 2016 Population 18-64 | Total ACS Discharges | ANGINA | ASTHMA | BACTERIAL PNEUMONIA | CELLULITIS | CONGESTIVE HEART FAILURE | CONVULSION | COPD | DEHYDRATION | DENTAL CONDITIONS | DIABETES | ENT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALL RACES** | | | | | | | | | | | | | |
| Statewide | 5,610,651 | 9.903 | 0.107 | 0.674 | 1.100 | 1.110 | 0.938 | 0.172 | 1.133 | 0.521 | 0.136 | 1.359 | 0.095 |
| RWJNB PSA | 216,843 | 7.443 | 0.051 | 0.503 | 0.802 | 0.844 | 0.669 | 0.115 | 0.733 | 0.295 | 0.083 | 1.111 | 0.152 |
| Variance from Statewide | | (2.460) | (0.057) | (0.171) | (0.297) | (0.266) | (0.269) | (0.056) | (0.399) | (0.226) | (0.053) | (0.247) | 0.057 |
| | | | | | | | | | | | | | |
| **WHITE** | | | | | | | | | | | | | |
| Statewide | 3,657,780 | 7.564 | 0.075 | 0.352 | 0.907 | 1.135 | 0.551 | 0.144 | 1.019 | 0.402 | 0.104 | 0.894 | 0.065 |
| RWJNB PSA | 100,252 | 6.075 | 0.060 | 0.339 | 0.648 | 0.928 | 0.429 | 0.100 | 0.908 | 0.249 | 0.080 | 0.748 | 0.070 |
| Variance from Statewide | | (1.489) | (0.016) | (0.013) | (0.258) | (0.207) | (0.122) | (0.045) | (0.112) | (0.152) | (0.024) | (0.146) | 0.005 |
| | | | | | | | | | | | | | |
| **BLACK** | | | | | | | | | | | | | |
| Statewide | 783,378 | 19.831 | 0.204 | 1.740 | 2.014 | 1.139 | 2.783 | 0.309 | 2.288 | 0.945 | 0.237 | 3.323 | 0.171 |
| RWJNB PSA | 33,766 | 13.297 | 0.089 | 0.918 | 1.333 | 0.948 | 1.718 | 0.326 | 1.333 | 0.385 | 0.207 | 2.221 | 0.148 |
| Variance from Statewide | | (6.533) | (0.115) | (0.822) | (0.682) | (0.191) | (1.065) | 0.017 | (0.955) | (0.560) | (0.030) | (1.102) | (0.023) |
| | | | | | | | | | | | | | |
| **Variance Black from White** | | | | | | | | | | | | | |
| Statewide | | 12.27 | 0.13 | 1.39 | 1.11 | 0.00 | 2.23 | 0.16 | 1.27 | 0.54 | 0.13 | 2.43 | 0.11 |
| PSA | | 7.22 | 0.03 | 0.58 | 0.68 | 0.02 | 1.29 | 0.23 | 0.42 | 0.14 | 0.13 | 1.47 | 0.08 |
| | | | | | | | | | | | | | |
| **Est Admissions Statewide** | | **9609.41** | **100.89** | **1086.94** | **867.82** | **3.20** | **1748.67** | **128.92** | **993.37** | **425.39** | **104.83** | **1902.46** | **83.24** |
| Est Admissions PSA | | 243.88 | 0.98 | 19.55 | 23.11 | 0.68 | 43.52 | 7.63 | 14.35 | 4.58 | 4.31 | 49.74 | 2.64 |

| ACSC 2016 Discharge Rate per 1,000 population | Est 2016 Population 18-64 | Total ACS Discharges | GASTRO-INSTESTINAL OBSTRUCTION | GRAND MAL STATUS/OTHER EPILEPTIC CONVULSION | HYPERTENSION | HYPOGLYCEMIA | IMMUNIZATION RELATED PREVENTABLE | KIDNEY/URINARY INFECTION | NUTRITION DEFICIENCIES (til 12/14 DSCHG) | OTHER TUBERCULOSIS | PELVIC INFLAMMATORY DISEASE | PULMONARY TUBERCULOSIS | SKIN GRAFTS W CELLULITIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALL RACES** | | | | | | | | | | | | | |
| Statewide | 5,610,651 | 9.903 | 0.345 | 0.808 | 0.177 | 0.011 | 0.001 | 0.742 | 0.369 | 0.006 | 0.064 | 0.013 | 0.024 |
| RWJNB PSA | 216,843 | 7.443 | 0.272 | 0.678 | 0.148 | 0.014 | 0.000 | 0.664 | 0.240 | 0.009 | 0.042 | 0.018 | 0.000 |
| Variance from Statewide | | (2.460) | (0.073) | (0.130) | (0.030) | 0.003 | (0.001) | (0.078) | (0.129) | 0.003 | (0.022) | 0.005 | (0.024) |
| | | | | | | | | | | | | | |
| **WHITE** | | | | | | | | | | | | | |
| Statewide | 3,657,780 | 7.564 | 0.265 | 0.609 | 0.095 | 0.007 | 0.001 | 0.561 | 0.329 | 0.001 | 0.030 | 0.002 | 0.018 |
| RWJNB PSA | 100,252 | 6.075 | 0.249 | 0.559 | 0.030 | 0.000 | 0.000 | 0.489 | 0.180 | 0.000 | 0.010 | 0.000 | 0.000 |
| Variance from Statewide | | (1.489) | (0.016) | (0.050) | (0.065) | (0.007) | (0.001) | (0.072) | (0.149) | (0.001) | (0.020) | (0.002) | (0.018) |
| | | | | | | | | | | | | | |
| **BLACK** | | | | | | | | | | | | | |
| Statewide | 783,378 | 19.831 | 0.558 | 1.651 | 0.545 | 0.033 | 0.003 | 1.074 | 0.590 | 0.013 | 0.151 | 0.020 | 0.042 |
| RWJNB PSA | 33,766 | 13.297 | 0.474 | 1.155 | 0.563 | 0.059 | 0.000 | 0.800 | 0.592 | 0.000 | 0.030 | 0.000 | 0.000 |
| Variance from Statewide | | (6.533) | (0.084) | (0.496) | 0.018 | 0.026 | (0.003) | (0.274) | 0.003 | (0.013) | (0.121) | (0.020) | (0.042) |
| | | | | | | | | | | | | | |
| **Variance Black from White** | | | | | | | | | | | | | |
| Statewide | | 12.27 | 0.29 | 1.04 | 0.45 | 0.03 | 0.00 | 0.51 | 0.26 | 0.01 | 0.12 | 0.02 | 0.02 |
| PSA | | 7.22 | 0.22 | 0.60 | 0.53 | 0.06 | 0.00 | 0.31 | 0.41 | 0.00 | 0.02 | 0.00 | 0.00 |
| | | | | | | | | | | | | | |
| **Est Admissions Statewide** | | **9609.41** | **229.47** | **816.26** | **352.90** | **20.65** | **1.36** | **401.74** | **204.36** | **9.14** | **94.44** | **14.71** | **18.65** |
| Est Admissions PSA | | 243.88 | 7.58 | 20.14 | 17.99 | 2.00 | 0.00 | 10.50 | 13.94 | 0.00 | 0.66 | 0.00 | 0.00 |

*Population Source: Claritas Inc via New Solutions*