Mid-Hudson Region

Community Health Assessment 2019-2021

ACKNOWLEDGMENTS

This Regional Community Health Assessment, written by HealtheConnections staff, covers the seven county Mid-Hudson Region consisting of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.

This document was created to support our partners in health across the Region through a collaborative partnership between the following organizations:

Bon Secours Charity Health System, a member of the Westchester Medical Center Health Network
- Good Samaritan Hospital
- Bon Secours Community Hospital
- St. Anthony Community Hospital

Dutchess County Department of Behavioral & Community Health
Catskill Regional Medical Center, a member of the Greater Hudson Valley Health System
HealthAlliance Hospitals, members of the Westchester Medical Center Health Network
Nuvance Health:
- Northern Dutchess Hospital
- Vassar Brothers Medical Center
- Putnam Hospital Center

Montefiore Hudson Valley Collaborative
Montefiore Nyack Hospital
Montefiore St. Luke's Cornwall
Orange County Department of Health
Orange Regional Medical Center, a member of the Greater Hudson Valley Health System
Putnam County Department of Health
Rockland County Department of Health
St. Joseph's Medical Center
Sullivan County Public Health Services
Ulster County Department of Health and Mental Health
Westchester County Department of Health

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WMC Health | St. Anthony Community Hospital
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Public Health
Prevent. Promote. Protect.
Sullivan County
Public Health Services

Foundation for Community Health
Prevention, Access, Collaboration

Seal of Ulster County State of New York

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EXECUTIVE SUMMARY

Every three years, the New York State Department of Health requires Local Health Departments and hospitals to submit Community Health Assessments, Community Service Plans, and Community Health Improvement Plans. These assessments and plans are meant to meet several requirements from state public health law and the Affordable Care Act. In recent years, the New York State Department of Health has encouraged local hospitals and health departments to collaborate in the creation of these documents in order to better serve their communities.

"Collaboration is an essential element for improving population health in communities and in the State as a whole. Furthermore, working together to develop a community health assessment and community health improvement plan will reduce duplication and assist local health departments and hospitals to conduct this work in an effective, efficient manner" – New York State Department of Health, 2013

In 2017, the seven Local Health Departments of the Mid-Hudson Region, including Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties, and HealtheConnections created the Local Health Department Prevention Agenda Collaborative with the goal of creating the first regional Community Health Assessment for the Mid-Hudson Region. Shortly after, the Collaborative gained the support of 17 local hospitals. The hospitals contributed funds which allowed the Collaborative to contract with Siena College Research Institute to conduct a random digit dial regional community health survey to supplement the Regional Community Health Assessment. In order to gauge the perception of residents surrounding health and resources in their communities, responses from 5,372 residents of the Mid-Hudson Region were collected. To further supplement the data collected, members of the Collaborative held 12 focus groups with service providers to understand the needs of specific communities and populations, and the barriers they face to achieving optimal health.

This document was written by staff at HealtheConnections with the support, input, and review from the Collaborative's participating health departments and hospitals. Along with the primary data collected through the survey and focus groups, secondary data was compiled to show health indicators for the Region. A narrative was written around each health indicator to contextualize the data and outline how each indicator is related.

This document is meant to serve as a reference for key health information for all stakeholders in the Region as well as, assist them in identifying and prioritizing the health needs of the Mid-Hudson Region and its communities. Another goal of this project is to further collaboration in addressing key health issues in the Region and to inform the Community Health Improvement Plans of each county.

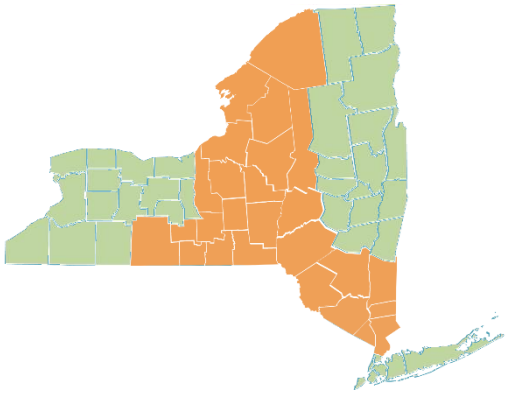
INTRODUCTION

ABOUT HEALTHECONNECTIONS

HealtheConnections was launched in 2009 as the Regional Health Information Organization (RHIO) for Central New York. Through a combination of federal appropriations funds, New York State Health Care Efficiency and Affordability Law (HEAL 5) funds, and funding from insurers, businesses, and hospitals in the Region, HealtheConnections formed its Health Information Exchange (HIE) where the Region's health information is stored and shared via the Statewide Health Information Network for New York (SHIN-NY). RHIOs, also known as Qualified Entities (QEs), partner with health care stakeholders in their respective regions, including insurers, hospitals, physicians, homecare, long-term care facilities, government, and patients to carry out their mission.

HealtheConnections was awarded the Population Health Improvement Program (PHIP) grant by the New York State Department of Health (NYSDOH) in 2015.

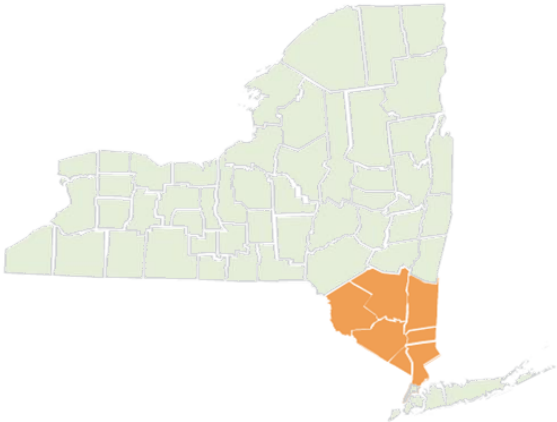
In 2019, HealtheConnections merged with HealthlinkNY, a RHIO which covered the Hudson Valley and the Southern Tier of New York. HealthlinkNY also held the PHIP grant for these two regions. HealtheConnections now covers 26 counties throughout the State, including the Hudson Valley, the Southern Tier, and Central New York.



HEALTHECONNECTIONS COMMUNITY & POPULATION HEALTH IMPROVEMENT

The HealtheConnections Community and Population Health Improvement program encompasses the population health work being done at HealtheConnections under the PHIP grant in the Central New York, the Mid-Hudson and the Southern Tier regions of New York State. The PHIP in the Mid-Hudson Region covers the seven counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester.

The PHIP is a NYSDOH grant designed to promote the triple aim of care: better care, better population health and lower health care costs. Regional PHIP contractors are responsible for identifying, sharing, disseminating and helping implement best practices and strategies to promote population health and reduce health care disparities in their respective regions. This includes serving as neutral conveners bringing together diverse groups of stakeholders to work together to improve the health of the Region.



In the Mid-Hudson Region, the PHIP has two health priority areas. The first being Behavioral Health with two focus areas, including substance use and mental health wellness. The second being the Social Determinants of

Health with a focus on structural racism and how it, with other determinants, impacts an individual's ability to achieve health equity.

In each Behavioral Health focus area, stigma and prejudice reduction are underlying goals, which the Mid-Hudson PHIP works to support through regional stigma reduction campaigns. For both goals, the PHIP is working to identify disparities through the use of data. Two ad hoc workgroups were created to address this priority area: The Data Informed Opioid Response Collaborative and the Workplace Wellness workgroup.

A Steering Committee oversees ad hoc workgroups which work to achieve the workplace goals for each priority area. The Steering Committee, which is comprised of community stakeholders, assisted with determining health priorities. The Committee provides feedback on the creation of each year's work plan, and is responsible for approving new workgroups, activities, and programs. In the Mid-Hudson Region, the PHIP has five ad hoc workgroups to address the selected health priority areas:

1. Data Informed Opioid Response Collaborative
2. Workplace Wellness
3. Local Health Department Prevention Agenda Collaborative
4. Social Determinants of Health
5. Behavioral Health

The Data Informed Opioid Response Collaborative (DIORC) uses data analysis to coordinate community responses to substance use and overdoses, and to reduce stigma. This diverse group of stakeholders includes treatment providers, prevention service providers, harm reduction service providers, law enforcement, academic and research institutions, local health departments, and community-based organizations. In May of 2018, the DIORC contracted Siena College Research Institute (SCRI) to have them conduct an Opioid Opinions survey which was originally administered in the Capital District. See Appendix M for a list of participating organizations in this workgroup.

The focus of the Workplace Wellness (WW) workgroup is to increase the number of organizations implementing workplace wellness for their employees. The PHIP hosts a daylong Workplace Wellness Summit that businesses can attend to learn how to create a wellness committee; get ideas for wellness activities; and meet the organizations who can provide free resources to them. The HealtheConnections Workplace Wellness Mental Health Toolkit is available for download at www.workplacewellnessny.org. This is a free resource that employers can use to guide their organizations through the process of creating a culture of wellness. The Toolkit helps a worksite create policies, eliminate stigmatizing language and practices, and offers ideas for free and low-cost wellness activities. See Appendix N for a list of organizations participating in this workgroup.

As an operator of the PHIP grant, HealtheConnections is tasked with supporting Local Health Departments (LHDs) with the creation of projects such as Community Health Assessments (CHA) and Community Health Improvement Plans (CHIP), along with the implementation of population health interventions. To aid in the support of the LHDs, the Local Health Department Prevention Agenda Collaborative (LHD PA) was formed in October 2015. The LHD PA originally served as a forum to share resources between the seven LHDs.

The Social Determinants of Health (SDOH) workgroup focuses primarily on structural racism as a social determinant of health, and considers how other social determinants are linked to, or interact with, structural racism to impact health. The workgroup designed a full-day experiential learning event, called the Blueprint for Health Equity. During the event, participants learn about the historical roots of structural racism, such as the practice of red lining; experience the Community Action Poverty Simulation created by the Missouri Community

Action Network; and learn about unconscious bias, and how providers and organizations need to acknowledge bias, and mitigate its impact. See Appendix O for a list of participating organizations in this workgroup.

The Behavioral Health workgroup has a primary focus on Adverse Childhood Experiences (ACEs) in an effort to promote the normalization of behavioral health issues, and fight the stigma surrounding them. See Appendix P for a list of participating organizations in this workgroup.

LOCAL HEALTH DEPARTMENT PREVENTION AGENDA COLLABORATIVE

In November of 2017, HealtheConnections, formerly known as the HealthlinkNY Community Network, hosted a meeting with the hospitals, health systems, performing provider systems, and LHDs to discuss the benefits of collaborating on a Regional CHA.

The LHD PA then contracted with Siena College Research Institute (SCRI) in December of 2017 to conduct a random sample community health survey of the Mid-Hudson Region to assess the health status and concerns of its residents. See page 69 for more information.

LHDs and hospitals continue to collaborate and meet regularly. They work collaboratively to complete the Regional CHA, which they will utilize in preparation for their CHIPs and Community Service Plans (CSPs). Additionally, these meetings provide a forum to discuss regional interventions to target priority areas and improve population health.

DATA SOURCES AND INDICATOR SELECTION

To create this document, the following data sources were utilized:

American Community Survey (ACS): A survey conducted nationally by the U.S. Census Bureau to gather information about the social and economic need of communities. *Secondary source*

Behavioral Risk Factor Surveillance System (BRFSS): An annual national phone survey coordinated and funded by the Centers for Disease Control and Prevention (CDC) and conducted by each State's health department. Data includes health related behaviors, health conditions, and use of health services. *Secondary source*

Mid-Hudson Region Community Health Survey conducted by Siena College Research Institute: A random digit dial survey conducted in collaboration with the LHD PA Collaborative, local hospital partners, and SCRI. *Primary source*

Comprehensive Housing Affordability Strategy Data (CHAS): Custom tabulations of ACS data about housing problems and housing needs from the U.S. Census Bureau sent to the U.S. Department of Housing and Urban Development (HUD). HUD and local governments use this data to plan how to distribute their funds. *Secondary source*

County Business Patterns: An annual series from the U.S. Census Bureau which provides economic data by industry, such as number of establishments, employment during a certain week, and annual payroll. *Secondary source*

County Health Rankings & Roadmaps: A collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. County Health Rankings & Roadmaps pulls from a variety of sources to measure vital health factors in counties across the U.S.. *Secondary source*

HRSA Data Warehouse: A website run by the Health Resources and Services Administration (HRSA) which provides maps, data, reports, and dashboards about HRSA's health care programs, including health Professional Shortage Areas, Health Resource Files, and Medically Underserved Populations. *Secondary source*

Healthy People 2020: A collaborative process that reflects input from a diverse group of individuals and organizations. Healthy People2020 includes 10-year national objectives for improving the health of all Americans. Healthy People has established benchmarks and monitored progress over time. *Secondary source*

Map the Meal Gap: A county level analysis of food insecurity conducted by Feeding America using sources, such as the ACS, the Bureau of Labor Statistics, and the U.S. Department of Agriculture (USDA). *Secondary source*

Measure of America: A project of the Social Science Research Council that issues reports, briefs, and interactive data visualizations to provide an understanding of well-being and opportunity in America. *Secondary source*

National Environmental Public Health Tracking Network: A data hub provided by the CDC which brings together health and environmental data. *Secondary source*

New York State Board of Elections: Established as a bipartisan agency of New York State to administer and enforce all laws relating to elections within the State. Data tracked by the board includes election results and enrollment statistics for New York State. *Secondary source*

New York State Communicable Disease Annual Reports: Documents are released annually from NYSDOH containing mandated reports of suspected or confirmed communicable diseases. *Secondary source*

New York State Bureau of Sexual Health and Epidemiology: A special projects unit responsible for conducting Sexually Transmitted Infection (STI) surveillance activities related to screening, disease morbidity, and HIV/STI Partner Services disease intervention activities. *Secondary source*

New York State Cancer Registry: A registry which collects, processes, and reports information about New Yorkers diagnosed with cancer from all physicians, dentists, laboratories, and other health care providers, who are required to report all cancers to the NYSDOH. *Secondary source*

New York State Department of Health Rabies Laboratory: A system that contains monthly reports of the number of animals tested for rabies, as well as the number that tested positive for rabies in every New York State county. *Secondary source*

New York State Division of Criminal Justice: A criminal justice support agency which provides resources and services that inform decision-making and improve the quality of the criminal justice system. *Secondary source*

New York State Education Department (NYSED): NYSED publicly reports educational data submitted by educational institutions on its website data.nysed.gov. *Secondary source*

New York State HIV Surveillance System: An HIV surveillance system conducted by the AIDS Institute Bureau of HIV/AIDS Epidemiology that facilitates and monitors HIV-related laboratory and clinician reporting in New York State. *Secondary source*

New York State Hospital-Acquired Infection Program: A program developed to provide data on select hospital-acquired infections (HAI) that hospitals are required to report by law to the Department of Health. This law was created to provide the public with fair, accurate, and reliable HAI data to compare hospital infection rates and support quality improvement and infection prevention activity in hospitals. *Secondary source*

New York State Immunization Information System: A system that provides a complete, accurate, secure, real-time immunization medical record that is easily accessible and promotes public health by fully immunizing all individuals of appropriate age and risk. All health care providers are required to report all immunizations administered to persons less than 19 years of age, along with the person's immunization histories, to the New York State Department of Health. *Secondary source*

New York Statewide Planning and Research Cooperative System (SPARCS): A comprehensive all-payer data reporting system established as a result of cooperation between the health care industry and the government. The system currently collects patient level data on patient characteristics, diagnoses and treatments, services, and charges for each hospital inpatient and outpatient visit. *Secondary source*

New York State Department of Transportation: A branch of the New York State government responsible for administering programs related to the maintenance, coordination, and development of transportation infrastructure. *Secondary source*

New York State Student Weight Status Category Reporting System: A system that collects weight status category data on children and adolescents attending public schools in New York State outside of New York City. *Secondary source*

Provider Focus Groups: A series of focus groups conducted throughout the Mid-Hudson Region by the LHD PA Collaborative. *Primary source*

Safe Drinking Water Information System: An information hub from the Environmental Protection Agency (EPA) containing data about public water systems and violations of the EPA's drinking water regulations, as reported to the EPA from the states. *Secondary source*

Small Area Health Insurance Estimates (SAHIE): A program of the U.S. Census Bureau which estimates health insurance coverage for all states and counties nationally. *Secondary source*

United for ALICE: Reports which use a standardized methodology that assesses cost of living and financial hardship on a county level calculated by United Way of Northern New Jersey. *Secondary source*

Upstate New York Poison Center: A call center and research organization which provides poison emergency telephone management, poison information resources, public education, professional education, research and data collection, and toxicosurveillance in real time. Its coverage area includes all New York State counties except Westchester, New York City, and Long Island. *Secondary source*

USDA Food Environment Atlas: An atlas from the USDA which assembles data regarding food environment factors, such as food choices, health and well-being, and community characteristics. *Secondary source*

Vital Statistics of New York State: A registry of all births, marriages, divorces/dissolutions of marriage, deaths, induced termination of pregnancy/abortions, and fetal deaths that have occurred in New York State outside of New York City. It is maintained by the New York State Bureau of Vital Records, a branch of the NYSDOH. *Secondary source*

AREA BEING ASSESSED

THE MID-HUDSON REGION

The Mid-Hudson Region, located in the southern part of New York State, encompasses the seven counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester [see Appendix E]. The Mid-Hudson Region is also often referred to as the Hudson Valley. Split into east and west by the Hudson River, the Region is bordered by Connecticut to the east; New Jersey and Pennsylvania to the west; Delaware, Greene, and Columbia Counties to the north; and New York City to the south. With an area of 4,739 square miles, the Region has a population of over two million residents. The Mid-Hudson Region is a mixture of urban, suburban, and rural areas, including, waterfront cities, farmland, forests, and multiple water sheds.

Five toll bridges span across the Hudson River, connecting the two halves of the Region. These include the Bear Mountain Bridge, the Hamilton Fish Newburgh-Beacon Bridge, the Franklin Delano Roosevelt Mid-Hudson Bridge, the George Clinton Memorial Kingston-Rhinecliff Bridge, and the Governor Mario M. Cuomo Bridge opened in 2017 (replacing the Governor Malcolm Wilson Tappan Zee Bridge). The river can also be crossed by ferry in three places via the Beacon Newburgh Ferry with New York Waterway, the Kingston Rhinecliff Ferry, and the Haverstraw Ossining Ferry with New York Waterway. Major roadways include, but are not limited to, Interstate 84, Taconic State Parkway, New York State Thruway, Palisades Interstate Parkway, and Interstate 86.

The Region has 10 four-year and 22 two-year colleges and universities with over 113,000 enrolled students. This includes the U.S. Military Academy at West Point, in Orange County. There are 103 public school districts in the Mid-Hudson Region, with 328,287 students enrolled in grades K-12.

Per Empire State Development, the principal industries for the Region include distribution, electronics, food processing, life sciences, biotechnology, information technology, manufacturing, medical device manufacturing and health care related services, renewable energy, advanced energy, research and development, financial services, insurance, accounting, tourism, and hospitality. Westchester County is home to the Region's only nuclear power plant, Indian Point Energy Center. Bayer Diagnostics, Danone, Fujifilm, IBM, ITT, Jarden, MasterCard, and PepsiCo are among the Fortune 500 Companies located in the Region.

DUTCHESS COUNTY

Dutchess County is in the center of the Region, midway between New York City and New York State's capital, Albany. The western border includes 30 miles of Hudson River shoreline with Connecticut forming the eastern border. Dutchess County is 825 square miles, made up of 30 municipalities, consisting of two cities, 20 towns, and eight villages. Dutchess County has 13 public school districts and is also home to five colleges and universities. The southwestern region of Dutchess County is the most densely populated part of the County and includes the cities of Beacon and the County seat, Poughkeepsie. The rest of the County is predominantly suburban and rural. See map in Appendix F.

ORANGE COUNTY

Orange County is located approximately 40 miles north of New York City. The County is positioned between the Hudson River in the east and the Delaware River in the west, the only county in New York State to border both rivers. Ulster and Sullivan Counties border Orange County on the north, and Rockland County is located to the south. The states of New Jersey and Pennsylvania are located on the southwest borders of the County. Orange

County is 839 square miles and is a diverse mix of rural, farmland, suburban, and urban areas. Orange County communities include three cities, 20 towns, and 19 villages. Nearly 18% of the County's total population resides in its three cities of Middletown, Newburgh, and Port Jervis. Orange County has 19 public school districts and is also home to three colleges and universities. See map in Appendix G.

PUTNAM COUNTY

Putnam County is located approximately 58 miles north of New York City on the eastern side of the Hudson River, and is a diverse mix of rural, farmland, and many reservoirs. The County is bordered by Connecticut to its east, the Hudson River to its west, Dutchess County to its north, and Westchester County to its south. According to the *American Community Survey*, Putnam County is ranked as one of the top 25 most affluent counties in the U.S., based on median household income. Putnam County is 246 square miles which includes six towns and three villages and does not contain any cities. The County is also home to Clarence Fahnestock State Park, which spans 22 square miles (14,000 acres), almost 9% of the County's land mass. Putnam County has 10 public school districts. It does not contain any institutions of higher education located within its borders. See map in Appendix H.

ROCKLAND COUNTY

Rockland County is located approximately 30 miles north of Manhattan on the west side of the Hudson River. The County is a popular residence for people who commute to jobs in nearby Westchester and Bergen Counties, as well as Manhattan. Rockland County is bordered by Orange County to the north, and New Jersey to the southwest. Home to eight public school districts and eight colleges and universities, the 199-square mile area includes five towns and 19 villages. Rockland County has the largest Jewish population per capita of any U.S. county, with 31.4%, 90,000 residents, being Jewish. This County of 120,000 acres is designated a Preserve America Community, containing more than 35,000 acres of preserved open space and parkland, just under one third of the County. See map in Appendix I.

SULLIVAN COUNTY

Sullivan County is a rural community in the north-western part of the Mid-Hudson Region. It is located approximately 75 miles northwest of New York City in the Catskill Mountains. The County is bordered by Delaware County to the north, Ulster County to the east, Orange County to the south, and Pennsylvania to the west. Home to nine public school districts and one two-year college, the 997-square mile area includes 15 towns and six villages. See map in Appendix J.

ULSTER COUNTY

Ulster County is located in the southeast part of New York State, south of Albany and immediately west of the Hudson River. Bordered by Greene County to the north, Delaware County to the northwest, Sullivan to the southwest, Orange to the south, and Dutchess County across the Hudson River to the east, much of Ulster County can be characterized as suburban and semi-rural. With only one major urban area, the city of Kingston, located in the eastern central portion of the County, and encompassing just 7.4 square miles of the County's total area. The rest of the County is comprised of 20 towns and three villages. Ulster County is home to 13 school districts and two colleges and universities within its 1,161-square mile area. See map in Appendix K.

WESTCHESTER COUNTY

Westchester County is located just north of New York City, with an area of about 450 square miles. It is bordered on the west by the Hudson River, on the north by Putnam County, and on the east by the Long Island Sound and Connecticut's Fairfield County. Within its 48 municipalities, Westchester County can be described as predominately a mix of urban and suburban communities. Comprised of six cities, 19 towns, and 23 villages, the County is home to 43 public school districts and 24 colleges and universities. See map in Appendix L.

HOSPITAL SERVICE AREAS

Tables below include primary service areas for listed hospitals.

BON SECOURS CHARITY HEALTH SYSTEM, A MEMBER OF THE WESTCHESTER MEDICAL CENTER HEALTH NETWORK

Table 1

County	Zip-Code	Population	County	Zip-Code	Population
Rockland	10901	23,959	Rockland	10960	15,357
Orange	10916	4,265	Rockland	10965	15,149
Orange	10917	2,134	Orange	10969	1,403
Orange	10918	12,264	Rockland	10970	9,773
Rockland	10920	8,877	Orange	10973	2,322
Orange	10921	3,856	Rockland	10974	3,208
Rockland	10923	8,796	Orange	10975	291
Orange	10924	13,388	Rockland	10977	63,319
Orange	10925	4,061	Rockland	10980	13,997
Orange	10926	3,108	Rockland	10984	3,020
Rockland	10927	12,120	Orange	10987	3,280
Orange	10928	4,004	Rockland	10989	10,333
Orange	10930	8,784	Orange	10990	19,678
Rockland	10931	887	Rockland	10993	4,996
Orange	10940	49,194	Orange	10998	2,824
Orange	10941	13,242	Sullivan	12719	1,305
Orange	10950	49,712	Orange	12729	2,253
Rockland	10952	41,631	Sullivan	12737	2,074
Rockland	10954	23,226	Orange	12746	1,271
Rockland	10956	31,450	Orange	12771	14,061
Rockland	10960	15,357	Orange	12780	2,064

CATSKILL REGIONAL MEDICAL CENTER, A MEMBER OF THE GREATER HUDSON VALLEY HEALTH SYSTEM

Table 2

County	Zip-Code	Population	County	Zip-Code	Population
Sullivan	12701	11,356	Sullivan	12758	4,426
Sullivan	12719	1,105	Sullivan	12759	931
Sullivan	12720	151	Sullivan	12762	531
Sullivan	12721	6,386	Sullivan	12763	907
Sullivan	12723	2,112	Sullivan	12764	1,870
Sullivan	12726	1,062	Sullivan	12765	781
Sullivan	12732	802	Sullivan	12766	504
Sullivan	12733	1,276	Sullivan	12768	939
Sullivan	12734	1,076	Sullivan	12770	345
Sullivan	12736	43	Sullivan	12775	2,482
Sullivan	12737	1,839	Sullivan	12776	2,227
Sullivan	12738	222	Sullivan	12777	689
Sullivan	12740	1,674	Sullivan	12779	2,368
Sullivan	12741	298	Sullivan	12783	1,574
Sullivan	12742	222	Sullivan	12786	910
Sullivan	12743	249	Sullivan	12787	56
Sullivan	12745	109	Sullivan	12788	1,934
Sullivan	12747	2,527	Sullivan	12789	2,689
Sullivan	12748	1,636	Sullivan	12790	5,646
Sullivan	12750	52	Sullivan	12791	214
Sullivan	12751	763	Sullivan	12792	434
Sullivan	12752	241			
Sullivan	12754	7,212			

HEALTHALLIANCE HOSPITAL, A MEMBER OF WESTCHESTER MEDICAL CENTER HEALTH NETWORK

Table 3

County	Zip-Code	Population	County	Zip-Code	Population
Ulster	12401	34661	Ulster	12466	2,260
Ulster	12402	0	Ulster	12471	201
Ulster	12404	3,576	Ulster	12472	1,419
Ulster	12411	355	Ulster	12475	165
Ulster	12419	641	Ulster	12477	18,722
Ulster	12428	6860	Ulster	12481	1,361
Ulster	12429	334	Ulster	12484	2,703
Ulster	12433	543	Ulster	12486	1,584
Ulster	12440	2,127	Ulster	12487	3,299
Ulster	12443	3,674	Ulster	12493	310
Ulster	12446	4,914	Ulster	12498	4,836
Ulster	12449	3,315	Ulster	12561	18,618
Ulster	12455	1,877			
Ulster	12456	716			

Table 4

County	Zip-Code	Population	County	Zip-Code	Population
Litchfield (Connecticut)	6018	2,892	Dutchess	12522	4828
Litchfield (Connecticut)	6024	444	Columbia	12523	1519
Litchfield (Connecticut)	6031	1,452	Dutchess	12524	16193
Litchfield (Connecticut)	6039	1,932	Columbia	12526	3690
Litchfield (Connecticut)	6068	1,446	Ulster	12528	13,139
Litchfield (Connecticut)	6069	2,374	Dutchess	12531	3862
Litchfield (Connecticut)	6754	1,772	Dutchess	12533	25774
Litchfield (Connecticut)	6755	1,014	Columbia	12534	17830
Litchfield (Connecticut)	6757	2,160	Dutchess	12538	13985
Litchfield (Connecticut)	6776	26,285	Dutchess	12540	7677
Litchfield (Connecticut)	6785	679	Ulster	12542	5,746
Litchfield (Connecticut)	6790	35,044	Dutchess	12545	4740
Litchfield (Connecticut)	6796	1,043	Dutchess	12546	1562
Putnam	10509	19,419	Ulster	12547	2,873
Putnam	10512	25,076	Orange	12550	54612
Putnam	10541	26,371	Orange	12553	26029
Westchester	10560	4,930	Ulster	12561	18,618
Westchester	10578	843	Putnam	12563	8,155
Putnam	10579	9,438	Dutchess	12564	6867
Westchester	10589	9,229	Dutchess	12567	3162
Westchester	10598	29,489	Dutchess	12569	10100
Ulster	12401	34661	Dutchess	12570	7825
Ulster	12419	641	Dutchess	12571	9931
Ulster	12443	3,674	Dutchess	12572	8925
Ulster	12449	3,315	Dutchess	12578	2123
Ulster	12456	716	Dutchess	12580	4287
Greene	12463	1398	Dutchess	12581	2145
Ulster	12466	2,260	Dutchess	12582	6272
Ulster	12472	1,419	Dutchess	12583	2467
Ulster	12477	18,722	Dutchess	12585	901
Ulster	12486	1,584	Dutchess	12590	34400
Ulster	12487	3,299	Dutchess	12592	1150
Dutchess	12501	2,700	Dutchess	12594	4380
Dutchess	12507	253	Dutchess	12601	42555
Dutchess	12508	19,604	Dutchess	12603	42943
Dutchess	12514	3,184	Dutchess	12604	644
Ulster	12515	1,549			
Columbia	12516	2,198			
Orange	12520	2,984			

Table 5

County	Zip-Code	Population	County	Zip-Code	Population
Rockland	10901	23,959	Rockland	10970	9,773
Rockland	10913	5,626	Rockland	10974	3,208
Rockland	10920	8,877	Rockland	10976	2,699
Rockland	10923	8,796	Rockland	10977	63,319
Rockland	10927	12,120	Rockland	10980	13,997
Rockland	10952	41,631	Rockland	10983	5,674
Rockland	10954	23,226	Rockland	10984	3,020
Rockland	10956	31,450	Rockland	10986	1,696
Rockland	10960	15,357	Rockland	10989	10,333
Rockland	10962	5,581	Rockland	10993	4,996
Rockland	10964	1,367	Rockland	10994	7,652
Rockland	10965	15,149	Rockland	10931	887
Rockland	10968	2,249			

Table 6

County	Zip-Code	Population	County	Zip-Code	Population
Orange	10916	4,632	Sullivan	12723	2,112
Orange	10917	2,025	Sullivan	12726	1,062
Orange	10918	11,897	Sullivan	12732	802
Orange	10919	962	Sullivan	12733	1,276
Orange	10921	4,385	Sullivan	12734	1,076
Orange	10924	13,672	Sullivan	12736	43
Orange	10925	4,489	Sullivan	12737	1,839
Orange	10926	3,417	Sullivan	12738	222
Orange	10928	5,907	Sullivan	12740	1,674
Orange	10930	9,285	Sullivan	12741	298
Orange	10933	323	Sullivan	12742	222
Orange	10940	50,192	Sullivan	12743	249
Orange	10941	14,130	Sullivan	12745	109
Orange	10950	51,654	Sullivan	12747	2,527
Orange	10958	3,166	Sullivan	12748	1,636
Orange	10963	4,274	Sullivan	12750	52
Orange	10969	1,309	Sullivan	12751	763
Orange	10973	2,149	Sullivan	12752	241
Orange	10975	431	Sullivan	12754	7,212
Orange	10979	0	Sullivan	12758	4,426
Orange	10985	167	Sullivan	12759	931
Orange	10987	3,232	Sullivan	12762	531
Orange	10990	20,594	Sullivan	12763	907
Orange	10992	9,651	Sullivan	12764	1,870
Orange	10996	6,272	Sullivan	12765	781
Orange	10998	4,509	Sullivan	12766	504
Orange	12518	6,020	Sullivan	12768	939
Orange	12520	2,882	Sullivan	12770	345
Orange	12543	3,011	Sullivan	12775	2,482
Orange	12549	10,615	Sullivan	12776	2,227
Orange	12550	54,262	Sullivan	12777	689
Orange	12553	25,241	Sullivan	12779	2,368
Orange	12575	2,544	Sullivan	12783	1,574
Orange	12577	1,986	Sullivan	12786	910
Orange	12586	12,793	Sullivan	12787	56
Orange	12729	2,226	Sullivan	12788	1,934
Orange	12746	1,116	Sullivan	12789	2,689
Orange	12771	14,281	Sullivan	12790	5,646
Orange	12780	2,293	Sullivan	12791	214
Sullivan	12701	11,356	Sullivan	12792	434
Sullivan	12719	1,105	Ulster	12566	11,278

Sullivan	12720	151	Ulster	12589	17,389
Sullivan	12721	6,386			

MONTEFIORE ST. LUKE'S CORNWALL HOSPITAL

Table 7

County	Zip-Code	Population	County	Zip-Code	Population
Dutchess	12508	19604	Orange	12549	11156
Orange	12518	6310	Orange	12550	54612
Orange	12520	2984	Orange	12586	12729
Orange	10928	4004	Ulster	12589	17,463
Ulster	12542	5,746	Orange	10992	9197
Orange	12553	26029	Orange	10996	6612

SAINT JOSEPH'S MEDICAL CENTER

Table 8

County	Zip-Code	Population
Westchester	10701	58,841
Westchester	10703	21,039
Westchester	10704	32,125
Westchester	10705	41,008
Westchester	10710	27,602
Bronx	10463	72,863
Bronx	10466	73,569
Bronx	10467	102,718
Bronx	10470	14,592
Bronx	10474	12,608

DEMOGRAPHIC SUMMARY

POPULATION

In 2017, the population of New York State was almost 20,000,000. When excluding New York City, the population was about 11,250,000. The Mid-Hudson Region made up 11.8% of New York State's population, and includes the seven counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester. Westchester County comprised the majority of the Mid-Hudson Region's population at 41.9%, while Sullivan County made up only 3.3% of the Region [see Table 9]. The population of the Mid-Hudson Region grew 5.1% from 2000 to 2010, and 1.7% from 2010-2015.[1] In those five years, growth increased most rapidly in Westchester, Rockland, and Orange Counties.

Table 9

Population Demographic Characteristics

	Population	Percentage of Mid-Hudson Region	Percentage of State
Dutchess	295,685	12.7	1.5
Orange	378,174	16.2	1.9
Putnam	99,464	4.3	0.5
Rockland	325,027	14.0	1.6
Sullivan	75,783	3.3	0.4
Ulster	180,129	7.7	0.9
Westchester	975,321	41.9	4.9
Mid-Hudson	2,329,583	N/A	11.8
NYS	19,798,228	N/A	N/A
NYS excl NYC	11,238,156	N/A	N/A

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

SEX

When stratifying the population by sex in 2017, it was split fairly evenly between males and females [see Table 10]. With the exception of Orange and Sullivan Counties, the Mid-Hudson Region had slightly higher percentages of females than males. The same is true for New York State, as well as New York State excluding New York City.

[1] Office of the New York State Comptroller, July 2016, https://www.osc.state.ny.us/localgov/pubs/economicprofile/midhudsonregion.pdf, accessed July 2019

Table 10

Population Stratified by Sex				
	Male		Female	
	N	%	N	%
Dutchess	146,993	49.7	148,692	50.3
Orange	189,437	50.1	188,737	49.9
Putnam	49,485	49.8	49,979	50.2
Rockland	159,227	49.0	165,800	51.0
Sullivan	38,941	51.4	36,842	48.6
Ulster	89,377	49.6	90,752	50.4
Westchester	471,874	48.4	503,447	51.6
Mid-Hudson	1,145,334	49.2	1,184,249	50.8
NYS	9,604,111	48.5	10,194,117	51.5
NYS excl NYC	5,524,204	49.2	5,713,952	50.8

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

AGE

Throughout every county in the Mid-Hudson Region and in New York State, the age group that made up the majority of the population was adults aged 35-64 years making up 40% of the Mid-Hudson Region [see Table 11]. Children and young adults aged 5-19 years, as well as adults aged 65 years and older, were similarly distributed throughout the population, with Ulster County having a higher percentage of adults aged 65 years and older than children and young adults (18.0% vs 16.7%).

Table 11

Population Stratified by Age										
	<5 years		5-19 years		20-34 years		35-64 years		≥65 years	
	N	%	N	%	N	%	N	%	N	%
Dutchess	13,858	4.7	55,161	18.7	56,015	18.9	123,229	41.7	47,422	16.1
Orange	24,827	6.6	84,117	22.2	71,658	18.9	148,560	39.2	49,012	12.9
Putnam	4,440	4.5	18,664	18.8	16,362	16.4	44,484	44.7	15,514	15.6
Rockland	24,718	7.6	73,931	22.7	59,130	18.2	118,160	36.3	49,088	15.1
Sullivan	4,252	5.6	13,717	18.1	13,545	17.9	31,033	40.9	13,236	17.5
Ulster	8,066	4.5	30,074	16.7	33,918	18.8	75,650	42.0	32,421	18.0
Westchester	55,593	5.7	191,487	19.6	171,794	17.6	400,187	41.0	156,260	16.0
Mid-Hudson	135,754	5.8	467,151	20.1	422,422	18.1	941,303	40.4	362,953	15.6
NYS	1,176,877	5.9	3,554,995	18.0	4,288,714	21.7	7,769,291	39.3	3,008,351	15.2
NYS excl NYC	616,519	5.5	2,131,058	19.0	2,155,266	19.2	4,495,230	40.0	1,840,083	16.3

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

RACE/ETHNICITY

In 2017, the majority of the population in New York State, as well as the Mid-Hudson Region, was non-Hispanic White. According to Table 12, the Hispanic population was the second most predominant racial/ethnic group, followed by the non-Hispanic Black population. Of the seven counties, Westchester County had the highest Hispanic population (24.0%) and highest non-Hispanic Black population (13.5%), while Rockland County had the highest non-Hispanic Asian population (6.0%). Westchester County is most similar to the racial/ethnic profile of New York State. However, the percentage of the non-Hispanic White population significantly increases when looking at New York State excluding New York City.

Table 12

Population Stratified by Race/Ethnicity

	Non-Hispanic White		Non-Hispanic Black		Non-Hispanic Asian		Hispanic		Non-Hispanic Other*	
	N	%	N	%	N	%	N	%	N	%
Dutchess	213,506	72.2	28,360	9.6	10,989	3.7	34,662	11.7	8,168	2.7
Orange	247,267	65.4	36,590	9.7	9,728	2.6	74,643	19.7	9,946	2.5
Putnam	79,747	80.2	2,204	2.2	2,201	2.2	13,684	13.8	1,628	1.6
Rockland	205,500	63.2	37,408	11.5	19,570	6.0	56,251	17.3	6,298	1.9
Sullivan	54,910	72.5	5,826	7.7	1,222	1.6	11,697	15.4	2,128	2.8
Ulster	143,781	79.8	9,317	5.2	3,802	2.1	17,714	9.8	5,515	3.2
Westchester	530,156	54.4	131,769	13.5	57,004	5.8	234,081	24.0	22,311	2.2
Mid-Hudson	1,474,867	63.3	251,474	10.8	104,516	4.5	442,732	19.0	55,994	2.4
NYS	11,071,563	55.9	2,842,869	14.4	1,639,345	8.3	3,726,238	18.8	518,213	2.5
NYS excl NYC	8,324,404	74.1	956,979	8.5	450,941	4.0	1,234,942	11.0	271,090	2.4

**: Non-Hispanic Other includes American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, some other race alone, and two or more races.*

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

SPOKEN LANGUAGE

According to the *American Community Survey*, the base population for this demographic category were people aged five years and older. Of this population, English was the most common spoken language in the Mid-Hudson Region and New York State [see Table 13]. A significant portion of the population that spoke another language in addition to English, specifically in Rockland and Westchester Counties (38.4% and 33.3%, respectively). The population speaking Spanish was highest in Westchester County compared to the other counties in the Mid-Hudson Region (19.8%).

Table 13

Population Stratified by Spoken Language												
	English		Language other than English		Spanish		Other Indo-European languages		Asian and Pacific Islander languages		Other languages	
	N	%	N	%	N	%	N	%	N	%	N	%
Dutchess	237,682	84.3	44,145	15.7	23,292	8.3	11,312	4.0	6,121	2	3,420	1.2
Orange	266,172	75.3	87,175	24.7	48,089	13.6	31,129	8.8	5,032	1.4	2,925	0.8
Putnam	76,833	80.9	18,191	19.1	8,725	9.2	7,479	7.9	1,394	1.5	593	0.6
Rockland	185,140	61.6	115,169	38.4	40,495	13.5	58,243	19.4	11,489	3.8	4,942	1.6
Sullivan	61,125	85.5	10,406	14.5	6,323	8.8	3,501	4.9	450	0.6	132	0.2
Ulster	152,931	88.9	19,132	11.1	9,977	5.8	5,859	3.4	2,193	1.3	1,103	0.6
Westchester	613,330	66.7	306,398	33.3	182,282	19.8	76,129	8.3	34,056	3.7	13,931	1.5
Mid-Hudson	1,593,213	72.6	600,616	27.4	319,183	14.5	193,652	8.8	60,735	2.8	27,046	1.2
NYS	12,924,635	69.4	5,696,716	30.6	2,810,962	15.1	1,617,553	8.7	951,683	5.1	316,518	1.7
NYS excl NYC	8,840,416	83.2	1,781,221	16.8	859,539	8.1	586,208	5.5	242,818	2.3	92,656	0.9

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

EDUCATIONAL ATTAINMENT

According to the *American Community Survey*, the base population for this demographic category were people aged 25 years and older, as indicated in Table 14. Of this population, the majority of the population in New York State and the Mid-Hudson Region had an associate's degree or higher (44.0% and 48.0%, respectively). When looking at educational attainment in the seven counties in the Mid-Hudson Region in Table 15, Westchester had the highest percentage of those with an Associate's degree or higher (53.9%), while Sullivan had the lowest percentage (34.7%). A significant portion of the population in the Mid-Hudson Region were high school graduates, as well as those who attended some college but did not graduate with a degree.

Table 14

Population 25 years and older	
	Population
Dutchess	204,168
Orange	240,447
Putnam	70,373
Rockland	204,647
Sullivan	53,264
Ulster	129,659
Westchester	668,102
Mid-Hudson	1,570,660
NYS	13,660,809
NYS excl NYC	7,690,861

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

Table 15

Population Stratified by Educational Attainment								
	Less than High School Graduate		High School Graduate		Some college, no degree		Associate's degree or higher	
	N	%	N	%	N	%	N	%
Dutchess	19,495	9.6	53,465	26.2	39,236	19.2	91,972	45.0
Orange	24,494	10.2	71,195	29.6	49,182	20.5	95,576	39.7
Putnam	5,076	7.2	19,539	27.8	12,032	17.1	33,726	48.0
Rockland	26,017	12.7	45,439	22.2	33,875	16.6	99,316	48.6
Sullivan	7,218	13.6	17,732	33.3	9,785	18.4	18,529	34.7
Ulster	12,106	9.4	39,462	30.4	24,219	18.7	53,872	41.6
Westchester	82,929	12.5	130,493	19.5	94,509	14.1	360,171	53.9
Mid-Hudson	177,335	11.3	377,325	24.0	262,838	16.7	753,162	48.0
NYS	1,895,439	13.9	3,591,287	26.3	2,169,152	15.9	6,004,931	44.0
NYS excl NYC	767,997	10.0	2,154,037	28.0	1,339,368	17.4	3,429,459	44.6

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

INCOME

According to the *American Community Survey*, the base population for this demographic category were households (all the persons who occupy a housing unit as their usual place of residence), as indicated in Table 16. Of this population, the majority of residents in the Mid-Hudson Region had an income greater than $100,000. Almost half of the residents in Putnam County were making $100,000 or more in 2017 (49.8%). There were also many residents with an income between $25,000 and $49,999 in the Mid-Hudson Region, as well as New York State [see Table 17]. For example, in Sullivan County, 24.1% of residents had an income in this bracket.

Table 16

Total Households	
	Households
Dutchess	107,384
Orange	126,460
Putnam	34,316
Rockland	99,935
Sullivan	27,679
Ulster	69,662
Westchester	345,885
Mid-Hudson	811,321
NYS	7,302,710
NYS excl NYC	4,160,305

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

Table 17

Households Stratified by Income												
	<$10,000		$10,000-$24,999		$25,000-$49,999		$50,000-$74,999		$75,000-$99,999		>$100,000	
	N	%	N	%	N	%	N	%	N	%	N	%
Dutchess	4,164	3.9	12,114	11.3	19,325	18.0	17,775	16.6	14,603	13.6	39,403	36.7
Orange	5,981	4.7	14,904	11.8	22,560	17.8	19,693	15.6	16,470	13.0	46,852	37.1
Putnam	734	2.1	2,588	7.5	4,385	12.8	4,936	14.4	4,601	13.4	17,072	49.8
Rockland	3,841	3.8	11,329	11.4	15,062	15.1	13,270	13.3	11,497	11.5	44,936	45.0
Sullivan	1,783	6.4	4,625	16.7	6,654	24.1	5,180	18.7	3,518	12.7	5,919	21.3
Ulster	3,648	5.2	10,179	14.6	15,069	21.6	12,774	18.3	8,617	12.4	19,375	27.8
Westchester	16,498	4.8	35,386	10.2	52,301	15.1	45,772	13.2	35,953	10.4	159,975	46.2
Mid-Hudson	36,649	4.5	91,125	11.2	135,356	16.7	119,400	14.7	95,259	11.7	333,532	41.1
NYS	516,085	7.1	1,055,677	14.4	1,440,269	19.8	1,160,508	15.9	865,640	11.9	2,264,531	31.1
NYS excl NYC	224,247	5.4	549,074	13.2	832,350	20.0	690,525	16.6	523,705	12.6	1,340,404	32.2

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

VETERAN STATUS

Veteran status includes men and women who served (even for a short time), but are not currently serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II. Some issues that veterans experience following their service include finding a new career path; pursuing college/university education; or reestablishing themselves in society and families.[2] In the Mid-Hudson Region, Sullivan County had the highest percentage of people with veteran status, as indicated in Table 18 (8.1%), which is more than double the percentage of those with veteran status living in Rockland County (3.9%). Overall, there is a smaller percentage of people with veteran status in the Mid-Hudson Region as a whole compared to New York State excluding New York City (5.2% vs 6.7%).

Table 18

Population Stratified by Veteran Status			
	Civilian Population 18 years and older	Civilian Veterans	
	N	N	%
Dutchess	237,056	15,423	6.5
Orange	276,321	19,967	7.2
Putnam	78,698	4,163	5.3
Rockland	234,951	9,180	3.9
Sullivan	59,515	4,832	8.1
Ulster	147,020	9,480	6.4
Westchester	754,326	30,444	4.0
Mid-Hudson	1,787,887	93,489	5.2
NYS	15,571,733	757,900	4.9
NYS excl NYC	8,808,570	594,435	6.7

Source: U.S. Census Bureau, 2017 American Community Survey 5-year estimates

[2] New Directions for Veterans, 2019, https://ndvets.org/programs-services/mental-health/common-issues-facing-veterans/, accessed July 2019

DISABILITY

In New York State, nearly one in four adults, over 3.3 million people, have a disability. According to the World Health Organization (WHO), disabilities can affect three dimensions of life: impairment to body structure or mental function; activity limitation, such as difficulty hearing, moving, or problem-solving; and participation restrictions in daily activities, such as working, engaging in social or recreational activities or accessing health care or preventive services. Adults with a disability typically have a higher rate of chronic conditions, such as obesity, heart disease, and diabetes. Structural and societal barriers can limit the ability to participate in work, recreation, and programs aimed at promoting healthy living for those living with a disability.

Various types of disabilities can affect an individual's quality of life. Types of disability include:

- Independent living disability – difficulty performing tasks or errands alone, such as visiting a doctor's office or shopping due to a physical, mental, or emotional condition
- Cognitive disability – serious difficulty concentrating, remembering, or making decisions due to a physical, mental, or emotional condition
- Self-care disability – difficulty handling tasks, such as dressing or bathing on one's own
- Mobility disability – difficulty moving around physically, such as walking or climbing stairs
- Hearing disability – deafness or serious difficulty hearing
- Vision disability – blindness or serious difficulty seeing (even when wearing glasses)

In the Mid-Hudson Region, Sullivan County had the highest percentage of adults living with a disability (29.4%), while Rockland County had the lowest percentage (18.3%) [see Table 19]. Sullivan County had the highest percentage of adults living with independent living, cognitive, mobility, hearing, and vision disabilities, while Orange County had the highest percentage of adults living with a self-care disability [see Table 19].

Table 19

Population Stratified by Type of Disability

	Adults Living with Any Disability	Independent Living Disability	Cognitive Disability	Self-care Disability	Mobility Disability	Hearing Disability	Vision Disability
Dutchess	22.3%	6.5%	7.9%	4.0%	12.3%	3.2%	2.1%
Orange	25.9%	7.0%	8.7%	4.8%	11.6%	6.6%	4.1%
Putnam	19.9%	6.5%	8.6%	2.4%	10.0%	3.0%	1.8%
Rockland	18.3%	5.1%	5.5%	4.0%	9.9%	2.6%	3.6%
Sullivan	29.4%	9.8%	13.5%	3.3%	17.1%	7.7%	6.2%
Ulster	20.7%	6.1%	9.7%	2.9%	10.8%	3.6%	2.7%
Westchester	20.0%	5.4%	7.3%	3.4%	10.6%	3.8%	5.3%
NYS	22.9%	3.9%	8.7%	3.5%	13.3%	3.9%	3.7%

Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
https://www.health.ny.gov/statistics/prevention/injury_prevention/information_for_action/docs/2019-06_ifa_report.pdf

SOCIAL AND PHYSICAL DETERMINANTS OF HEALTH

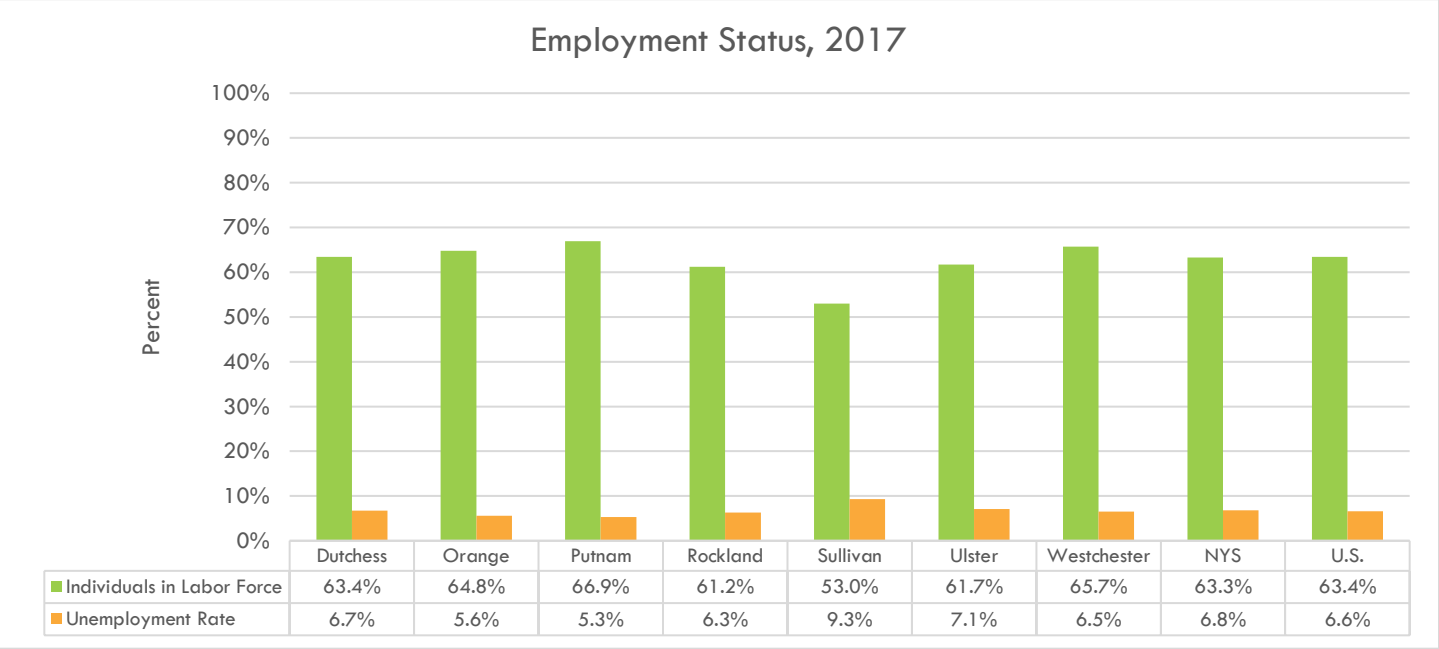
ECONOMIC STABILITY

EMPLOYMENT

Occupation and employment affects health through many avenues. Those who are continuously employed tend to have better health outcomes in both mental and physical health conditions than those who are unemployed. Even within employed populations, there can be disparities between those with high-paying and low-paying jobs. Income can affect where a family is able to live, the kind of food they eat, insurance coverage and almost every other social determinant of health.[3]

Putnam County had the lowest unemployment rate in the Region at 5.3%, as well as the highest percentage of individuals in the labor force. Sullivan County had the Region's highest unemployment rate at 9.3% [see Figure 1].

Figure 1



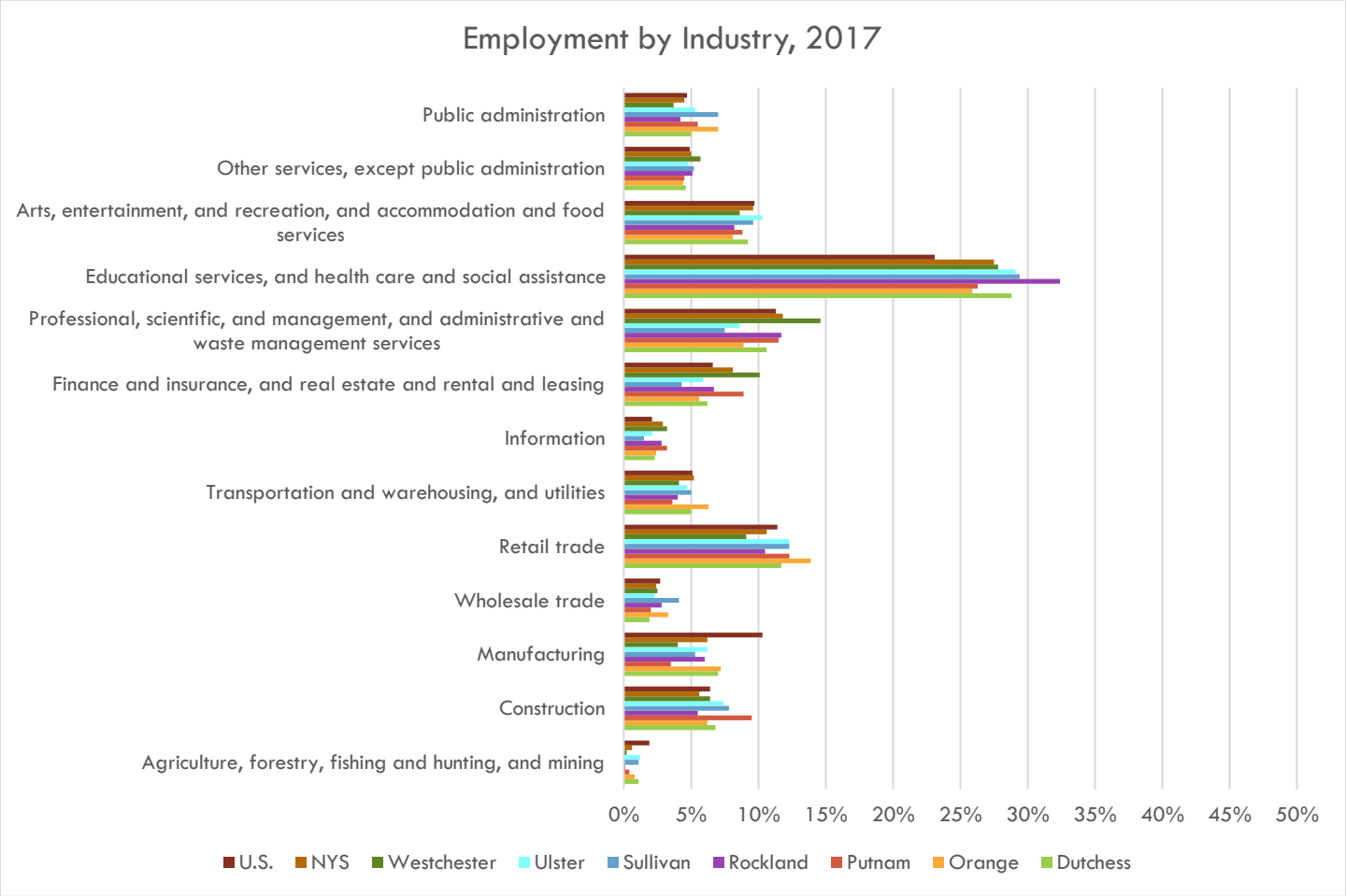
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	U.S.
Individuals in Labor Force	63.4%	64.8%	66.9%	61.2%	53.0%	61.7%	65.7%	63.3%	63.4%
Unemployment Rate	6.7%	5.6%	5.3%	6.3%	9.3%	7.1%	6.5%	6.8%	6.6%

Source: U.S. Census Bureau, American Community Survey, 2013-2017, 5-year estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

Similar to the rest of New York State, as well as the rest of the U.S., educational services, health care and social assistance are the largest industries employing civilians aged 16 years and older [see Figure 2].

[3] Robert Wood Johnson Foundation, March 2013, https://www.rwjf.org/en/library/research/2012/12/how-does-employment--or-unemployment--affect-health-.html, accessed June 2019

Figure 2



Source: U.S. Census Bureau, American Community Survey, 2013-2017, 5-year estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

FOOD INSECURITY

Food insecurity is defined as a household's inability to provide enough food for every person to live an active, healthy life. Access to food plays an essential role in living a healthy lifestyle, and those who face food insecurity are often forced to choose between food and other essentials, such as utilities, medical care, and housing.

Children are affected by food insecurity at a higher rate than the general population. Healthy food plays a key role in a child's development. Children who face hunger are more likely to struggle in school, face developmental impairments, and have more social and behavioral problems than children who do not face hunger.

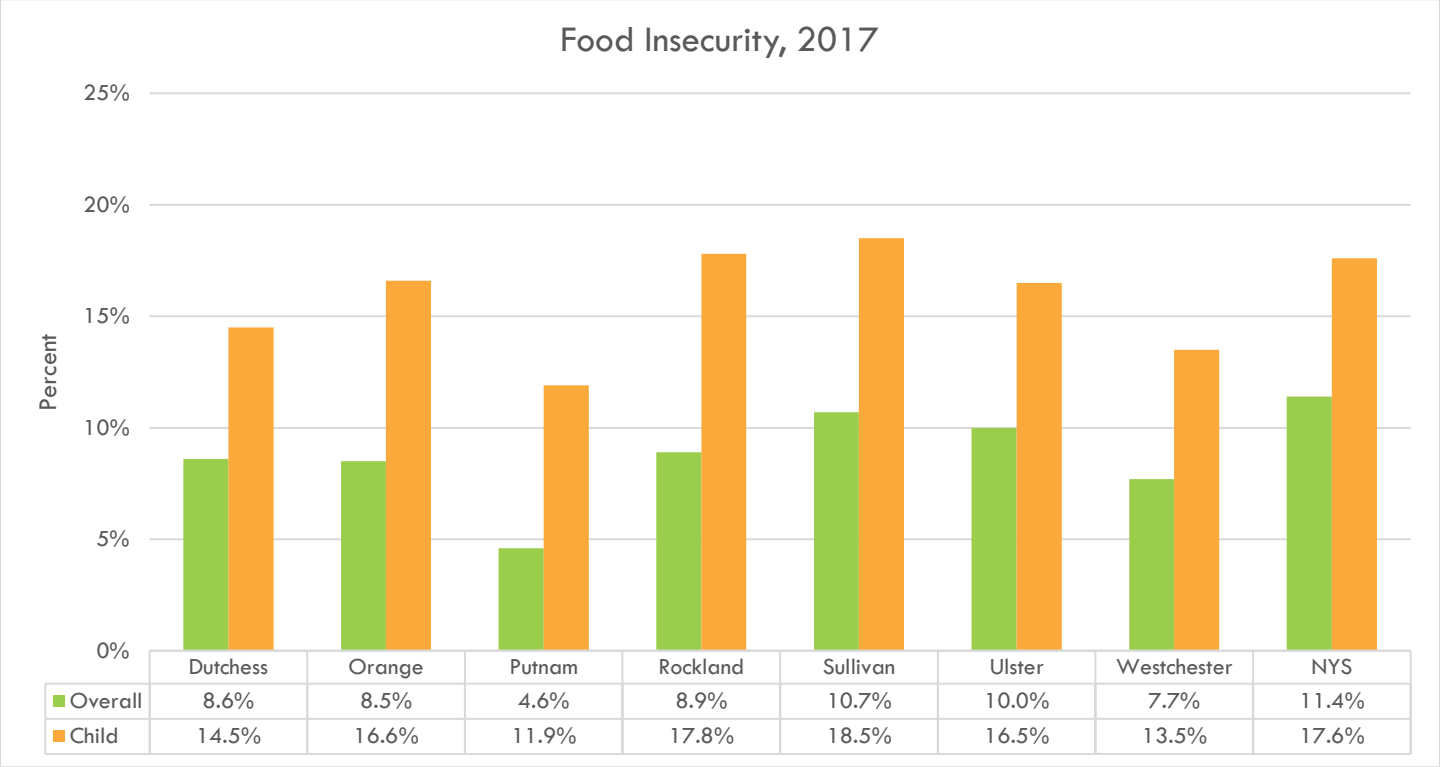
Other populations more vulnerable to food insecurity than the overall population include:[4]

- Senior Populations
- Those living in rural communities
- Black Populations
- Hispanic Populations
- Those living in poverty

[4] Feeding America, September 2016, https://www.feedingamerica.org/hunger-in-america, accessed June 2019

Putnam County had the lowest food insecurity rate in the Mid-Hudson Region at 4.6%. The county with the highest rate of food insecurity was Sullivan County at 10.7%, which was less than New York State's rate of 11.4% [see Figure 3].

Figure 3



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
Overall	8.6%	8.5%	4.6%	8.9%	10.7%	10.0%	7.7%	11.4%
Child	14.5%	16.6%	11.9%	17.8%	18.5%	16.5%	13.5%	17.6%

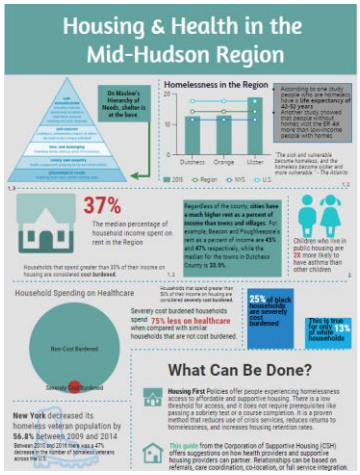
Source: Feeding America, 2019
https://public.tableau.com/profile/feeding.america.research#!/vizhome/2017StateWorkbook-Public_15568266651950/CountyDetailDataPublic

HOUSING INSTABILITY

A study published in the *Journal of the American Public Health Association* found that homeless individuals used the emergency room almost four times more than other low-income residents.[5] Housing and health are closely tied. Poor health is often both the cause and effect of unstable, poor, or non-existent housing. Mental health issues also play a large role in the causes and effects of homelessness.

[5] The Atlantic, January 2016, https://www.theatlantic.com/politics/archive/2016/01/how-health-and-homelessness-are-connectedmedically/458871/, accessed June 2019

It is not only the existence of housing, but the quality of housing that is important to health outcomes. For example, children who live in public housing are two times more likely to have asthma than other children, due to a higher prevalence of mold in public housing.[6]

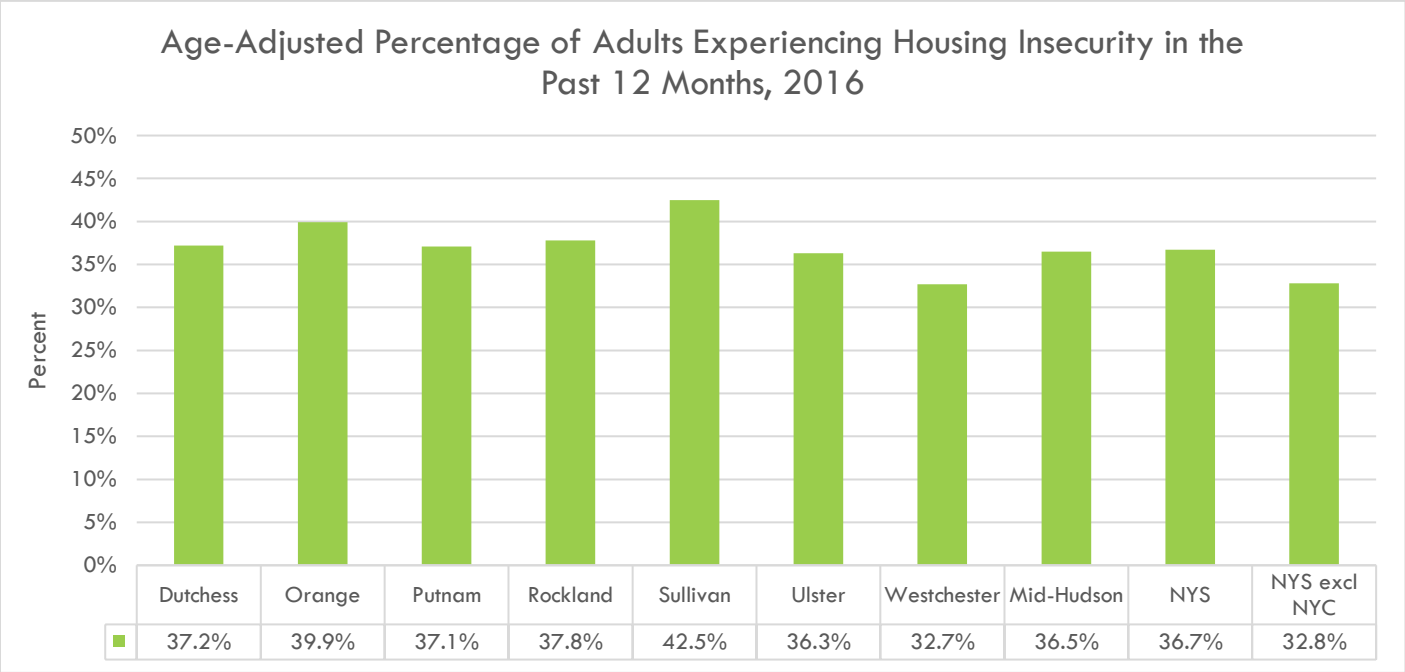


For an infographic about Housing and Health in the Mid-Hudson Region, follow the link in the footnote.[7]

According to the Federal Department of Housing and Urban Development (HUD), the number of people experiencing homelessness in the Hudson Valley increased by 6.7% in 2016 to 2017.[8]

Sullivan County had the highest percent of adults experiencing housing insecurity in the past 12 months at 42.5%. Westchester County had the lowest percent at 32.7% [see Figure 4].

Figure 4



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

The median percentage of household income spent on housing in the Mid-Hudson Region is estimated to be 37.0% by HUD. Households that spend greater than 30.0% of their income on housing are considered cost-burdened. Households that are severely cost-burdened (spending greater than 50.0% of income on housing) are shown to spend 75.0% less on health care compared to similar households that are living in affordable housing.[9]

Rockland County had both the highest percentage of renters spending more than 30.0% of their income on housing and the highest percentage of severely cost-burdened households in the Region at 61.9% and 23.0%,

[6] The Hill, June 2016, https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data, accessed June 2019

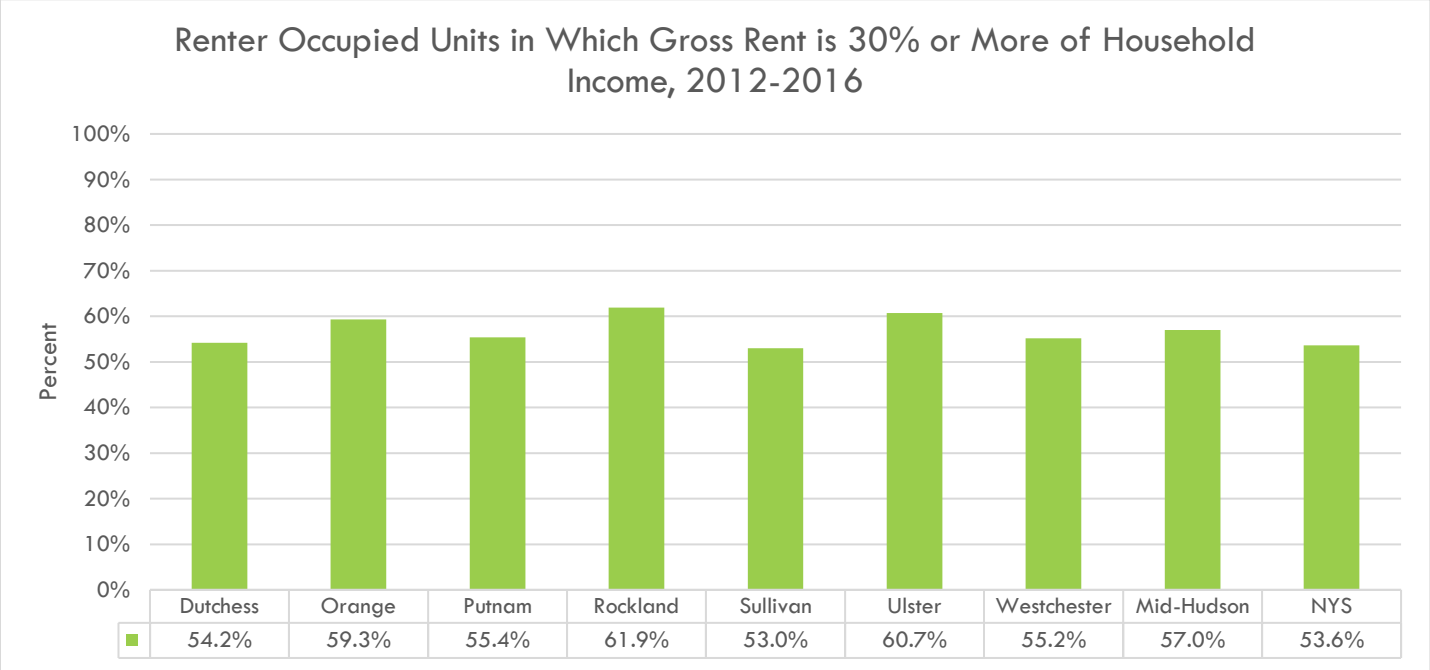
[7] Housing Infographic: https://infograph.venngage.com/ps/BDxQHEPVBXs/housing

[8] The Highlands Current, January 2018, https://highlandscurrent.org/2018/01/14/report-homeless-hudson-valley/ , accessed June 2019

[9] Joint Center for Housing Studies of Harvard University, 2017, https://www.jchs.harvard.edu/sites/default/files/harvard_jchs_state_of_the_nations_housing_2017_chap6.pdf, accessed June 2019

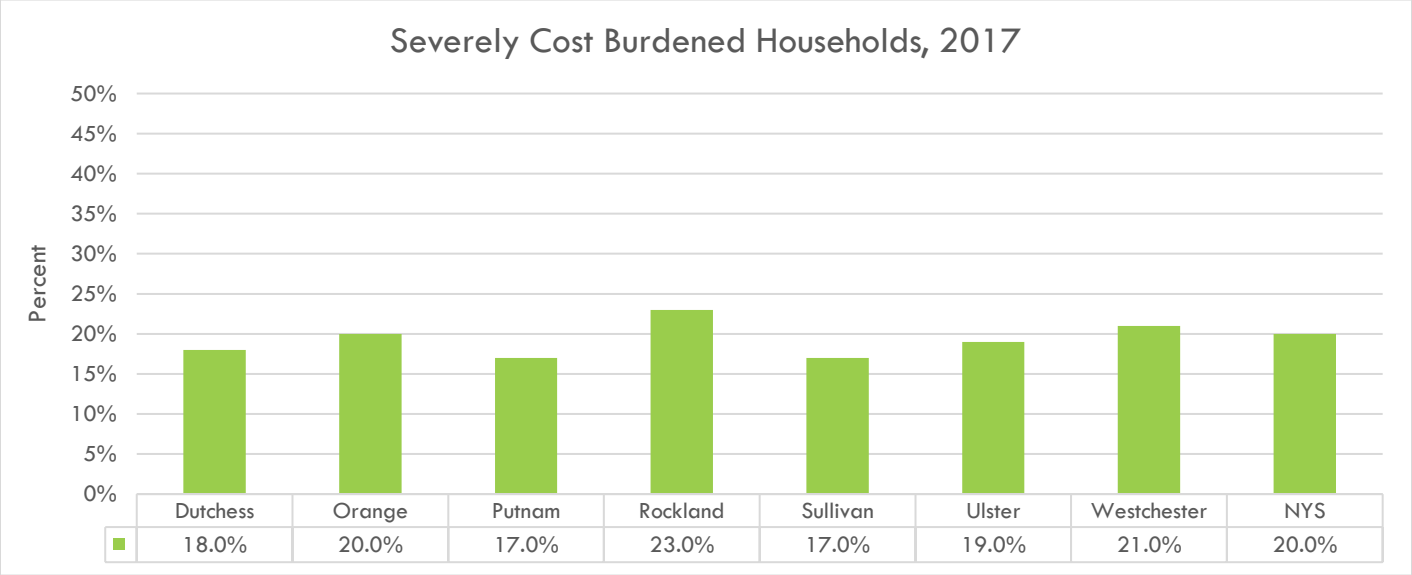
respectively. Sullivan County had the lowest percentage of renters spending more than 30.0% of their income on housing, and tied with Putnam County for the lowest percentage of severely cost-burdened households at 17.0% [see Figure 5, Figure 6].

Figure 5



Source: U.S. Census Bureau, American Community Survey, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=%2FEBI%2FPHIG%2Fapps%2Fchir_dashboard%2Fchir_dashboard&p=sh&stop=14

Figure 6



Note: Percentage of households that spend 50% or more of their household income on housing.
Source: U.S. Census Bureau, American Community Survey, 2013-2017, 5-year estimates
http://www.countyhealthrankings.org/app/new-york/2019/measure/factors/154/data

POVERTY

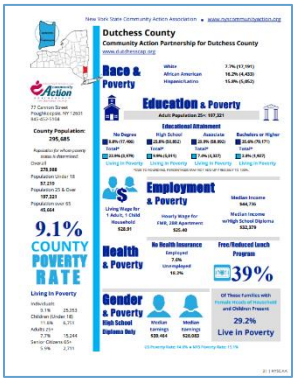
The U.S. Census Bureau defines a family, and every individual in it, as being in poverty when their income is less than the family's threshold. See Table 20 for the defined thresholds, which do not vary geographically.[10]

Table 20

Poverty Threshold for 2018 by Size of Family and Number of Related Children Under 18 Yeas									
Size of family unit	Related children under 18 years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person (unrelated individual):									
Under age 65	$13,064								
Aged 65 and older	$12,043								
Two people:									
Householder under age 65	$16,815	$17,308							
Householder aged 65 and older	$15,178	$17,242							
Three people	$19,642	$20,212	$20,231						
Four people	$25,900	$26,324	$25,465	$25,554					
Five people	$31,234	$31,689	$30,718	$29,967	$29,509				
Six people	$35,925	$36,068	$35,324	$34,612	$33,553	$32,925			
Seven people	41,336	41,594	40,705	40,085	38,929	37,581	36,102		
Eight people	$46,231	$46,640	$45,800	$45,064	$44,021	$42,696	$41,317	$40,967	
Nine people or more	$55,613	$55,883	$55,140	$54,516	$53,491	$52,082	$50,807	$50,491	$48,546

Source: U.S. Census Bureau, 2018
https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html

Poverty and health are closely linked, with those in poverty often shown to have an increased risk of chronic and mental health conditions, mortality, and lower life expectancies.[11]



New York State Community Action Association's Annual Poverty Report (2019) breaks down poverty rates and statistics by each county.[12]

"Poverty is both a cause and consequence of poor health"[13]

Counties in the Mid-Hudson Region vary greatly in their rates of poverty, ranging from 4.8% (Putnam) to 15.9% (Sullivan). With the exception of Sullivan County, all of the counties in the Mid-Hudson Region fall under New York State's poverty rate of 15.1% [see Figure 7].

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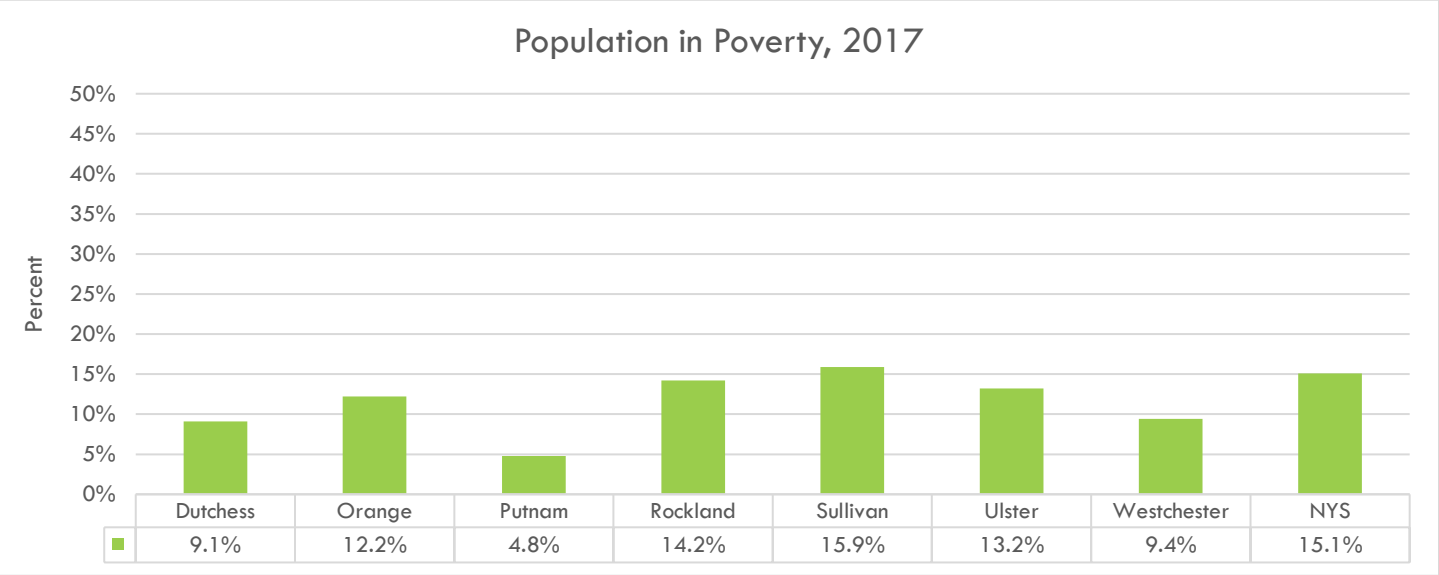
[10] U.S. Census Bureau, August 2018, https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html

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

[12] New York State Community Action Association, March 2019, http://nyscommunityaction.org/wp-content/uploads/2019/05/Poverty-Report_2019_Final-for-Web.pdf, accessed June 2019

[13] Health Poverty Action, January 2018, https://www.healthpovertyaction.org/news-events/key-facts-poverty-and-poor-health/, accessed June 2019

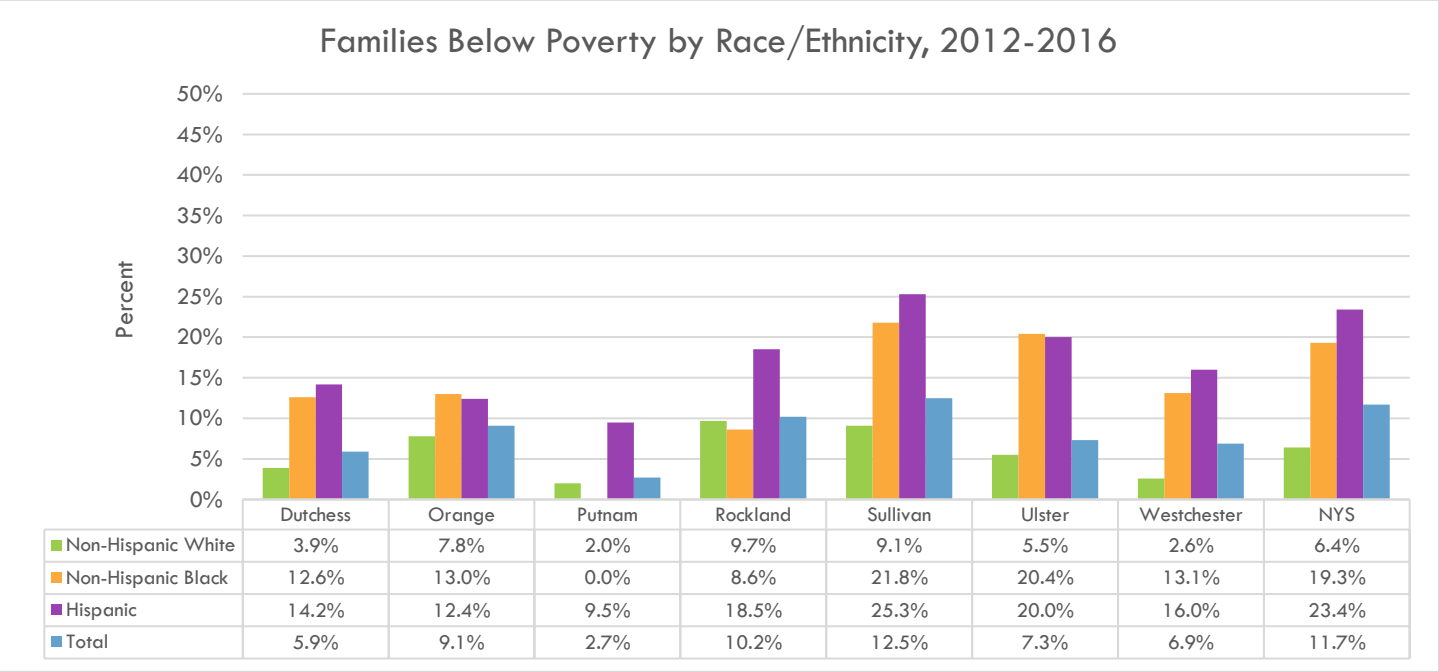
Figure 7



Source: U.S. Census Bureau, 2013-2017, American Community Survey, 5-year estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

Poverty varies greatly among certain groups, and certain populations are more likely to be in poverty. Hispanic populations have the highest rates of poverty in each county with the exception of Orange and Ulster Counties. In these Counties, the non-Hispanic Black population has the highest poverty rates [see Figure 8].

Figure 8



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
Non-Hispanic White	3.9%	7.8%	2.0%	9.7%	9.1%	5.5%	2.6%	6.4%
Non-Hispanic Black	12.6%	13.0%	0.0%	8.6%	21.8%	20.4%	13.1%	19.3%
Hispanic	14.2%	12.4%	9.5%	18.5%	25.3%	20.0%	16.0%	23.4%
Total	5.9%	9.1%	2.7%	10.2%	12.5%	7.3%	6.9%	11.7%

Source: U.S. Census Bureau, 2012-2016, American Community Survey, 5-year estimates
https://www.health.ny.gov/statistics/community/minority/county/index.htm

ASSET LIMITED, INCOME CONSTRAINED, EMPLOYED (ALICE)

Asset Limited, Income Constrained, Employed (ALICE) households are defined as those that earn more than the Federal Poverty Level (FPL), but less than the basic cost of living.[14] The ALICE measure takes into account the cost of living for the area being assessed [see Table 21 for a sample budget].

Table 21

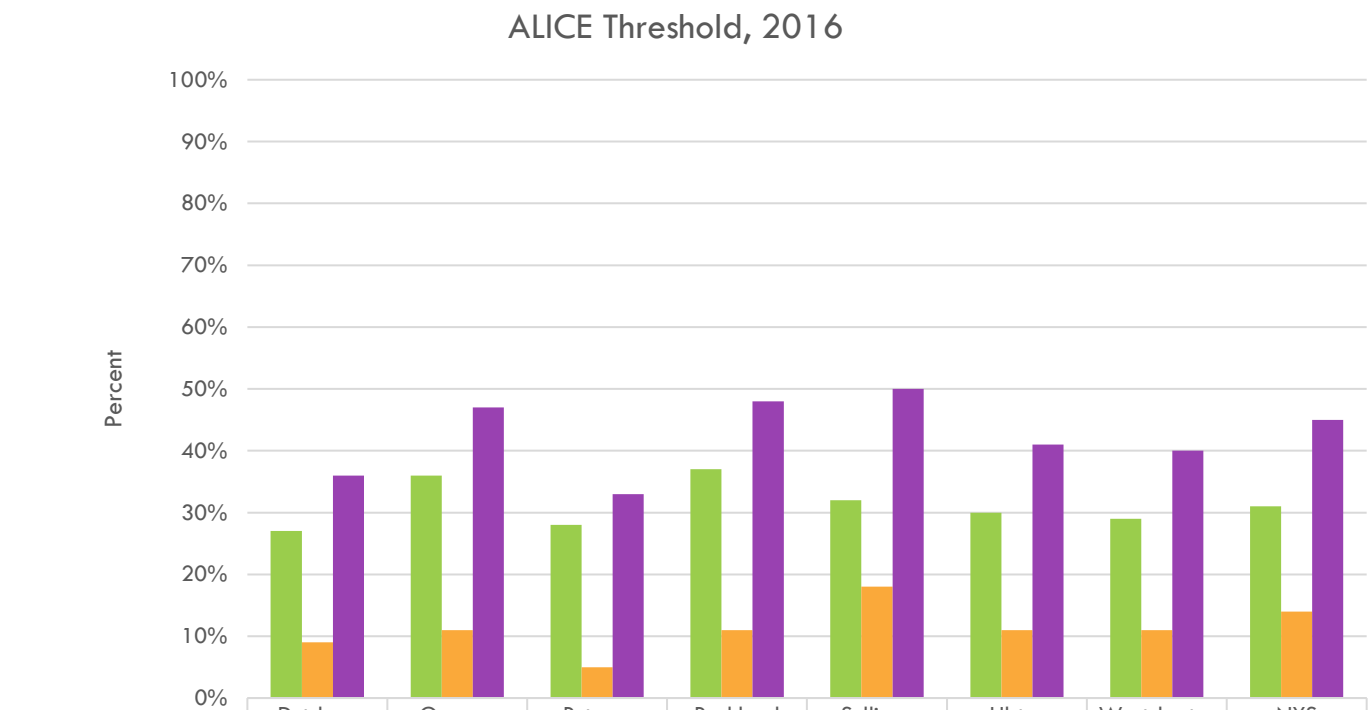
Household Survival Budget, Dutchess County		
	Single Adult	2 Adults, 1 Infant, 1 Preschooler
Monthly Costs		
Housing	$842	$1,271
Child Care	$--	$1771
Food	$182	$603
Transportation	$314	$627
Health Care	$196	$727
Technology	$55	$75
Miscellaneous	$195	$606
Taxes	$363	$988
Monthly Total	$2,147	$6,668
ANNUAL TOTAL	$25,764	$80,016
Hourly Wage	$12.88	$40.01

Source: United Way, 2016
https://www.uwdor.org/sites/uwdor.org/files/ALICE%20in%20Dutchess%20and%20Orange%202018%20Report.pdf

Sullivan County had the highest percentage of households who fall below the ALICE Threshold at 50.0%, while Putnam County had the lowest percentage at 33.0% [see Figure 9].

[14] United Way, 2016, https://www.uwdor.org/sites/uwdor.org/files/ALICE%20in%20Dutchess%20and%20Orange%202018%20Report.pdf, accessed July 2019

Figure 9



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
ALICE	27.0%	36.0%	28.0%	37.0%	32.0%	30.0%	29.0%	31.0%
Poverty	9.0%	11.0%	5.0%	11.0%	18.0%	11.0%	11.0%	14.0%
Below ALICE Threshold	36.0%	47.0%	33.0%	48.0%	50.0%	41.0%	40.0%	45.0%

Source: United for ALICE, 2016
https://www.unitedforalice.org/new-york

EDUCATION

HIGH SCHOOL GRADUATION

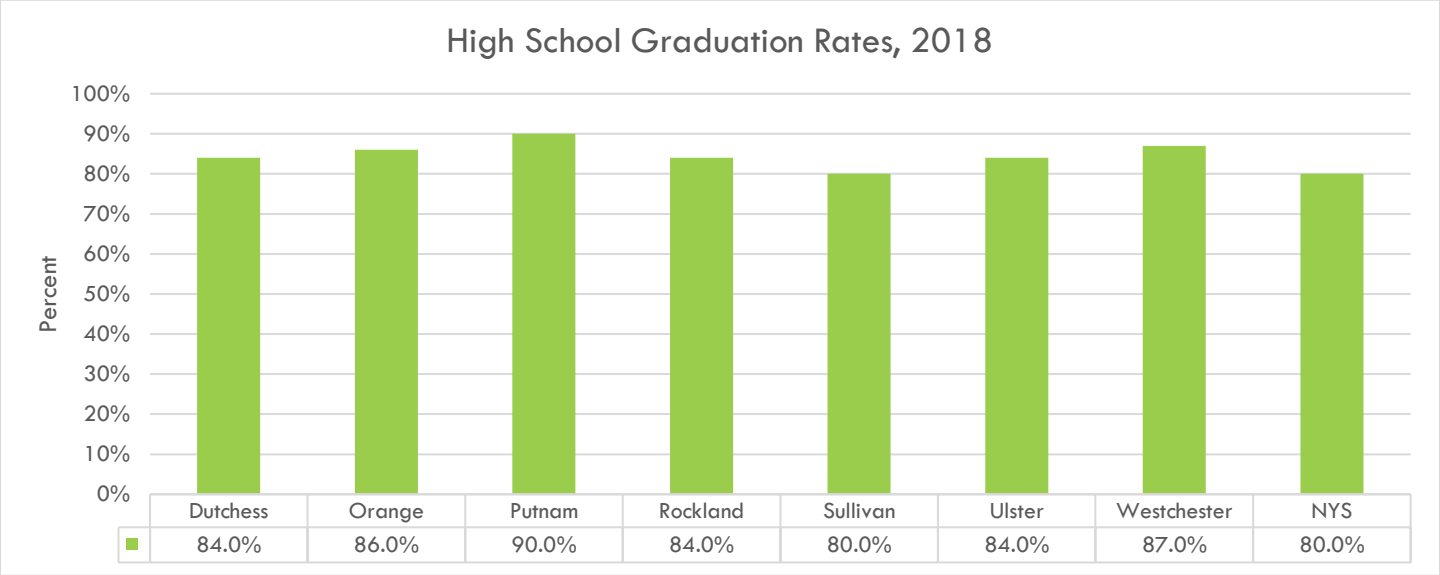
The obtainment of a high school diploma is tied with higher lifetime earnings, as well as better health outcomes. Those who have dropped out of school before graduating have an increased risk of premature death, are more likely to report at least one chronic health condition, and are more likely to be in poverty, when compared to those who have graduated.[15]

Research has revealed several factors that impact the likelihood of graduation. Schools with safety issues, teachers' lack of interest in students, and perceived ineffective and unfair punishment are characteristics associated with lower graduation rates.

In the Mid-Hudson Region, Putnam County has the highest graduation rate (90.0%), while Sullivan County has the lowest (80.0%). All counties in the Region have a graduation rate above or equal to New York State [Figure 10].

[15] Office of Disease Prevention and Health Promotion, June 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/high-school-graduation, accessed June 2019

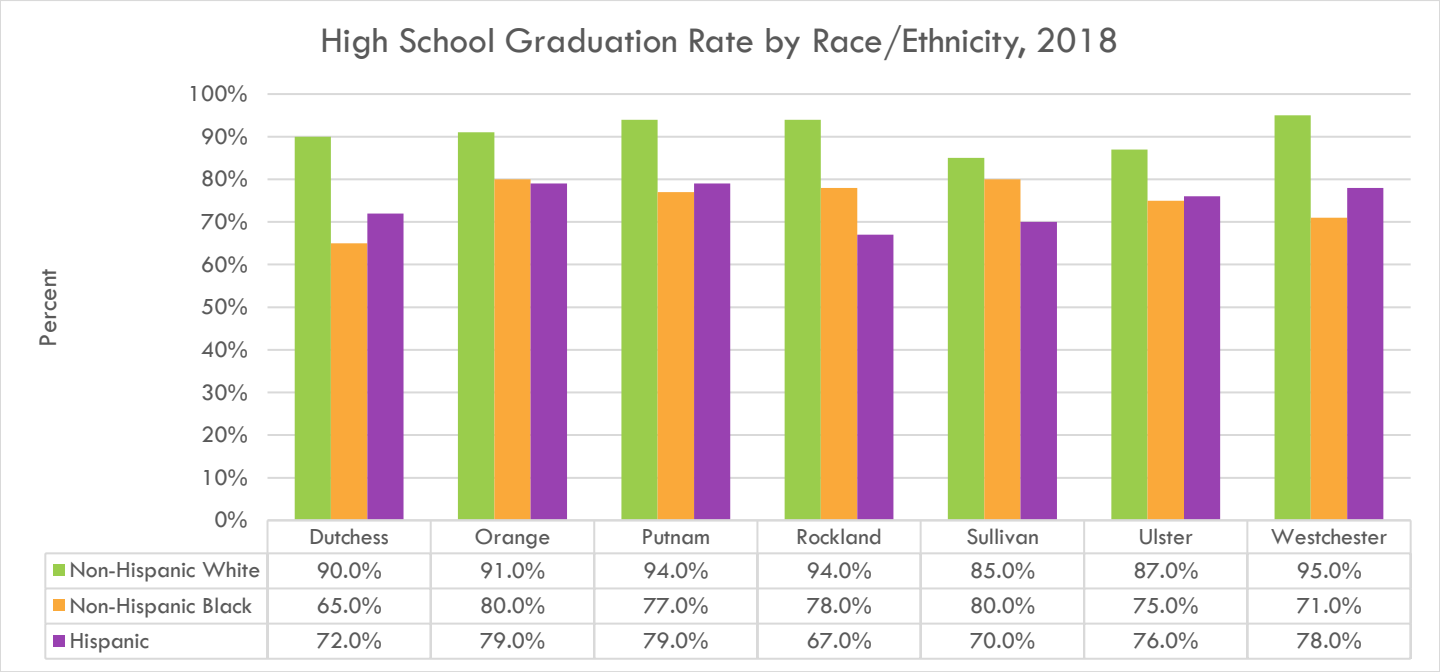
Figure 10



Source: NYS Department of Education, 2017-2018
https://data.nysed.gov/reportcard.php?instid=800000081568&year=2017&createreport=1&freelunch=1&gradrate=1

Disparities in graduation rates also exist between students from high-income and low-income families, as well as between racial and ethnic groups. Across all counties in the Mid-Hudson Region, non-Hispanic White students had a higher graduation rate than Hispanic and non-Hispanic Black students. The largest disparities in the Region exists in Rockland County between non-Hispanic White and Hispanic students, and in Dutchess County between non-Hispanic White and Black students. The lowest disparity exited in Sullivan County between non-Hispanic White and Black students [see Figure 11].

Figure 11



Source: NYS Department of Education, 2017-2018
https://data.nysed.gov/reportcard.php?instid=800000081568&year=2017&createreport=1&freelunch=1&gradrate=1

EARLY CHILDHOOD EDUCATION AND DEVELOPMENT

The first few years of a child's development sets the foundation for their health and well-being throughout their lifespan. Nurturing care is critical for the best possible developmental outcomes. Nurturing care is defined by the World Health Organization (WHO) as care that is provided in a stable environment, that is sensitive to children's health and nutritional needs, with protection from threats, opportunities for early learning, and interactions that are responsive, emotionally supportive, and developmentally stimulating.[16] The building blocks required include good nutrition, a hazard free environment, and minimal stress.

Early life stress has been shown to have long term consequences, including poor health outcomes and developmental delays. Poverty, physical abuse, instability, and unsafe neighborhoods are all contributors to early life stress.[17]

ADVERSE CHILDHOOD EXPERIENCES

Adverse Childhood Experiences (ACEs) are a way of measuring childhood stress, and are defined as potentially traumatic events in childhood that can have negative, lasting effects on health and well-being throughout life and into the next generation. Having any ACEs have been shown to significantly increase the risk of poor health outcomes. There is also a positive correlation between the number of ACEs experienced and poor health outcomes. The more ACEs reported, the higher the chance of experiencing poor health outcomes.[18]

There are three categories of ACEs, each with several sub categories

- Abuse
  - Physical
  - Emotional
  - Sexual
- Neglect
  - Physical
  - Emotional
- Household Dysfunction
  - Mental illness
  - Incarcerated relative
  - Mother treated violently
  - Substance abuse
  - Divorce

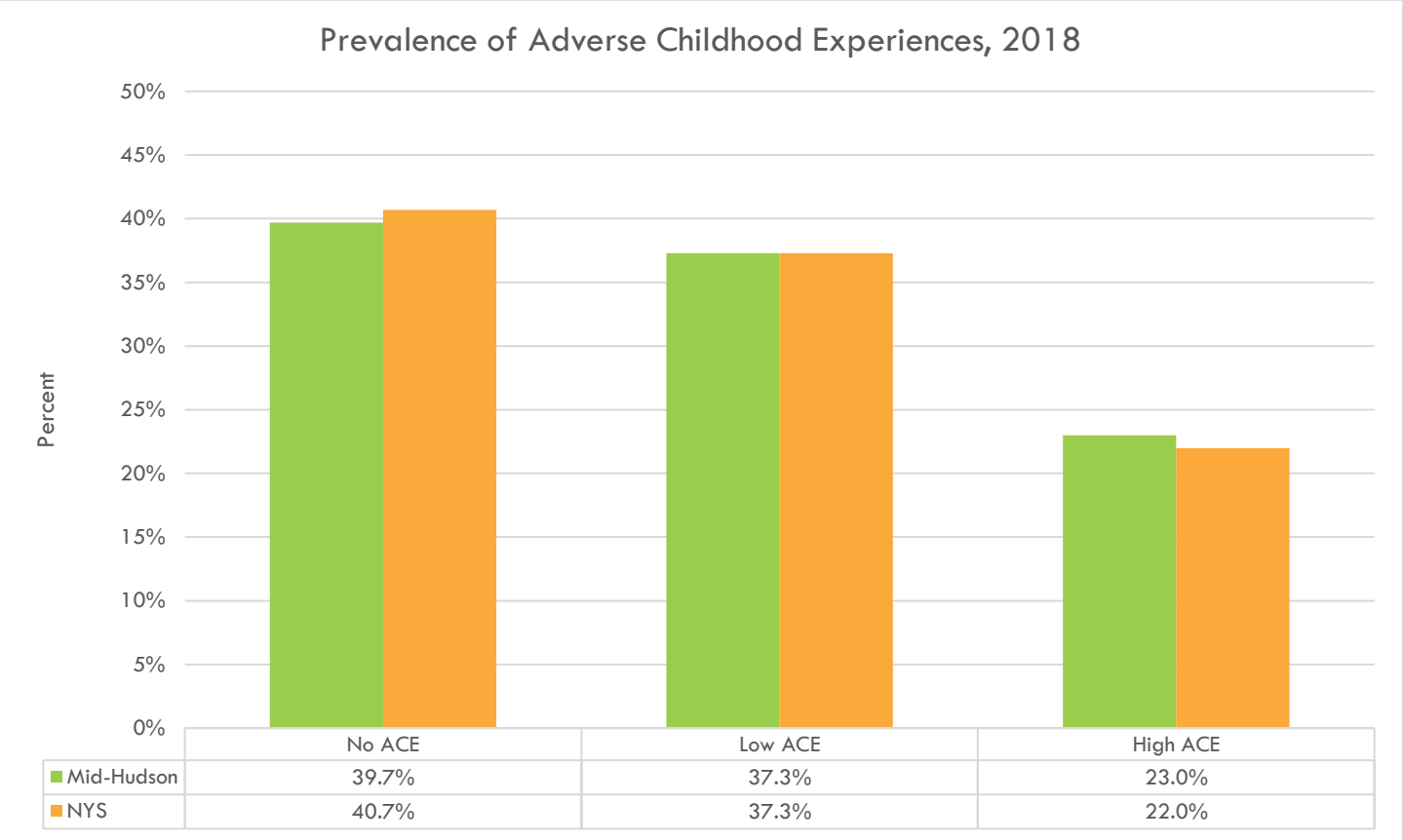
The Mid-Hudson Region does not differ greatly from the rest of New York State when it comes to the prevalence of ACEs. The Region had a prevalence of 37.3% of people who report having 1-2 ACEs (Low ACEs), while 23.0% reported three or more ACEs (High ACEs) [see Figure 12].

[16] WHO, https://www.who.int/topics/early-child-development/en/, accessed June 2019

[17] Office of Disease Prevention and Health Promotion, June 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/early-childhood-0, accessed June 2019

[18] NYS Department of Health, Office of Alcoholism and Substance Abuse Services, and Office of Mental Health, 2018 https://www.health.ny.gov/statistics/brfss/reports/docs/adverse_childhood_experiences.pdf, accessed July 2019

Figure 12



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
https://www.health.ny.gov/statistics/brfss/reports/docs/adverse_childhood_experiences.pdf

ECONOMICALLY DISADVANTAGED

The National School Lunch Program (NSLP) is a federal program providing nutritionally-balanced, low-cost, or free lunches to children each school day. The New York State Department of Education administers this program, and the local schools carry it out. All students receive the same meals regardless of payment category, which remains anonymous. The percentage of students who receive free or reduced lunch can be an indicator of students living in poverty. However, the support this program provides to students can reduce food insecurity, obesity rates, and poor health.

Of the seven counties in the Mid-Hudson Region, Sullivan County had the highest percentage of students receiving free lunch from 2016-2017 (53.0%). Ulster County had a slightly higher percentage of students receiving reduced-price lunch compared to the other counties in the Region (6.0%).

Figure 13

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
Free lunch	31.0%	32.0%	18.0%	34.0%	53.0%	40.0%	33.0%	48.0%
Reduced-price lunch	5.0%	5.0%	3.0%	3.0%	5.0%	6.0%	4.0%	5.0%

Source: NYS Department of Education, 2016-2017
https://data.nysed.gov/reportcard.php?instid=800000081568&year=2017&createreport=1&freelunch=1

ENROLLMENT IN HIGHER EDUCATION

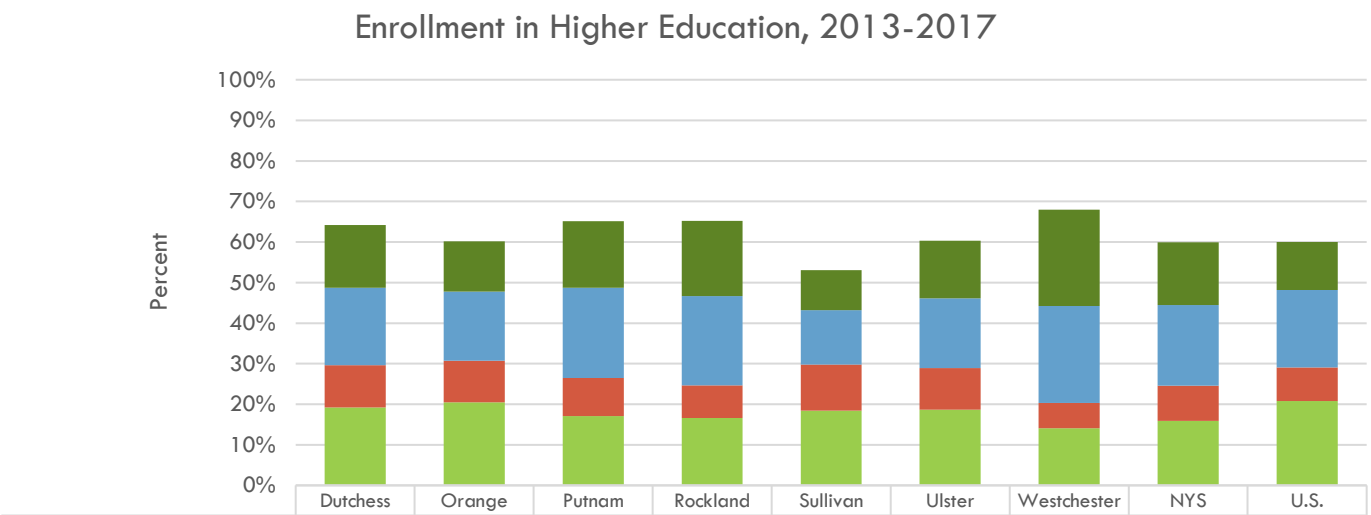
Continuing education after high school has a significant impact on employment options, which impacts lifetime income. This contributes to factors that support better well-being, such as quality housing, higher social status, and ability to live in safe neighborhoods.[19] Men with a bachelor's degree earn an average of $900,000 more in their lifetime than high school graduates with no bachelor's degree. Women with a bachelor's degree earn $630,000 more over their lifetime than female high school graduates with no bachelor's degree.[20]

Westchester County had the highest enrollment in higher education in the Region with 68.0% being enrolled in some type of higher education. Sullivan County had the lowest enrollment rate at 53.1% [see Figure 14].

[19] Office of Disease Prevention and Health Promotion, June 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/enrollment-in-higher, accessed June 2019

[20] Social Security Administration, November 2015, https://www.ssa.gov/policy/docs/research-summaries/education-earnings.html, accessed June 2019

Figure 14



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	U.S.
Graduate/Professional degree	15.5%	12.4%	16.4%	18.5%	9.9%	14.2%	23.8%	15.4%	11.8%
Bachelor's degree	19.1%	17.1%	22.2%	22.0%	13.4%	17.2%	23.9%	19.9%	19.1%
Associate's degree	10.4%	10.2%	9.4%	8.1%	11.4%	10.2%	6.2%	8.7%	8.3%
Some college, no degree	19.2%	20.5%	17.1%	16.6%	18.4%	18.7%	14.1%	15.9%	20.8%

Source: U.S. Census Bureau, 2013-2017 American Community Survey, 5-year estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

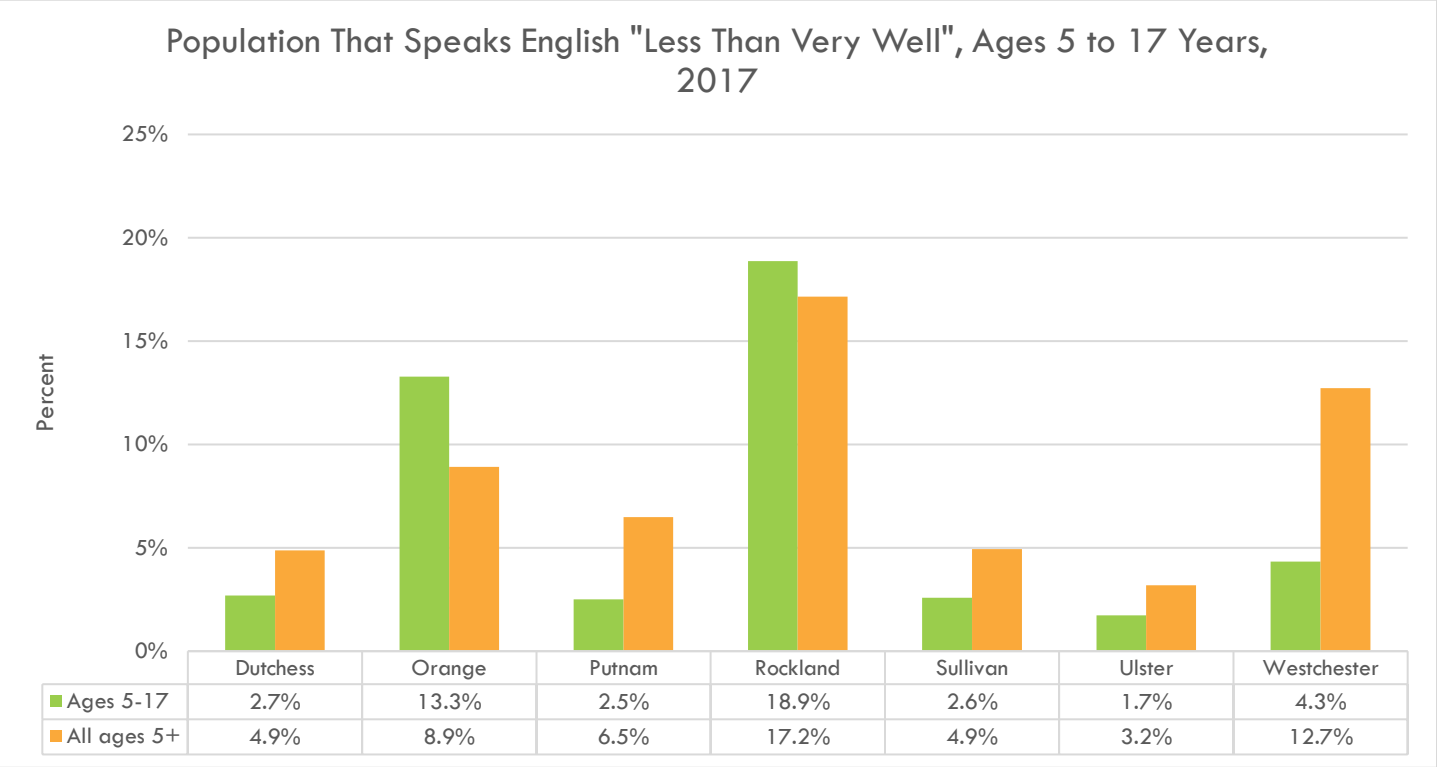
LANGUAGE AND LITERACY

Literacy includes listening, speaking, reading, and writing skills, along with the ability to understand and work with numbers. Low literacy and language skills are associated with poorer outcomes in educational attainment, employment, and health.[21] While limited English proficiency and low literacy are not the same as health literacy [see page 55], they can still be barriers to accessing health care. Both make it difficult for patients to understand health information and are associated with lower utilization of health services.

Rockland County had the highest percentage of children aged 5-17 years who spoke English less than very well (18.9%). Those who speak an Indo-European language account for the largest portion of this demographic [see Figure 15] in the County.

[21] ODPHP, June 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/language-and-literacy#10, accessed June 2019

Figure 15



Source: U.S. Census Bureau, 2013-2017 American Community Survey, 5-Year Estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

SOCIAL AND COMMUNITY CONTEXT

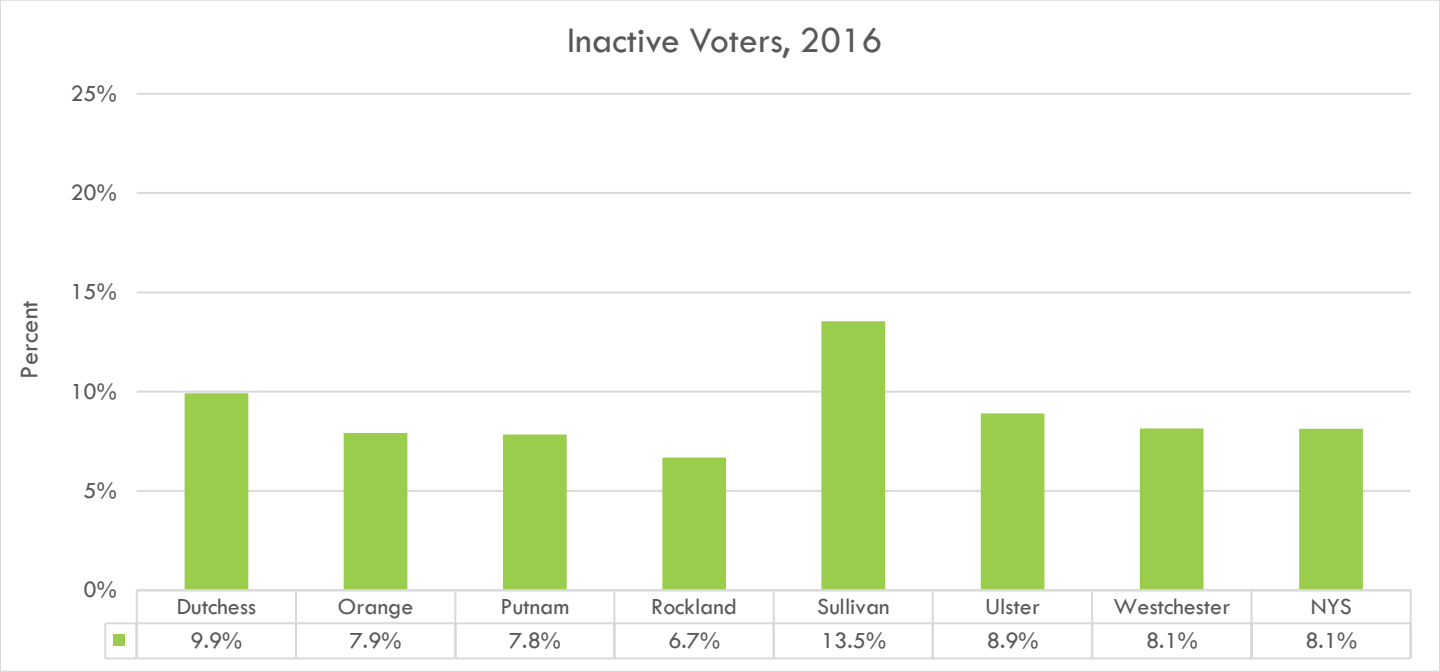
CIVIC PARTICIPATION

Civic participation includes activities in which groups or individuals interact with their community, such as voting, participating on sports teams, or volunteering. Civic participation has been shown to improve health by expanding social networks, trust, and norms, which can increase physical activity and improve mental health.[22]

Participating in the electoral process through voting can be a good indicator of civic participation in a community. In New York State, a voter is considered inactive if they have not responded to a residence confirmation notice sent by the local Board of Elections. If a voter has an inactive status, and does not vote in two consecutive federal elections, they are then removed from the list of registered voters in the fifth year of inactivity. In 2016, Sullivan County had the highest percentage of inactive voters at 13.6%. Rockland County had the lowest percentage of inactive voters at 6.7% [see Figure 16].

[22] Office of Disease Prevention and Health Promotion, June 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/civic-participation, accessed June 2019

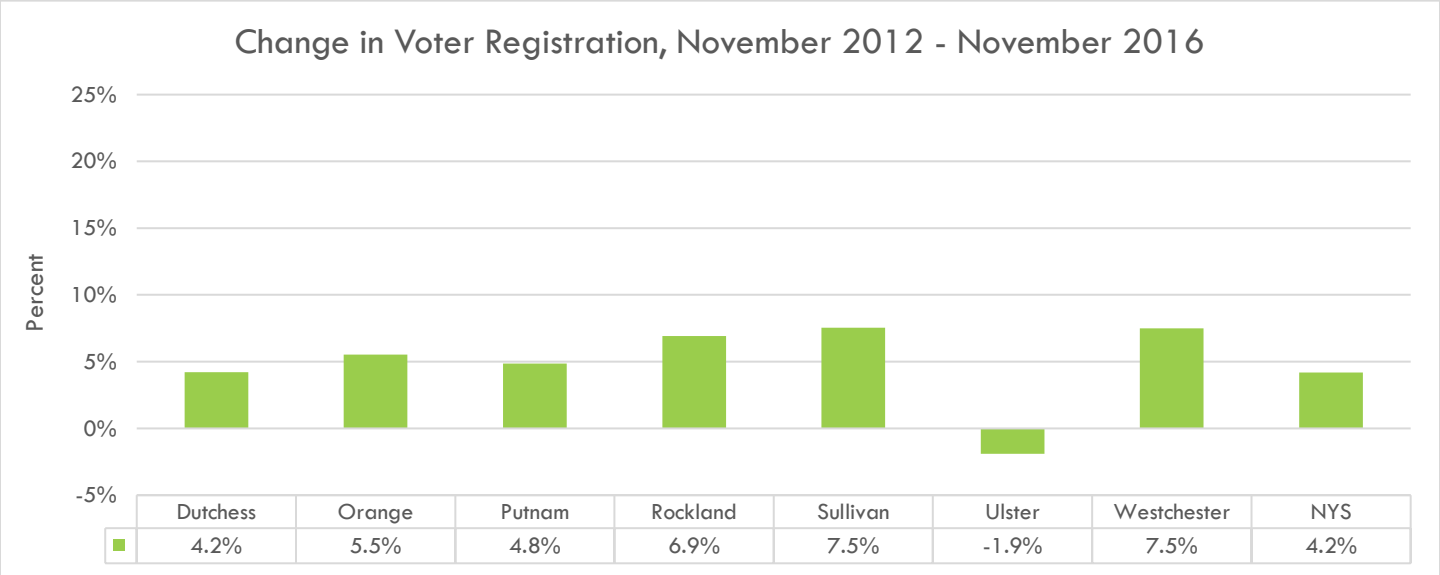
Figure 16



Source: NYS Board of Elections, 2016
https://www.elections.ny.gov/NYSBOE/enrollment/county/county_nov16.pdf

Between the federal elections of 2012 and 2016, all counties' voter registration increased with the exception of Ulster County, whose registration decreased by 1.9%. Sullivan County saw the largest jump, with registration increasing 7.5% [see Figure 17].

Figure 17

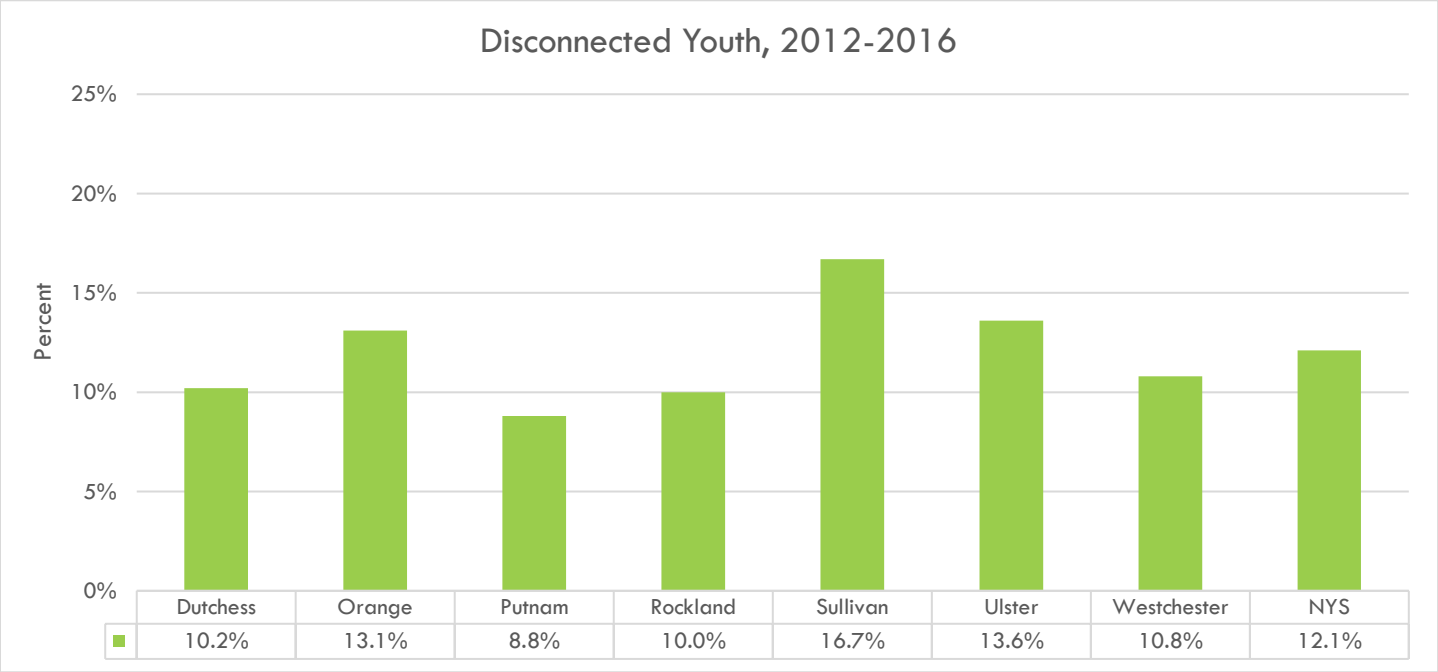


Source: NYS Board of Elections, 2016
https://www.elections.ny.gov/NYSBOE/enrollment/county/county_nov16.pdf

Disconnected youth are teenagers and young adults between the ages of 16 and 24, who are neither working nor in school. This metric is an indicator for how young people are faring while transitioning into adulthood. This population is cut off from resources, people, and experiences that help them gain knowledge, skills, and a sense of purpose.[23]

Sullivan County had the highest percentage of disconnected youth (16.7%), while Putnam County had the lowest (8.8%) [see Figure 18].

Figure 18



Source: Measure of America, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=sh

DISCRIMINATION

Healthy People 2020 defines discrimination as a socially structured action that is unfair and harms individuals or groups. Discrimination can happen in everyday instances, such as poorer service or receiving less courtesy or respect than other groups. This type of treatment can have physical and mental health consequences and can increase stress, which can leave the body vulnerable to illness.

Residential segregation is an example of major discrimination. Causes can vary, and can include being refused to be rented to, or being unfairly denied a bank loan. The implications of residential segregation are far-reaching- impacting quality of education, access to healthy food options and physical activities, safety, and transportation, and contribute to the differences in health status that can be seen between groups.[24]

[23] Measure of America, http://measureofamerica.org/disconnected-youth/, accessed June 2019

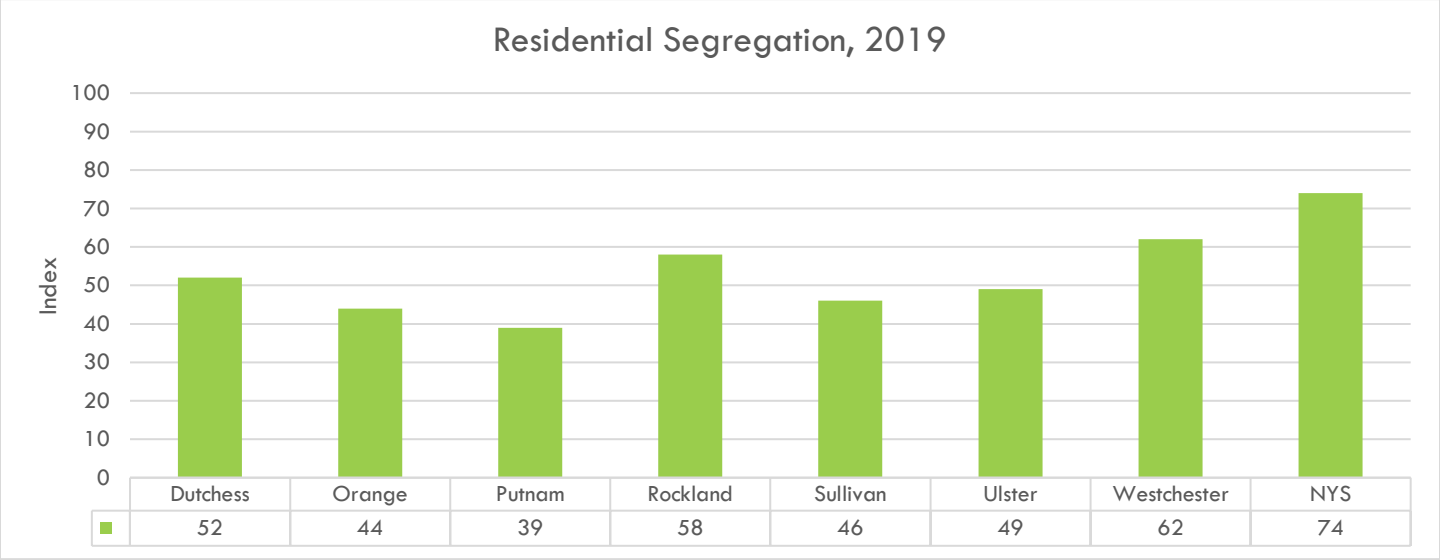
[24] Office of Disease Prevention and Health Promotion, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/discrimination, accessed June 2019

In the U.S., residential discrimination is considered a central cause of health disparities between non-Hispanic Black and White populations.[25]

Data produced by *County Health Rankings & Roadmaps* around residential segregation uses the *American Community Survey* to measure the distribution of non-Hispanic Black and White residents across census tracks. In the index used to measure residential segregation, zero represents complete integration, while 100 is complete segregation. The index score can also represent the percentage of either non-Hispanic Black or White residents who would have to move to a different geographic area in order to produce a distribution that matches that of the larger area.

Westchester has the highest index score of residential segregation (62) in the Region, still falling under New York State's score of 74. The county with the lowest index score is Putnam County with a score of 39 [see Figure 19].

Figure 19



Note: Index of dissimilarity where higher values indicate greater residential segregation between Black and White county residents.
Source: American Community Survey, 5-year estimates, 2013-2017
http://www.countyhealthrankings.org/app/new-york/2019/measure/factors/141/data

HEALTH CARE ACCESS AND USAGE

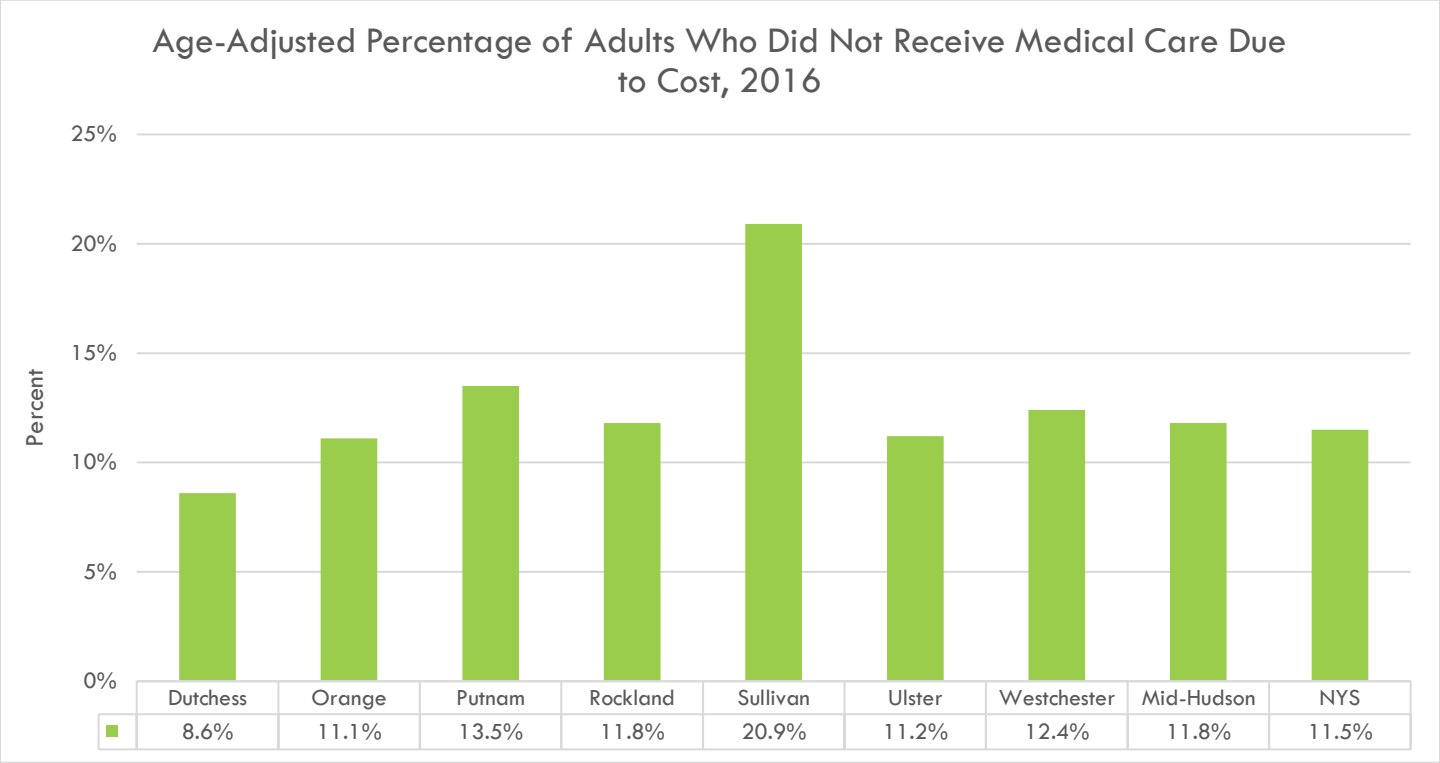
The National Academies of Sciences, Engineering, and Medicine defines access to health care as the "timely use of personal health services to achieve the best possible health outcomes." Factors that can get in the way of individuals having decent access to health care, include lack of transportation, lack of insurance coverage, and inadequate providers per capita.

Cost is a barrier to receiving health services, and it can particularly deter people from receiving preventative care. Past due medical bills alone total $81 billion and affects one in six Americans.[26] In 2016, 20.9% of BRFSS respondents in Sullivan County reported that they did not receive medical care in the past year due to cost. This was the highest rate in the Region, more than double that of Dutchess County, which had the lowest percentage in the Region at 8.6% [see Figure 20].

[25] County Health Rankings and Roadmaps, 2019, https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/141/description, accessed June 2019

[26] PBS, July 2018, https://www.pbs.org/newshour/health/millennials-rack-up-the-most-medical-debt-and-more-frequently, accessed June 2019

Figure 20



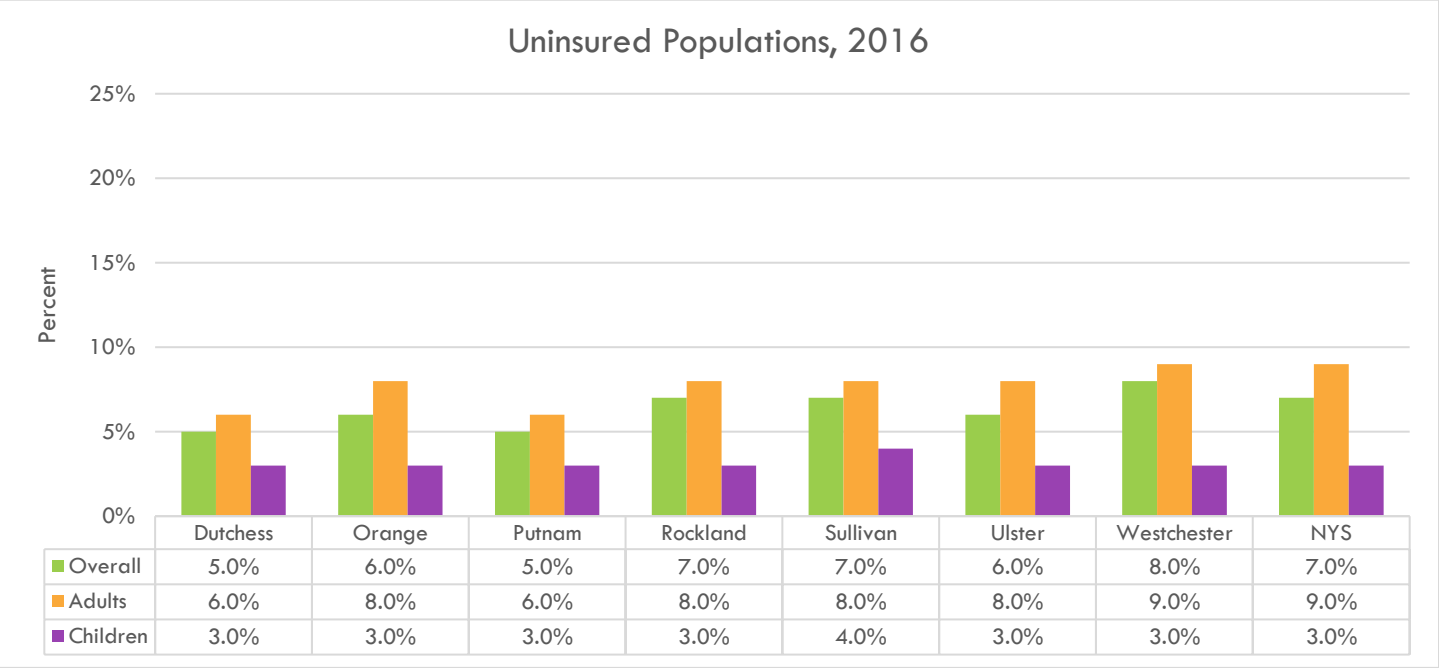
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data#revert

HEALTH INSURANCE COVERAGE

Insurance coverage is one of the largest factors affecting health care access. People without health insurance are less likely to access medical services than those who are insured. Having health insurance increases health care access and health monitoring which prevents entrance into the medical system when conditions have gotten more severe and expensive. Several government programs, such as Medicaid and the Children's Health Insurance Program, help provide low and no-cost insurance to children who qualify. This helps lower the rates of uninsured children.

Westchester County had the highest percentage of uninsured individuals in the Region (8.0%). It also had the highest percentage of adults (ages 16 to 64 years) who are uninsured. Putnam County and Dutchess County had the lowest percentages of uninsured individual, each with 5.0%. Sullivan County had the highest percentage of uninsured children at 4.0%, while in all other counties, only 3.0% of children were uninsured [see Figure 21].

Figure 21



Source: U.S. Census Bureau Small Area Health Insurance Estimates, 2016
https://www.countyhealthrankings.org/app/new-york/2019/rankings/factors/overall

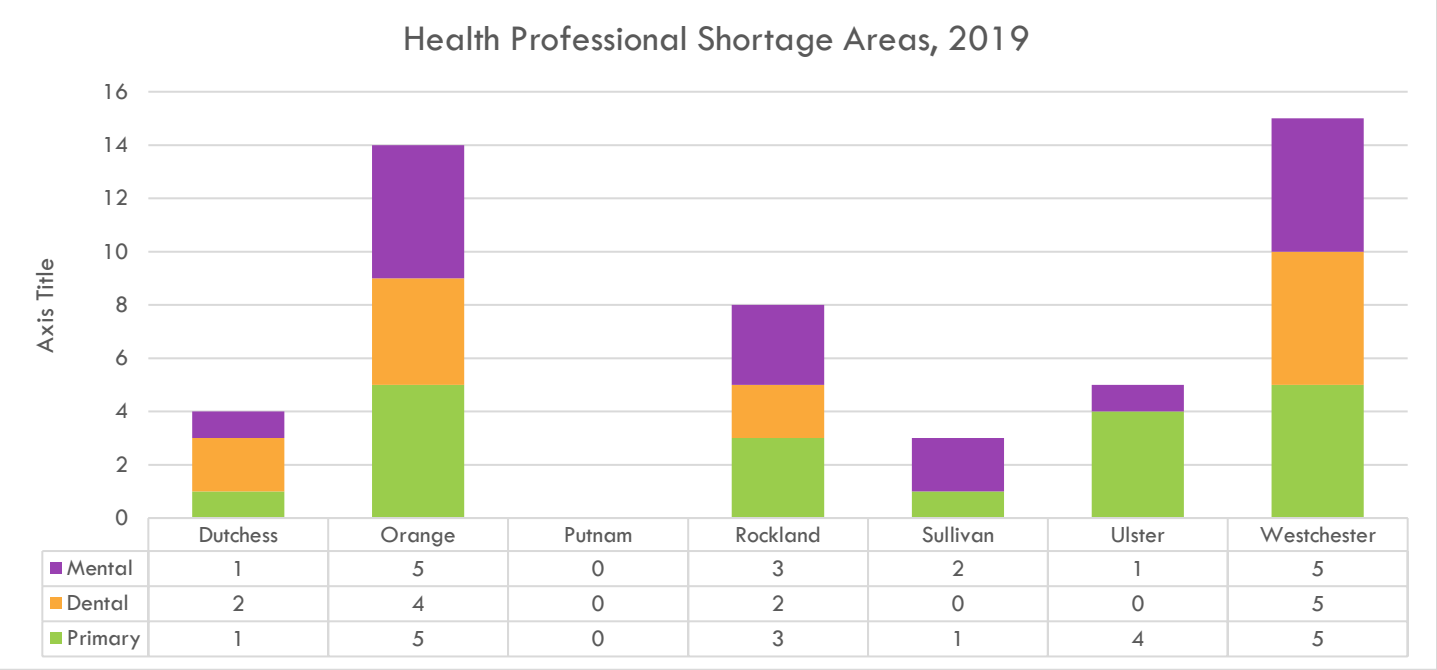
HEALTH PROFESSIONAL SHORTAGE AREAS

Healthcare Professional Shortage Areas (HPSA) are designations made by the Health Resources and Services Administration. The shortage designation means there are too few providers for a geographic area, a population group, or a facility. This designation is also sorted by discipline, and includes primary care, dental, and mental health. Having limited physicians in an area hinders health care access. It can create longer wait times and delayed care and diagnosis.[27]

Westchester and Orange Counties have the highest number of HPSAs. Putnam County had no designations [see Figure 22].

[27] Office of Disease Prevention and Health Promotion, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/access-to-health, accessed 2019

Figure 22



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester
Mental	1	5	0	3	2	1	5
Dental	2	4	0	2	0	0	5
Primary	1	5	0	3	1	4	5

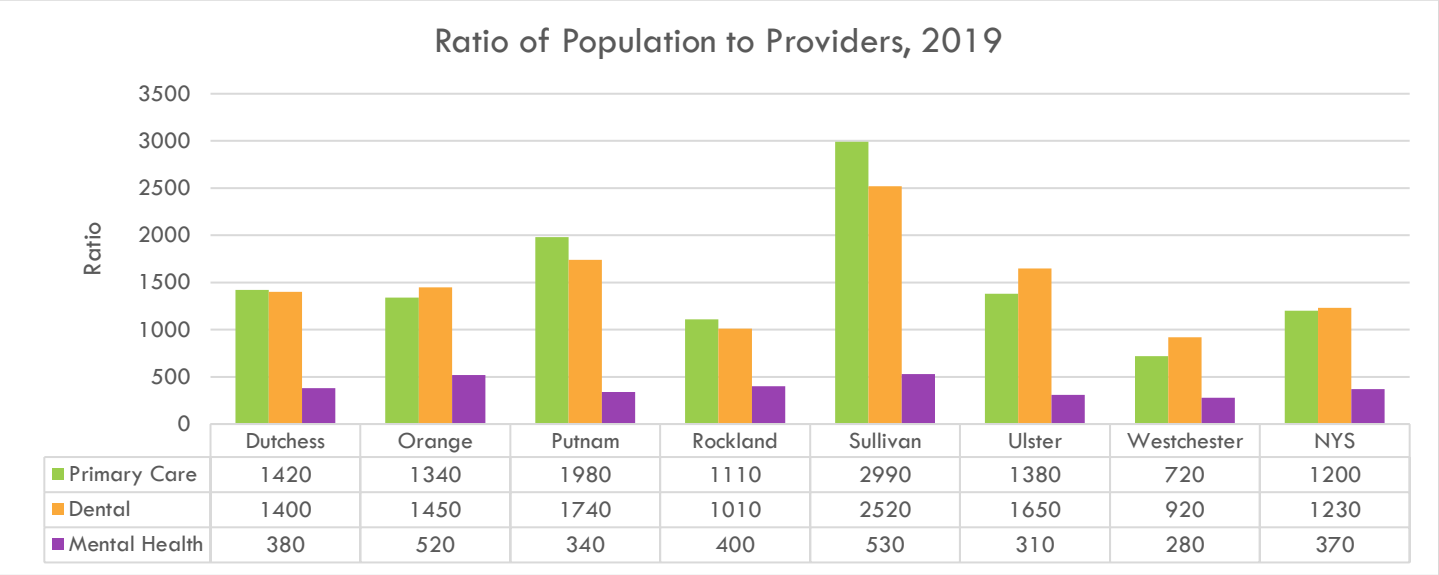
Source: HRSA Data Warehouse, 2019
https://data.hrsa.gov/tools/shortage-area/hPsa-find

While access to specialty providers can be associated with higher medical costs and increased utilization, access to primary care is key to preventative care and early diagnosis. Dental care is another discipline that is key in providing preventative care.

Mental health care is predicted to have further provider shortages as the Affordable Care Act's parity provisions increase coverage for mental health. When measuring the ratio of population to providers, a higher ratio means less providers per capita, implying less access.

Sullivan County had the lowest number of providers per capita in primary, dental and mental health care. Westchester had the highest number of primary, dental, and mental health care providers per capita [see Figure 23].

Figure 23



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
Primary Care	1420	1340	1980	1110	2990	1380	720	1200
Dental	1400	1450	1740	1010	2520	1650	920	1230
Mental Health	380	520	340	400	530	310	280	370

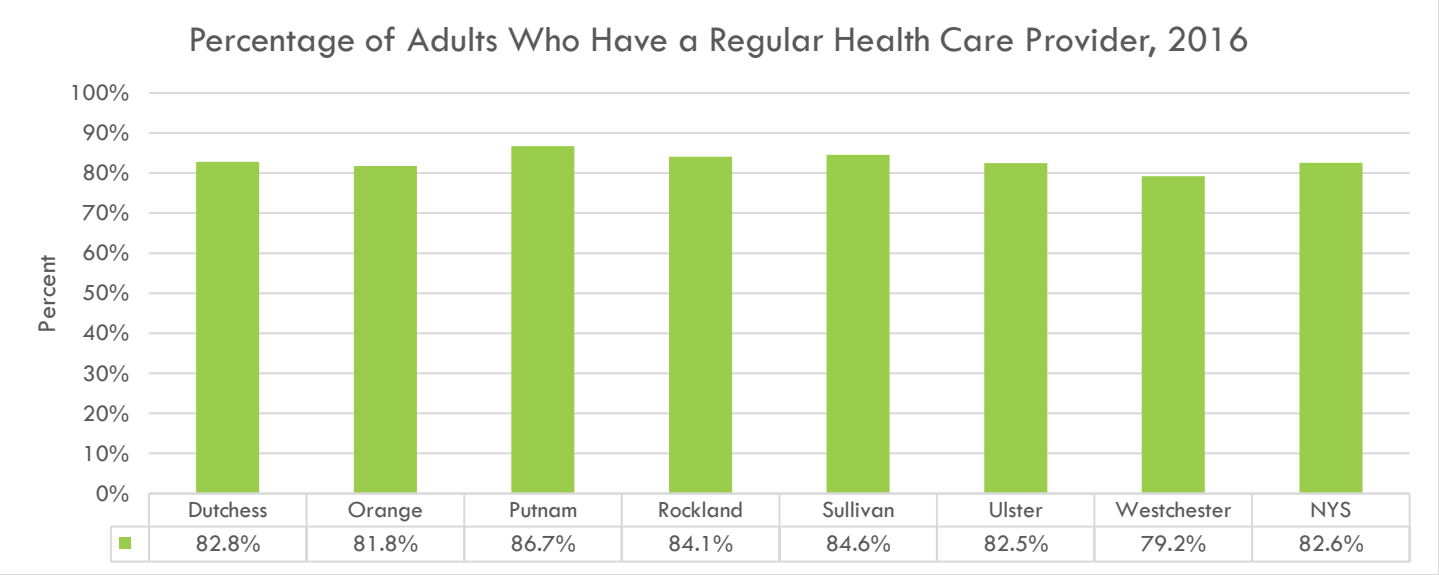
Source: County Health Rankings and Roadmaps, 2019
https://www.countyhealthrankings.org/app/new-york/2019/rankings/outcomes/overall

ACCESS TO PRIMARY CARE

Receiving regular primary care services is key for chronic disease management, preventative care, and early detection. Lack of insurance; low providers per capita; lack of access to transportation; and lack of culturally competent physicians can all be barriers to accessing regular primary care services.[28]

Putnam County had the largest percentage of adults who reported having a regular primary care provider at 86.7%, while Westchester County had the lowest percentage at 79.2% [see Figure 24].

Figure 24



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
	82.8%	81.8%	86.7%	84.1%	84.6%	82.5%	79.2%	82.6%

Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ch

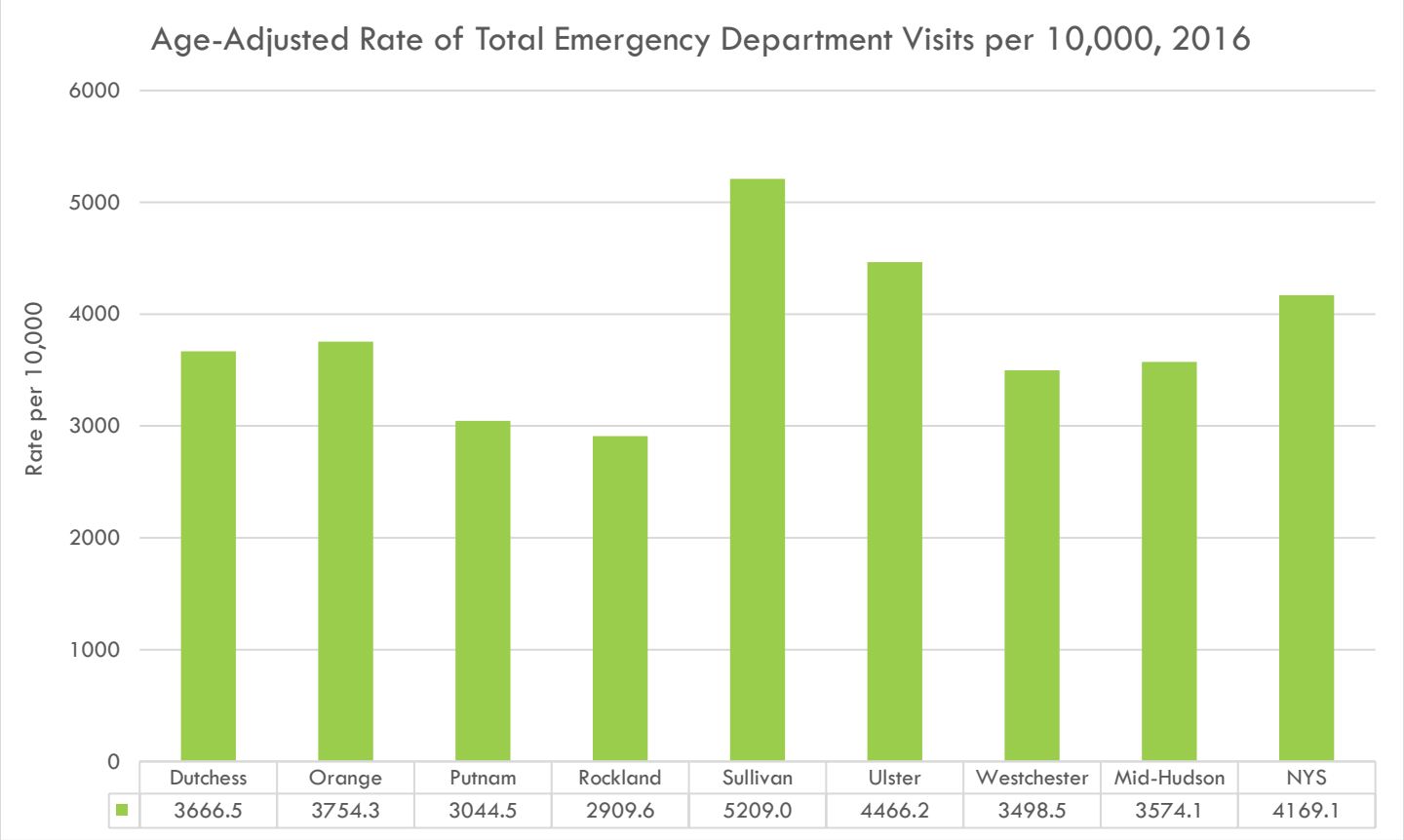
[28] ODPHP, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/access-to-primary, accessed June 2019

HEALTH CARE USAGE

The American Academy of Pediatrics defines an urgent care center as "health care provided on a walk-in, no-appointment basis for acute illness or injury that is not life or limb threatening, and is either beyond the scope or availability of the typical primary care practice or retail clinic."[29] Urgent care centers can serve as an alternative to a physician's office because of their common availability on nights and weekends, as well as walk-in availability. In non-emergent situations, they can also serve as an alternative to emergency rooms, which can be costly and have long wait times.

Sullivan and Ulster Counties had the highest rates of ED visits in 2016 at 5209.0 and 4466.2 per 10,000 population, respectively [see Figure 25]. Excluding Sullivan and Ulster Counties, every county in the Mid-Hudson Region had lower ED visit rates than New York State. Rockland County had the lowest ED visit rate in the Mid-Hudson Region, followed by Putnam County.

Figure 25



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ch

[29] American Academy of Pediatrics, August 2016, https://www.aap.org/en-us/professional-resources/practice-transformation/economics/Pages/Urgent-Care-Centers.aspx, accessed June 2019

HEALTH LITERACY

The Office of Disease Prevention and Health Promotion defines health literacy as "the degree to which individuals have the capacity to obtain, process, and understand basic health information needed to make appropriate health decisions."[30] Studies show that those with limited health literacy are significantly more likely to report poor health than those with proficient health literacy skills. Those with limited health literacy tend to enter the health care system when they are more sick than those with proficient health literacy skills. They also are less likely to use services that prevent complications and make greater use of services that treat complications.[31]

Lack of health literacy is another barrier to accessing health care. Even with otherwise proficient access to a doctor or services, health literacy is key in being able to follow through with treatment and maintaining health. It is important to note that the responsibility of health literacy does not fall solely on the patient. It is also the responsibility of the service provider and their institution to ensure that resources and information being shared are communicated in an appropriate, understandable way.

NEIGHBORHOOD AND BUILT ENVIRONMENT

ACCESS TO FOODS THAT SUPPORT HEALTHY EATING PATTERNS

Healthy eating is an important part of living a healthy lifestyle. A healthy diet lowers risk of chronic diseases, such as obesity, type 2 diabetes, and heart disease. It is also essential for managing chronic conditions and preventing complications for those who have chronic diagnoses.[32] Fresh fruits and vegetables are emphasized in a healthy diet, along with whole grains, lean protein, and low-fat milk.

Certain characteristics of an area or neighborhood can make accessing healthy food options difficult. For example, proximity to supermarkets is an indicator of access. For those without a personal vehicle, convenient public transportation, or a supermarket within walking distance, finding fresh, healthy options can be a challenge. Areas that lack access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet, are known as food deserts.[33] Predominantly Black low-income neighborhoods, and low-income rural communities are more prone to these conditions than other communities.[34]

Healthier options are also often more expensive than low-nutrient foods, adding another barrier to many who are low-income trying to access healthy options.

The County Health Rankings and Roadmaps program created a Food Environment Index, which combines a variety of data measures (from the USDA, 2015 and 2016 data), such as proximity to healthy foods, income, and food insecurity to create an index measure of 0 to10, 0 being the worst and 10 being the best. According to the Index, Ulster County had the poorest food environment, while Putnam County had the best. The majority of counties fell below the New York State score of 9.1 [see Figure 26].

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[30] ODPHP, 2019, https://health.gov/communication/about.asp, accessed June 2019

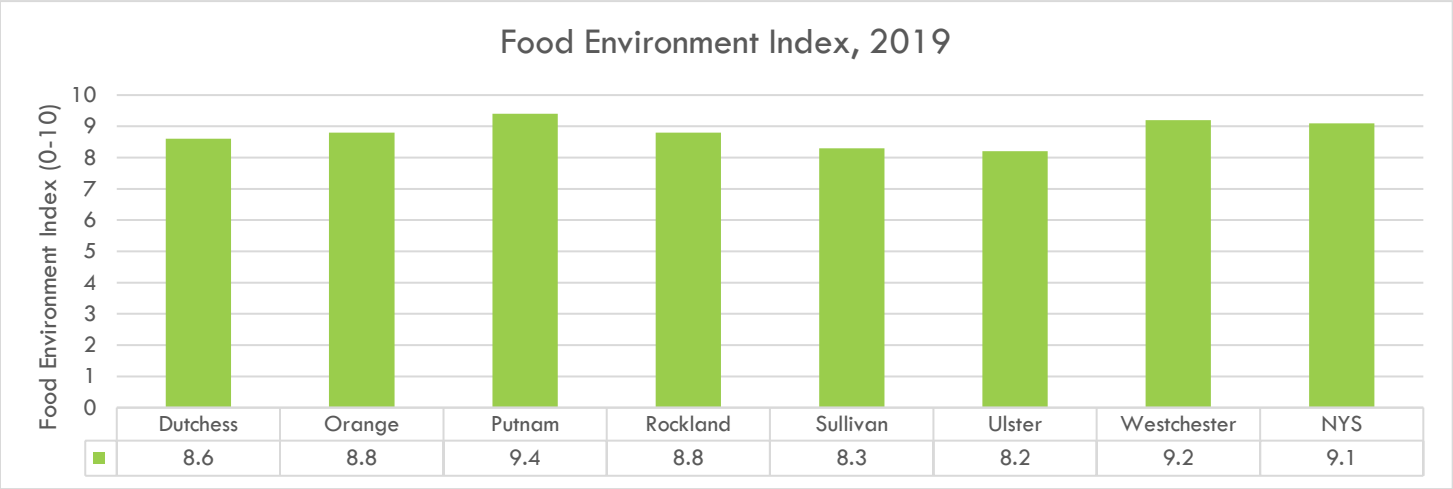
[31] U.S. Department of Health and Human Services, April 2006, https://health.gov/communication/literacy/quickguide/factsliteracy.htm, accessed June 2019

[32] CDC, July 2017, https://www.cdc.gov/nutrition/about-nutrition/pdfs/Nutrition-Fact-Sheet-H.pdf, accessed June 2019

[33] CDC, August 2017, https://www.cdc.gov/features/fooddeserts/index.html, accessed June 2019

[34] ODPHP, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/access-to-foods-that#21, accessed 2019

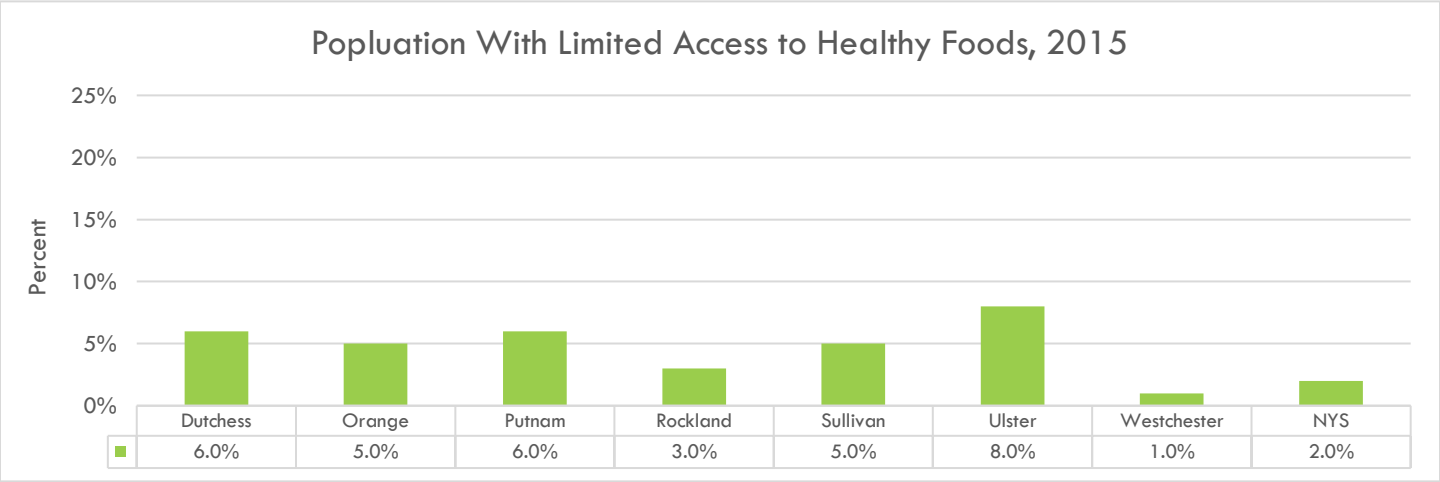
Figure 26



Source: County Health Rankings (data from 2015 & 2016), 2019
https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/133/map

Limited access to healthy foods and food insecurity are indicators which are both equally weighted in the Food Environment Index. To see a county comparison of food insecurity, see page 33. The "limited access to healthy foods" indicator estimates the percentage of the population that is low-income and does not live close to a grocery store. "Low-income is defined as having an annual family income of less than or equal to 200% of the federal poverty line. For rural areas, living less than 10 miles from a grocery store is considered living close, and for urban areas, close is defined as less than one mile from a grocery store."[35] According to this measure, 8.0% of Ulster County's population has limited access to healthy food, making it the highest in the Mid-Hudson Region, more than eight times that of Westchester County, which has the lowest percentage at 1.0%. According to this indicator, most of the counties in the Mid-Hudson Region fall above New York State [see Figure 27].

Figure 27



Source: U.S. Department of Agriculture, Food Environment Atlas, 2015
https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/83/data

[35] County Health Rankings and Roadmaps, 2019, https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/83/description, accessed June 2019

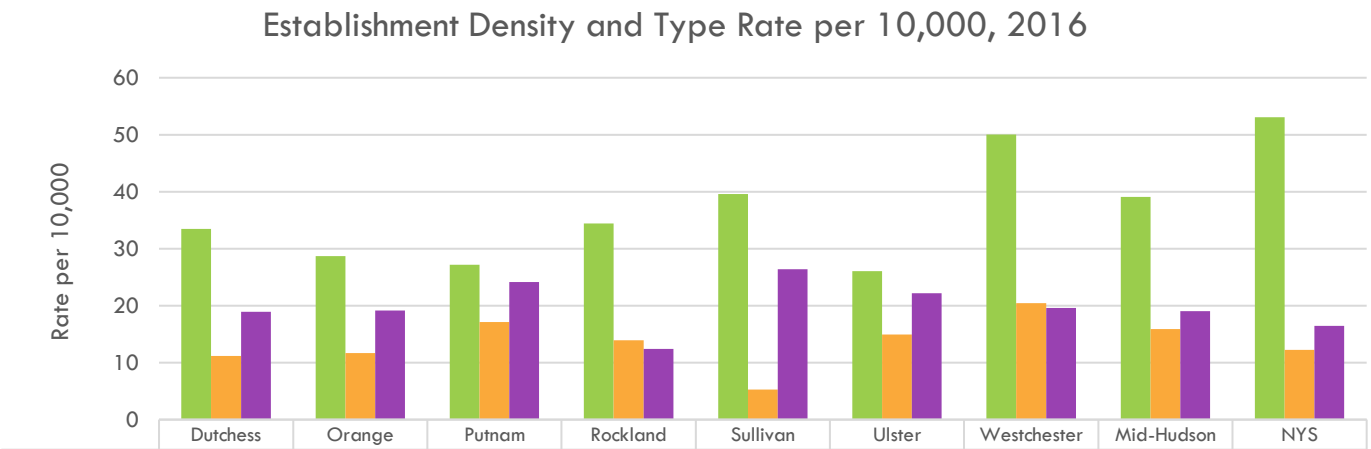
DENSITY

Westchester County had the highest density rate of grocery stores per population (50.0 per 10,000), which was slightly lower than the overall rate of grocery stores per population in New York State (53.1 per 10,000). This was higher than the Mid-Hudson Region's density rate of grocery stores, which was 39.1 per 10,000. Putnam County had the lowest density rate of grocery stores per population at 27.2 per 10,000 [see Figure 28].

The density rates of gyms per population was 12.2 per 10,000 in New York State, which was lower than the density rate of gyms per population in the Mid-Hudson Region (15.9 per 10,000). Westchester County had the highest rate of gyms per population (20.4 per 10,000), while Sullivan County had the lowest rate of gyms per population (5.3 per 10,000) [see Figure 28].

New York State's density rate of liquor stores per population was 16.4 per 10,000. Rockland County was the only county in the Region with a lower density rate of liquor stores per population than New York State's density rate (12.4 per 10,000). Sullivan County had the highest density rate of liquor stores per population (26.4 per population). The density rate of liquor stores per population for the Mid-Hudson Region was 19.1 per 10,000 [see Figure 28].

Figure 28



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Grocery Stores	33.5	28.7	27.2	34.4	39.6	26.0	50.0	39.1	53.1
Gyms	11.2	11.7	17.1	13.9	5.3	15.0	20.4	15.9	12.2
Liquor Stores	18.9	19.1	24.1	12.4	26.4	22.2	19.6	19.1	16.4

Source: U.S. Census Bureau, County Business Patterns, 2016
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

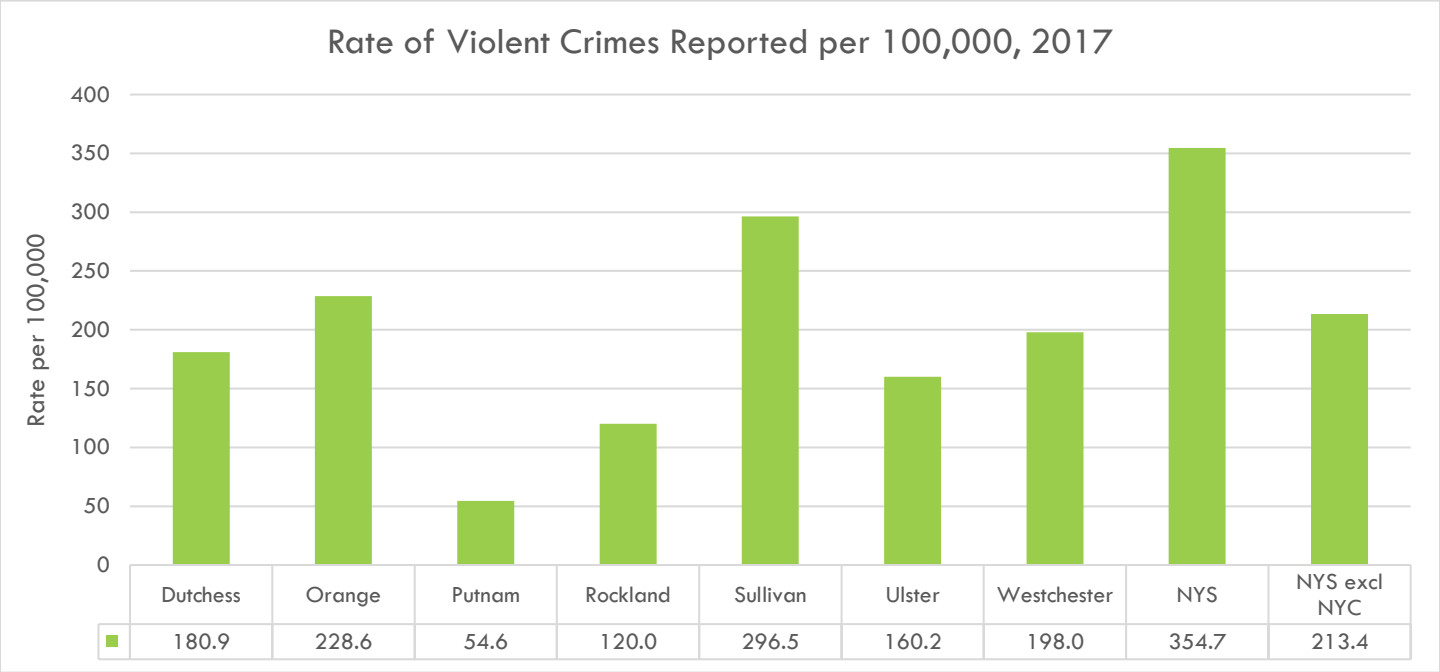
CRIME AND VIOLENCE

Crime and violence poses a major public health issue on a number of levels. Homicide and legal intervention ranks in the top five leading causes of death for certain groups. Violent crime can affect the quality of life of those it. Studies have shown that those who fear crime in their communities engage in less physical activity. As a result, they have higher Body Mass Indexes (BMIs) and levels of obesity. Exposure to violence can also have negative impacts on mental health. Consequences can particularly affect children and adolescents. It can increase

behavioral problems, depression, anxiety, Post Traumatic Stress Disorder (PTSD), and can lead to risky behavior, such as substance use, risky sexual behavior, and unsafe driving.[36]

The Division of Criminal Justice Services collects crime reports from police and sheriffs' departments to submit to the Federal Bureau of Investigation (FBI) as New York's official crime statistics. Violent crime totals include reports of murder, rape, robbery, and aggravated assault. Sullivan County had the highest rate of reported violent crimes (296.5 per 100,000 population), while Putnam County had the lowest rate (54.6 per 100,000 population) [see Figure 29].

Figure 29



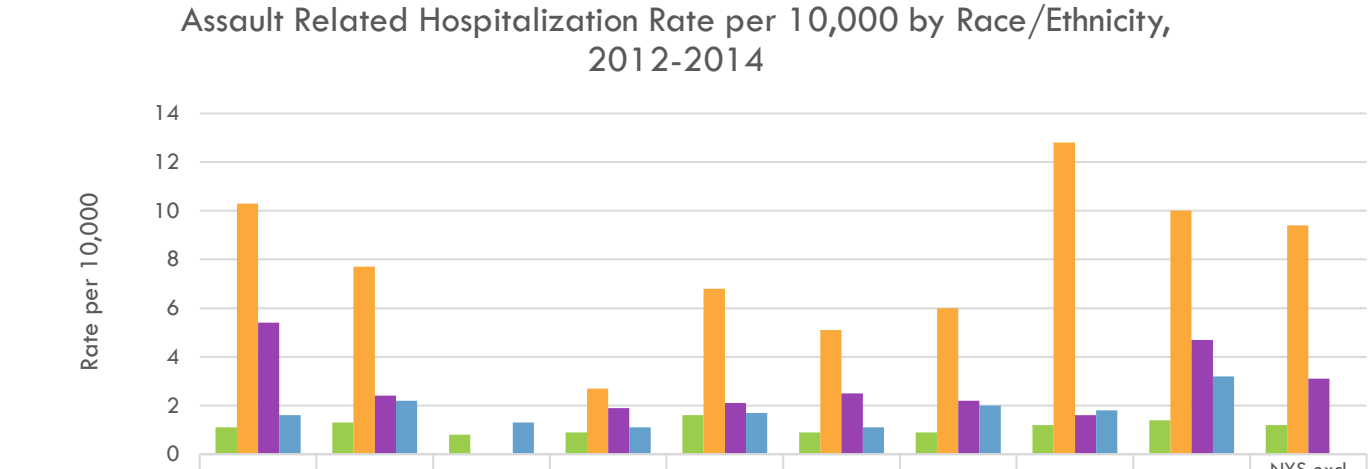
Source: NYS Division of Criminal Justice Services, 2017
https://www.criminaljustice.ny.gov/crimnet/ojsa/Crime-in-NYS-2017-Preliminary-5-10-18.pdf

There is often a disparity seen in which populations are most affected by violent crime. Low-income communities along with racial and ethnic minorities, are more likely to experience violence.[37] When looking at assault related hospitalization by race/ethnicity, there is a significant disparity between non-Hispanic Black and non-Hispanic White populations. While Orange County had the highest rate of assault related hospitalizations overall, Dutchess County had the largest disparity between its non-Hispanic White and Black populations, with a ratio of 9.5:1. Dutchess also had the largest disparity between its non-Hispanic White and Hispanic residents, with a ratio of 5.0:1. Sullivan County had the lowest ratio of assault related hospitalizations between its White and Black and White and Hispanic residents at a rate of 4.3:1 and 1.3:1 respectively [see Figure 30, Figure 31].

[36] ODPHP, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/crime-and-violence, accessed June 2019

[37] U.S. Department of Housing and Urban Development, Office of Policy Development and Research, Summer 2016, https://www.huduser.gov/portal/periodicals/em/summer16/highlight2.html, accessed June 2019

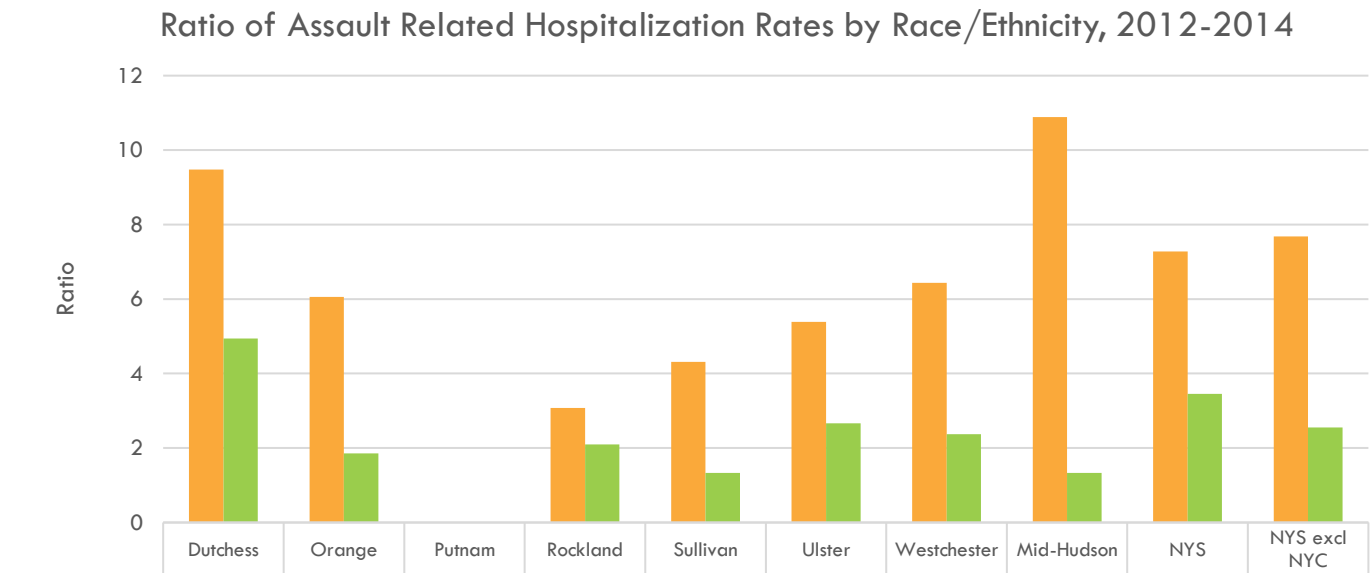
Figure 30



	Dutchess	Orange	Putnam	Rockland	Sullivan*	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
Non-Hispanic White	1.1	1.3	0.8	0.9	1.6	0.9	0.9	1.2	1.4	1.2
Non-Hispanic Black	10.3	7.7	s	2.7	6.8	5.1	6.0	12.8	10.0	9.4
Hispanic	5.4	2.4	s	1.9	2.1	2.5	2.2	1.6	4.7	3.1
Total	1.6	2.2	1.3	1.1	1.7	1.1	2.0	1.8	3.2	s

s: Data are suppressed. The data do not meet the criteria for confidentiality.
**: The Sullivan Hispanic category has fewer than 10 events in the numerator, therefore the rate/percentage is unstable.*
Source: NYSDOH Statewide Planning and Research Cooperative System, 2016
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=sh

Figure 31



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
Black/White	9.5	6.1	s	3.1	4.3 *	5.4	6.4	10.9	7.3	7.7
Hispanic/White	4.9	1.9	s	2.1	1.3 *	2.7	2.4	1.3	3.5	2.6

**: Fewer than 10 events in at least one of the numerators of the rates/percentages, therefore ratio is unstable.*
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2016
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=sh

ENVIRONMENTAL CONDITIONS

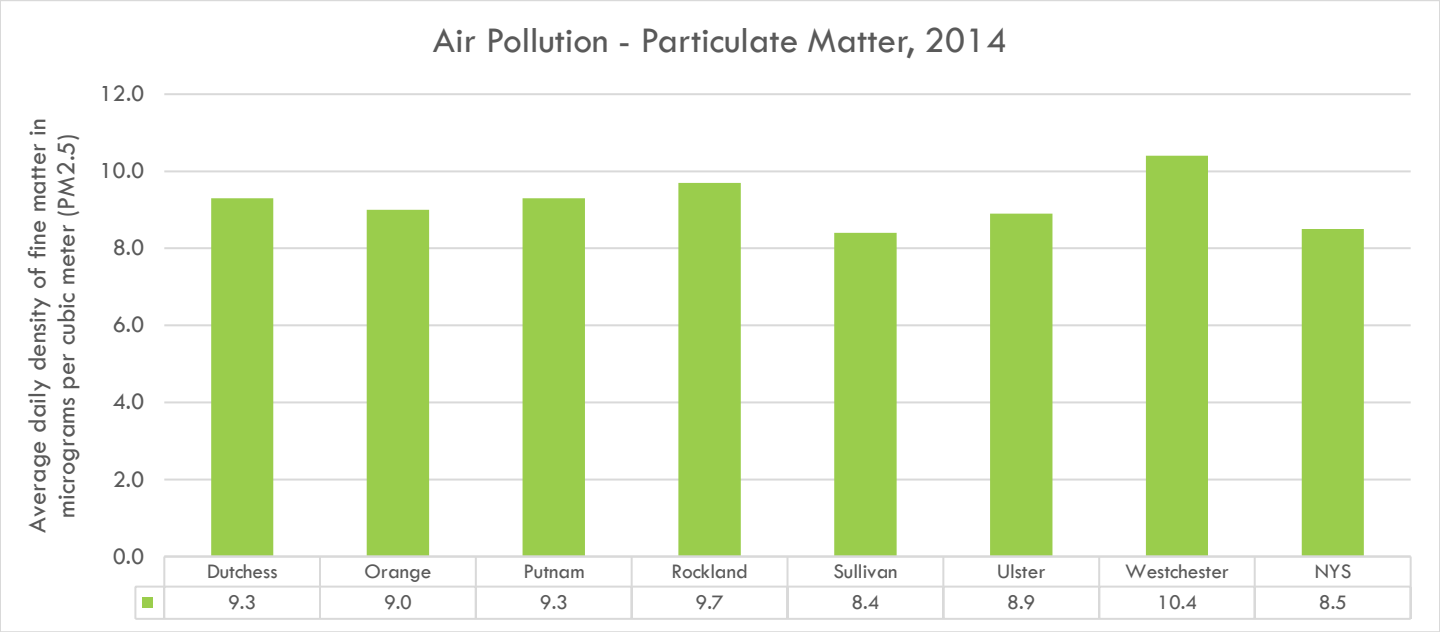
The WHO estimated that 11% of mortalities in the U.S. in 2012 could be attributed to environmental causes. These environmental factors include water quality, air pollution, and extreme heat.[38] Low-income communities and racial and ethnic minorities are disproportionately affected by environmental hazards.[38]

AIR POLLUTION

Air pollution has been linked to several poor health outcomes, particularly those related to the respiratory system. Negative consequences resulting from exposure to fine particulate matter in the air include (but are not limited to) decreased lung function, chronic bronchitis, and premature death.[39] Air particulate matter can come from a variety of sources, such as automobiles, industry, and forest fires.

Westchester County had the highest average daily density of fine particulate matter at 10.4 micrograms per cubic meter in 2014. Sullivan County had the lowest measure at 8.4 micrograms per cubic meter [see Figure 32].

Figure 32



Source: Environmental Public Health Tracking Network, 2014
https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/125/datasource

WATER QUALITY

There are many challenges when trying to maintain water quality. Runoff can pose a risk to water quality and the health of the people exposed to it. When it rains, as water flows over impervious surfaces, such as pavement, it can pick up contaminants. Pollution can originate over large land areas or from a single point, such as an

[38] Office of Disease Prevention and Health Promotion, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/environmental, accessed June 2019

[39] County Health Rankings & Roadmaps, 2019, https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/125/description accessed June 2019

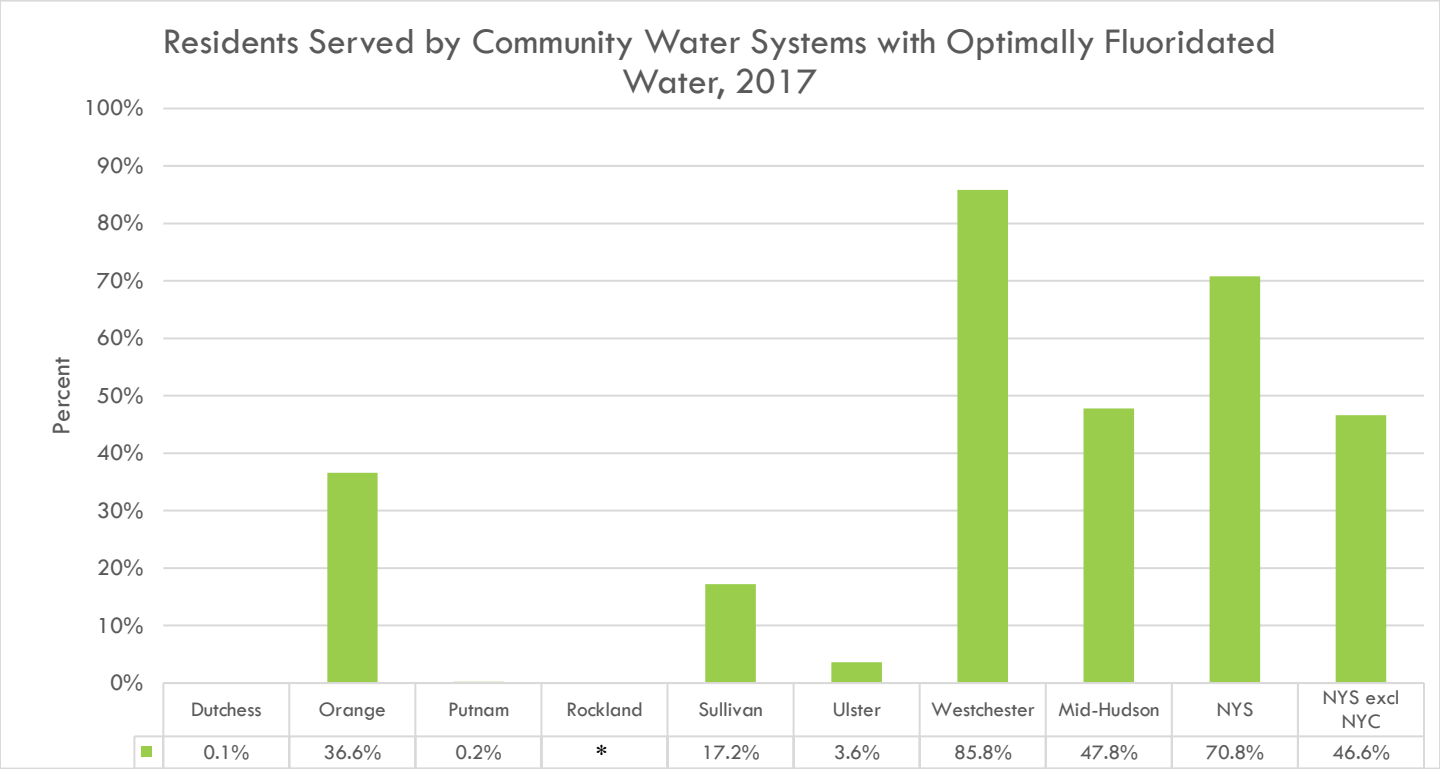
industrial pipe. Runoff can pick up sediment, nutrients, bacteria, pesticides, or petroleum byproducts from sources, such as farms, waste, and roadways. This causes pollution that can be harmful to plants, animals, and people.[40,41]

FLUORIDATION

Community water fluoridation is an effective intervention for preventing tooth decay. The CDC named the fluoridation of drinking water one of the 10 greatest public health achievements of the 20th century. Studies have shown that communities with fluoridated water yield an annual average savings of $60 per person.[42] Studies have also found that rural communities are less likely to have adequately fluoridated water when compared with urban communities.[43] Rural populations are more likely to rely on untreated domestic wells than their urban counterparts, and their communities may find investing in fluoridation more cost prohibitive.

In the Mid-Hudson Region, Westchester County had the highest percentage of residents served with optimally fluoridated water at 85.8% in 2017. This is in sharp contrast to Dutchess County, which had the lowest percentage at 0.1% [see Figure 33].

Figure 33



*: *Fewer than 10 events in the numerator, therefore percentage is unstable.*
Source: Safe Drinking Water Information System, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=sh

[40] U.S. Geological Survey, November 2017, https://www.usgs.gov/special-topic/water-science-school/science/runoff-surface-and-overland-water-runoff?qt-science_center_objects=0#qt-science_center_objects, accessed June 2019

[41] CDC, October 2009, https://www.cdc.gov/healthyplaces/healthtopics/water.htm, accessed June 2019

[42] CDC, June 2018, https://www.cdc.gov/fluoridation/guidelines/cdc-statement-on-community-water-fluoridation.html, accessed 2019

[43] NYS DOH, May 2015, https://www.health.ny.gov/environmental/water/drinking/fluoride_letter_may_2015.htm, accessed 2019

LEAD POISONING

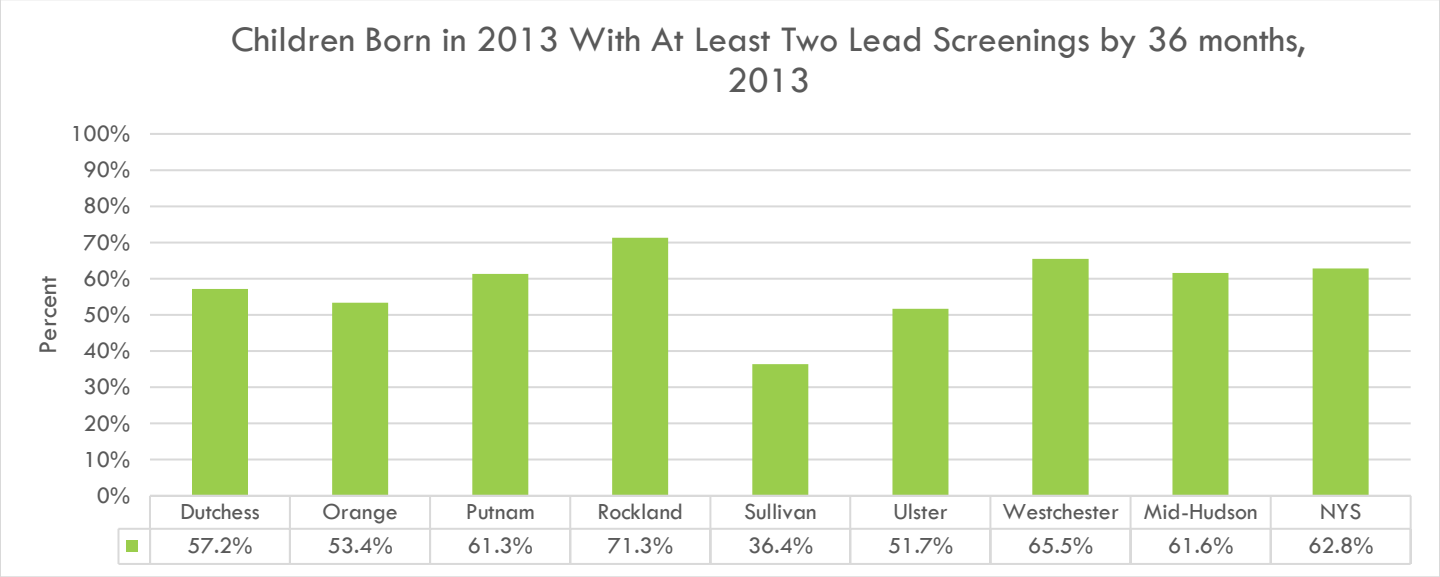
Lead affects every system of the body and there is no safe blood lead level. Children are especially vulnerable to the negative impacts of lead exposure which can lead to slowed growth and development; damage to the brain and nervous system; behavioral problems; and hearing and speech problems.

Lead exposure can occur through air, food, water, and dust. Sources of lead can include gasoline, consumer products, and solder. For children, lead based paint is the most common source of lead exposure.

Certain groups of children are at a higher risk for lead exposure than others, often due to the types of housing they live in. These groups include children in low-income households, racial/ethnic minorities, recent immigrants, and those whose parents are exposed to lead through their work.[44]

New York State requires health care providers to test all children for lead exposure at age one and again at age two.[45] Rockland County had the highest testing rate in the Region with 71.3% of children born in 2013 tested. Sullivan County had the lowest testing rate at 36.4% [see Figure 34].

Figure 34



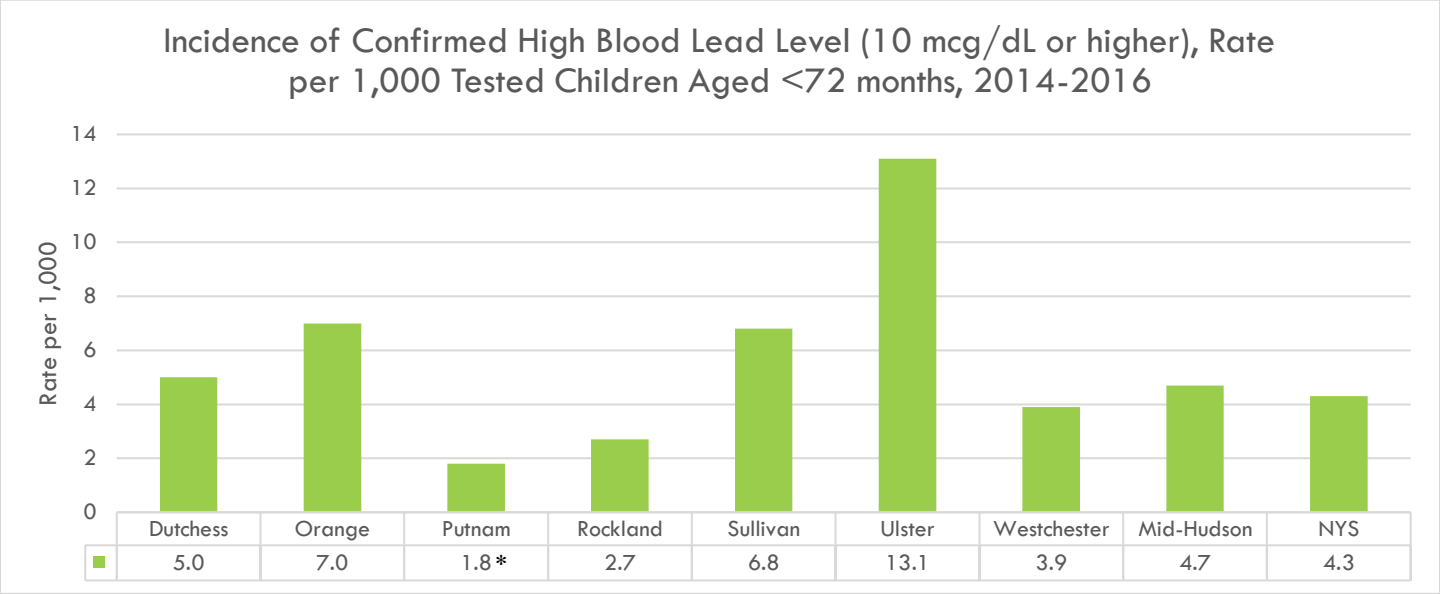
Source: 2013-2016 NYS Child Health Lead Poisoning Prevention Program Data, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=it&ind_id=Cg27

Currently, LHDs are required to take action on blood lead levels measuring greater than 10 micrograms per deciliter (mcg/dL). New York State will be lowering the threshold to 5 mcg/dL in the coming year. At 13.1 per 1,00 population, Ulster County had the highest rate of confirmed blood lead levels of10 mcg/dL or higher. A rate more than double that of the rest of the Region and New York State which were 4.7 and 4.3 per 1,000 population respectively [see Figure 35].

[44] CDC, December 2015, https://www.cdc.gov/nceh/lead/parents.htm, accessed June 2019

[45] NYS Department of Health, November 2018, https://www.health.ny.gov/environmental/lead/, accessed June 2019

Figure 35



**Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: 2013-2016 NYS Child Health Lead Poisoning Prevention Program, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=sh

QUALITY OF HOUSING

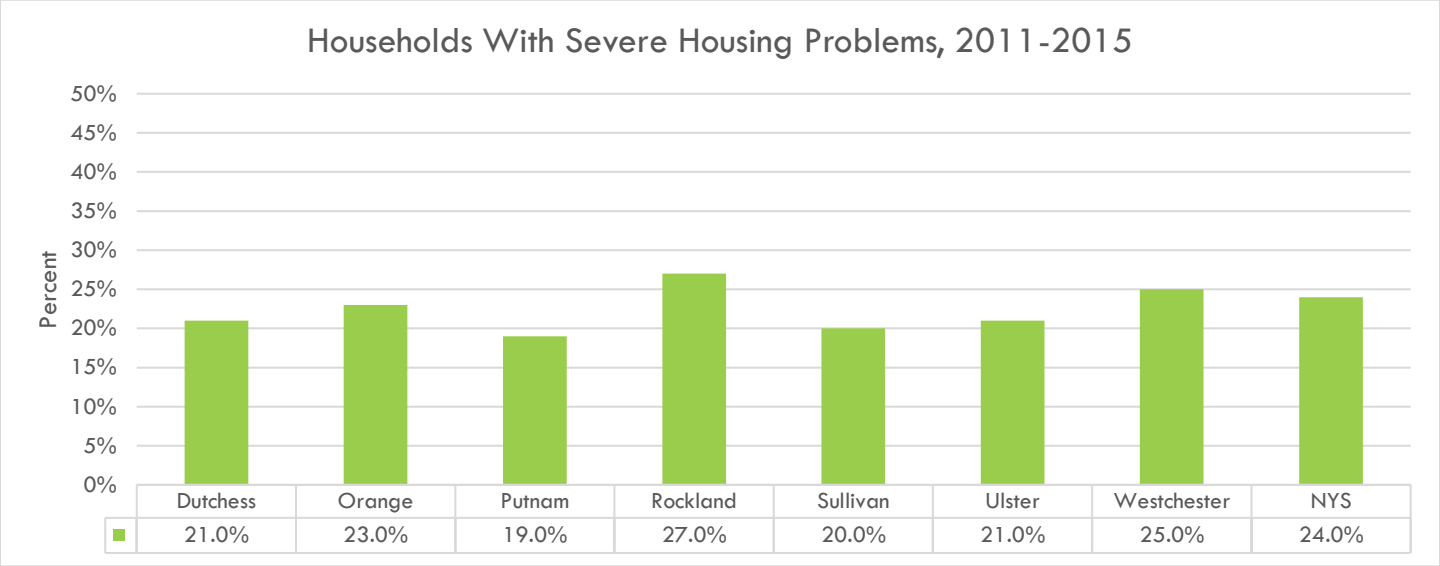
According to Healthy People 2020, housing quality is defined as the physical condition of a person's home, as well as the quality of the social and physical environment in which the home is located. Housing quality can contribute to a host of exposures associated with negative health outcomes, such as lead, mold, and carbon monoxide. Poor quality housing may also lack air conditioning or cost more to heat. This can make temperature regulation challenging, further exacerbating poor health outcomes.[46]

For those who are trying to lead a healthy lifestyle, housing that lacks facilities such as a kitchen or plumbing can have severe limitations. Without a stove or refrigerator, storing and cooking fresh fruits and vegetables may be more difficult. It can also have implications on the storage of medications, as some must be kept in cool temperatures. Additionally, inadequate plumbing can make personal and environmental hygiene challenging.

All counties in the Mid-Hudson Region fall within five points of New York State's rate of households with severe housing problems. *County Health Rankings* considers a housing problem severe if it has overcrowding; has high costs; lacks kitchen facilities; or lacks plumbing facilities [see Figure 36].

[46] Office of Disease Prevention and Health Promotion, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/quality-of-housing, accessed July 2019

Figure 36



Note: Graph reflects the percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities.
Source: Comprehensive Housing Affordability Strategy Data, 2011-2015
https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/136/datasource

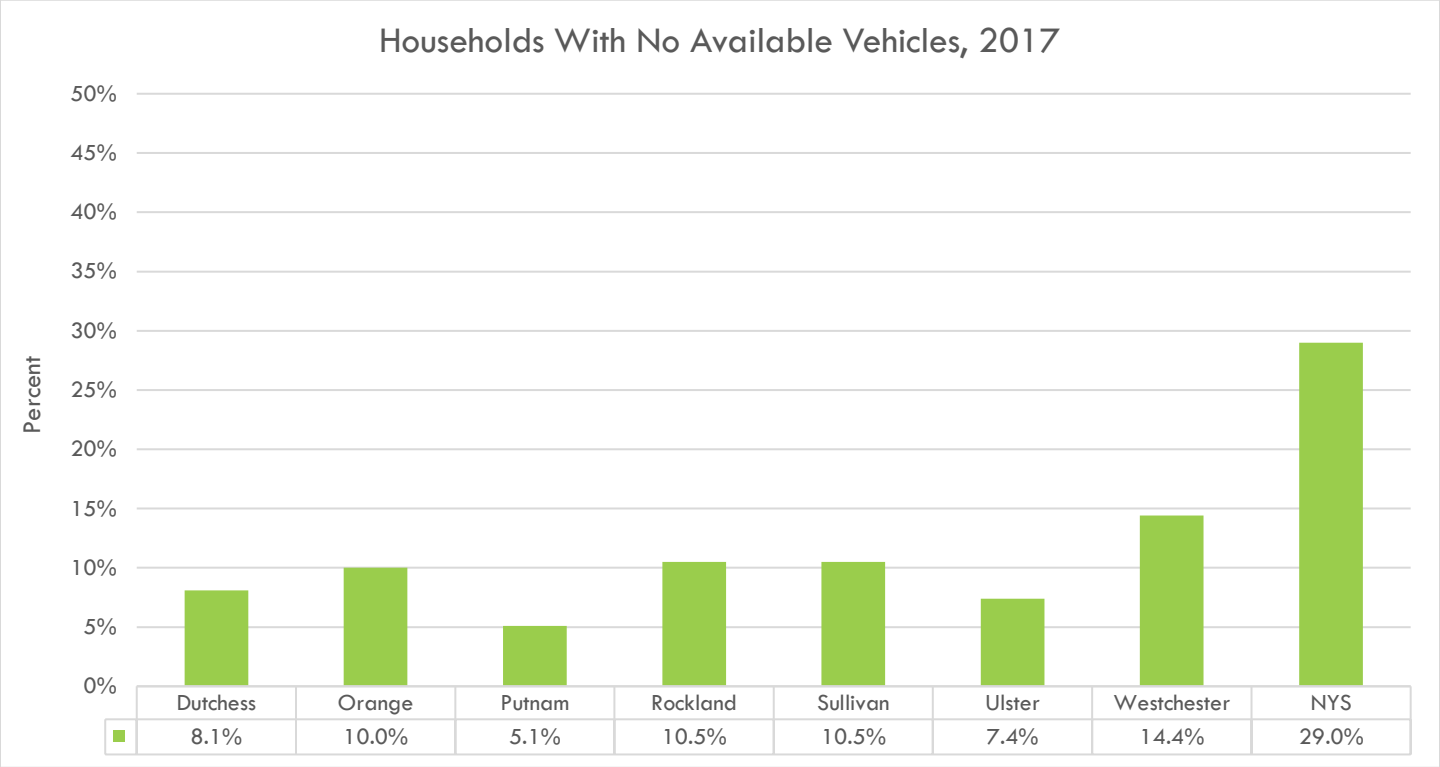
TRANSPORTATION

Transportation can include walking, driving, biking, or utilizing public transportation, such as subways and buses. Access to transportation can affect all aspects of life including: the ability to find or keep employment; the quantity and quality of food that can be accessed; and access to health care. Studies have shown that those with access to a car are less likely than those relying on other forms of transportation, to miss appointments or delay care.[47]

In the Mid-Hudson Region, Westchester County had the highest percentage of households with no available vehicles at 14.4%. Putnam County had the lowest percentage of households with no available vehicles at 5.1% [see Figure 37].

[47] Journal of Community Health, December 2014, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4265215/, accessed July 2019

Figure 37



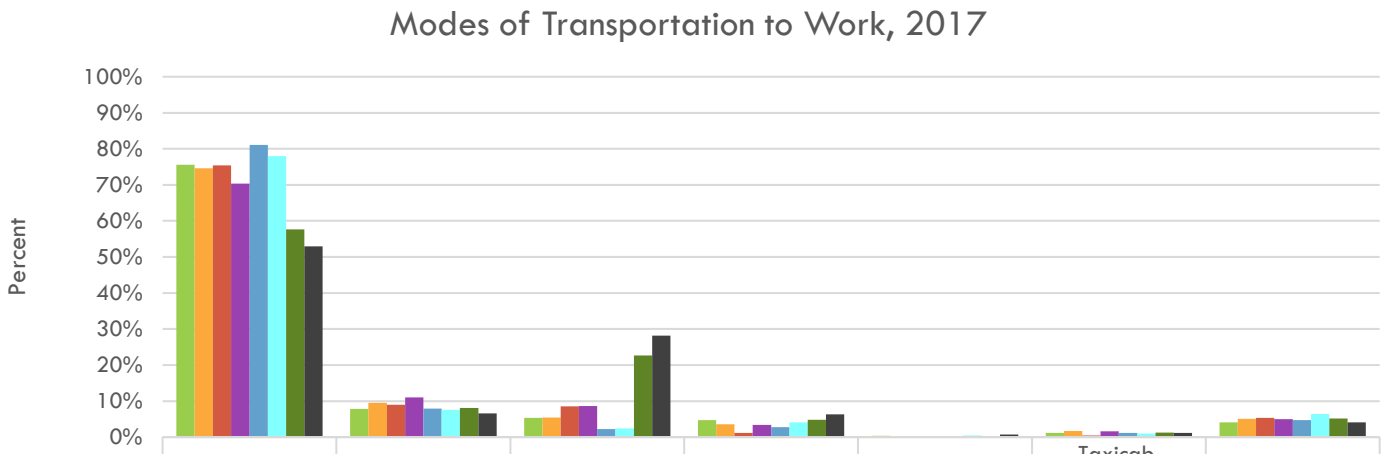
Source: U.S. Census Bureau, 2013-2017 American Community Survey, 5-Year Estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

MODES OF TRANSPORTATION

There are other modes of transportation besides a privately-owned vehicle. These can include walking, public transportation, or biking. However, these other modes require individuals to rely more heavily on good infrastructure, investment, and city planning to make them safe and effective. Car-dependent cities and communities make it more difficult to use alternative modes of transportation to complete necessary daily tasks like going to the grocery store or getting to school. The transportation method in which people most often get to work can be an indicator of how car-dependent an area is, or how conducive it is to alternative modes of transportation.

The majority of residents in the Mid-Hudson Region report driving alone to work as their most common means of commuting. Sullivan County had the highest percentage of commuters driving alone to work in 2017 at 81.1%. Westchester County had a significantly larger share of commuters using public transportation than the rest of the Region at 22.7%, as well as the lowest percentage of commuters driving alone to work [see Figure 38].

Figure 38



	Drove alone	Carpooled	Public Transportation	Walked	Bicycle	Taxicab, motorcycle, or other means	Worked at home
Dutchess	75.6%	7.8%	5.3%	4.7%	0.4%	1.2%	4.1%
Orange	74.6%	9.5%	5.4%	3.6%	0.1%	1.7%	5.1%
Putnam	75.4%	9.0%	8.5%	1.2%	0.2%	0.5%	5.3%
Rockland	70.3%	11.0%	8.6%	3.4%	0.1%	1.6%	5.0%
Sullivan	81.1%	7.9%	2.2%	2.8%	0.1%	1.2%	4.7%
Ulster	78.0%	7.6%	2.4%	4.1%	0.5%	1.0%	6.4%
Westchester	57.6%	8.1%	22.7%	4.8%	0.2%	1.3%	5.2%
NYS	52.9%	6.6%	28.2%	6.3%	0.7%	1.2%	4.1%

Source: U.S. Census Bureau, 2013-2017 American Community Survey, 5-Year Estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

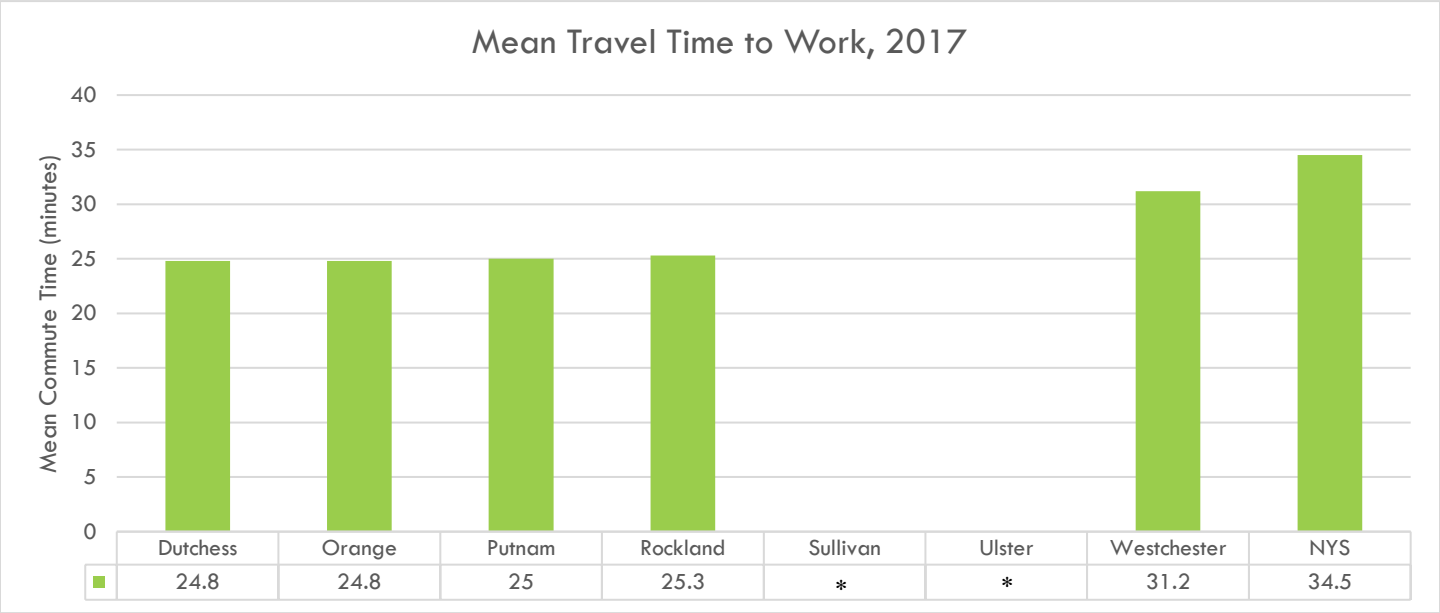
AVERAGE COMMUTE TIME

Whether the average commute time to work for residents in a given area is long or short, can be attributed to several factors. Namely, long commute times can indicate a lack of job opportunities in an area or slow transit options. Long commutes can mean a higher transportation cost burden on households and individuals. It can also negatively impact the community as it contributes to pollution.[48]

Westchester County had the longest mean commute time in the Region in 2017 at 31.2 minutes, yet still below the mean commute time of New York State (34.5 minutes). The remaining counties in the Mid-Hudson Region had similar commute times ranging from 24.8 to 25.3 minutes [see Figure 39].

[48] The National Equity Atlas, 2018, https://nationalequityatlas.org/indicators/Commute_time/By_race~ethnicity:49816/United_States/false/Year(s):2000/Mode_of_transit:All/, accessed July 2019

Figure 39



*: *Data for this geographic area cannot be displayed because the number of sample cases is too small.*
Source: U.S. Census Bureau, 2013-2017 American Community Survey, 5-Year Estimates
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

INFRASTRUCTURE

Well-maintained infrastructure for transportation is key to economic growth, and access to goods and services.[49] Roads and bridges in poor condition can cause increased vehicle maintenance costs due to wear and tear, increased travel time and congestion, and can cause safety concerns.[50]

New York State bridges are inspected every two years by New York State inspectors, and are given a rating of 1 to 7. Any rating above 5 is considered good and any rating below 5 is considered less than good. Ulster County had the highest percentage of bridges rated "less than good" at 50.1%. Sullivan County had the lowest percentage of bridges rated "less than good" at 36.8% [see Figure 40].

"Functionally obsolete" is a federal classification given to bridges that were not built using today's standards, such as shoulder width or vertical clearance.[51] Westchester County had the highest percentage of functionally obsolete bridges at 50.5% [see Figure 40].

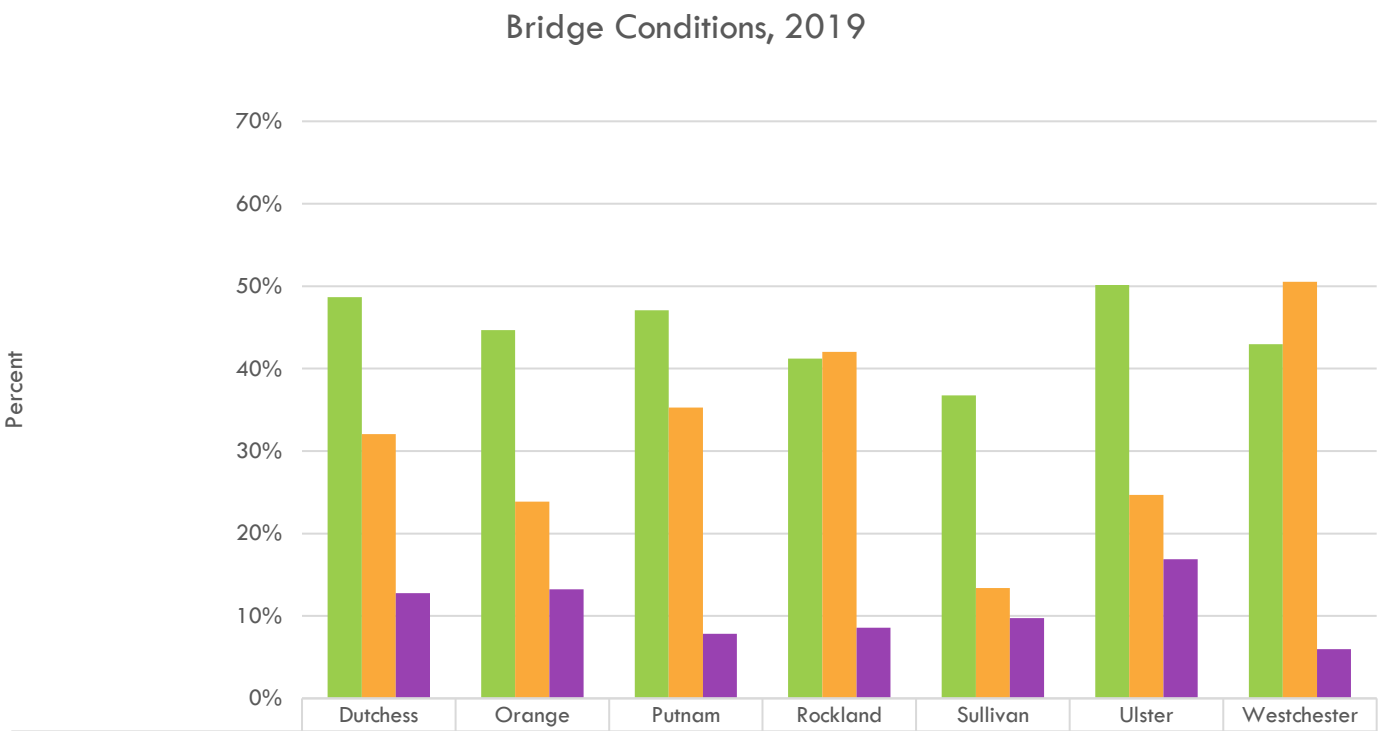
Structurally deficient is a federal classification given to bridges that have been restricted to light vehicles, closed to traffic, or require rehabilitation. It means there are elements of the bridge that need to be monitored or repaired, but does not imply that the bridge is likely to collapse or is unsafe. Ulster County had the highest percentage of structurally deficient bridges at 16.9% [see Figure 40].

[49] Millennium Challenge Corporation, October 2017, https://www.mcc.gov/sectors/sector/transportation-infrastructure, accessed July 2019

[50] U.S. Department of Transportation, May 2017, https://www.transportation.gov/content/improving-americas-transportation-infrastructure-road-forward, accessed July 2019

[51] Virginia Department of Transportation, August 2007, https://www.virginiadot.org/info/resources/bridge_defs.pdf, accessed July 2019

Figure 40



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester
Conditions "less than good"	48.7%	44.7%	47.1%	41.2%	36.8%	50.1%	43.0%
Functionally Obsolete	32.0%	23.9%	35.3%	42.0%	13.4%	24.7%	50.5%
Structurally Deficient	12.8%	13.2%	7.8%	8.6%	9.7%	16.9%	6.0%

Source: NYS Department of Transportation, 2019
https://data.ny.gov/Transportation/Bridge-Conditions-NYS-Department-of-Transportation/wpyb-cjy8

MID-HUDSON REGION COMMUNITY HEALTH SURVEY

INTRODUCTION

HealtheConnections, along with the LHDs and regional hospitals partnered in a collaborative to create a regional survey. This survey would contribute to the community health assessment and inform future health improvement efforts in the Mid-Hudson Region. It was designed to include questions which collected information around several initiatives and priorities put forward by the New York State Department of Health. The Prevention Agenda, the Eight Domains of Livability, and incorporating healthy aging into Health Across All Policies were among the initiatives and priorities of focus.

METHODOLOGY AND DESIGN

For survey result weighting and comparison purposes, each county was divided into two specific regions chosen by the LHDs. Half of the surveys for each county were collected in each region.

The Collaborative retained SCRI to administer a random digit dial survey by phone. These calls took place between April and September of 2018, utilizing both landline and mobile phone numbers to reach respondents. Results were then weighted by gender, age, race, and region according to the U.S. Census 2010.

NATURE OF THE SAMPLE

A total of 5,372 surveys were collected with an average of 767 surveys collected per county.

Table 22

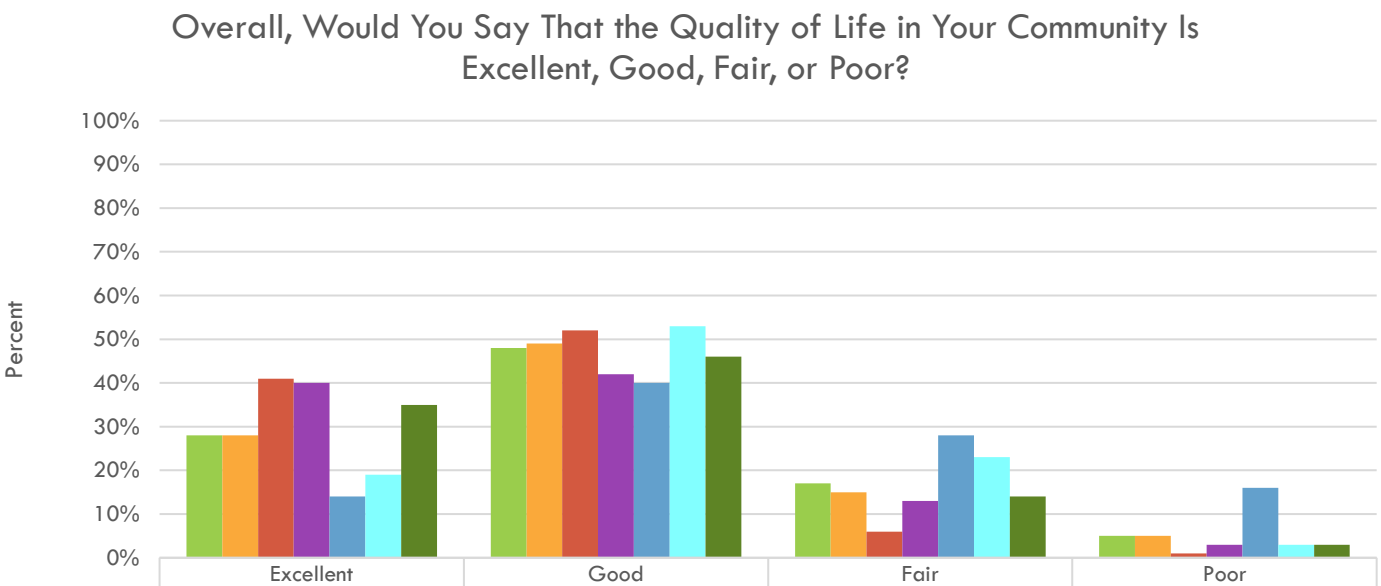
Respondent Demographic Breakdown								
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**Mid-Hudson**
TOTAL COUNT	787	850	521	812	752	802	848	5372
Gender								
Male	39%	39%	41%	35%	38%	40%	42%	39%
Female	61%	61%	59%	65%	62%	60%	58%	61%
Transgender/Other gender	0%	0%	0%	0%	0%	1%	0%	0%
Age								
18 to 34	10%	11%	9%	21%	11%	7%	15%	12%
35 to 54	20%	24%	21%	24%	23%	24%	17%	22%
55 and older	70%	66%	70%	54%	67%	69%	68%	66%
Race/Ethnicity								
Caucasian/White	88%	80%	89%	79%	82%	84%	64%	80%
Hispanic/Latino	5%	7%	8%	10%	8%	7%	13%	8%
African American/Black	4%	8%	1%	6%	6%	5%	18%	7%
Asian	1%	1%	0%	2%	0%	0%	2%	1%
Other/Something else	2%	4%	3%	3%	3%	4%	3%	3%

RESULTS

Note: Percentages of the following figures may not add up to 100% due to responses of "Don't Know" and "Refused" which are not included in the graphs below.

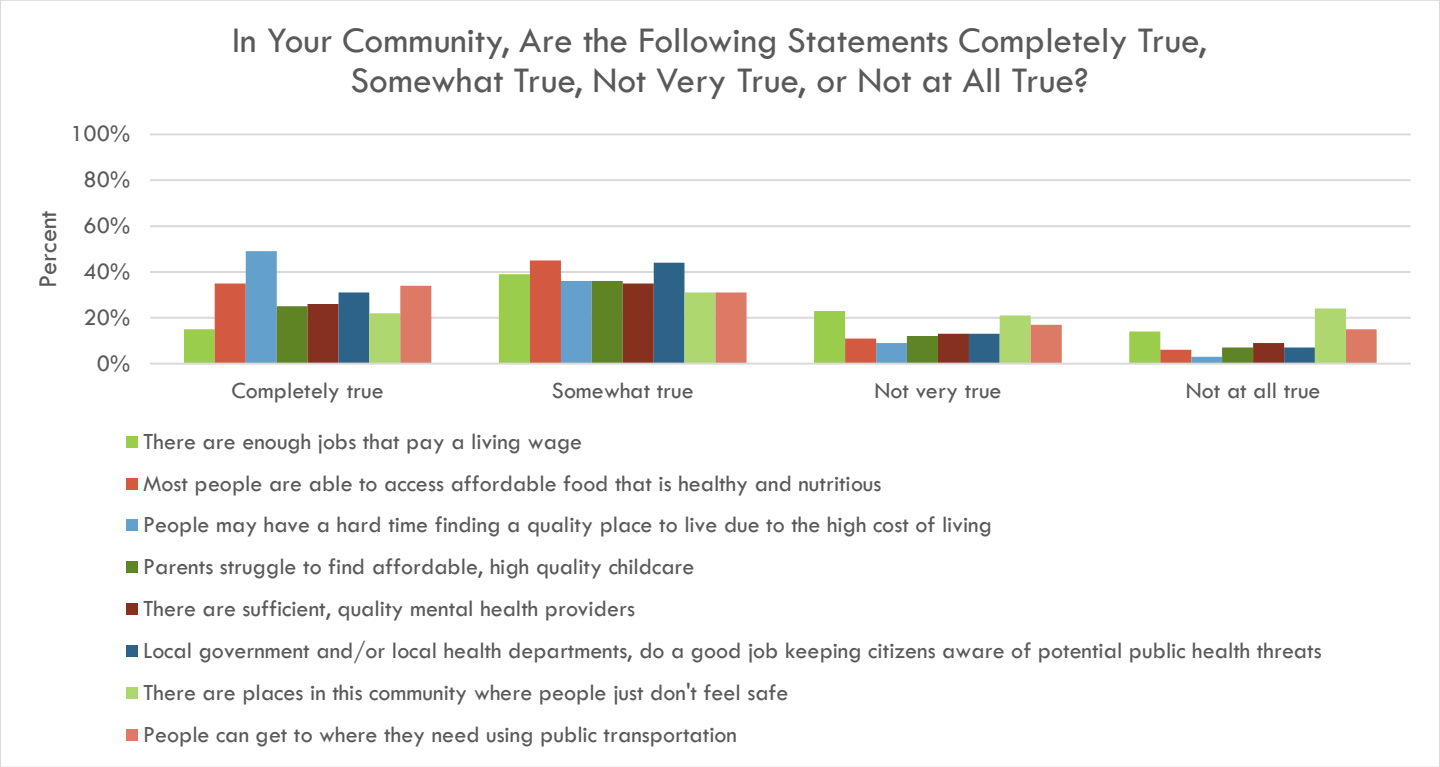
PERCEPTION OF COMMUNITY

Figure 41



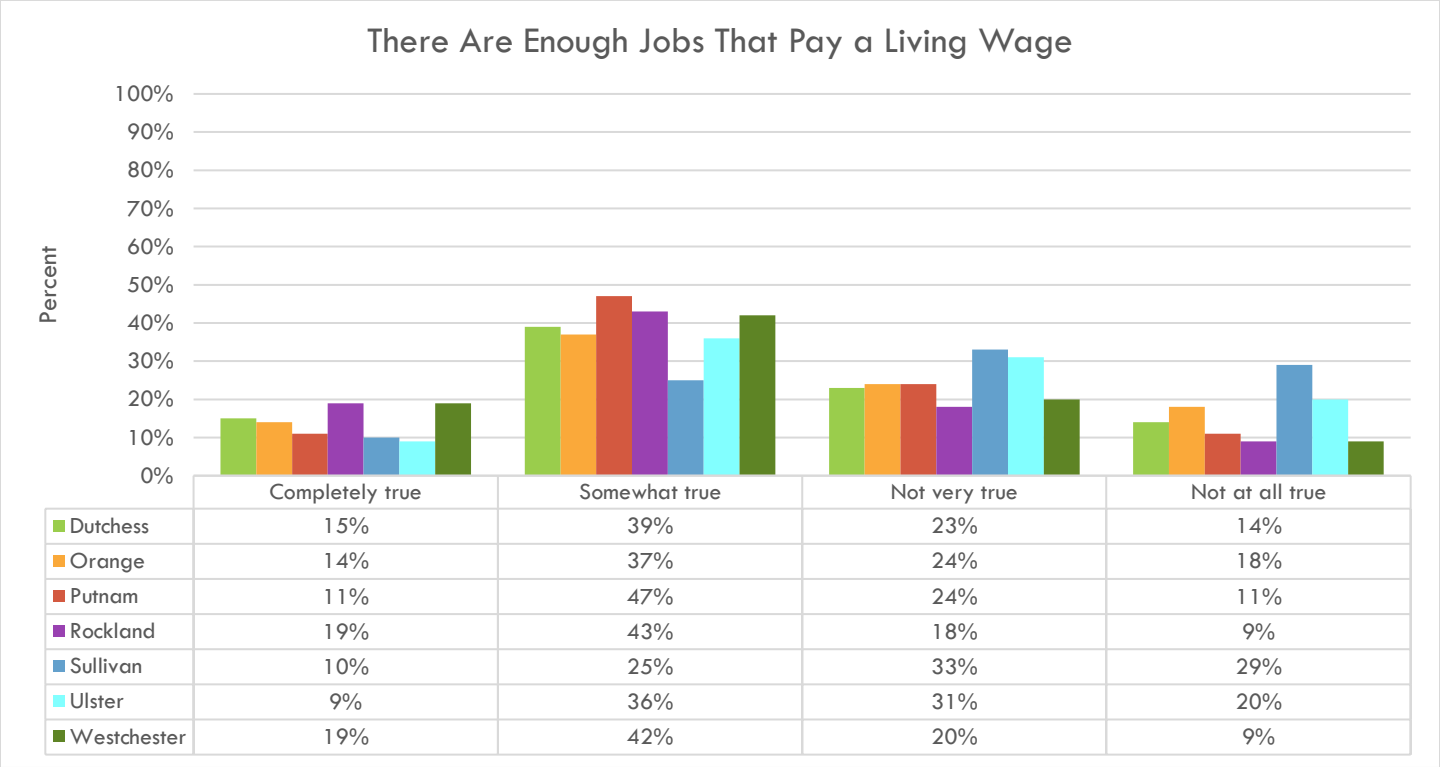
	Excellent	Good	Fair	Poor
Dutchess	28%	48%	17%	5%
Orange	28%	49%	15%	5%
Putnam	41%	52%	6%	1%
Rockland	40%	42%	13%	3%
Sullivan	14%	40%	28%	16%
Ulster	19%	53%	23%	3%
Westchester	35%	46%	14%	3%

Figure 42



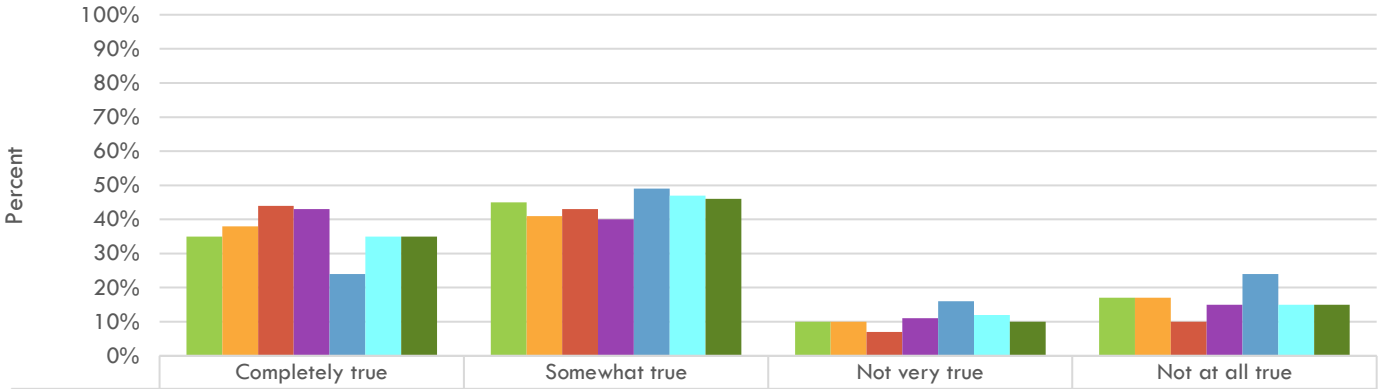
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 43



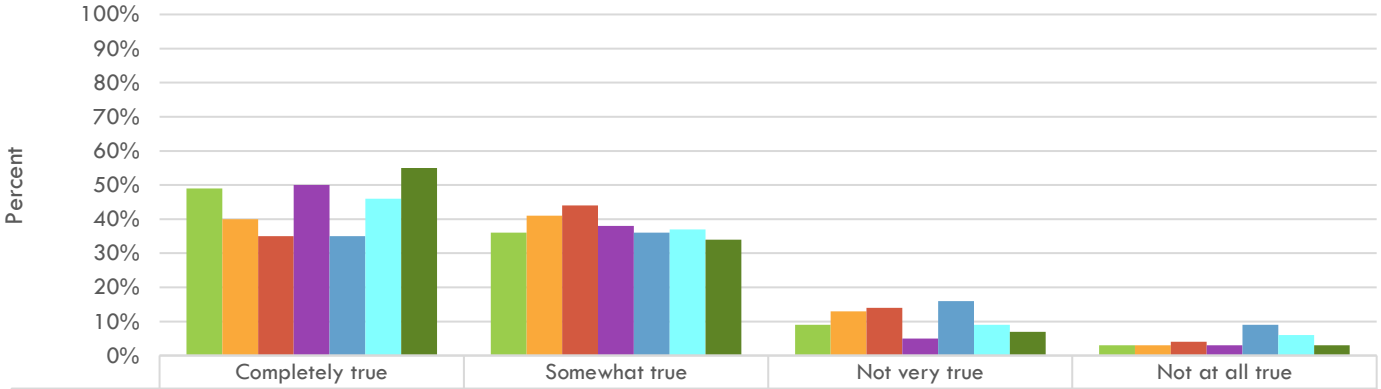
	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	15%	39%	23%	14%
Orange	14%	37%	24%	18%
Putnam	11%	47%	24%	11%
Rockland	19%	43%	18%	9%
Sullivan	10%	25%	33%	29%
Ulster	9%	36%	31%	20%
Westchester	19%	42%	20%	9%

Figure 44



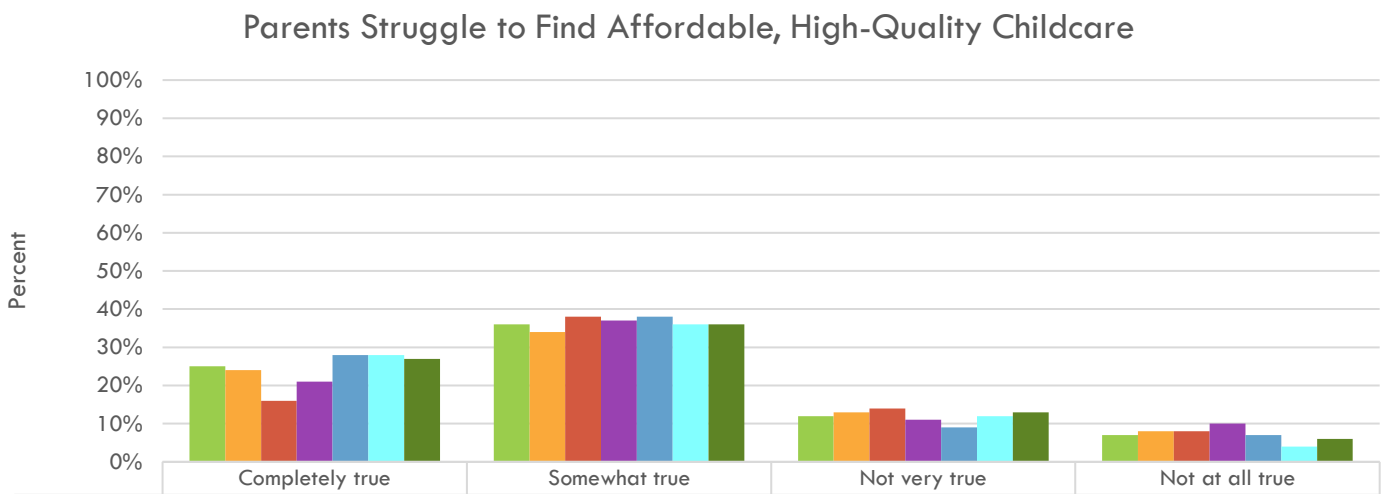
	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	35%	45%	10%	17%
Orange	38%	41%	10%	17%
Putnam	44%	43%	7%	10%
Rockland	43%	40%	11%	15%
Sullivan	24%	49%	16%	24%
Ulster	35%	47%	12%	15%
Westchester	35%	46%	10%	15%

Figure 45



	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	49%	36%	9%	3%
Orange	40%	41%	13%	3%
Putnam	35%	44%	14%	4%
Rockland	50%	38%	5%	3%
Sullivan	35%	36%	16%	9%
Ulster	46%	37%	9%	6%
Westchester	55%	34%	7%	3%

Figure 46

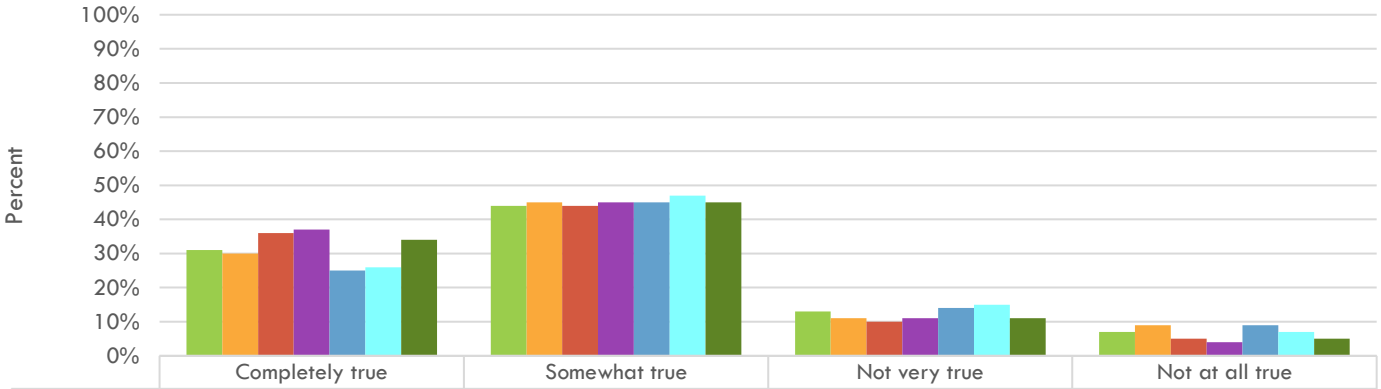


	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	25%	36%	12%	7%
Orange	24%	34%	13%	8%
Putnam	16%	38%	14%	8%
Rockland	21%	37%	11%	10%
Sullivan	28%	38%	9%	7%
Ulster	28%	36%	12%	4%
Westchester	27%	36%	13%	6%

Figure 47

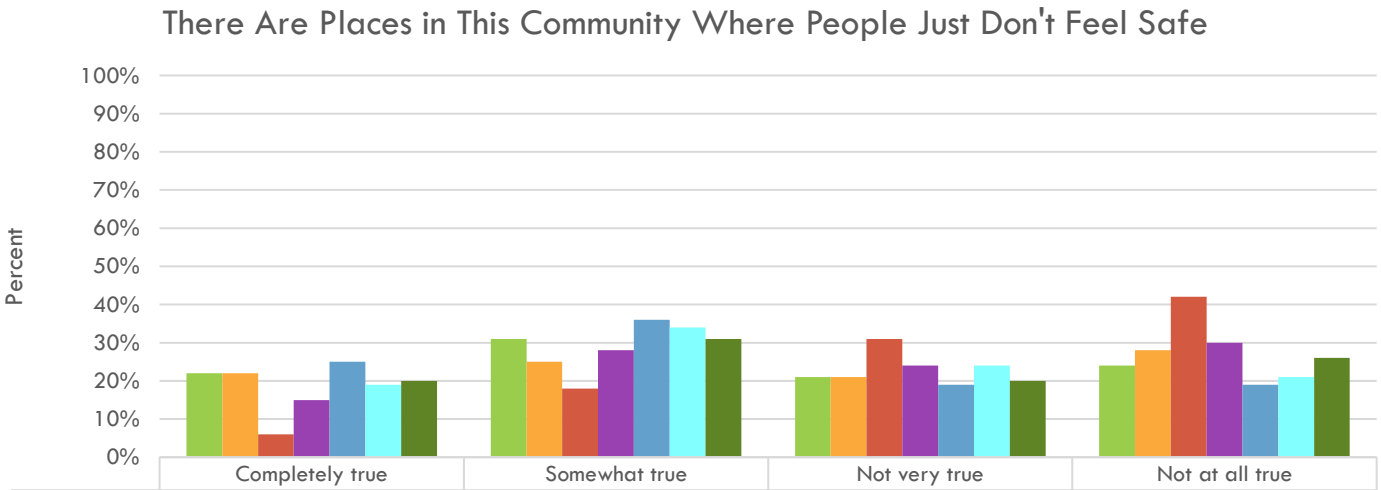
	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	26%	35%	13%	9%
Orange	22%	33%	16%	11%
Putnam	18%	39%	10%	7%
Rockland	30%	35%	10%	5%
Sullivan	16%	28%	19%	21%
Ulster	20%	32%	17%	14%
Westchester	32%	33%	10%	6%

Figure 48



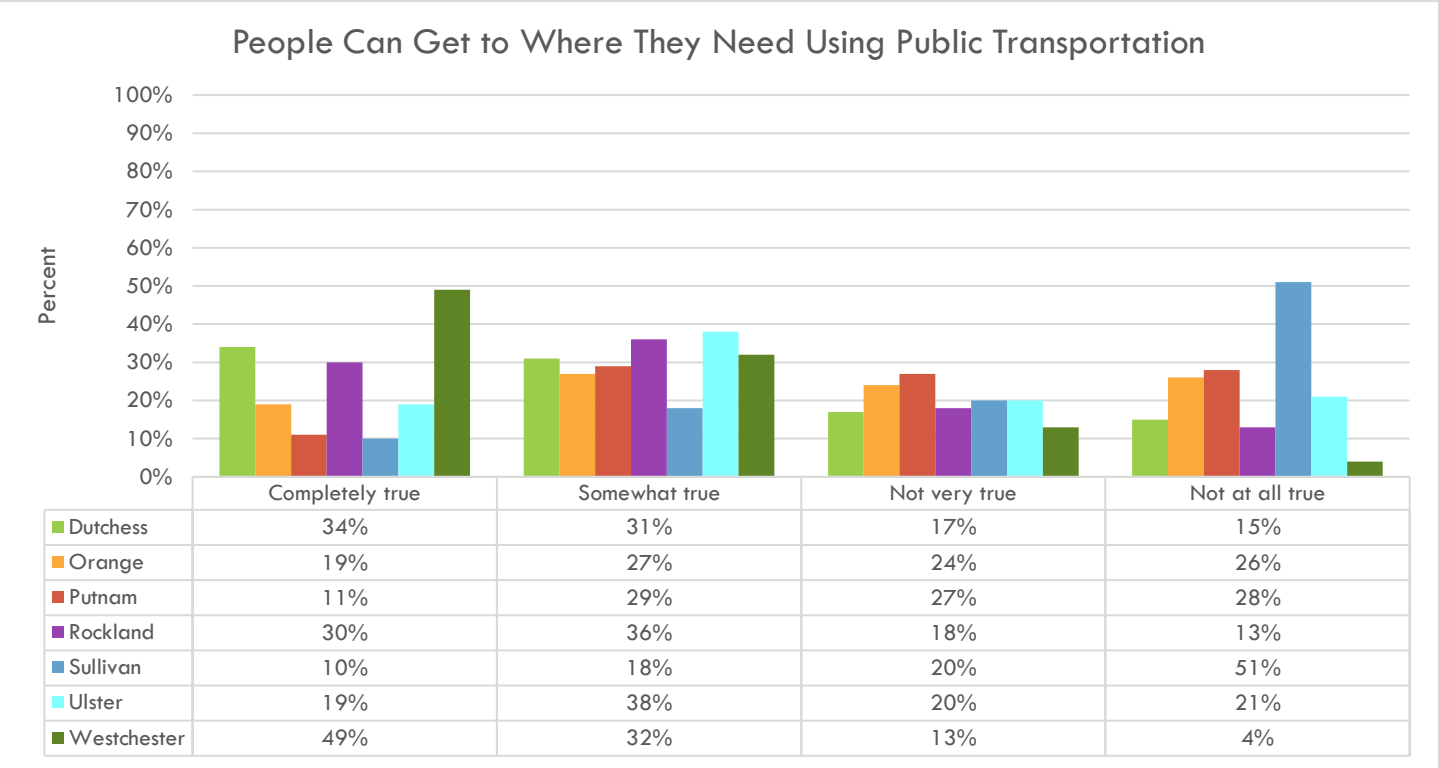
	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	31%	44%	13%	7%
Orange	30%	45%	11%	9%
Putnam	36%	44%	10%	5%
Rockland	37%	45%	11%	4%
Sullivan	25%	45%	14%	9%
Ulster	26%	47%	15%	7%
Westchester	34%	45%	11%	5%

Figure 49



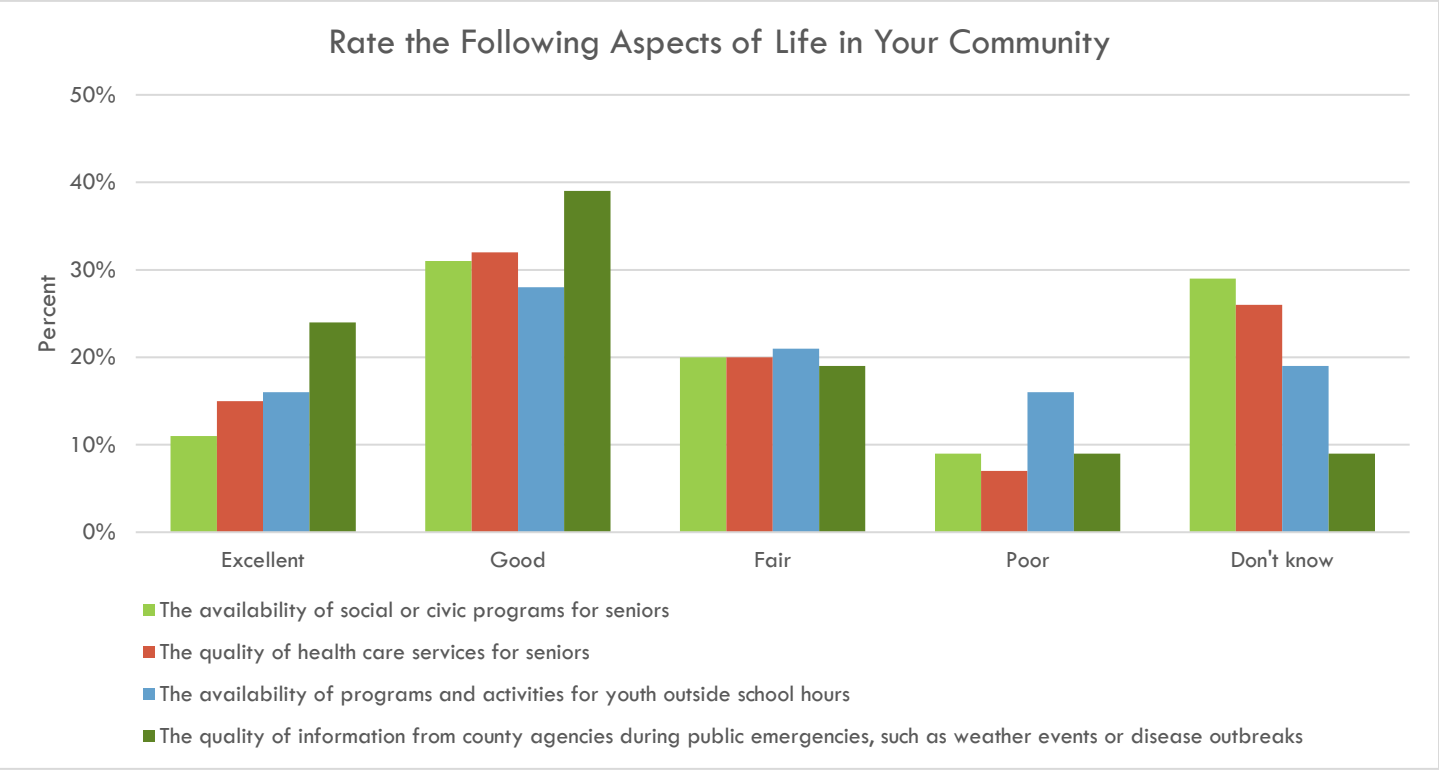
	Completely true	Somewhat true	Not very true	Not at all true
Dutchess	22%	31%	21%	24%
Orange	22%	25%	21%	28%
Putnam	6%	18%	31%	42%
Rockland	15%	28%	24%	30%
Sullivan	25%	36%	19%	19%
Ulster	19%	34%	24%	21%
Westchester	20%	31%	20%	26%

Figure 50



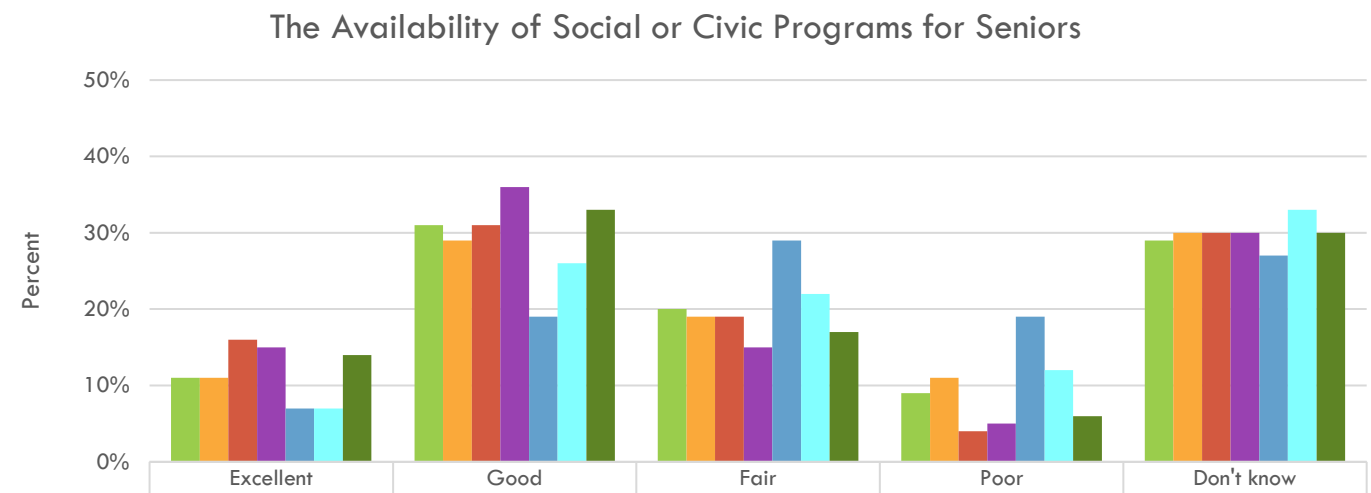
ASPECTS OF COMMUNITY LIFE

Figure 51



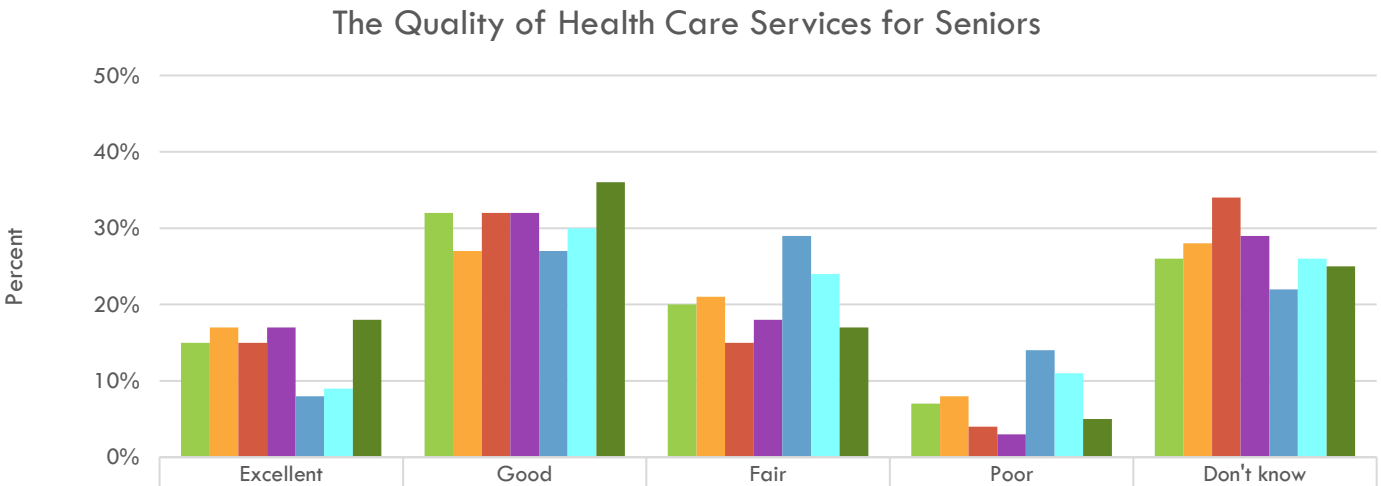
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 52



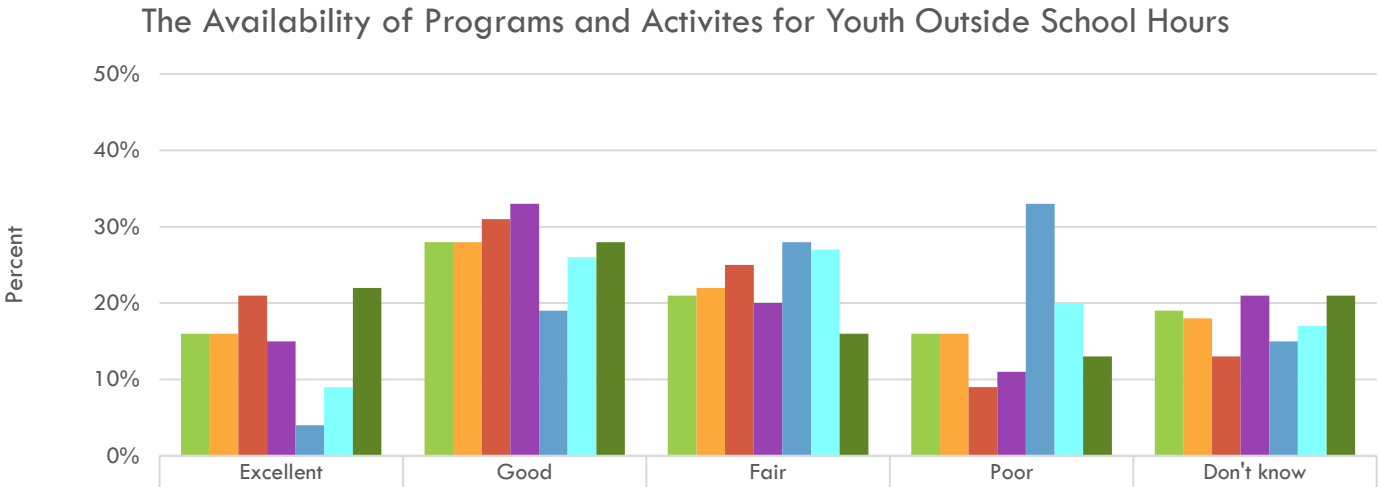
	Excellent	Good	Fair	Poor	Don't know
Dutchess	11%	31%	20%	9%	29%
Orange	11%	29%	19%	11%	30%
Putnam	16%	31%	19%	4%	30%
Rockland	15%	36%	15%	5%	30%
Sullivan	7%	19%	29%	19%	27%
Ulster	7%	26%	22%	12%	33%
Westchester	14%	33%	17%	6%	30%

Figure 53



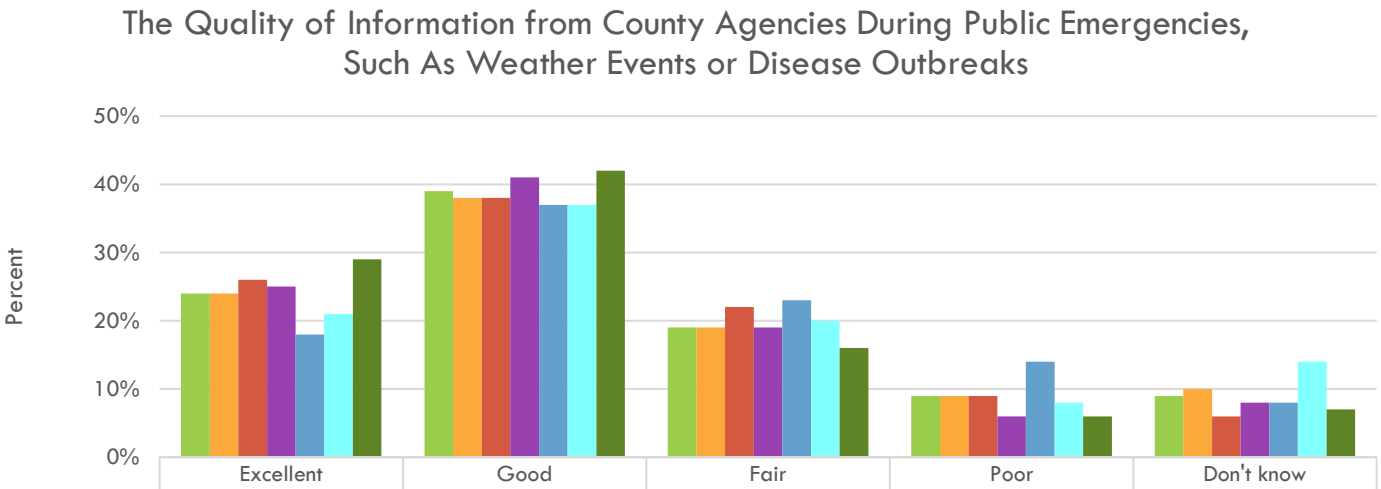
	Excellent	Good	Fair	Poor	Don't know
Dutchess	15%	32%	20%	7%	26%
Orange	17%	27%	21%	8%	28%
Putnam	15%	32%	15%	4%	34%
Rockland	17%	32%	18%	3%	29%
Sullivan	8%	27%	29%	14%	22%
Ulster	9%	30%	24%	11%	26%
Westchester	18%	36%	17%	5%	25%

Figure 54



	Excellent	Good	Fair	Poor	Don't know
Dutchess	16%	28%	21%	16%	19%
Orange	16%	28%	22%	16%	18%
Putnam	21%	31%	25%	9%	13%
Rockland	15%	33%	20%	11%	21%
Sullivan	4%	19%	28%	33%	15%
Ulster	9%	26%	27%	20%	17%
Westchester	22%	28%	16%	13%	21%

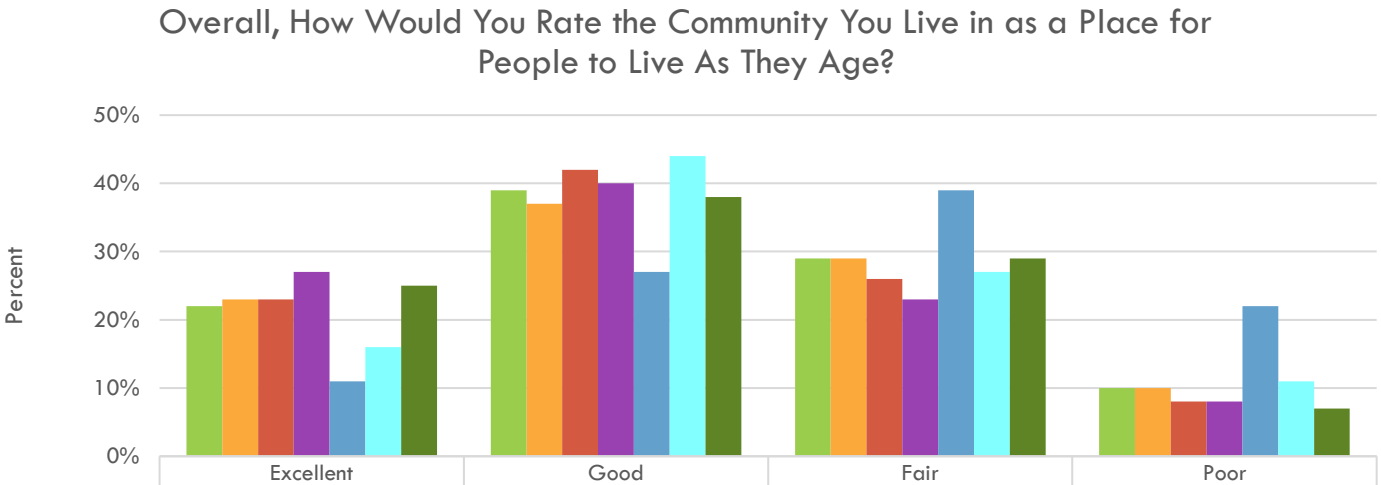
Figure 55



	Excellent	Good	Fair	Poor	Don't know
Dutchess	24%	39%	19%	9%	9%
Orange	24%	38%	19%	9%	10%
Putnam	26%	38%	22%	9%	6%
Rockland	25%	41%	19%	6%	8%
Sullivan	18%	37%	23%	14%	8%
Ulster	21%	37%	20%	8%	14%
Westchester	29%	42%	16%	6%	7%

AGING IN PLACE

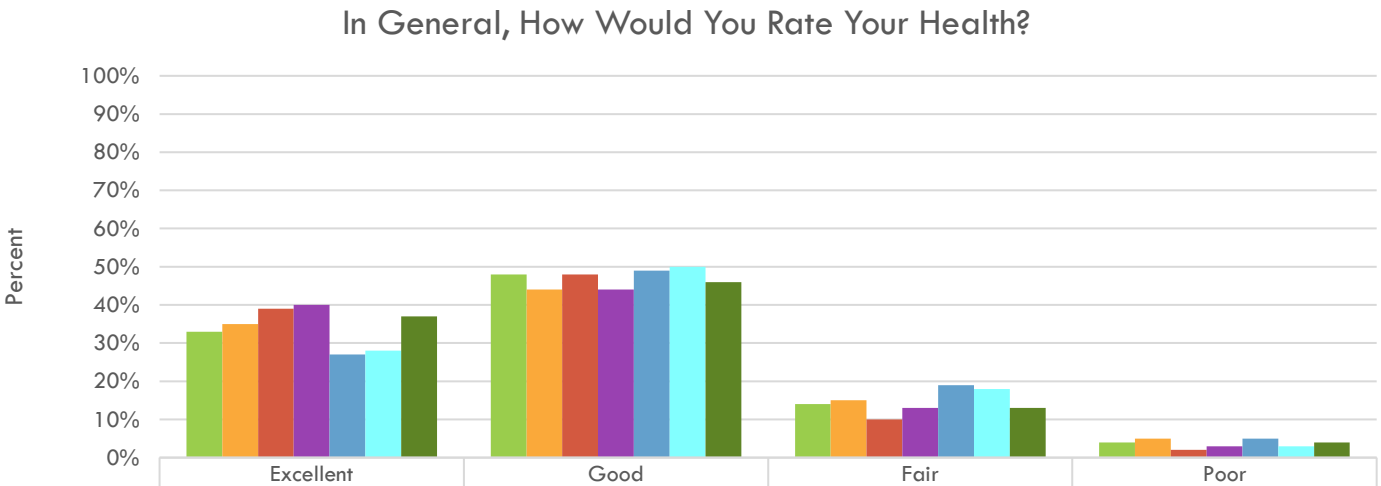
Figure 56



	Excellent	Good	Fair	Poor
Dutchess	22%	39%	29%	10%
Orange	23%	37%	29%	10%
Putnam	23%	42%	26%	8%
Rockland	27%	40%	23%	8%
Sullivan	11%	27%	39%	22%
Ulster	16%	44%	27%	11%
Westchester	25%	38%	29%	7%

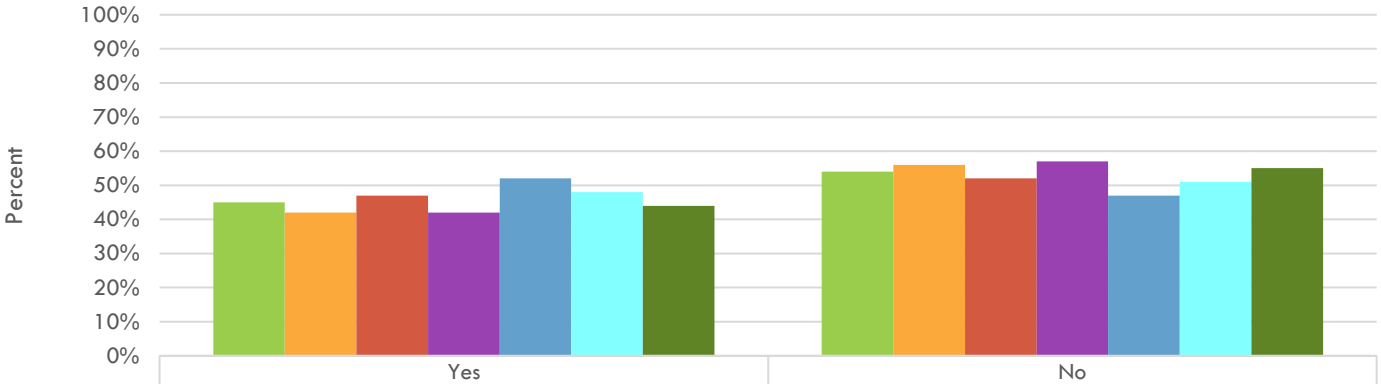
PHYSICAL HEALTH

Figure 57



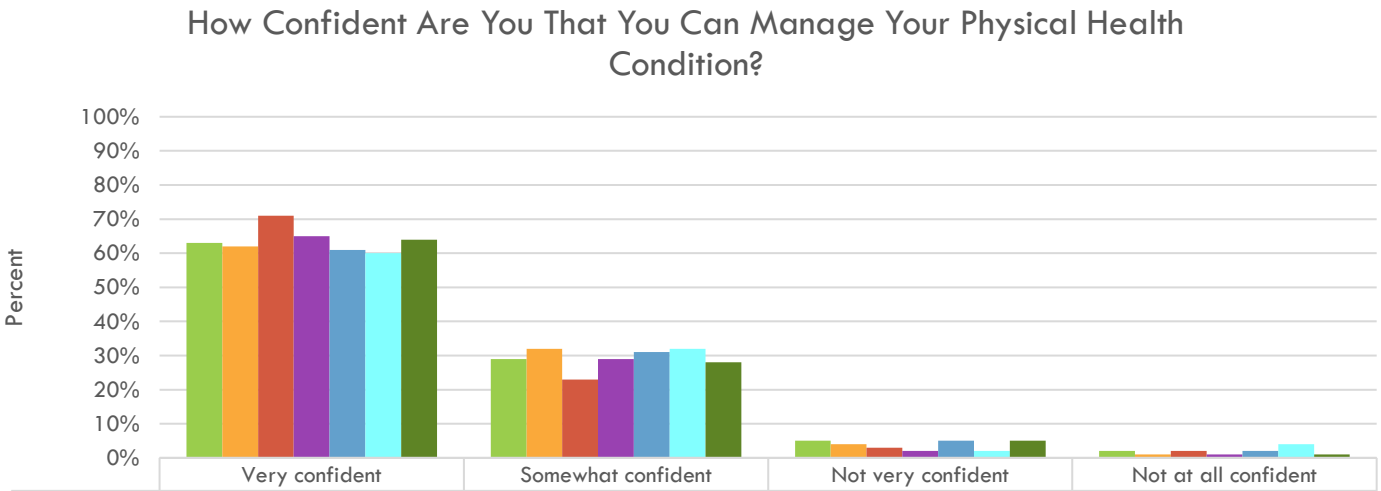
	Excellent	Good	Fair	Poor
Dutchess	33%	48%	14%	4%
Orange	35%	44%	15%	5%
Putnam	39%	48%	10%	2%
Rockland	40%	44%	13%	3%
Sullivan	27%	49%	19%	5%
Ulster	28%	50%	18%	3%
Westchester	37%	46%	13%	4%

Figure 58



	Yes	No
Dutchess	45%	54%
Orange	42%	56%
Putnam	47%	52%
Rockland	42%	57%
Sullivan	52%	47%
Ulster	48%	51%
Westchester	44%	55%

Figure 59

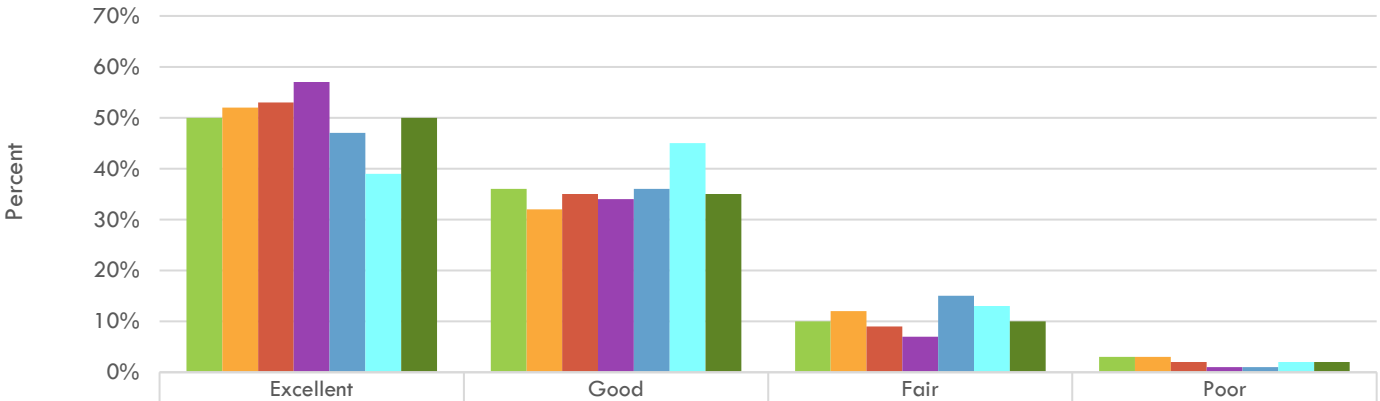


	Very confident	Somewhat confident	Not very confident	Not at all confident
Dutchess	63%	29%	5%	2%
Orange	62%	32%	4%	1%
Putnam	71%	23%	3%	2%
Rockland	65%	29%	2%	1%
Sullivan	61%	31%	5%	2%
Ulster	60%	32%	2%	4%
Westchester	64%	28%	5%	1%

**Does not include respondents that answered "no" to question in Figure 58*

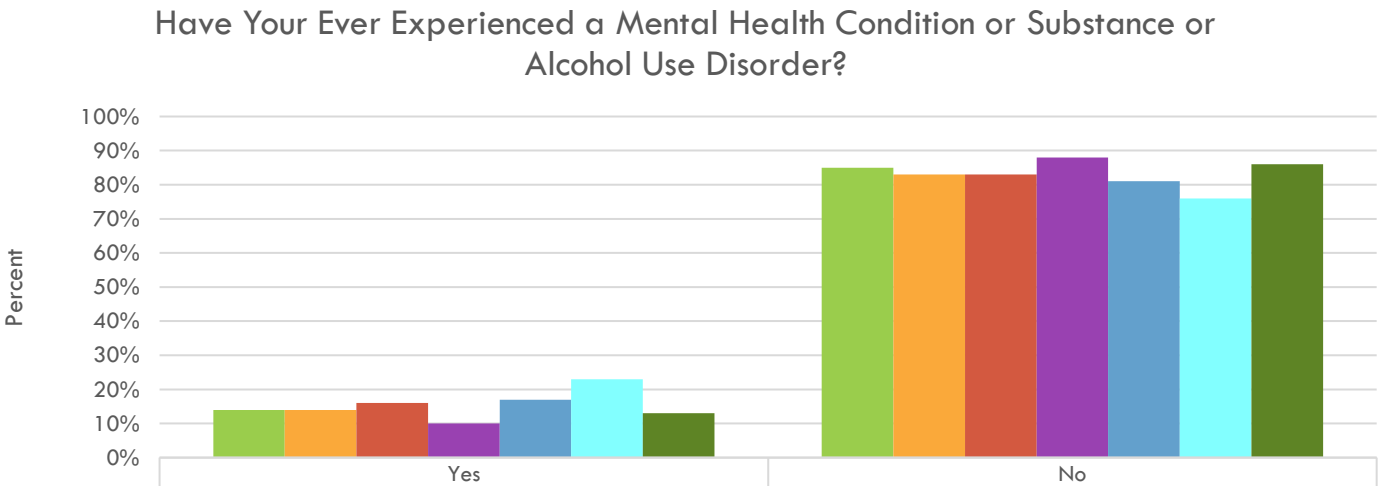
MENTAL HEALTH

Figure 60



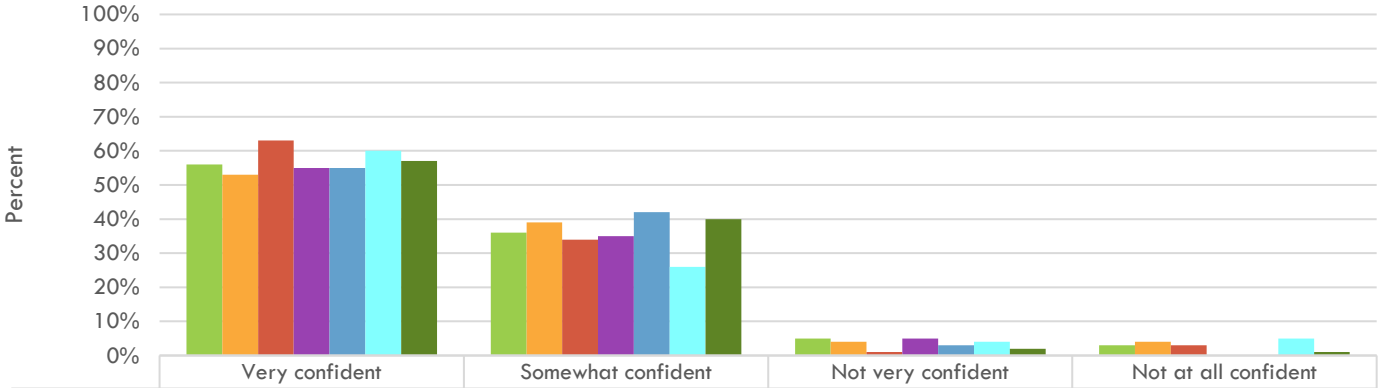
	Excellent	Good	Fair	Poor
Dutchess	50%	36%	10%	3%
Orange	52%	32%	12%	3%
Putnam	53%	35%	9%	2%
Rockland	57%	34%	7%	1%
Sullivan	47%	36%	15%	1%
Ulster	39%	45%	13%	2%
Westchester	50%	35%	10%	2%

Figure 61



	Yes	No
Dutchess	14%	85%
Orange	14%	83%
Putnam	16%	83%
Rockland	10%	88%
Sullivan	17%	81%
Ulster	23%	76%
Westchester	13%	86%

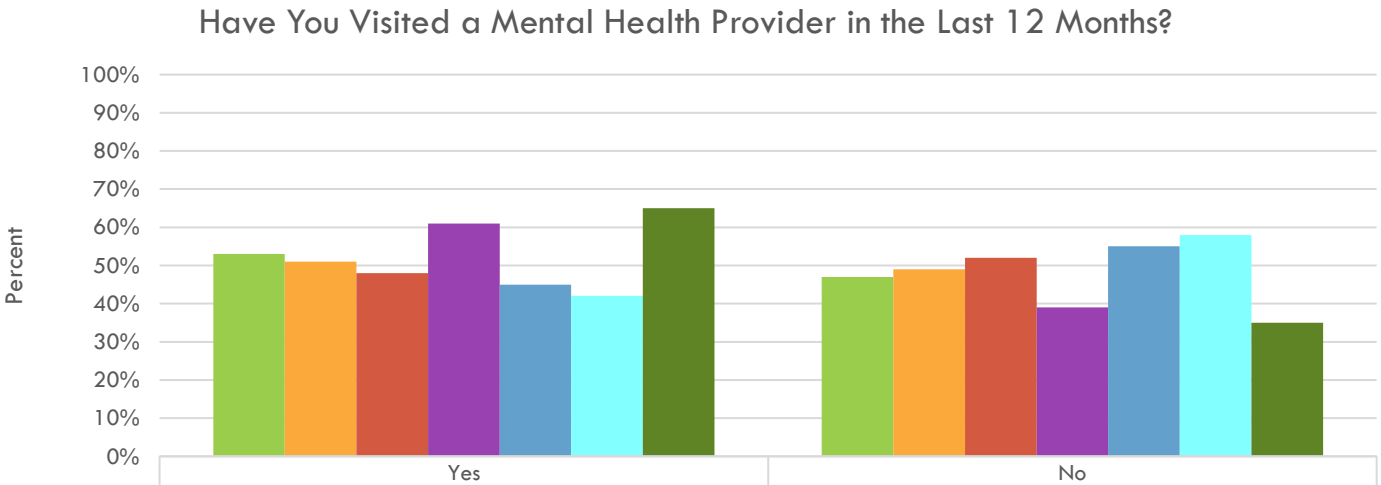
Figure 62



	Very confident	Somewhat confident	Not very confident	Not at all confident
Dutchess	56%	36%	5%	3%
Orange	53%	39%	4%	4%
Putnam	63%	34%	1%	3%
Rockland	55%	35%	5%	0%
Sullivan	55%	42%	3%	0%
Ulster	60%	26%	4%	5%
Westchester	57%	40%	2%	1%

**Does not include respondents that answered "no" to question in Figure 61*

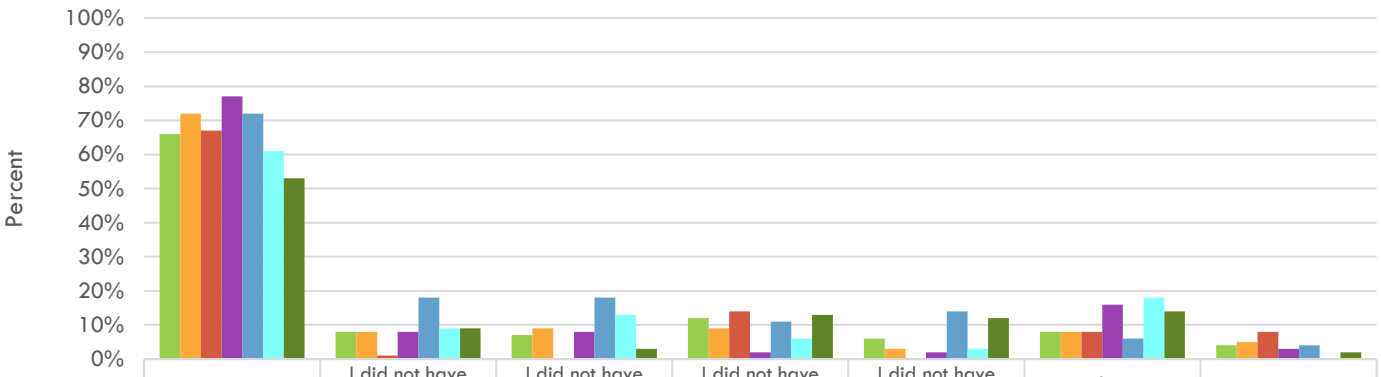
Figure 63



	Yes	No
Dutchess	53%	47%
Orange	51%	49%
Putnam	48%	52%
Rockland	61%	39%
Sullivan	45%	55%
Ulster	42%	58%
Westchester	65%	35%

**Does not include respondents that answered "no" to question in Figure 61*

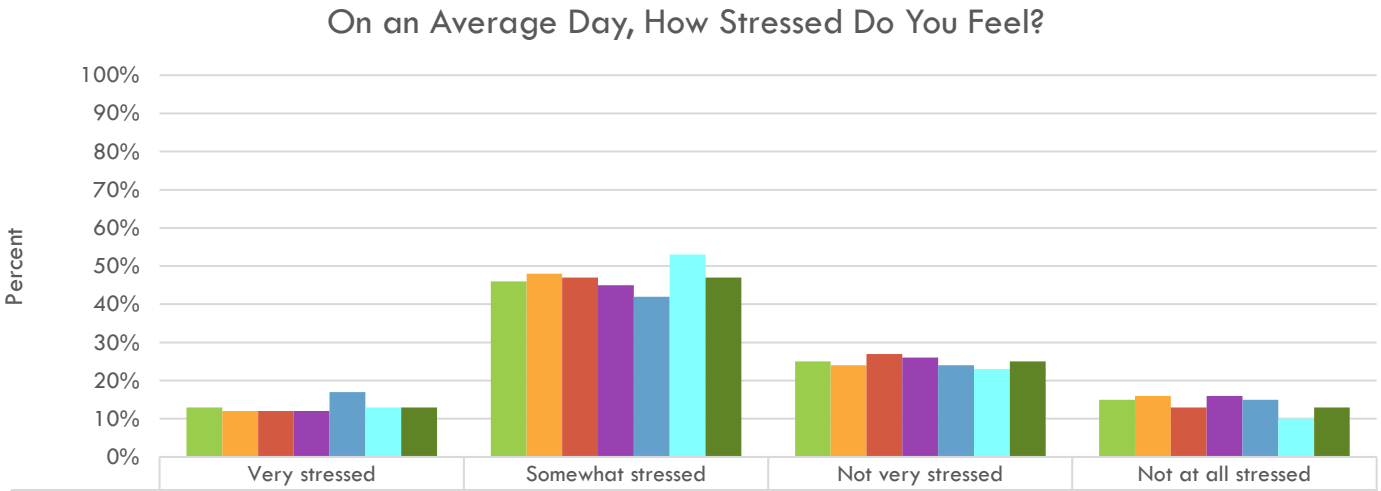
Figure 64



	I chose not to go	I did not have enough money	I did not have insurance	I did not have time	I did not have transportation	Don't know	Other
Dutchess	66%	8%	7%	12%	6%	8%	4%
Orange	72%	8%	9%	9%	3%	8%	5%
Putnam	67%	1%	0%	14%	0%	8%	8%
Rockland	77%	8%	8%	2%	2%	16%	3%
Sullivan	72%	18%	18%	11%	14%	6%	4%
Ulster	61%	9%	13%	6%	3%	18%	0%
Westchester	53%	9%	3%	13%	12%	14%	2%

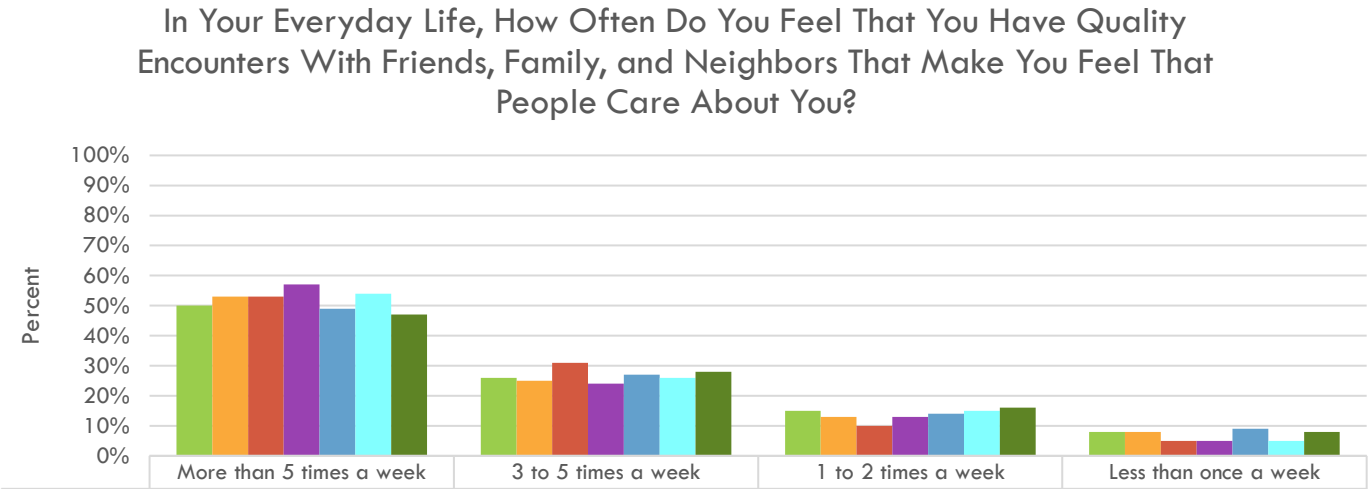
**Does not include respondents that answered "no" to question in Figure 63*

Figure 65



	Very stressed	Somewhat stressed	Not very stressed	Not at all stressed
Dutchess	13%	46%	25%	15%
Orange	12%	48%	24%	16%
Putnam	12%	47%	27%	13%
Rockland	12%	45%	26%	16%
Sullivan	17%	42%	24%	15%
Ulster	13%	53%	23%	10%
Westchester	13%	47%	25%	13%

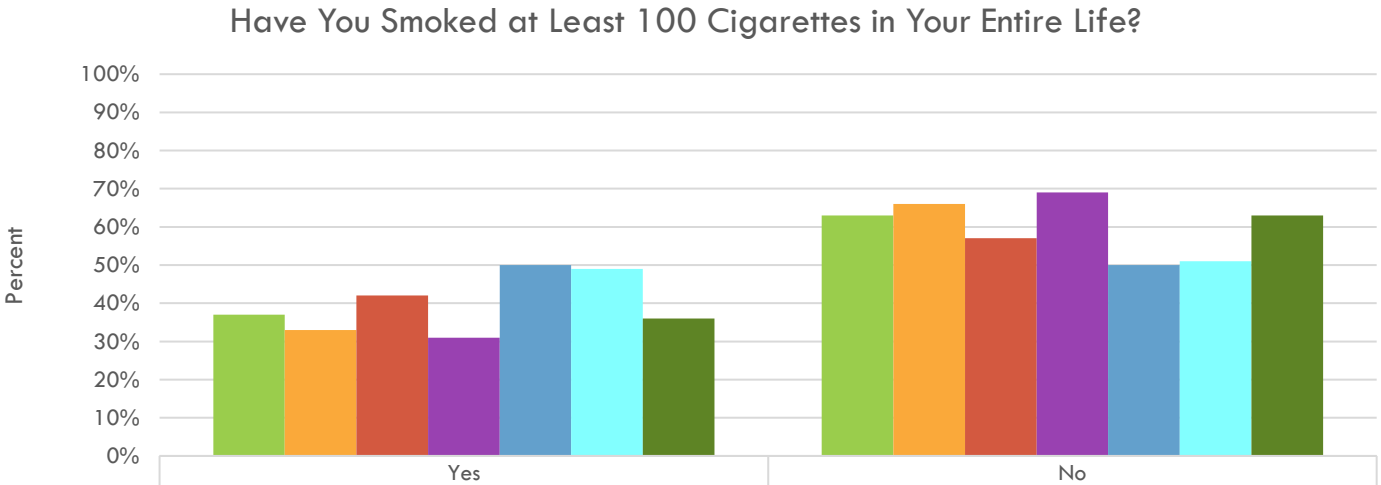
Figure 66



	More than 5 times a week	3 to 5 times a week	1 to 2 times a week	Less than once a week
Dutchess	50%	26%	15%	8%
Orange	53%	25%	13%	8%
Putnam	53%	31%	10%	5%
Rockland	57%	24%	13%	5%
Sullivan	49%	27%	14%	9%
Ulster	54%	26%	15%	5%
Westchester	47%	28%	16%	8%

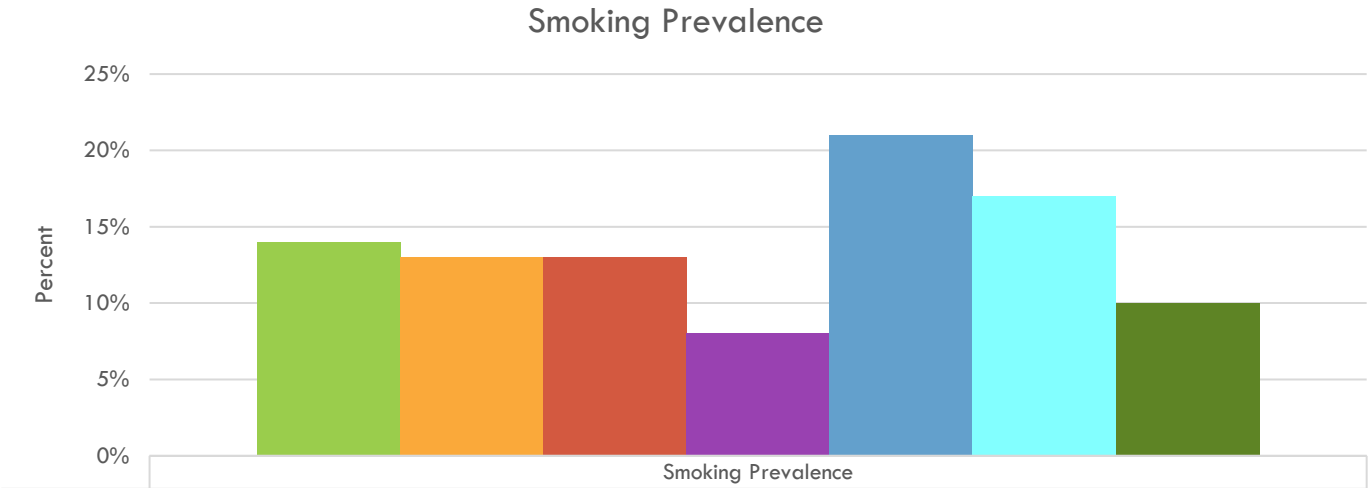
SMOKING

Figure 67



	Yes	No
Dutchess	37%	63%
Orange	33%	66%
Putnam	42%	57%
Rockland	31%	69%
Sullivan	50%	50%
Ulster	49%	51%
Westchester	36%	63%

Figure 68



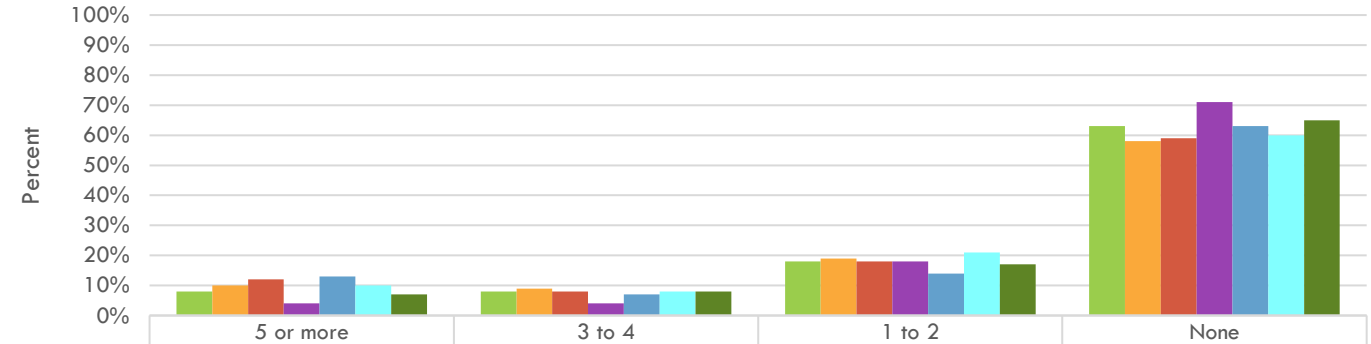
	Smoking Prevalence
Dutchess	14%
Orange	13%
Putnam	13%
Rockland	8%
Sullivan	21%
Ulster	17%
Westchester	10%

ALCOHOL AND SUBSTANCE USE

Figure 69

	5 drinks or more	3-4 drinks	2 drinks	1 drink	None
Dutchess	8%	9%	15%	22%	43%
Orange	9%	9%	15%	19%	46%
Putnam	13%	12%	17%	24%	31%
Rockland	6%	7%	13%	26%	45%
Sullivan	9%	7%	14%	20%	48%
Ulster	7%	10%	17%	22%	41%
Westchester	9%	11%	17%	24%	37%

Figure 70



	5 or more	3 to 4	1 to 2	None
Dutchess	8%	8%	18%	63%
Orange	10%	9%	19%	58%
Putnam	12%	8%	18%	59%
Rockland	4%	4%	18%	71%
Sullivan	13%	7%	14%	63%
Ulster	10%	8%	21%	60%
Westchester	7%	8%	17%	65%

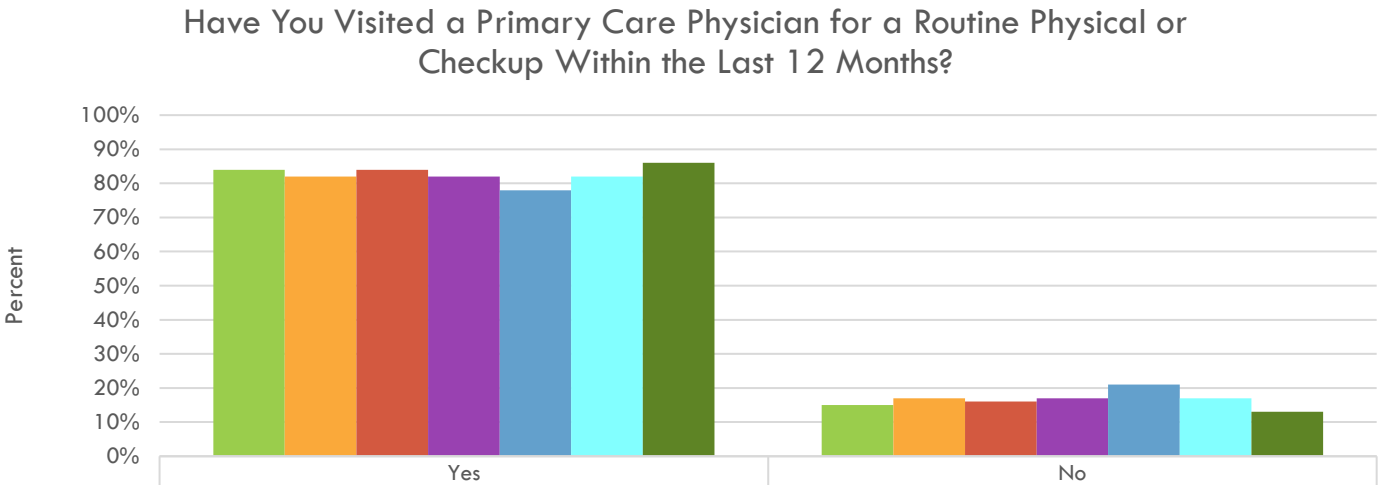
**Does not include respondents that answered "none" to question in Figure 69*
Note: More than four occasions and more than five occasions is considered binge drinking for women and men, respectively.

Figure 71

	Daily	More than once per week, but less than daily	More than once per month, but less than weekly	Less than once per month	Never
Dutchess	3%	2%	2%	3%	90%
Orange	2%	1%	2%	2%	91%
Putnam	3%	1%	1%	4%	90%
Rockland	1%	1%	1%	2%	93%
Sullivan	4%	1%	1%	3%	91%
Ulster	2%	2%	4%	5%	87%
Westchester	3%	2%	2%	3%	88%

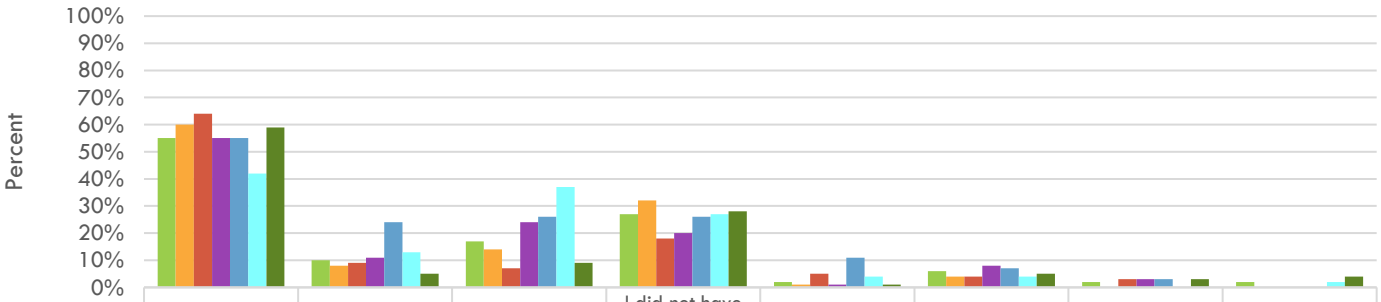
PRIMARY CARE

Figure 72



	Yes	No
Dutchess	84%	15%
Orange	82%	17%
Putnam	84%	16%
Rockland	82%	17%
Sullivan	78%	21%
Ulster	82%	17%
Westchester	86%	13%

Figure 73

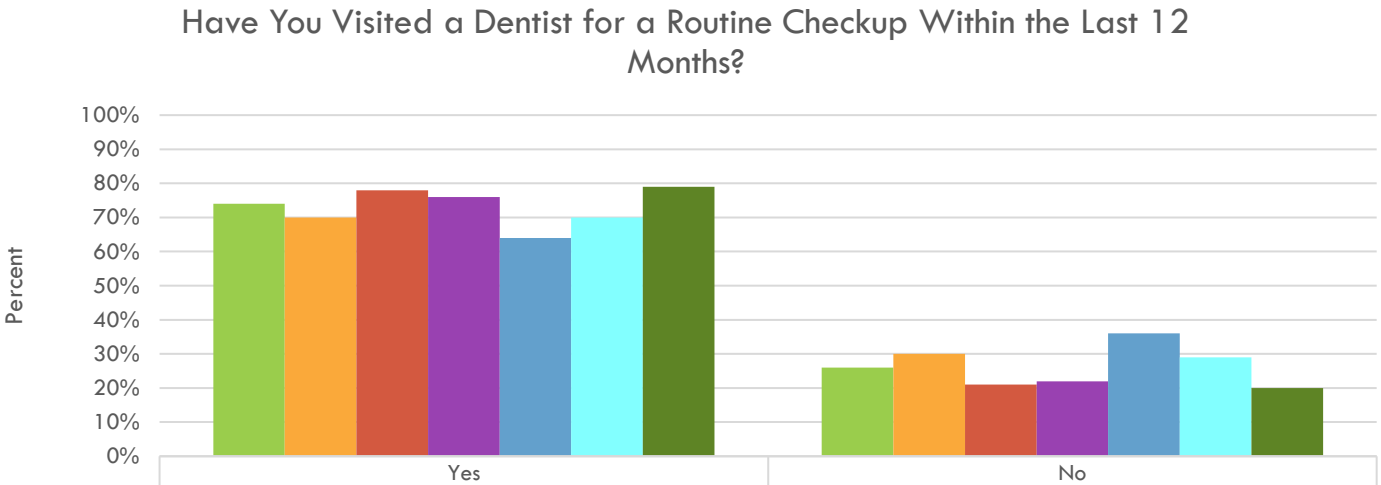


	I chose not to go	I did not have enough money to see a doctor	I did not have health insurance	I did not have time available during regular doctor office hours	I did not have transportation to the doctor's office	Other	Don't know	Refused
Dutchess	55%	10%	17%	27%	2%	6%	2%	2%
Orange	60%	8%	14%	32%	1%	4%	0%	0%
Putnam	64%	9%	7%	18%	5%	4%	3%	0%
Rockland	55%	11%	24%	20%	1%	8%	3%	0%
Sullivan	55%	24%	26%	26%	11%	7%	3%	0%
Ulster	42%	13%	37%	27%	4%	4%	0%	2%
Westchester	59%	5%	9%	28%	1%	5%	3%	4%

**Does not include respondents that answered "no" to question in Figure 72*

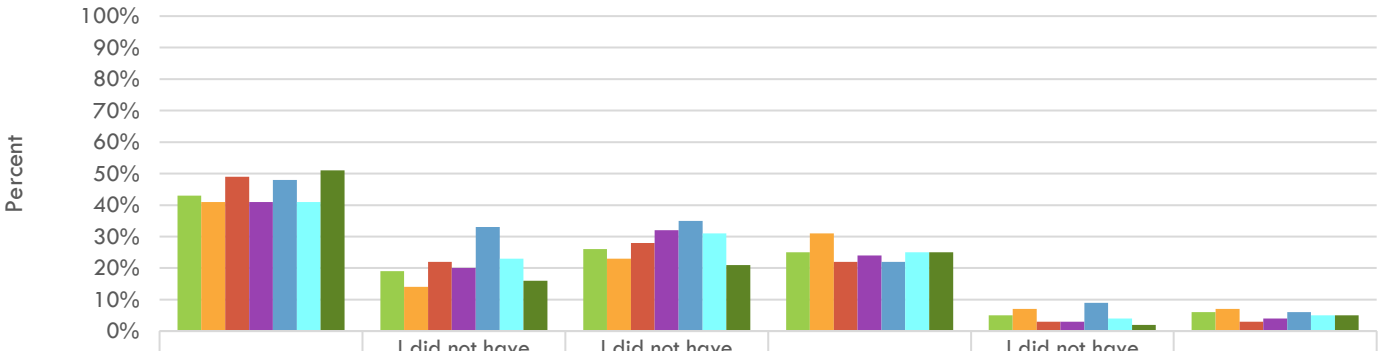
DENTAL HEALTH

Figure 74



	Yes	No
Dutchess	74%	26%
Orange	70%	30%
Putnam	78%	21%
Rockland	76%	22%
Sullivan	64%	36%
Ulster	70%	29%
Westchester	79%	20%

Figure 75

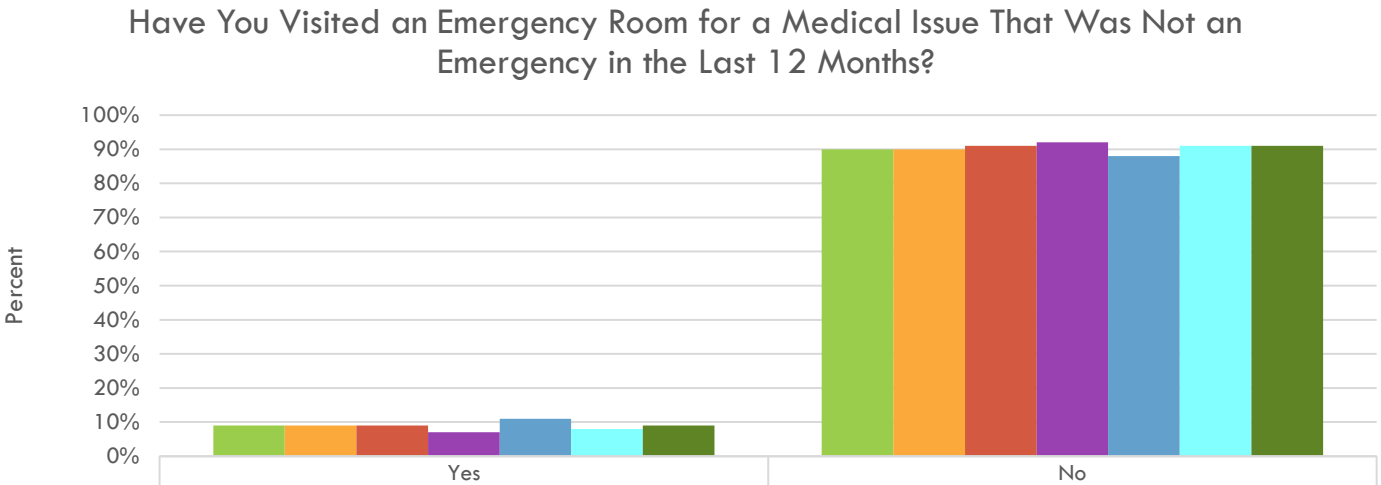


	I chose not to go	I did not have enough money	I did not have insurance	I did not have time	I did not have transportation	Other
Dutchess	43%	19%	26%	25%	5%	6%
Orange	41%	14%	23%	31%	7%	7%
Putnam	49%	22%	28%	22%	3%	3%
Rockland	41%	20%	32%	24%	3%	4%
Sullivan	48%	33%	35%	22%	9%	6%
Ulster	41%	23%	31%	25%	4%	5%
Westchester	51%	16%	21%	25%	2%	5%

**Does not include respondents that answered "no" to question in Figure 72*

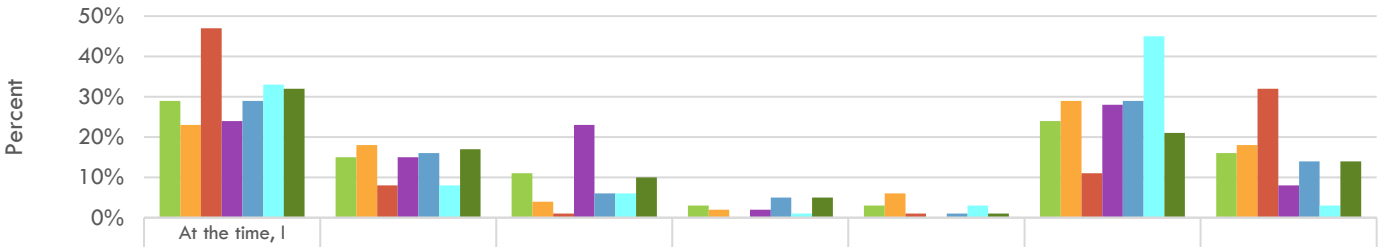
EMERGENCY ROOM USAGE

Figure 76



	Yes	No
Dutchess	9%	90%
Orange	9%	90%
Putnam	9%	91%
Rockland	7%	92%
Sullivan	11%	88%
Ulster	8%	91%
Westchester	9%	91%

Figure 77

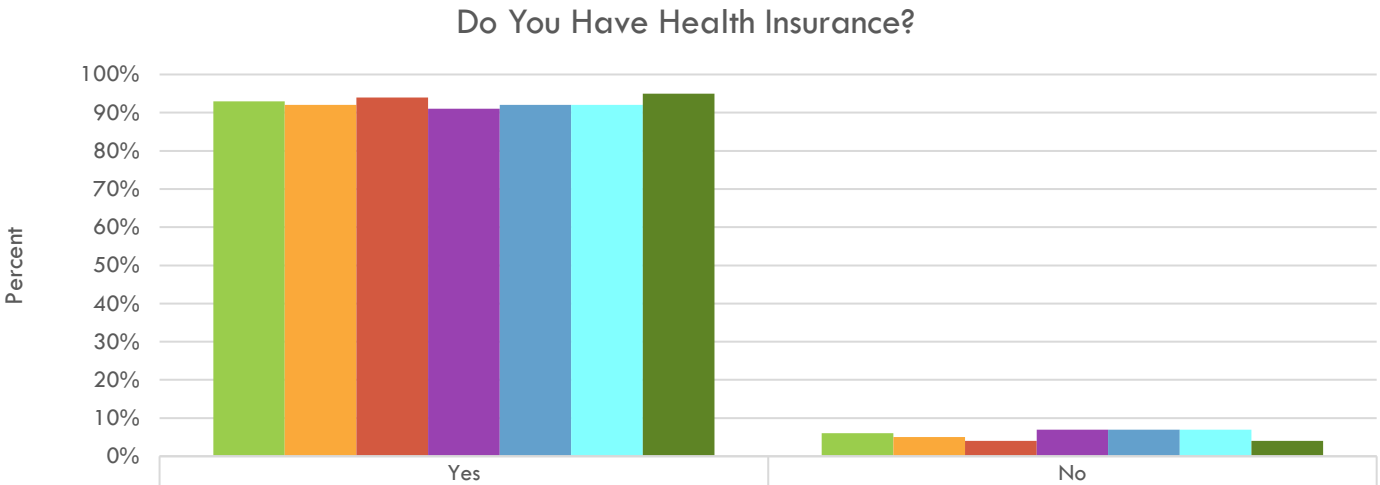


	At the time, I thought it was a health-related emergency, though I later learned it was NOT an emergency	Don't know	I do not have a regular doctor/primary care doctor	Refused	The emergency room was more convenient because of cost	The emergency room was more convenient because of hours of operation	The emergency room was more convenient because of location
Dutchess	29%	15%	11%	3%	3%	24%	16%
Orange	23%	18%	4%	2%	6%	29%	18%
Putnam	47%	8%	1%	0%	1%	11%	32%
Rockland	24%	15%	23%	2%	0%	28%	8%
Sullivan	29%	16%	6%	5%	1%	29%	14%
Ulster	33%	8%	6%	1%	3%	45%	3%
Westchester	32%	17%	10%	5%	1%	21%	14%

**Does not include respondents that answered "no" to question in Figure 72*

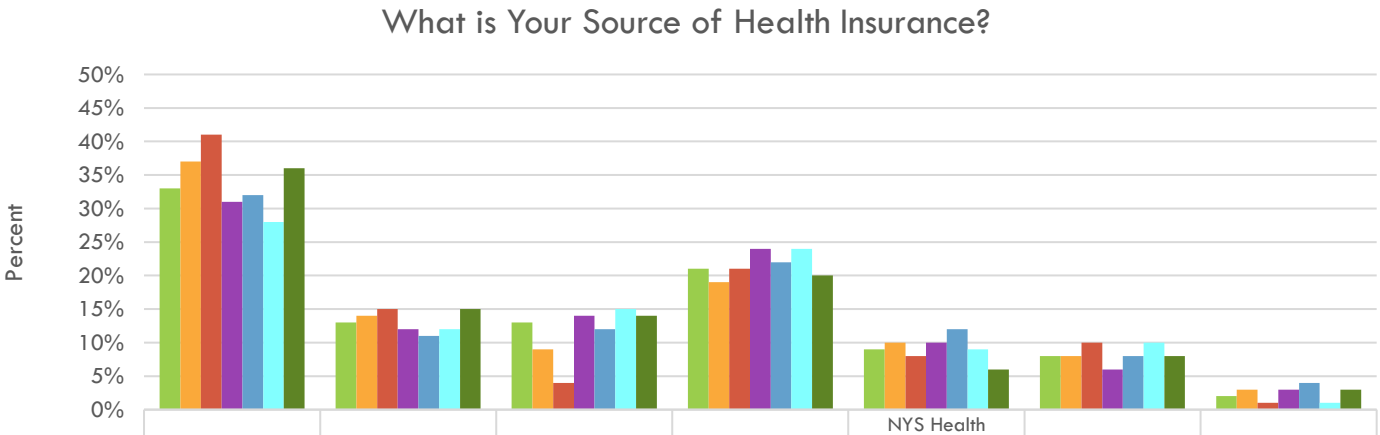
HEALTH INSURANCE

Figure 78



	Yes	No
Dutchess	93%	6%
Orange	92%	5%
Putnam	94%	4%
Rockland	91%	7%
Sullivan	92%	7%
Ulster	92%	7%
Westchester	95%	4%

Figure 79

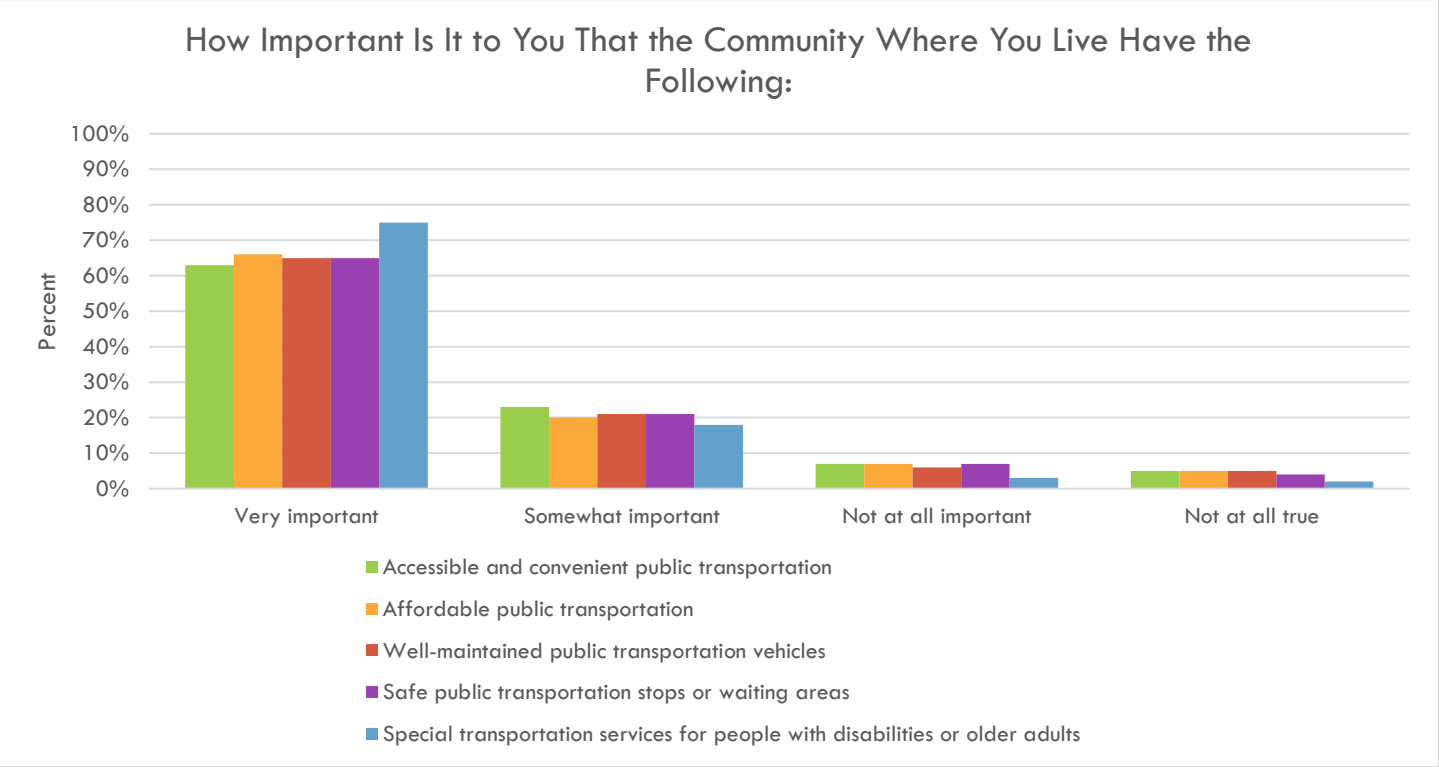


	Employer	Spouse/Partner's employer	Medicaid	Medicare	NYS Health Insurance Marketplace/ Obamacare	Other	Refused
Dutchess	33%	13%	13%	21%	9%	8%	2%
Orange	37%	14%	9%	19%	10%	8%	3%
Putnam	41%	15%	4%	21%	8%	10%	1%
Rockland	31%	12%	14%	24%	10%	6%	3%
Sullivan	32%	11%	12%	22%	12%	8%	4%
Ulster	28%	12%	15%	24%	9%	10%	1%
Westchester	36%	15%	14%	20%	6%	8%	3%

**Does not include respondents that answered "no" to question in Figure 72*

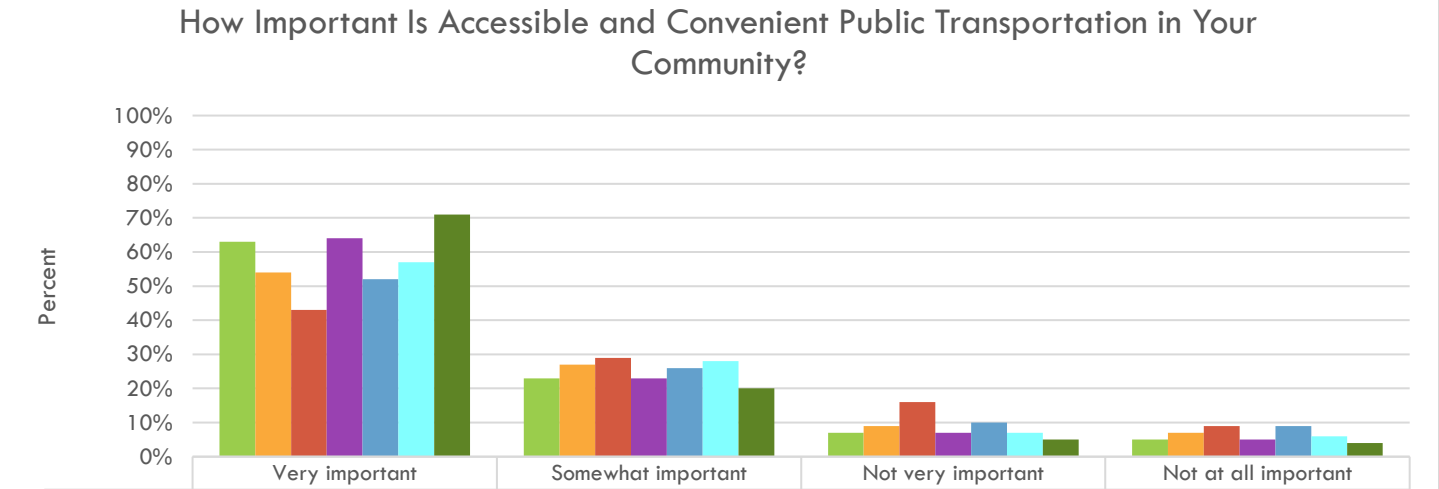
TRANSPORTATION

Figure 80



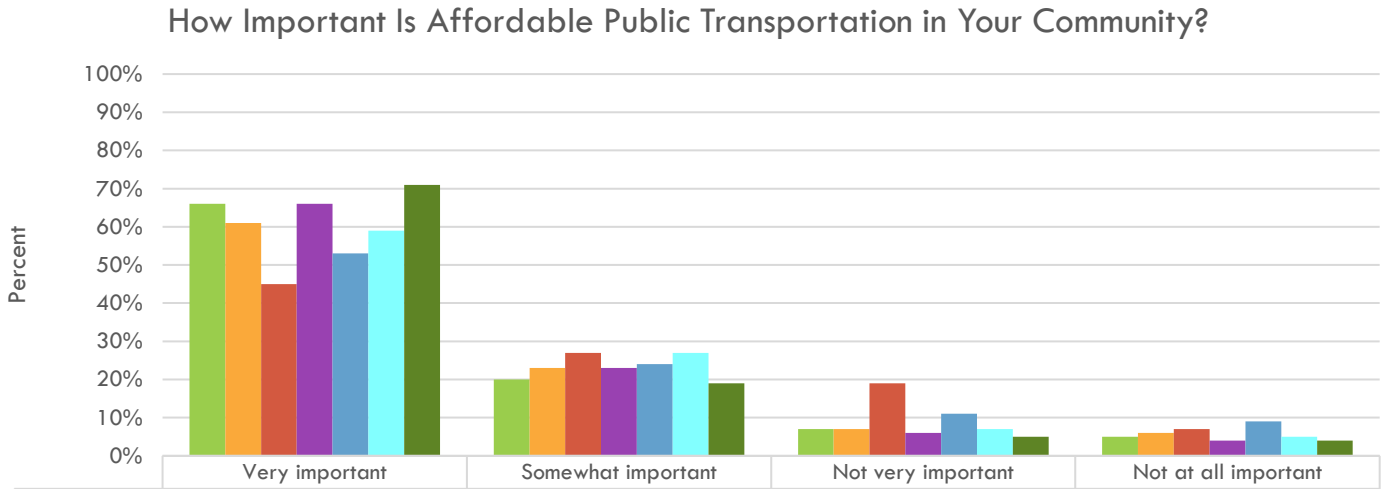
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 81



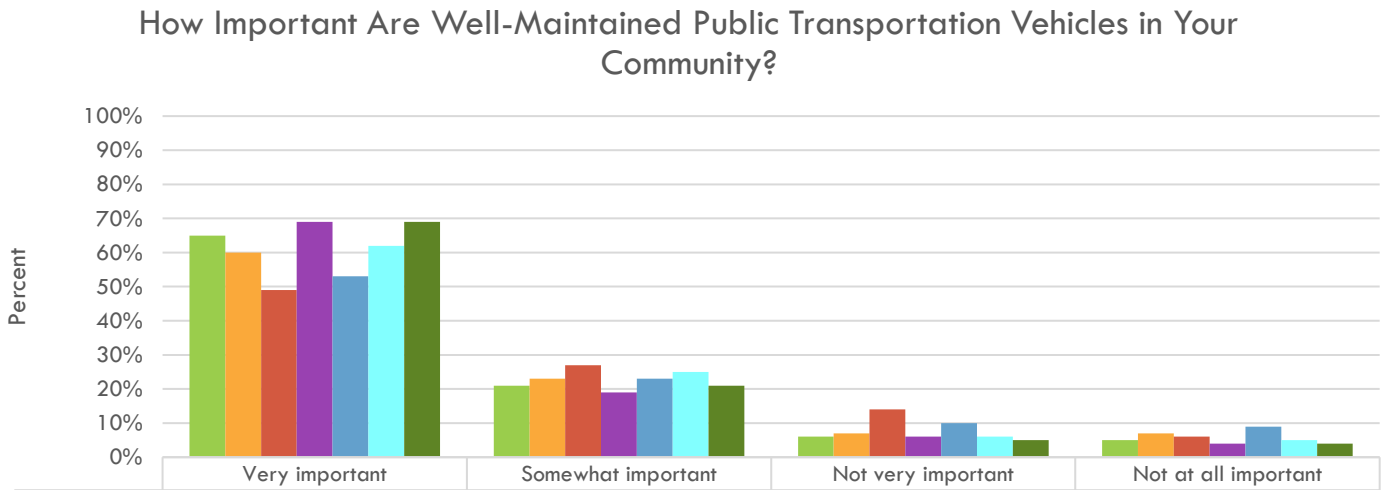
	Very important	Somewhat important	Not very important	Not at all important
Dutchess	63%	23%	7%	5%
Orange	54%	27%	9%	7%
Putnam	43%	29%	16%	9%
Rockland	64%	23%	7%	5%
Sullivan	52%	26%	10%	9%
Ulster	57%	28%	7%	6%
Westchester	71%	20%	5%	4%

Figure 82



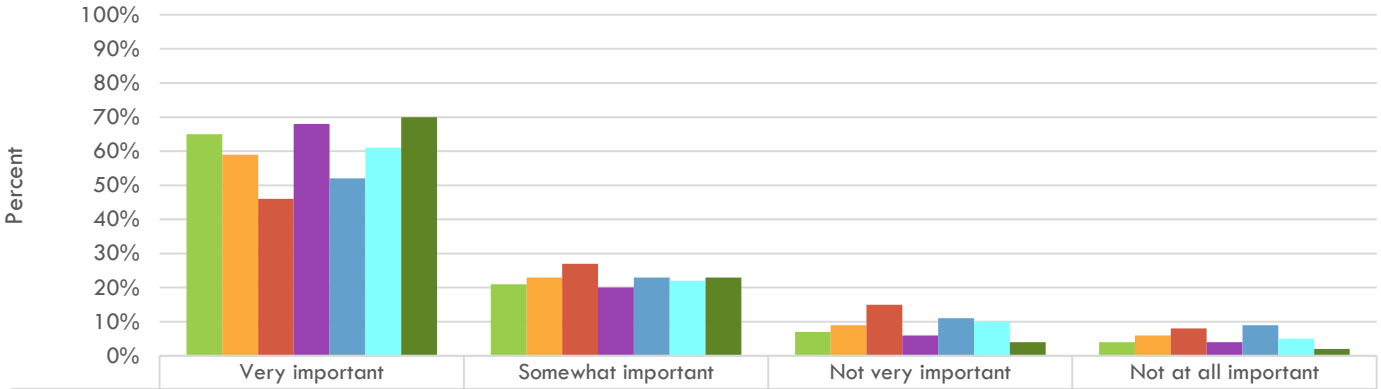
	Very important	Somewhat important	Not very important	Not at all important
Dutchess	66%	20%	7%	5%
Orange	61%	23%	7%	6%
Putnam	45%	27%	19%	7%
Rockland	66%	23%	6%	4%
Sullivan	53%	24%	11%	9%
Ulster	59%	27%	7%	5%
Westchester	71%	19%	5%	4%

Figure 83



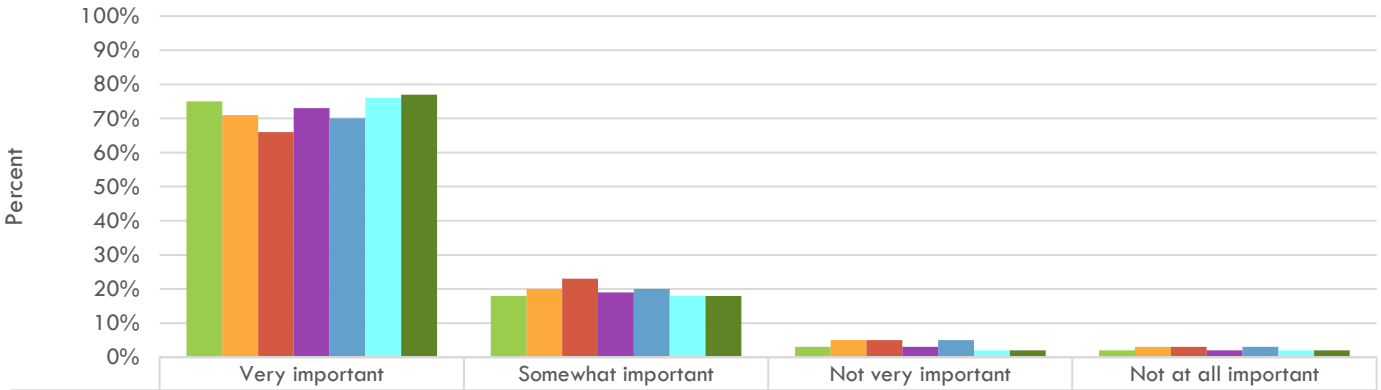
	Very important	Somewhat important	Not very important	Not at all important
Dutchess	65%	21%	6%	5%
Orange	60%	23%	7%	7%
Putnam	49%	27%	14%	6%
Rockland	69%	19%	6%	4%
Sullivan	53%	23%	10%	9%
Ulster	62%	25%	6%	5%
Westchester	69%	21%	5%	4%

Figure 84



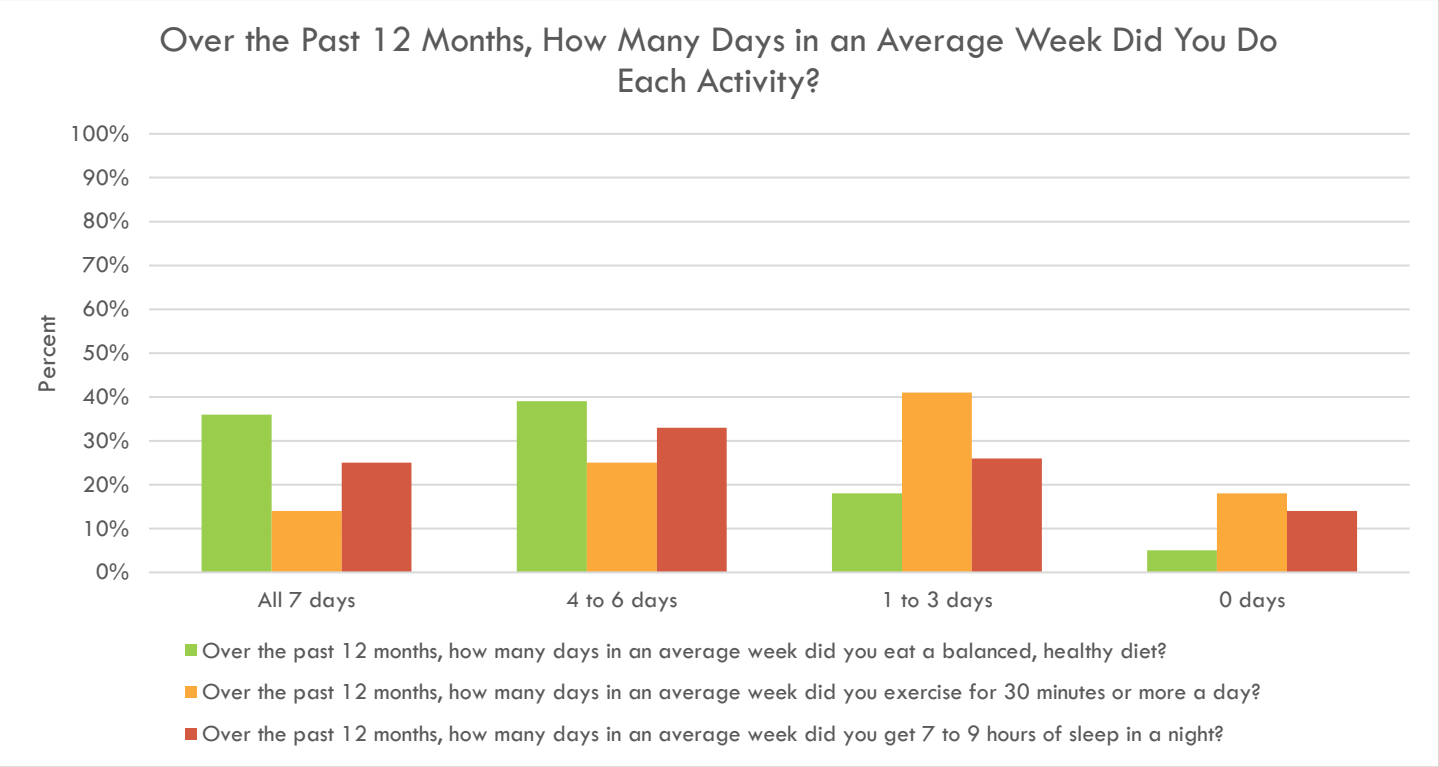
	Very important	Somewhat important	Not very important	Not at all important
Dutchess	65%	21%	7%	4%
Orange	59%	23%	9%	6%
Putnam	46%	27%	15%	8%
Rockland	68%	20%	6%	4%
Sullivan	52%	23%	11%	9%
Ulster	61%	22%	10%	5%
Westchester	70%	23%	4%	2%

Figure 85



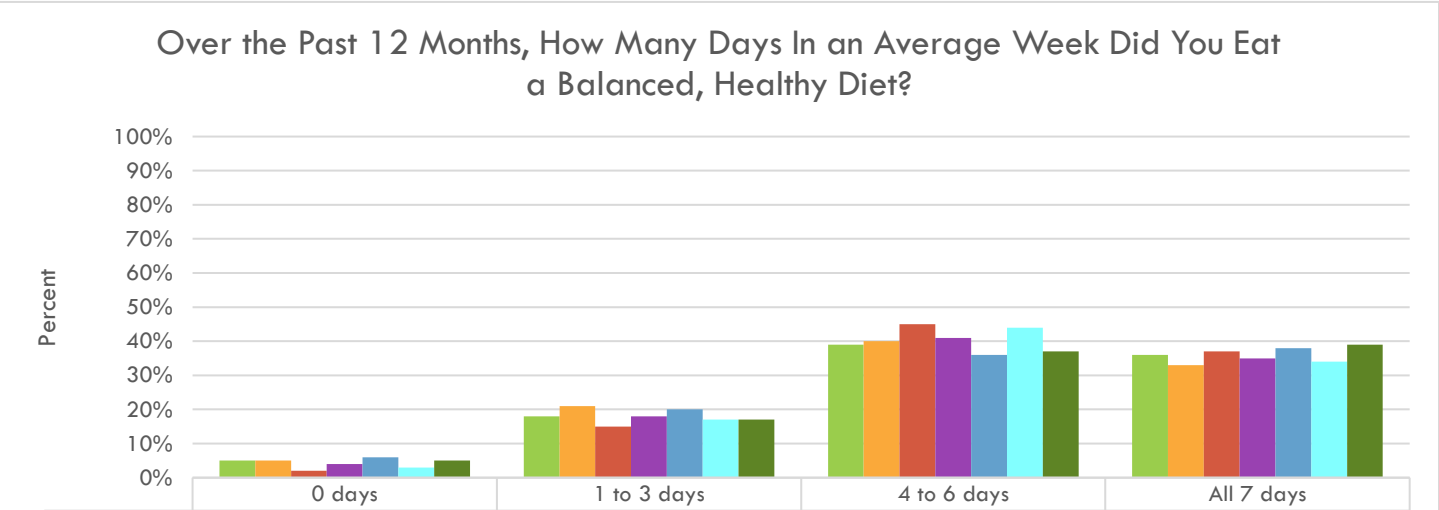
	Very important	Somewhat important	Not very important	Not at all important
Dutchess	75%	18%	3%	2%
Orange	71%	20%	5%	3%
Putnam	66%	23%	5%	3%
Rockland	73%	19%	3%	2%
Sullivan	70%	20%	5%	3%
Ulster	76%	18%	2%	2%
Westchester	77%	18%	2%	2%

Figure 86



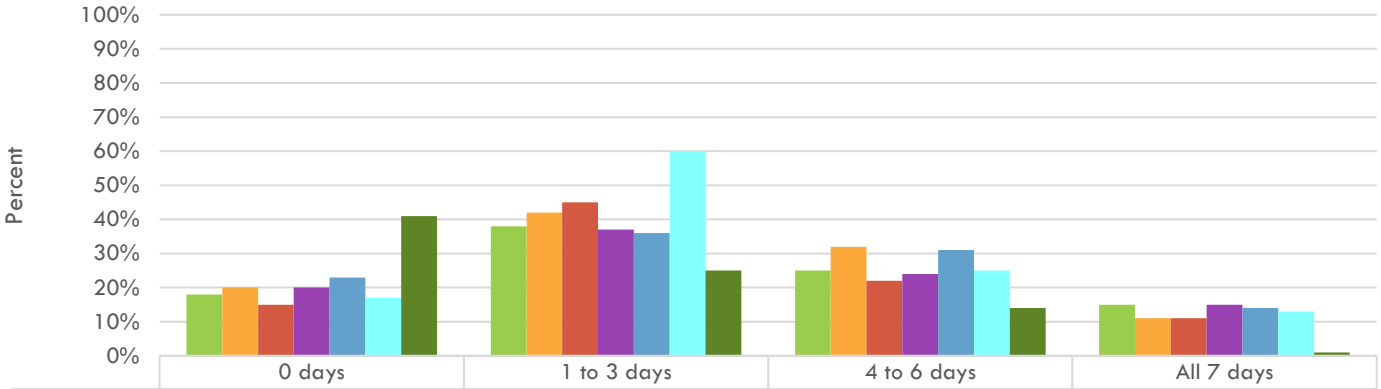
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 87



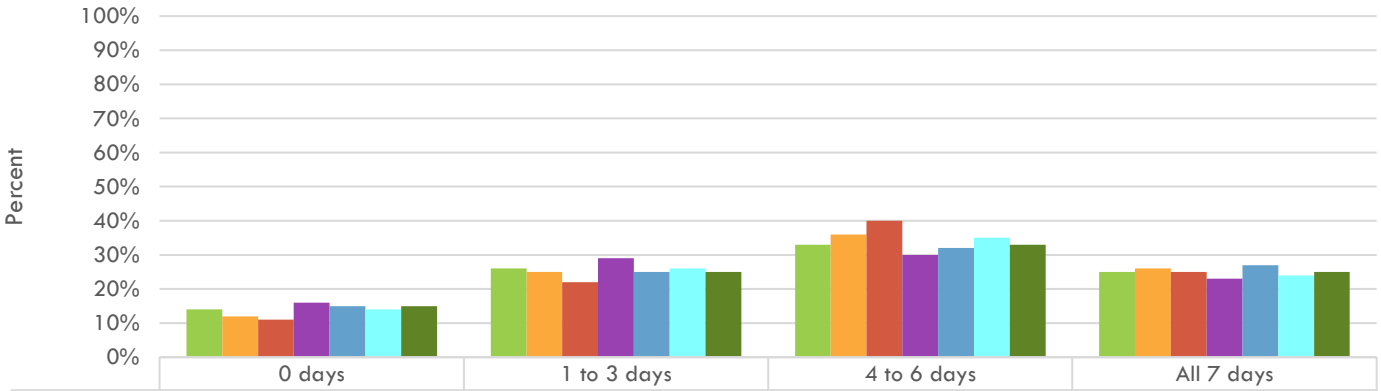
	0 days	1 to 3 days	4 to 6 days	All 7 days
Dutchess	5%	18%	39%	36%
Orange	5%	21%	40%	33%
Putnam	2%	15%	45%	37%
Rockland	4%	18%	41%	35%
Sullivan	6%	20%	36%	38%
Ulster	3%	17%	44%	34%
Westchester	5%	17%	37%	39%

Figure 88



	0 days	1 to 3 days	4 to 6 days	All 7 days
Dutchess	18%	38%	25%	15%
Orange	20%	42%	32%	11%
Putnam	15%	45%	22%	11%
Rockland	20%	37%	24%	15%
Sullivan	23%	36%	31%	14%
Ulster	17%	60%	25%	13%
Westchester	41%	25%	14%	1%

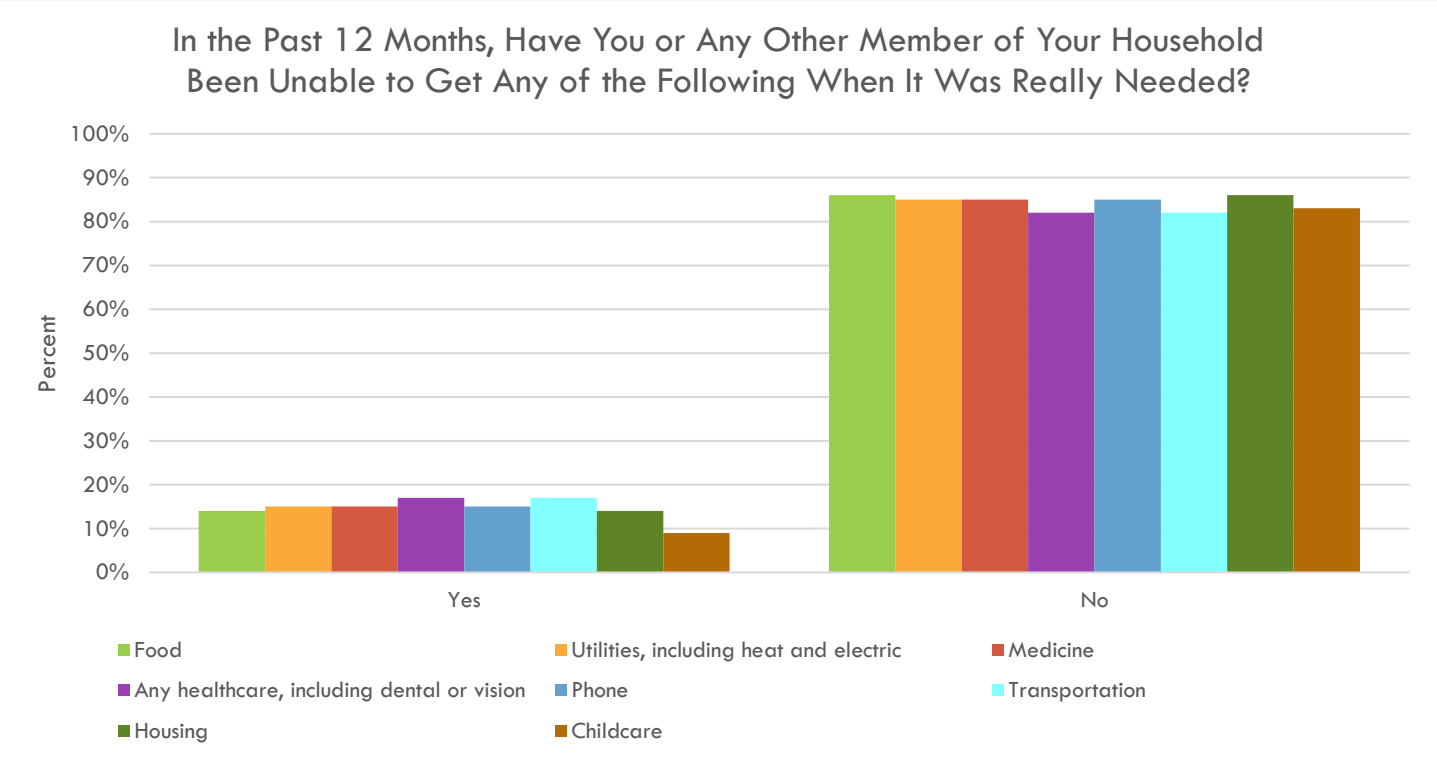
Figure 89



	0 days	1 to 3 days	4 to 6 days	All 7 days
Dutchess	14%	26%	33%	25%
Orange	12%	25%	36%	26%
Putnam	11%	22%	40%	25%
Rockland	16%	29%	30%	23%
Sullivan	15%	25%	32%	27%
Ulster	14%	26%	35%	24%
Westchester	15%	25%	33%	25%

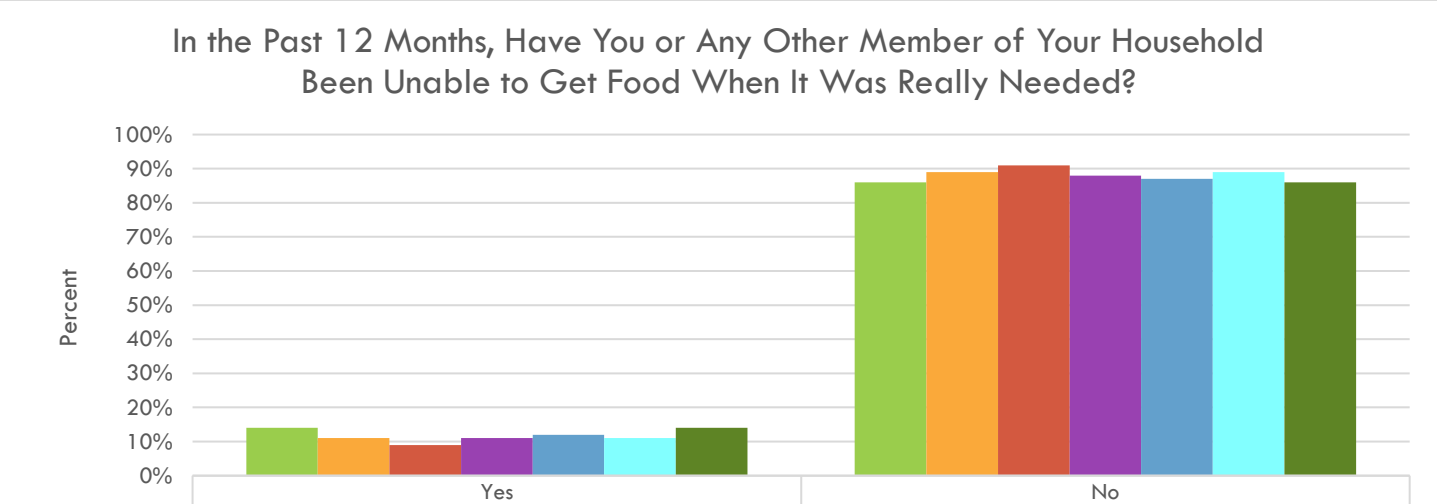
ACCESS TO RESOURCES

Figure 90



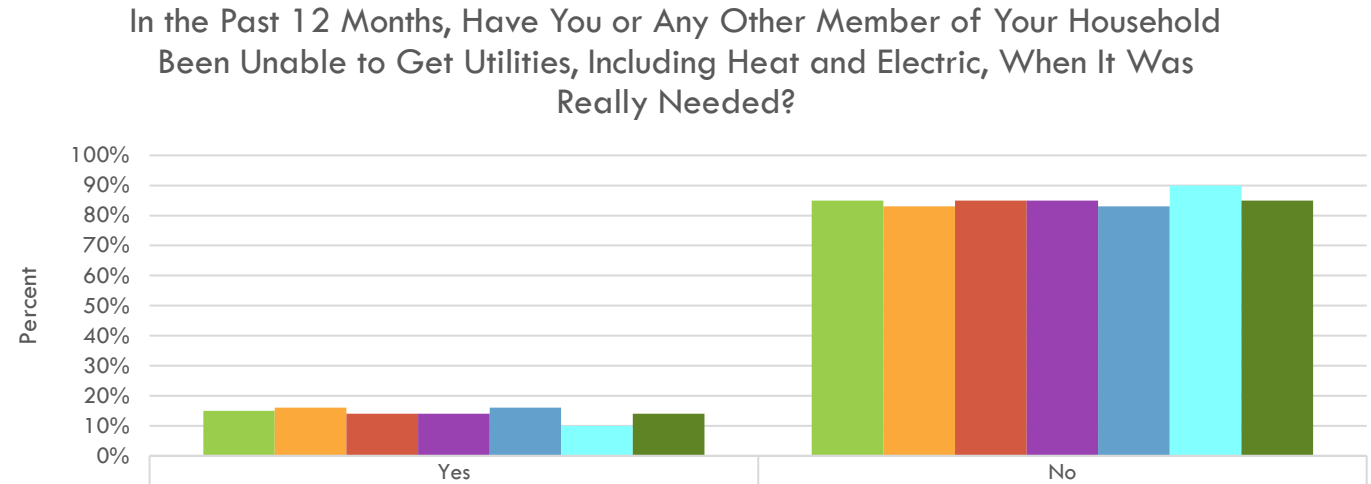
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 91



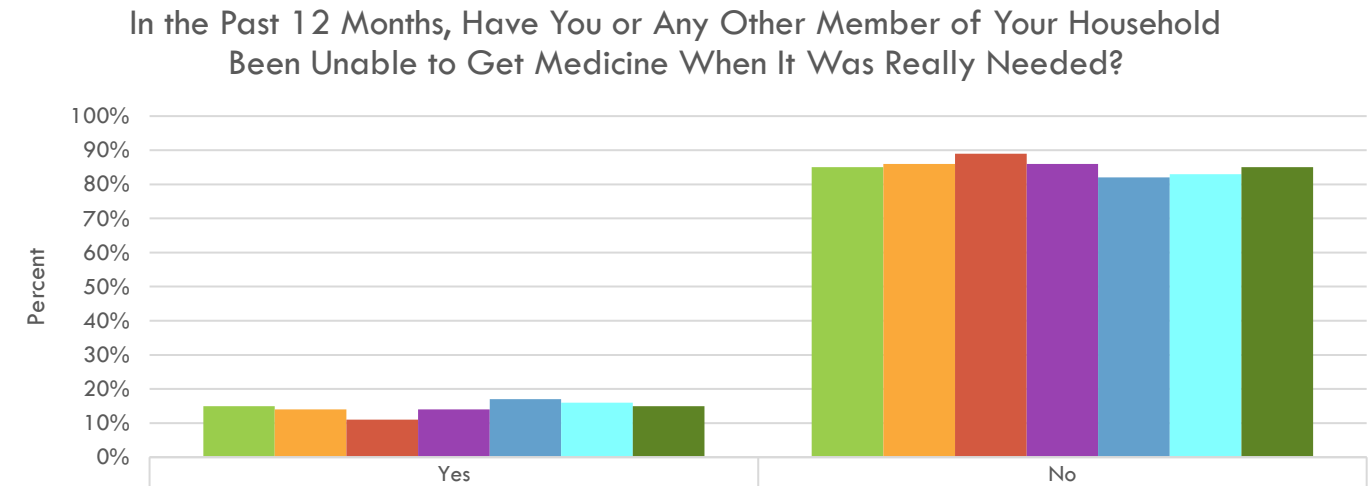
	Yes	No
Dutchess	14%	86%
Orange	11%	89%
Putnam	9%	91%
Rockland	11%	88%
Sullivan	12%	87%
Ulster	11%	89%
Westchester	14%	86%

Figure 92



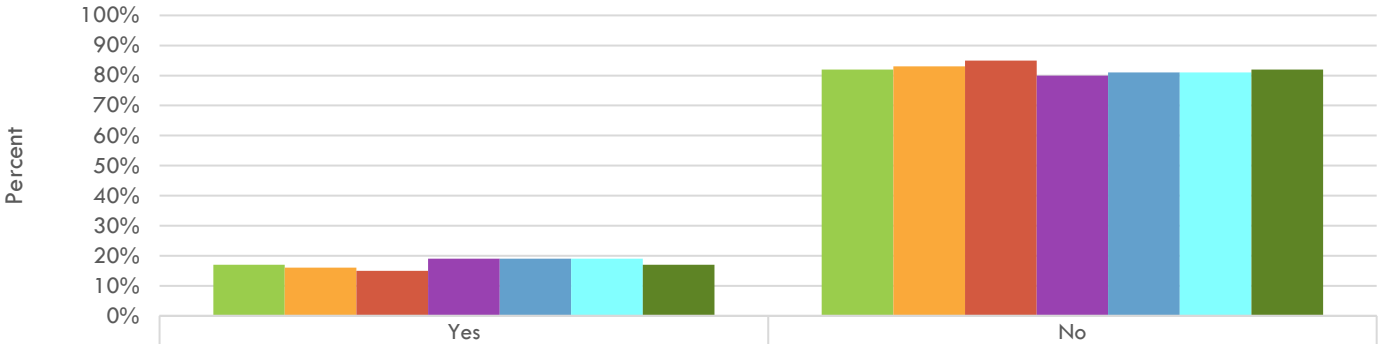
	Yes	No
Dutchess	15%	85%
Orange	16%	83%
Putnam	14%	85%
Rockland	14%	85%
Sullivan	16%	83%
Ulster	10%	90%
Westchester	14%	85%

Figure 93



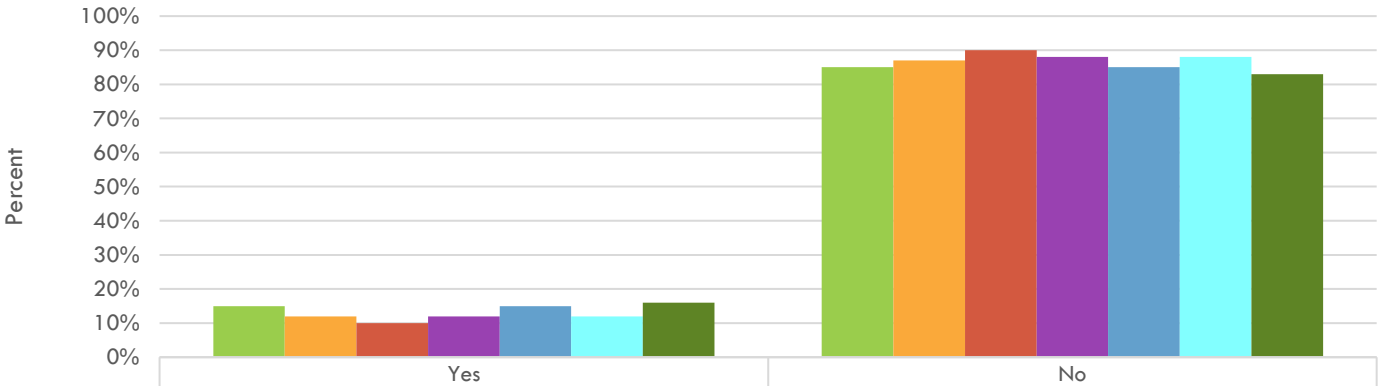
	Yes	No
Dutchess	15%	85%
Orange	14%	86%
Putnam	11%	89%
Rockland	14%	86%
Sullivan	17%	82%
Ulster	16%	83%
Westchester	15%	85%

Figure 94



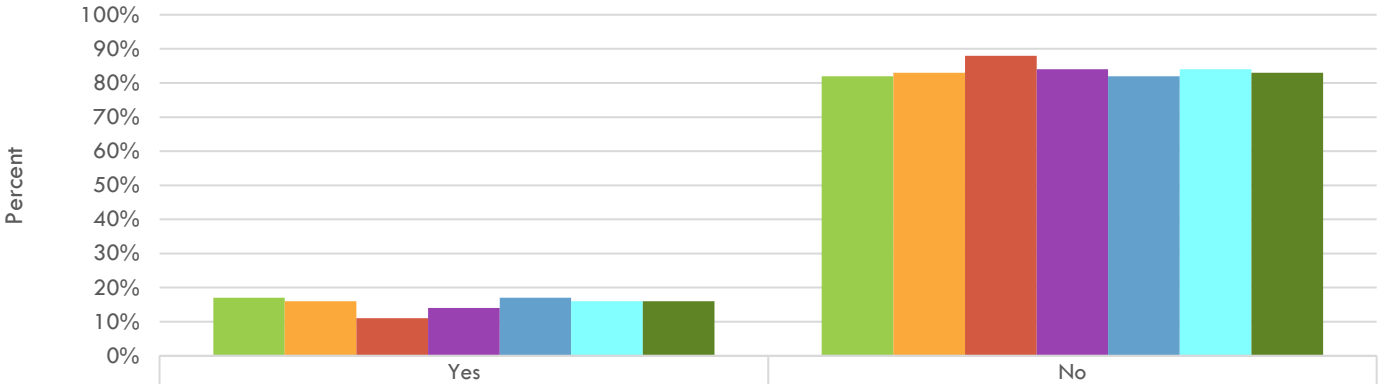
	Yes	No
Dutchess	17%	82%
Orange	16%	83%
Putnam	15%	85%
Rockland	19%	80%
Sullivan	19%	81%
Ulster	19%	81%
Westchester	17%	82%

Figure 95



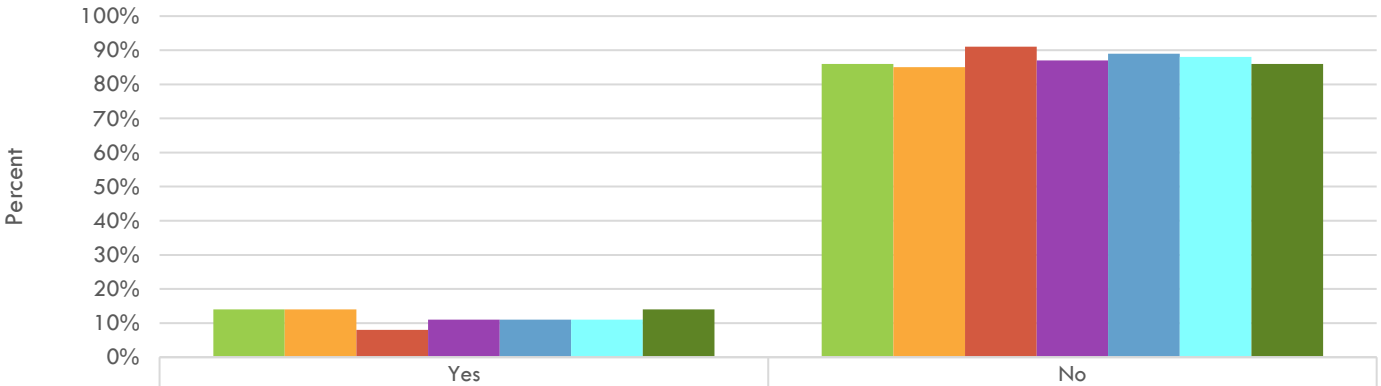
	Yes	No
Dutchess	15%	85%
Orange	12%	87%
Putnam	10%	90%
Rockland	12%	88%
Sullivan	15%	85%
Ulster	12%	88%
Westchester	16%	83%

Figure 96



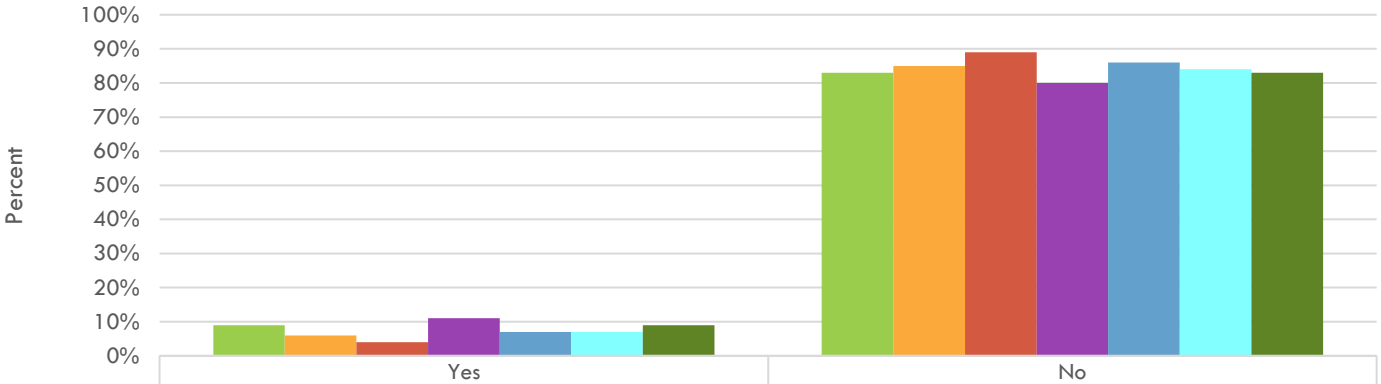
	Yes	No
Dutchess	17%	82%
Orange	16%	83%
Putnam	11%	88%
Rockland	14%	84%
Sullivan	17%	82%
Ulster	16%	84%
Westchester	16%	83%

Figure 97



	Yes	No
Dutchess	14%	86%
Orange	14%	85%
Putnam	8%	91%
Rockland	11%	87%
Sullivan	11%	89%
Ulster	11%	88%
Westchester	14%	86%

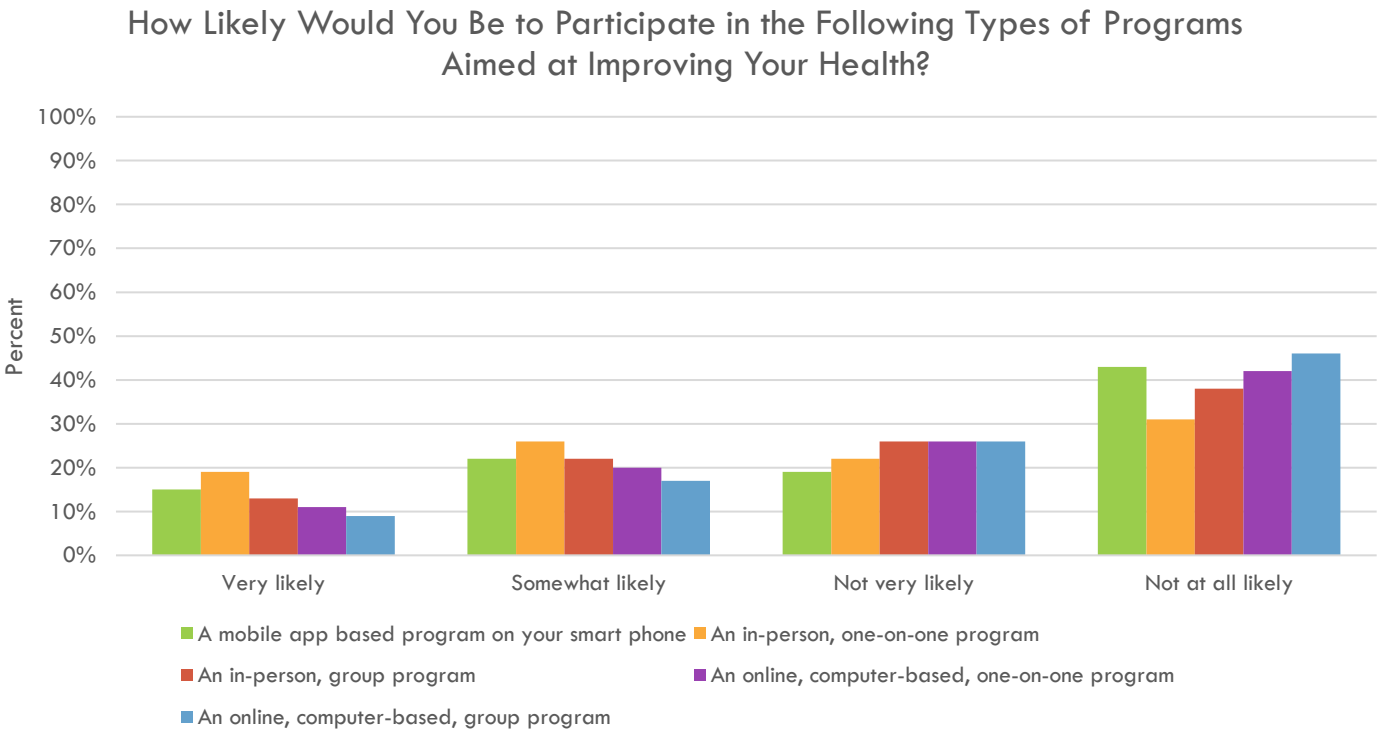
Figure 98



	Yes	No
Dutchess	9%	83%
Orange	6%	85%
Putnam	4%	89%
Rockland	11%	80%
Sullivan	7%	86%
Ulster	7%	84%
Westchester	9%	83%

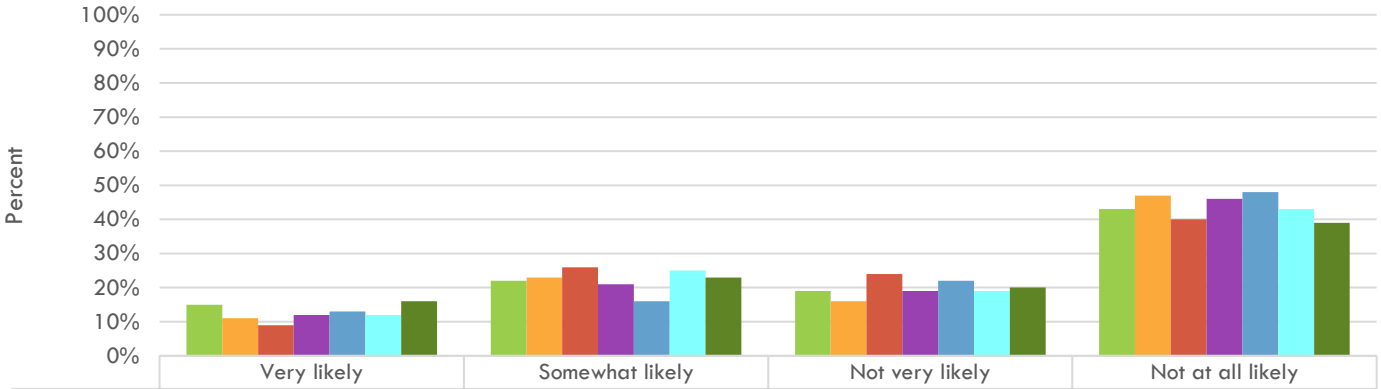
HEALTH IMPROVEMENT PROGRAMS

Figure 99



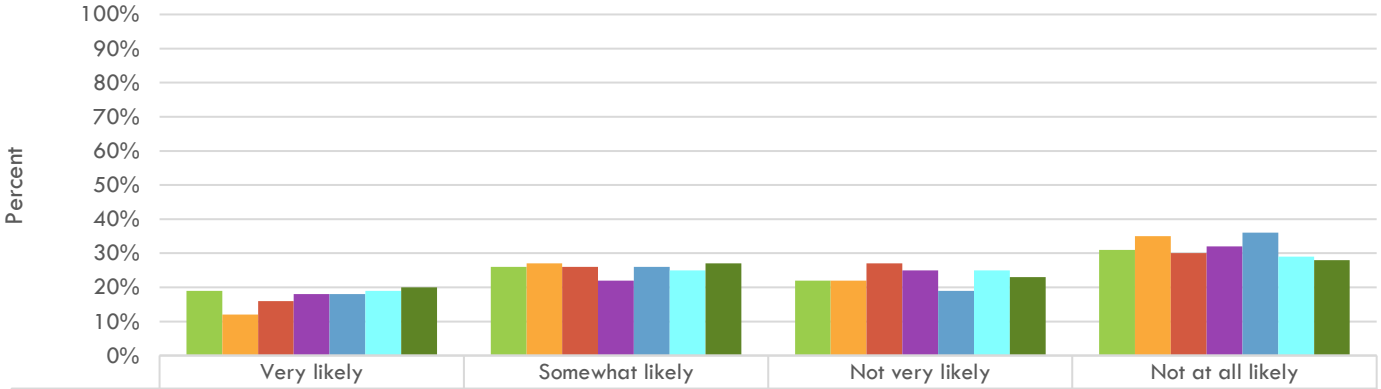
Note: Graph reflects responses for the entire Mid-Hudson Region.

Figure 100



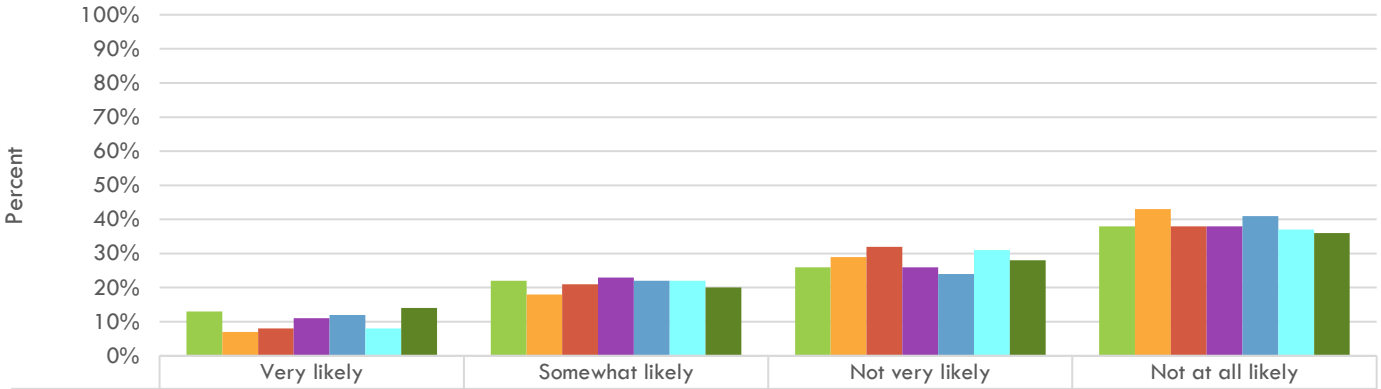
	Very likely	Somewhat likely	Not very likely	Not at all likely
Dutchess	15%	22%	19%	43%
Orange	11%	23%	16%	47%
Putnam	9%	26%	24%	40%
Rockland	12%	21%	19%	46%
Sullivan	13%	16%	22%	48%
Ulster	12%	25%	19%	43%
Westchester	16%	23%	20%	39%

Figure 101



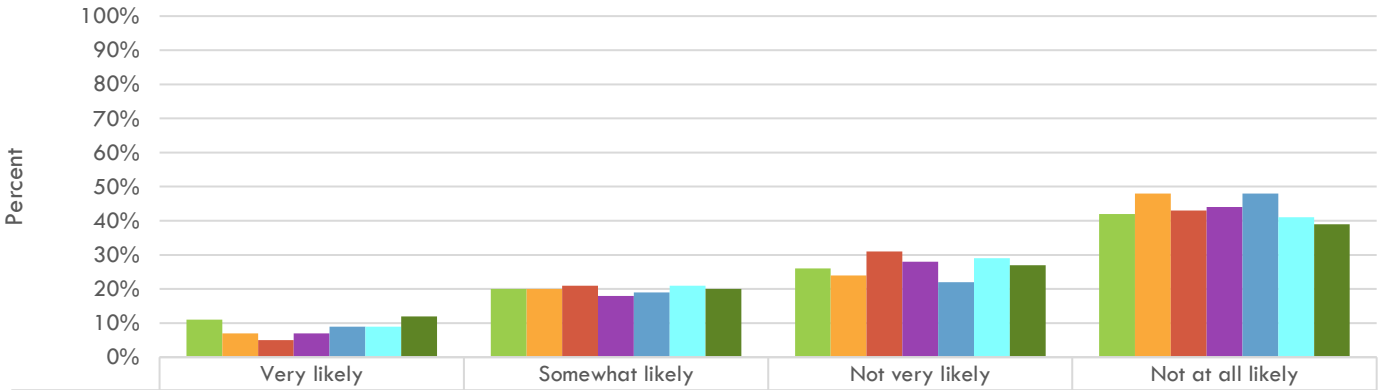
	Very likely	Somewhat likely	Not very likely	Not at all likely
Dutchess	19%	26%	22%	31%
Orange	12%	27%	22%	35%
Putnam	16%	26%	27%	30%
Rockland	18%	22%	25%	32%
Sullivan	18%	26%	19%	36%
Ulster	19%	25%	25%	29%
Westchester	20%	27%	23%	28%

Figure 102



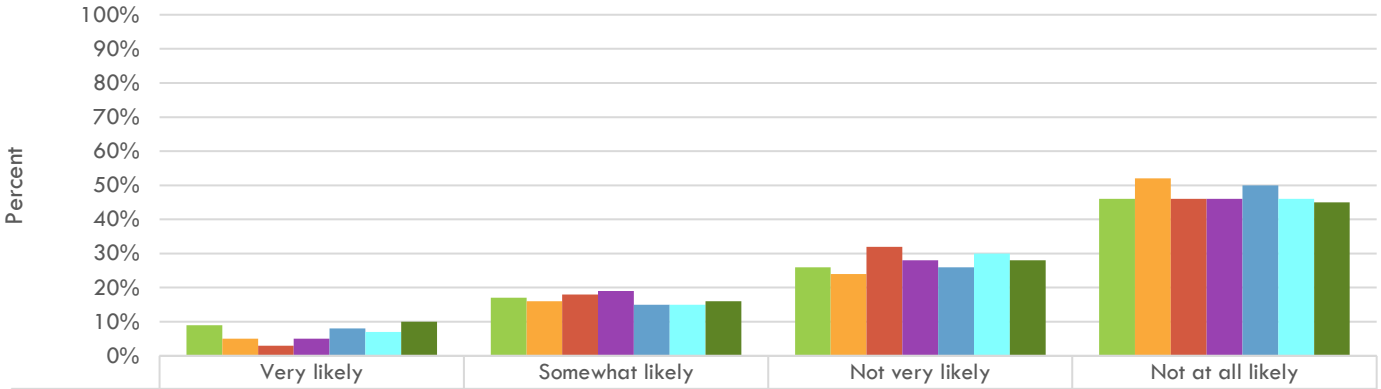
	Very likely	Somewhat likely	Not very likely	Not at all likely
Dutchess	13%	22%	26%	38%
Orange	7%	18%	29%	43%
Putnam	8%	21%	32%	38%
Rockland	11%	23%	26%	38%
Sullivan	12%	22%	24%	41%
Ulster	8%	22%	31%	37%
Westchester	14%	20%	28%	36%

Figure 103



	Very likely	Somewhat likely	Not very likely	Not at all likely
Dutchess	11%	20%	26%	42%
Orange	7%	20%	24%	48%
Putnam	5%	21%	31%	43%
Rockland	7%	18%	28%	44%
Sullivan	9%	19%	22%	48%
Ulster	9%	21%	29%	41%
Westchester	12%	20%	27%	39%

Figure 104



	Very likely	Somewhat likely	Not very likely	Not at all likely
Dutchess	9%	17%	26%	46%
Orange	5%	16%	24%	52%
Putnam	3%	18%	32%	46%
Rockland	5%	19%	28%	46%
Sullivan	8%	15%	26%	50%
Ulster	7%	15%	30%	46%
Westchester	10%	16%	28%	45%

PROVIDER FOCUS GROUPS

BACKGROUND

Although the Mid-Hudson Region Community Health Survey collected responses from a randomized sample of over 5,000 Hudson Valley residents, there are some populations that may not be fully accounted for in this survey. Some of these underrepresented populations include those who are low-income, veterans, seniors, people experiencing homelessness, LGBTQ members, and people with a mental health diagnosis. In order to ensure that the needs of these populations were met, focus groups were conducted with providers that serve these populations in each of the seven counties. The term "providers" refers to those who offer services, such as mental health support, vocational programs, and programs for underserved populations. The reason for doing focus groups with providers, rather than directly surveying the target populations through convenience sampling, was that a convenience sample risks only accounting for those who are already accessing services and care. The hope in surveying providers was that they would have an idea of what obstacles and barriers these populations face when accessing services.

Before the focus groups took place, a survey was sent out to providers within each county in order to supply additional insight around local factors influencing community health. This survey covered several topics, including the populations the providers serve; the issues that affect health in the communities they serve; barriers to people achieving better health; and interventions that are used to address social determinants of health (see Appendix B). Throughout the seven counties in the Mid-Hudson Region, 285 surveys were completed by service providers. The answers to the survey varied throughout each county, and these differences were expanded upon in the focus groups.

In the Mid-Hudson Region, 12 focus groups were conducted with various service providers. The participating providers serve a variety of clients, including children, adults with disabilities, low-income individuals, and people with substance use disorders. When looking at data from the Mid-Hudson Region as a whole, the top three issues that providers felt affected health in their communities were access to affordable, decent, and safe housing; access to mental health providers; and access to affordable, reliable transportation. The top three barriers providers felt prevented people from achieving better health in their communities were knowledge of existing resources, health literacy, and drug and/or alcohol use. Mental health and substance use issues, chronic diseases, and health disparities were thought to highly impact these specific populations in the Mid-Hudson Region. These data points reflect the majority of responses from each individual focus group conducted in each county.

In the following sections, the data are broken down by each county with three primary sections: Major Findings, Current Efforts, and Specific Recommendations. These data points can help guide the work that needs to be done to address the needs of underserved populations.

For the exact transcripts from the focus groups, please contact your local health department.

DUTCHESS COUNTY

In Dutchess County, 48 responses were collected from providers that serve various populations [see Appendix C]. The Dutchess County Department of Behavioral & Community Health (DBCH), along with HealtheConnections, conducted two focus groups. One took place through the Dutchess B.A.T. (Bringing Agencies Together) Coalition, and the other took place through the Eastern Dutchess Rural Health Network. Several agencies were represented in both meetings, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affected health in Dutchess County were [see Figure 105]:

1) Access to affordable, decent and safe housing
2) Access to affordable, nutritious food
3) Access to reliable public transportation

The survey also showed that the top three barriers to people achieving better health in Dutchess County were [see Figure 106]:

1) Knowledge of existing resources
2) Geographic location-living in a rural area
3) Healthy literacy and having someone to help them understand insurance

Issues highly impacting health in the communities as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 107]. When comparing the Mid-Hudson Region Community Health Survey to the provider survey, there were some discrepancies between both sets of responses. For example, almost 90% of the residents in Dutchess County stated they were able to access affordable food that is healthy and nutritious (35% stated it is a completely true statement, 50% stated it is a somewhat true statement), and over 50% stated that they can get to where they need to using public transportation (20% stated that it is a completely true statement, 35% stated that it is a somewhat true statement). However, in the surveys distributed to providers, two of the top three issues that they believed affected health in their communities were access to affordable, nutritious food and access to affordable, reliable public transportation. The focus groups gave an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Many providers agreed that people who are low-income face more of the previously mentioned barriers than any other population. There are time, employment, and flexibility issues involved.
- For low-income families, health is not a priority because they have more pressing concerns, such as juggling their jobs and family life. There are other stressors that take precedence.
- Undocumented individuals are afraid of accessing services because of the fear of deportation.
- Transportation is a significant barrier to accessing medical care in Dutchess County. There are some programs, such as Dial-A-Ride, but they're overwhelmed and cannot keep up with the demand. Medicaid transportation also exists, but it is unreliable, and people often arrive late or miss their medical appointment altogether.

- Health insurance can be difficult to understand, and most people do not access medical care because of this. An example provided by one organization was a client who was unaware that the provider she saw didn't take her insurance, and she was charged with a large bill. There are questions about the role providers should play in helping patients understand more about health insurance.
- The systems that are put in place to help underserved populations are sometimes too difficult to navigate (ex: Medicaid and food stamps). It's a combination of the difficulty of understanding the system and the lack of help from others to understand it.
- There is stigma associated with getting help, and this is a major reason why some people do not access medical care, especially if it is related to mental health.

CURRENT EFFORTS

- There are some agencies doing family classes that target the specific needs of the population being served. For example, Mid-Hudson National Alliance on Mental Illness (NAMI) has had a successful turnout and engagement for their six and 12-week programs, because they offer it in such a way that works with people's schedules and supports people where they are.
- There has been positive experience with the stabilization center in Dutchess County, and people are able to obtain the appropriate services.
- The 2-1-1 program of United Way is a helpline that connects people with services that they need. People usually call the 2-1-1 helpline when they are in crisis, with issues centered around health, housing, transportation, etc. When people call the helpline, they are referred to services that are within their region. However, people need to be incentivized to use this as a resource, as it is underutilized.

SPECIFIC RECOMMENDATIONS

- Agencies need to concentrate on the importance of health in school-aged children as a preventive measure, as it can be hard to reach adults who are already "set in their ways."
- In regard to transportation, there is a need for more bus lines and safer sidewalks to walk on. Agencies need to communicate better with the Medicaid taxi companies in order to make services more efficient.
- The scheduling and styling of programs should target the needs of the specific population being served.
- The DBCH website needs to be more user-friendly and should include all services and programs. It also needs to be accessible to someone who has a fourth grade reading level.
- There needs to be better promotion of services that exist in the community. Social media is a good way to target the younger population, but there needs to be more advertisement of services to the older population, since they may not have the same access to technology.
- Overall, it is important that organizations continue collaborating in order to address the needs of underserved populations.

Figure 105

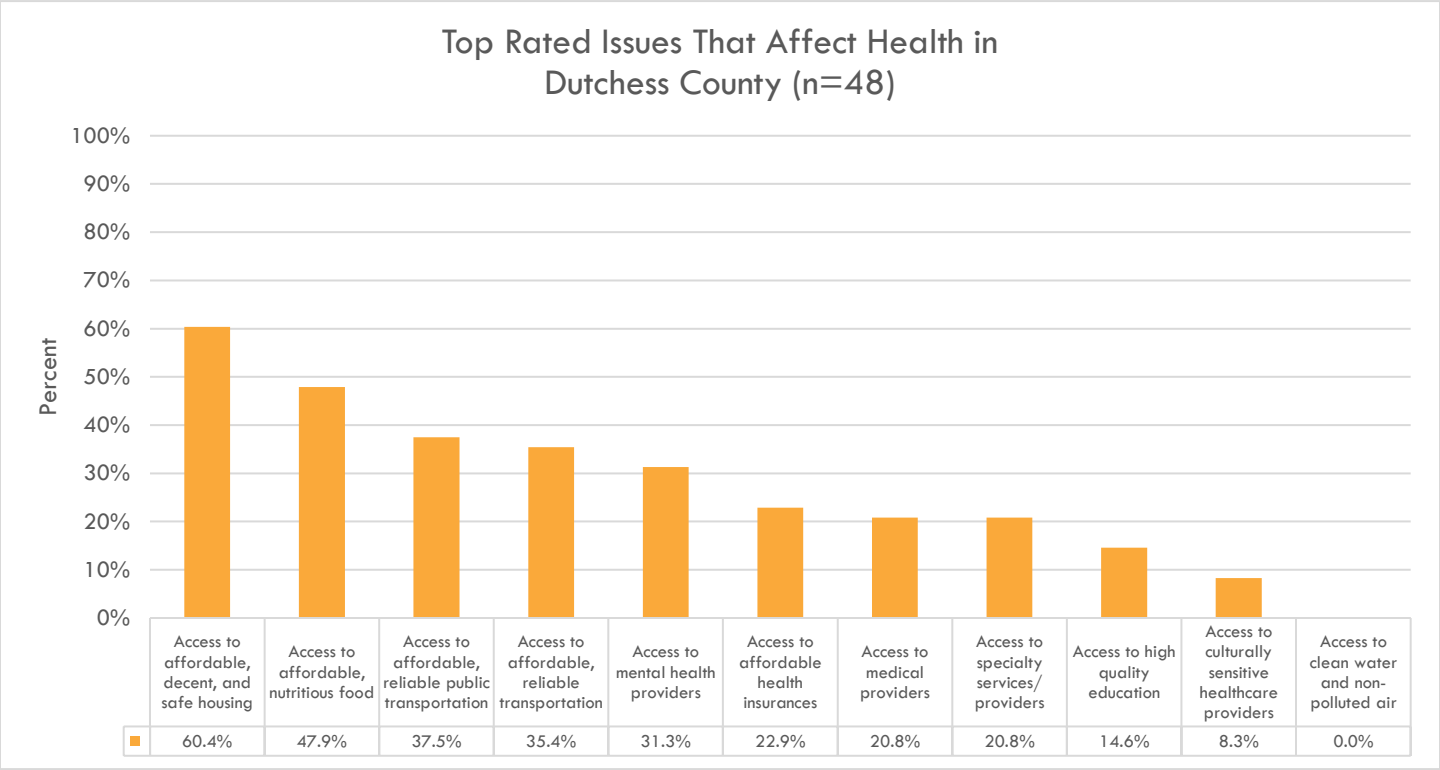
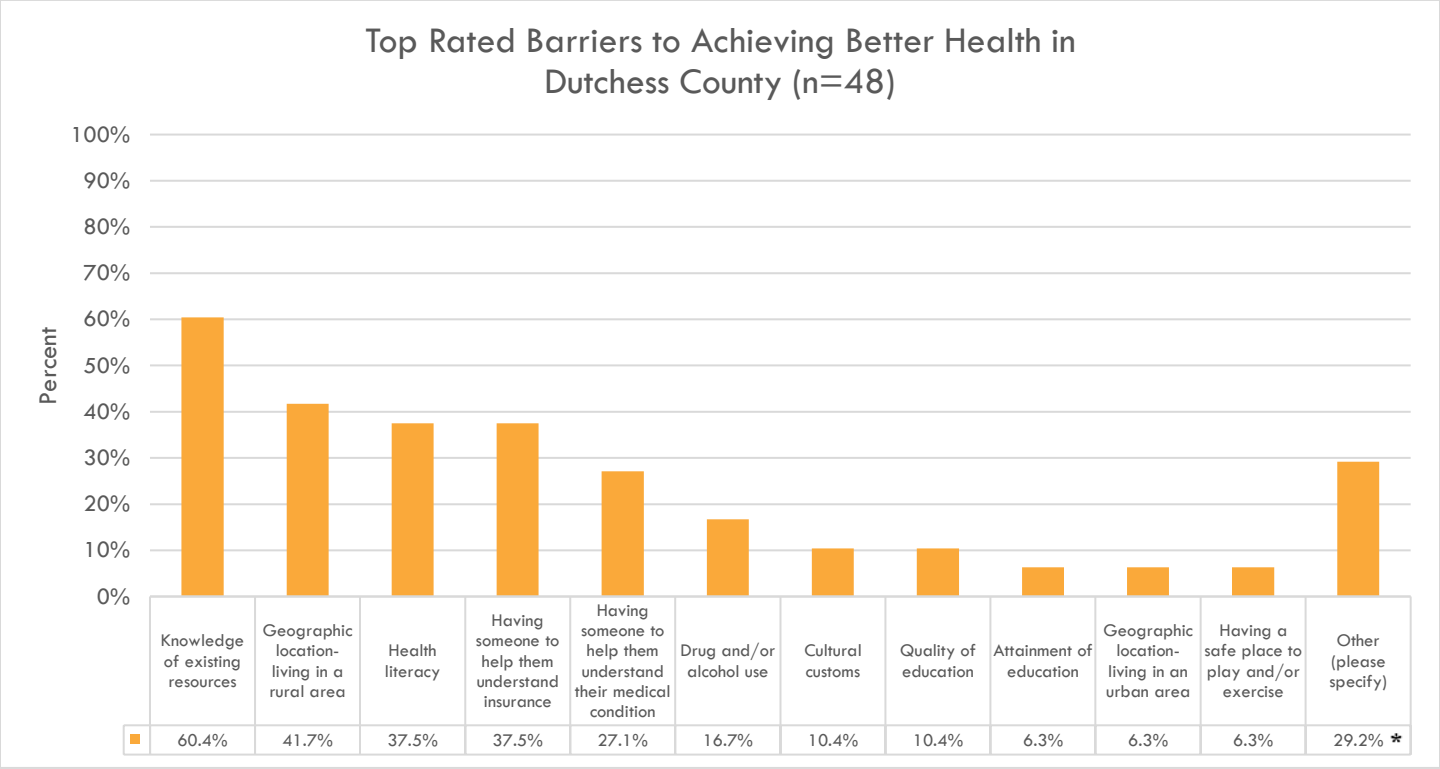
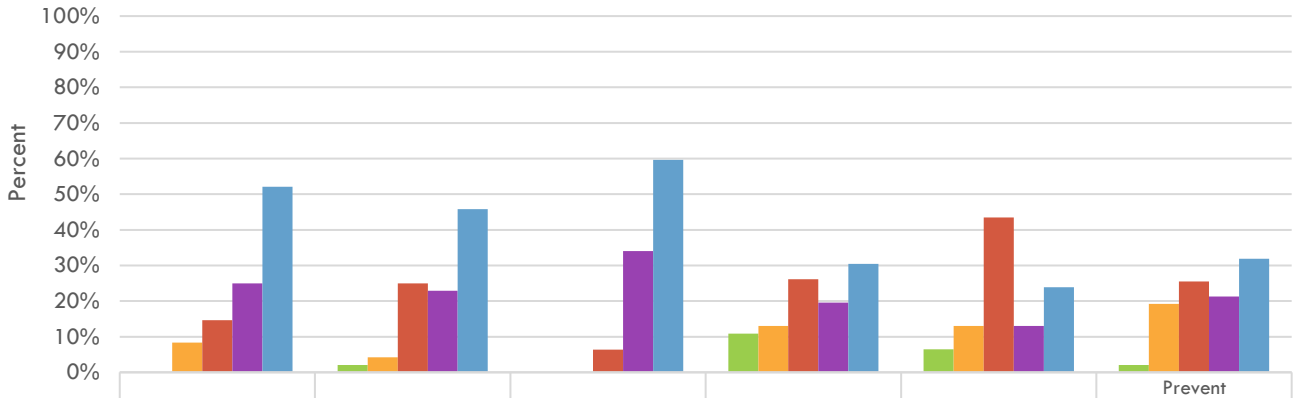


Figure 106



**Other (please specify): Some additional responses from participants include transportation, stress, undocumented status, and financial resources to meet housing, food, health care, and other needs.*

Figure 107



	Chronic Disease (heart disease, diabetes, asthma, obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health Issues	Environmental Factors (built environment, air/water quality, injuries, etc.)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable diseases, hospital acquired infections, etc.)
1 (very little)	0.0%	2.1%	0.0%	10.9%	6.5%	2.1%
2	8.3%	4.2%	0.0%	13.0%	13.0%	19.2%
3	14.6%	25.0%	6.4%	26.1%	43.5%	25.5%
4	25.0%	22.9%	34.0%	19.6%	13.0%	21.3%
5 (highly impacted)	52.1%	45.8%	59.6%	30.4%	23.9%	31.9%

ORANGE COUNTY

In Orange County, 41 responses were collected from providers that serve various populations [see Appendix C]. The Orange County Department of Health, along with HealtheConnections, conducted a focus group at the Joint Membership of Health and Community Agencies (JMHCA), which focuses on providing the residents of Orange County with a comprehensive platform for health and wellness. Several agencies were represented in this meeting, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affect health in Orange County were [see Figure 108]:

1) Access to affordable, decent, and safe housing
2) Access to affordable, reliable, personal and public transportation
3) Access to mental health providers

The survey also showed that the top three barriers to people achieving better health in Orange County were [see Figure 109]:

1) Knowledge of existing resources
2) Drug and/or alcohol use
3) Healthy literacy

Issues highly impacting health in the communities as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 110]. The focus groups gave an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Lack of housing leads to transition-of-care issues. For example, those being discharged from substance use treatment programs have no discharge plan, which can cause them to regress, despite them doing well in residential treatment.
- Gentrification is decreasing affordable housing stock.
- Financial benefits for those with disabilities are not enough to cover housing costs.
- Hoarding issues lead to a variety of challenges, such as infestations, difficulty discharging patients to a safe environment, and landlords unwilling to take tenants.
- Screenings and background checks for renters hinder their opportunity to find decent housing, and it creates even further barriers for people who are poor.
- There are also long wait lists for housing. Lack of affordable housing leads to people remaining in unhealthy and poor conditions because they do not have other options. Those with disabilities, have fewer options that are both affordable and accessible to them.
- There is a lack of transportation options for shift workers and those who need to coordinate childcare due to their schedules
- Public transportation, especially in rural areas, is unreliable and often nonexistent.

CURRENT EFFORTS

- There will be a health summit at SUNY Orange to gain community involvement in choosing the health priorities in Orange County.
- There are community listening sessions underway for community members to voice their concerns and priorities about the issues that affect them.
- The Orange County Department of Health has an outreach program where workers are physically out in the community during the hours of 9:00 AM- 5:00 PM.
- Legal Services of the Hudson Valley helps tenants advocate to improve their living conditions.
- Mental Health Association of Orange County has a new crisis hotline being developed.

SPECIFIC RECOMMENDATIONS

- It may be beneficial to use Housing First models to address homelessness, mental health, and substance use issues.
- Hire advocates dedicated to helping individuals with housing needs
- Passing income protection laws for renters, locally and statewide, can protect those who use assistance, from being turned away by landlords.
- It is important to share data collected from those who are doing boots-on-the-ground work to create a feedback loop about efforts being conducted in the community.
- Outreach can be improved by physically going out into the community to promote services and resources that are available.
- An increase in the education and development of the 2-1-1 program in Orange County is needed.
- Agencies should reach out to more faith-based organizations and partner with their leaders to promote education and services.

Figure 108

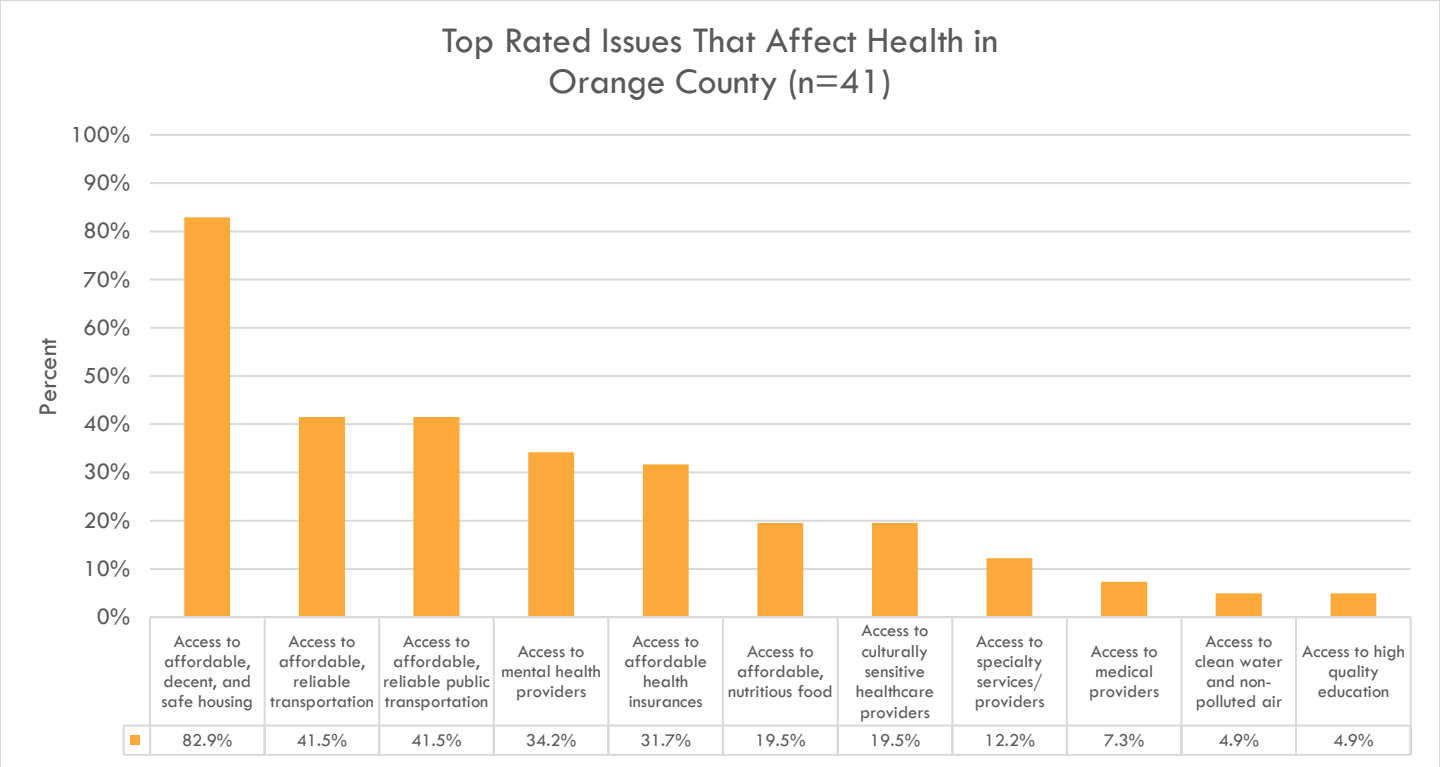
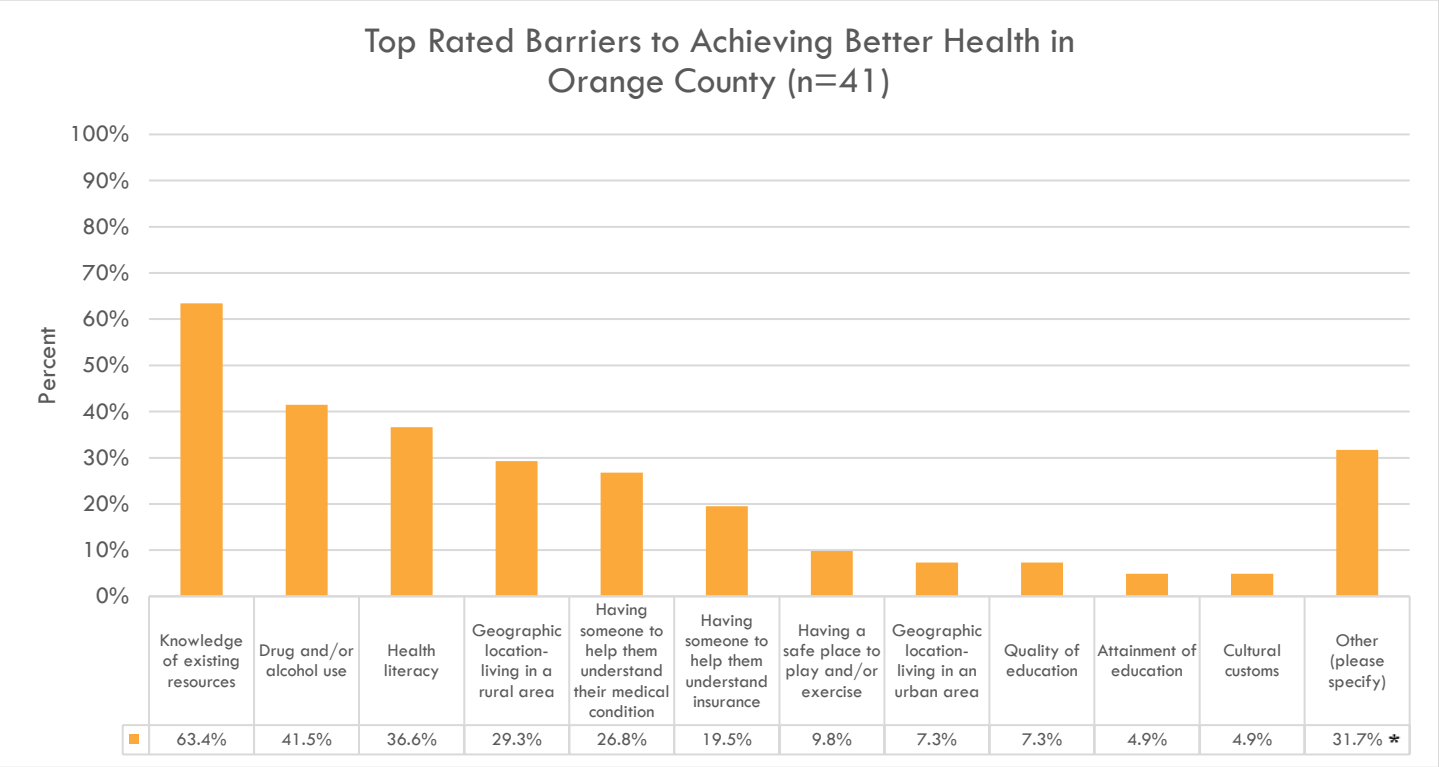
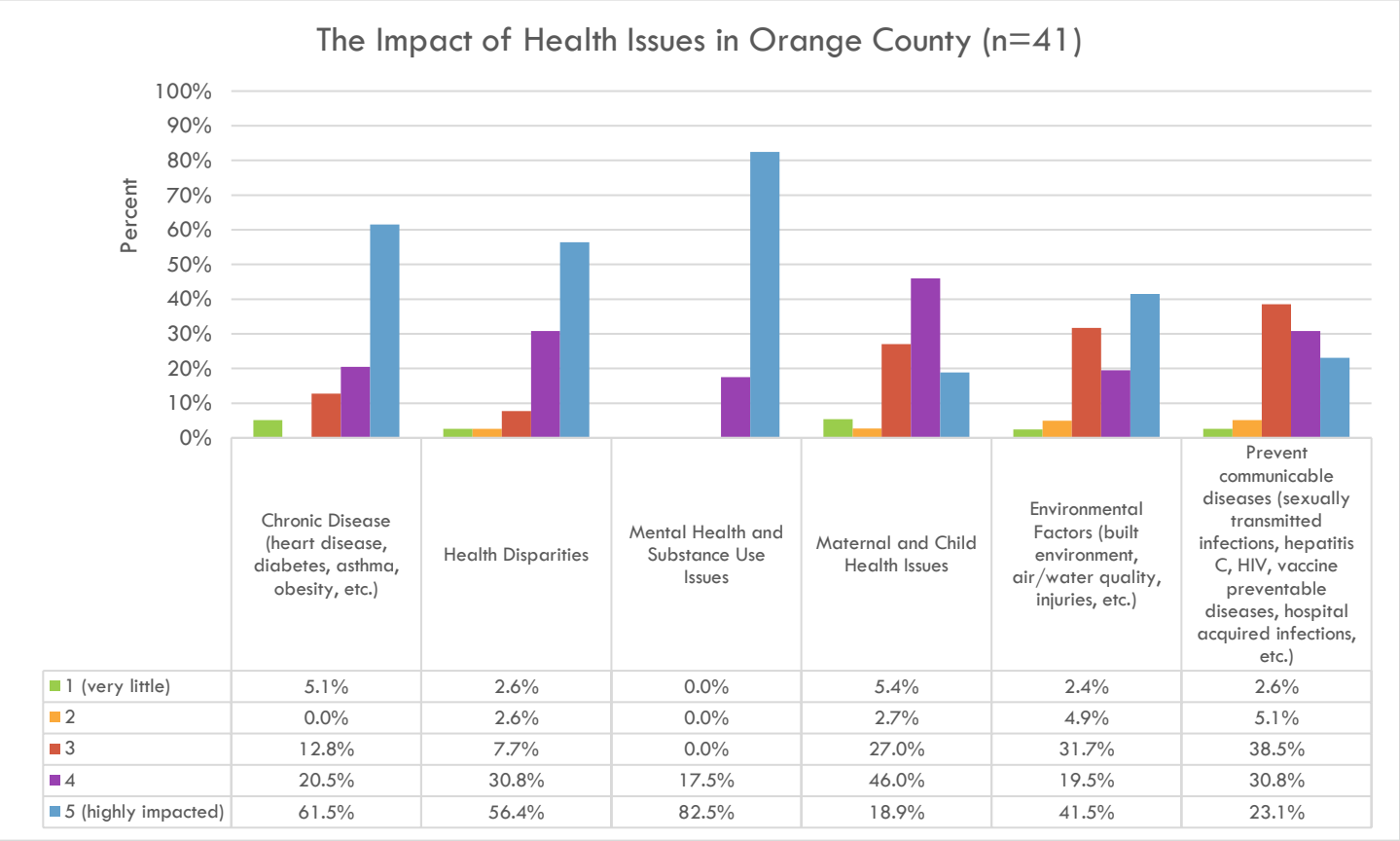


Figure 109



**Other (please specify): Some additional responses from participants include location of services, lack of financial resources, transportation, affordable housing, and service providers not being aware of biases they bring into marginalized communities.*

Figure 110



	Chronic Disease (heart disease, diabetes, asthma, obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health Issues	Environmental Factors (built environment, air/water quality, injuries, etc.)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable diseases, hospital acquired infections, etc.)
1 (very little)	5.1%	2.6%	0.0%	5.4%	2.4%	2.6%
2	0.0%	2.6%	0.0%	2.7%	4.9%	5.1%
3	12.8%	7.7%	0.0%	27.0%	31.7%	38.5%
4	20.5%	30.8%	17.5%	46.0%	19.5%	30.8%
5 (highly impacted)	61.5%	56.4%	82.5%	18.9%	41.5%	23.1%

PUTNAM COUNTY

In Putnam County, two focus groups were held where 13 responses were collected from providers that serve various populations [see Appendix C]. The first focus group was held with nine agencies of the Community Resource Group. This group focuses on identifying gaps in access to care and resources issues for the Brewster community, as a whole, with more attention on the immigrant population. The second focus group was held with 15 agencies of the Mental Health Provider Group. This group is a forum for behavioral health partners to identify gaps in services, discuss issues, and identify solutions. Several agencies were represented in this meeting, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affected health in Putnam County were [see Figure 111]:

1) Access to affordable, decent, and safe housing
2) Access to mental health providers
3) Access to affordable, reliable, public and personal transportation, and access to affordable health insurances

The survey also showed that the top three barriers to people achieving better health in Putnam County were [see Figure 112]:

1) Knowledge of existing resources
2) Geographic location-living in a rural area
3) Drug and/or alcohol use

Issues highly impacting health in the communities as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 113]. The focus groups gave an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Many residents contribute a large portion of their income to housing. This can lead to high levels of stress and forces them to make decisions about what they can or cannot afford. In this situation, health is not a priority when the focus is on how to live.
- For example, those being discharged from substance use treatment programs often have difficulty finding places to go. This can lead them to lose the gains made while in long-term treatment. This can also impact elderly residents awaiting transition from nursing home facilities into independent living facilities.
- Transportation issues impact many segments of the community. It can impact opportunities for employment, daycare services, socialization, education, and health care.
- It is difficult for providers and residents to know what resources are available and for what populations.
- Particularly for adolescents, there are insufficient mental health providers. For those who are required to have an evaluation before they can return to school, this impacts their well-being, as well as their education. For, adolescents with private insurance, there are further limited options for accessing this care.

- There are issues for residents with co-occurring disorders. Some providers will not see clients who have both a mental health and substance use diagnosis. To impact the issue further, some agencies are not able to bill due to the regulations imposed by NYSDOH, New York State Office of Alcoholism and Substance Abuse services (NYSOASAS), New York State office of Mental Health (NYSOMH), or New York State Office for People with Developmental Disabilities (NYSOPWDD).
- Schools are being required to develop additional strategies to ensure safe school settings, suicide prevention, and ways to deal with behavioral health situations that can lead to crisis. To focus on solutions and strategies, the collaboration between the Putnam County Department of Health, the Putnam/Northern Westchester BOCES, and other school districts has led to the identification of school-based issues and the creation of partnerships with appropriate agencies.

CURRENT EFFORTS

- The Co-Occurring System of Care work group continues to make progress on educating agencies about the issue of seeking health with more than one disorder. When roadblocks are identified, this information is shared with the Regional Planning Consortium for further discussion at the New York State level.
- United Way 211 is a great resource for identifying local resources. A representative of the United Way regularly attends the Mental Health Provider Group meetings. The United Way 211 provides services to forward calls to appropriate local providers. United Way regularly updates their information, this insures correct details are provided to the caller. There needs to be better communication of the resources they provide.
- Some Putnam County agencies, received funding to provide more multi-use housing; however, there are many roadblocks created by residents and towns, to have this type of housing in their jurisdiction. Agencies need to continue to pursue these grants and educate residents and leaders about the benefits of multi-use housing.
- Collaboration needs to continue with school systems to bring quicker services to the schools and ensure the school setting is safe.

SPECIFIC RECOMMENDATIONS

- A strength of the local public health system in Putnam County is the willingness of agencies to work collaboratively. This strength needs to continue being leveraged to identify solutions to lessen gaps in services.
- The 211 system needs to be better utilized and partners, providers and residents need to be educated about the resource.
- Collaboration must continue with school systems to provide satellite mental health clinics in the schools or in close proximity to the schools.

Figure 111

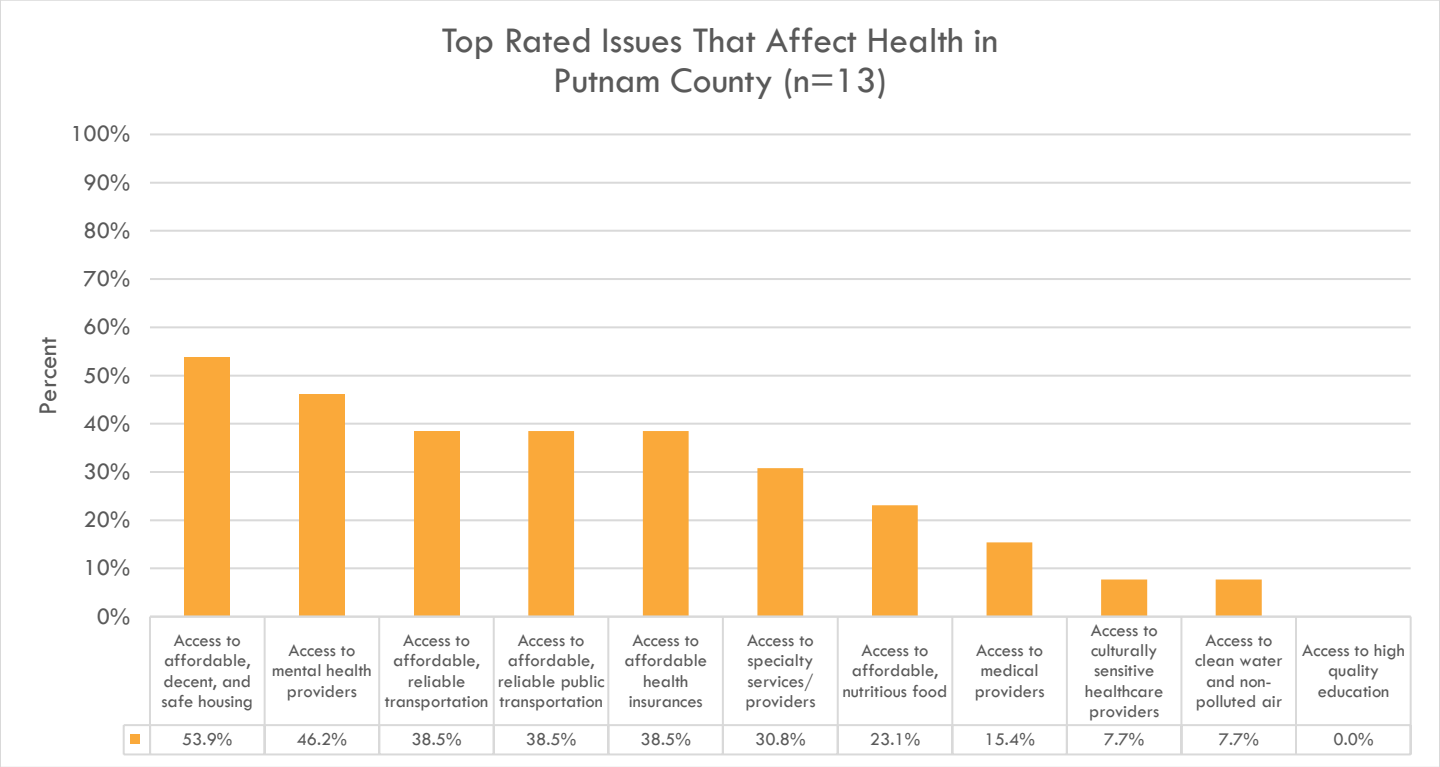
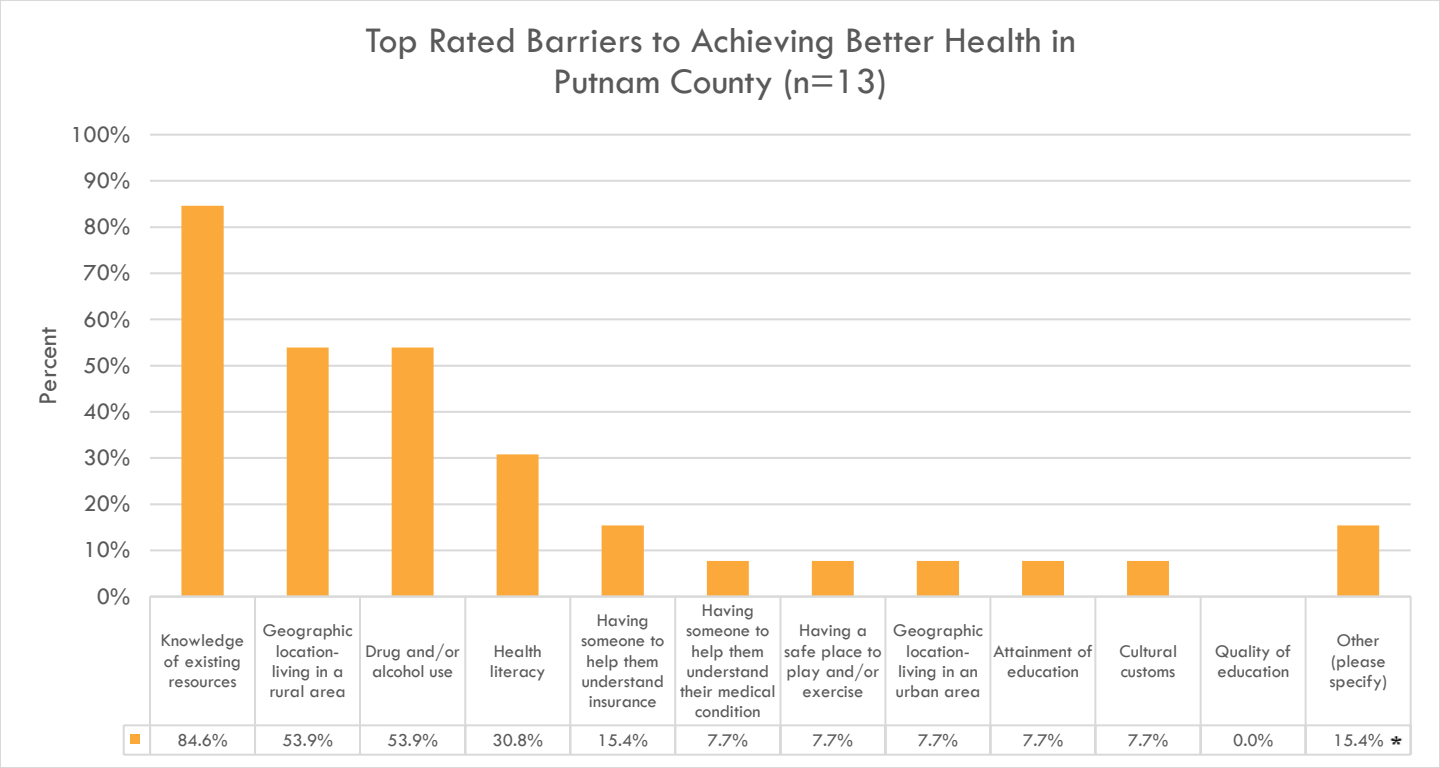
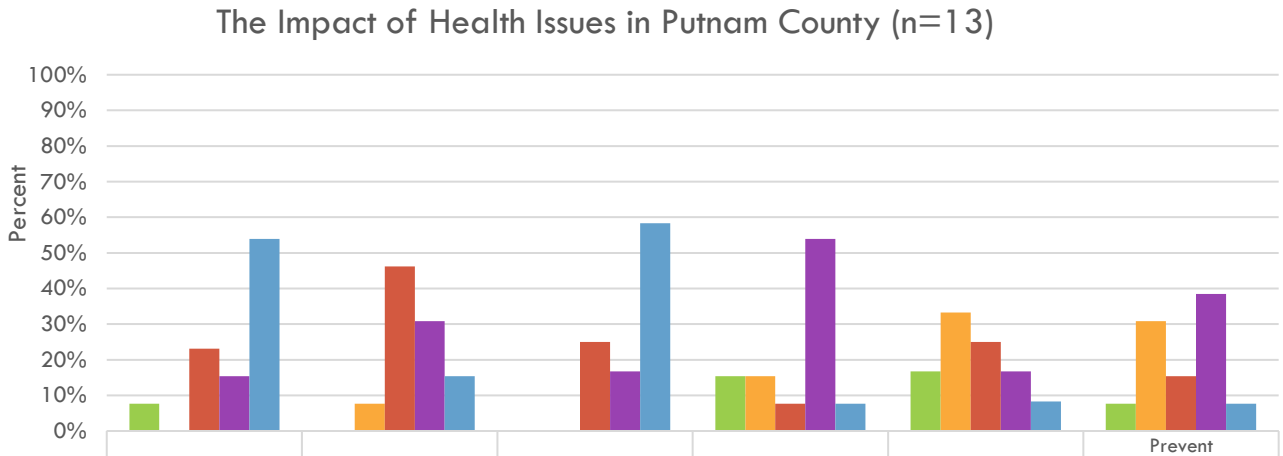


Figure 112



**Other (please specify): Some additional responses from participants include lack of financial resources.*

Figure 113



	Chronic Disease (heart disease, diabetes, asthma, obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health Issues	Environmental Factors (built environment, air/water quality, injuries, etc.)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable diseases, hospital acquired infections, etc.)
1 (very little)	7.7%	0.0%	0.0%	15.4%	16.7%	7.7%
2	0.0%	7.7%	0.0%	15.4%	33.3%	30.8%
3	23.1%	46.2%	25.0%	7.7%	25.0%	15.4%
4	15.4%	30.8%	16.7%	53.9%	16.7%	38.5%
5 (highly impacted)	53.9%	15.4%	58.3%	7.7%	8.3%	7.7%

ROCKLAND COUNTY

In Rockland County, 66 responses were collected from providers that serve various populations [see Appendix C]. The Rockland County Department of Health, along with HealtheConnections, conducted two focus groups at the Haverstraw Collaborative and the Spring Valley Collaborative. Several agencies were represented in this meeting, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affect health in Rockland County were [see Figure 114]:

1) Access to affordable, decent, and safe housing
2) Access to mental health providers
3) Access to affordable, nutritious food

The survey also showed that the top three barriers to people achieving better health in Rockland County were [see Figure 115]:

1) Knowledge of existing resources
2) Health literacy
3) Drug and/or alcohol use

Issues highly impacting health in the communities as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 116]. The focus groups gave an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Lack of affordable housing in Rockland was brought up as a major issue. People are paying a large share, often 50-75%, of their income on housing, and this leads to high levels of stress.
- People with mental illness were identified as a group that struggles particularly with housing.
- It is difficult to come by affordable and accessible housing, and more is needed to support the needs of the aged population.
- Lack of affordable housing also leads to transition-of-care issues. For example, people who are eligible to be discharged from a nursing home deteriorate while waiting to transition into independent housing. Similar issues exist for those who have completed their substance use treatment and are awaiting discharge.
- People within the LGBTQ community often fear discrimination or erasure when accessing medical care, which leads them to not seek care.
- Access to public transportation is very limited and unreliable.
- There is no service that provides transportation specifically for seniors.
- Wait times for transportation services can be extremely long, especially when people are waiting for their return trip.
- Getting prescribed medication for people in the warming centers is difficult.
- Lack of cultural competency is a barrier that deters people from seeking help.
- Mental health providers and psychiatrists are lacking due to long wait times. In addition, very few accept Medicaid.
- There are only two Spanish speaking substance use providers in Rockland County.
- There is an overall lack of services available after 5:00 PM.
- The community often does not know about the resources available.
- Providers have a very difficult time tracking which resources are available, which organizations still have funding, and what services are offered.
- There is a lack of insurance in certain communities, such as the undocumented population, which makes accessing care difficult. Even having Medicaid can be challenging because not all providers accept it, particularly mental health providers.
- Chlamydia rates are rising particularly in teenagers, aged 13-15 years.
- Some schools are resistant to comprehensive health education, particularly around issues, such as teen pregnancy and STIs.

CURRENT EFFORTS

- For the last two years, there has been a warming center working with the Mental Health Association (MHA) of Rockland and Truecare, which is a pharmacy in Pomona, to deliver medication.
- Recently MHA of Rockland added a pharmacy on site that will deliver to its clients anywhere in the County.
- The Health and Housing Taskforce has a hotline that people can call and report poor housing conditions to. The taskforce will then advocate to the landlords.
- Community Awareness Network for a Drug-Free Life and Environment (CANDLE) provides cultural competency training, specifically concerning the LGBTQ Community.

- The Haverstraw Center aims to be a community hub, which offers free space for those who want to provide free programs to benefit the community.

SPECIFIC RECOMMENDATIONS

- To cut through the information overload, it may be beneficial to increase the use of peer navigators to assist with navigating services.
- Shared housing should be created for those in recovery, so that they are not discharged into the same situations they came out of.
- A dialogue needs to begin about implicit bias as a way to address health disparities.
- Data should be collected on care and outcomes, which should be further stratified by race and ethnicity so that the issues can be documented and identified.
- Services should be open during hours outside of 9:00 AM- 5:00 PM, Monday through Friday, to increase access.

Figure 114

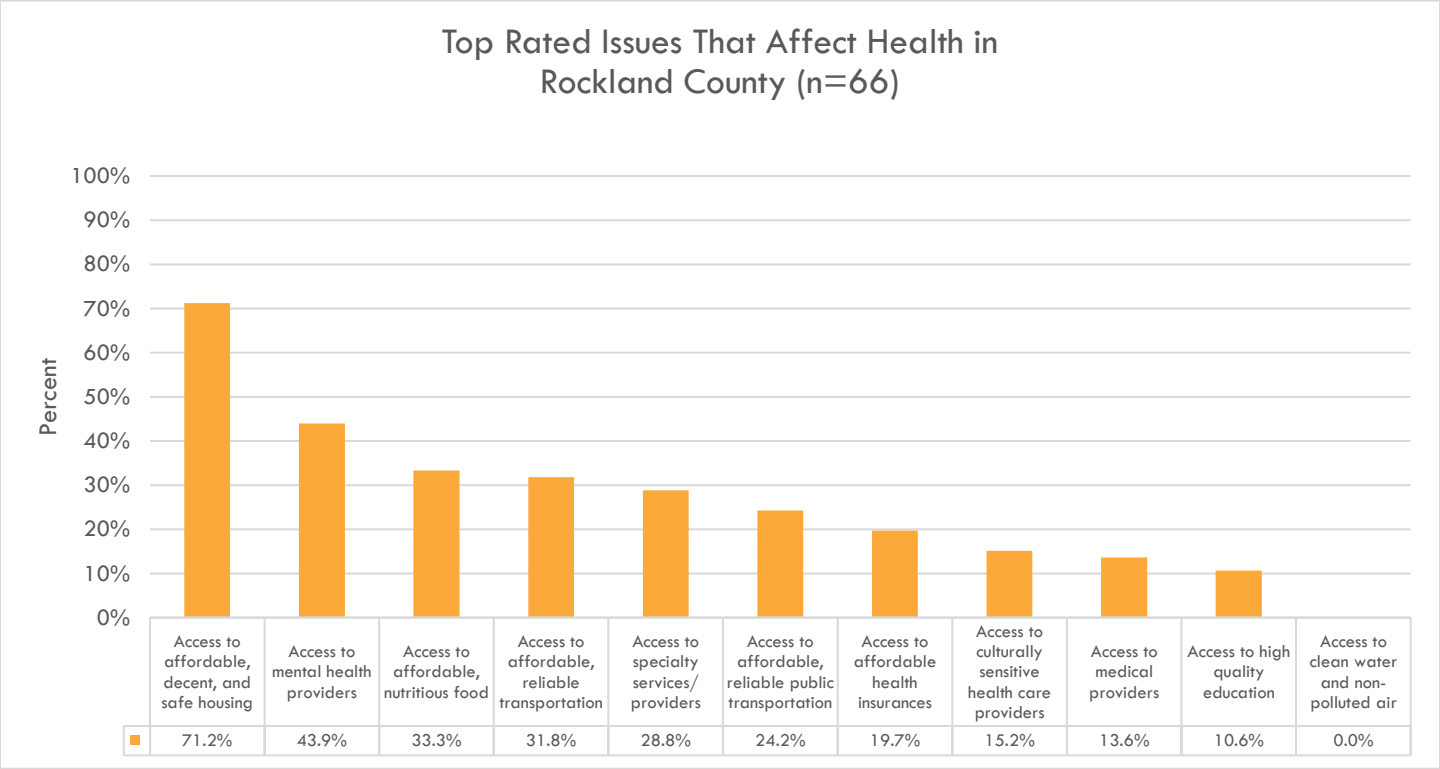
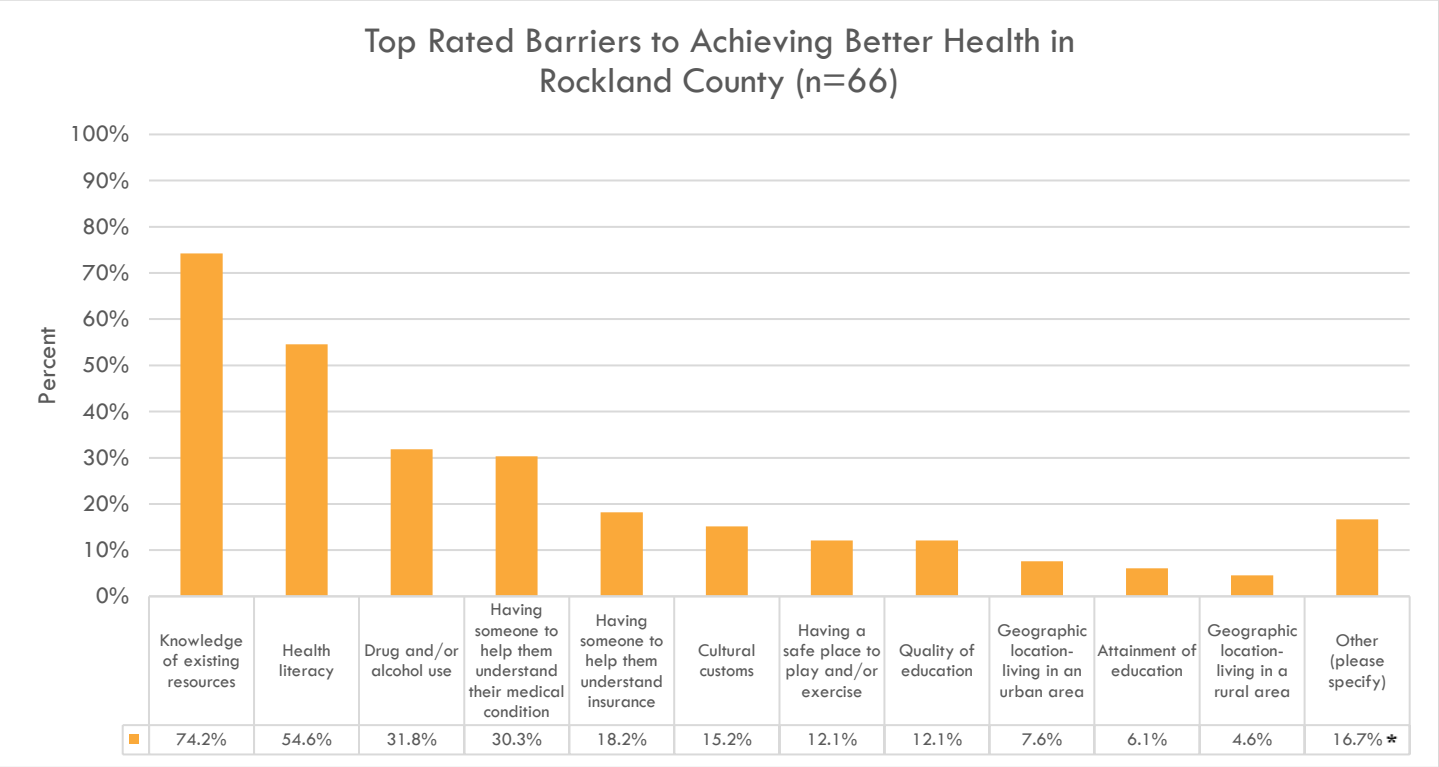
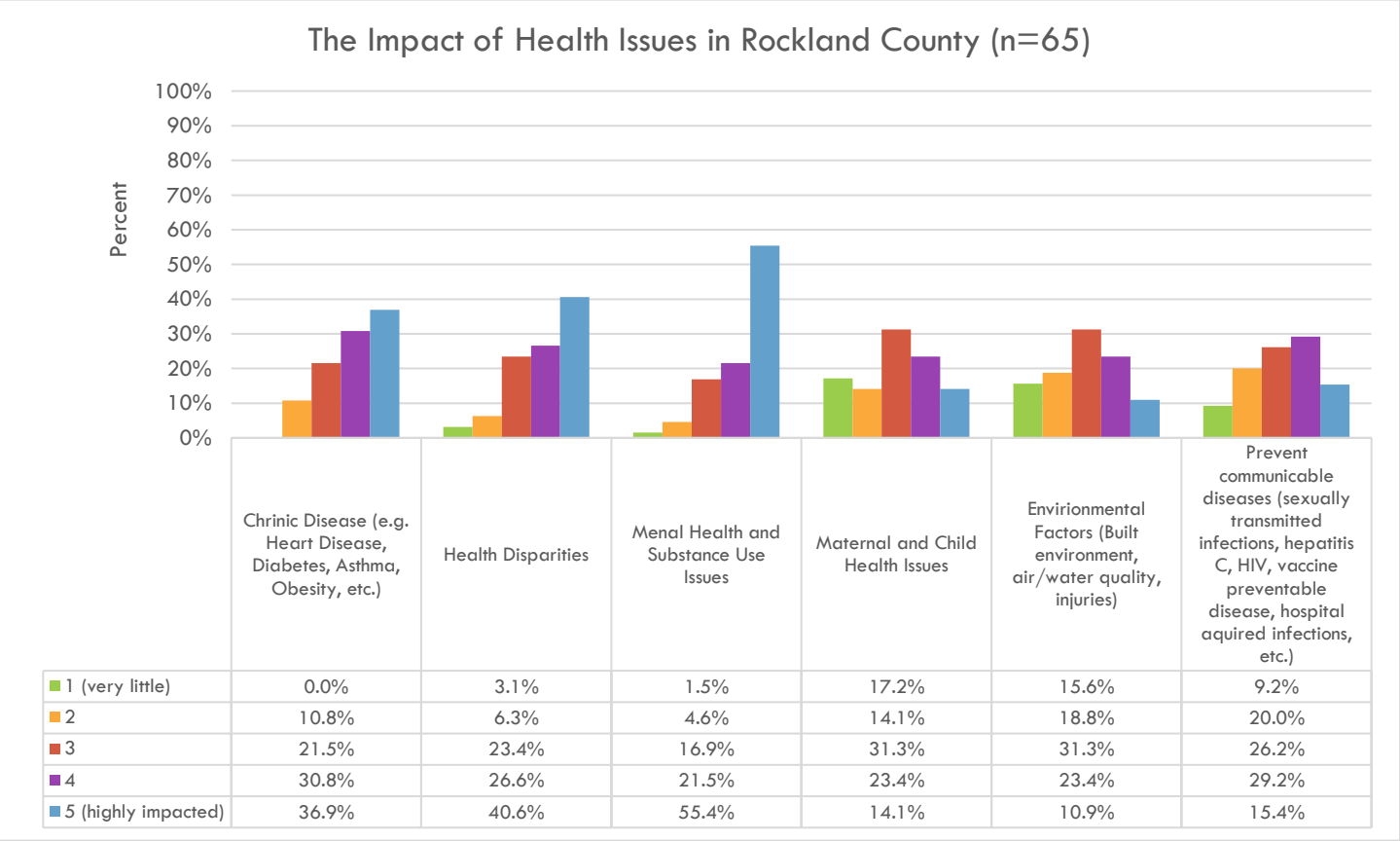


Figure 115



**Other (please specify): Some additional responses from participants include finding child care, access to health care providers who are trained in LGBTQ health care needs, mental health services, immigration issues, language and cultural barriers, and financial issues.*

Figure 116



	Chrinic Disease (e.g. Heart Disease, Diabetes, Asthma, Obesity, etc.)	Health Disparities	Menal Health and Substance Use Issues	Maternal and Child Health Issues	Envirionmental Factors (Built environment, air/water quality, injuries)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable disease, hospital aquired infections, etc.)
1 (very little)	0.0%	3.1%	1.5%	17.2%	15.6%	9.2%
2	10.8%	6.3%	4.6%	14.1%	18.8%	20.0%
3	21.5%	23.4%	16.9%	31.3%	31.3%	26.2%
4	30.8%	26.6%	21.5%	23.4%	23.4%	29.2%
5 (highly impacted)	36.9%	40.6%	55.4%	14.1%	10.9%	15.4%

SULLIVAN COUNTY

In Sullivan County, 35 responses were collected from providers that serve various populations [see Appendix C]. The Sullivan County Public Health Services Department, along with HealtheConnections, conducted two focus groups, one being with the Rural Health Network, and the second with members of S.A.L.T (Sullivan Agencies Leading Together). Several agencies participated, and the discussion was centered around the survey questions that were distributed prior [see Appendix B].

The survey showed that the top three issues that affected health in Sullivan County were [see Figure 117]:

1) Access to affordable, reliable transportation
2) Access to affordable, decent, and safe housing
3) Access to affordable, reliable public transportation

The survey also showed that the top three barriers to people achieving better health in Sullivan County were [see Figure 118]:

1) Knowledge of existing resources
2) Geographic location-living in a rural area
3) Drug and/or alcohol use

Issues highly impacting health in the communities as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 119]. The focus groups gave an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Transportation is a major barrier for accessing services. While the three major hubs of Sullivan (Monticello, Liberty, and Fallsburg) have some access to transportation, the rest of the County has very few options.
- Although there used to be small provider offices in walking distance for people living in rural towns, the consolidation of medical care organizations has left many rural towns without accessible services.
- Medicaid transportation requires much coordination, including calls and paperwork, which can be confusing and lead to glitches in the service. The fact that the call center for Medicaid transportation is not located in the county it serves, is one reason that the community feels disconnected with this service.
- Many providers identified lack of affordable housing as a large concern. Participants also cited the high cost of housing as a barrier of affordability for other necessities, such as nutritious food.
- High taxes; lack of tenant rights, including a lack of leases specific to Fallsburg; a lack of shelters; and poor quality housing contribute to housing issues in the County.
- Multiple agencies faced challenges in the hiring and recruitment of employees.

CURRENT EFFORTS

- S.A.L.T. is a monthly meeting that brings agencies together in an effort to keep each other informed as well as break down silos, and develop collaborative solutions.
- Organizations, such as Cornell Cooperative Extension, are working with gas stations and corner stores to provide education and highlight healthier foods.

- Eat Smart New York has a Food or Hygiene Drive resource list with healthy, non-perishable options.
- Backpack programs in Eldred, Liberty, and Fallsburg schools assists kids with receiving school supplies.
- Complete Streets is a concept that is gaining traction in Sullivan.

SPECIFIC RECOMMENDATIONS

- Breaking down silos between agencies is an important first step. Agencies need to collaborate and acknowledge issues they face in order for solutions to be found
- Education for children, particularly regarding healthy foods and cooking, is a good way to start healthy habits early. It also would be a way of disseminating health information to families through the children.
- If there is not a dialogue, there is not going to be a solution.

Figure 117

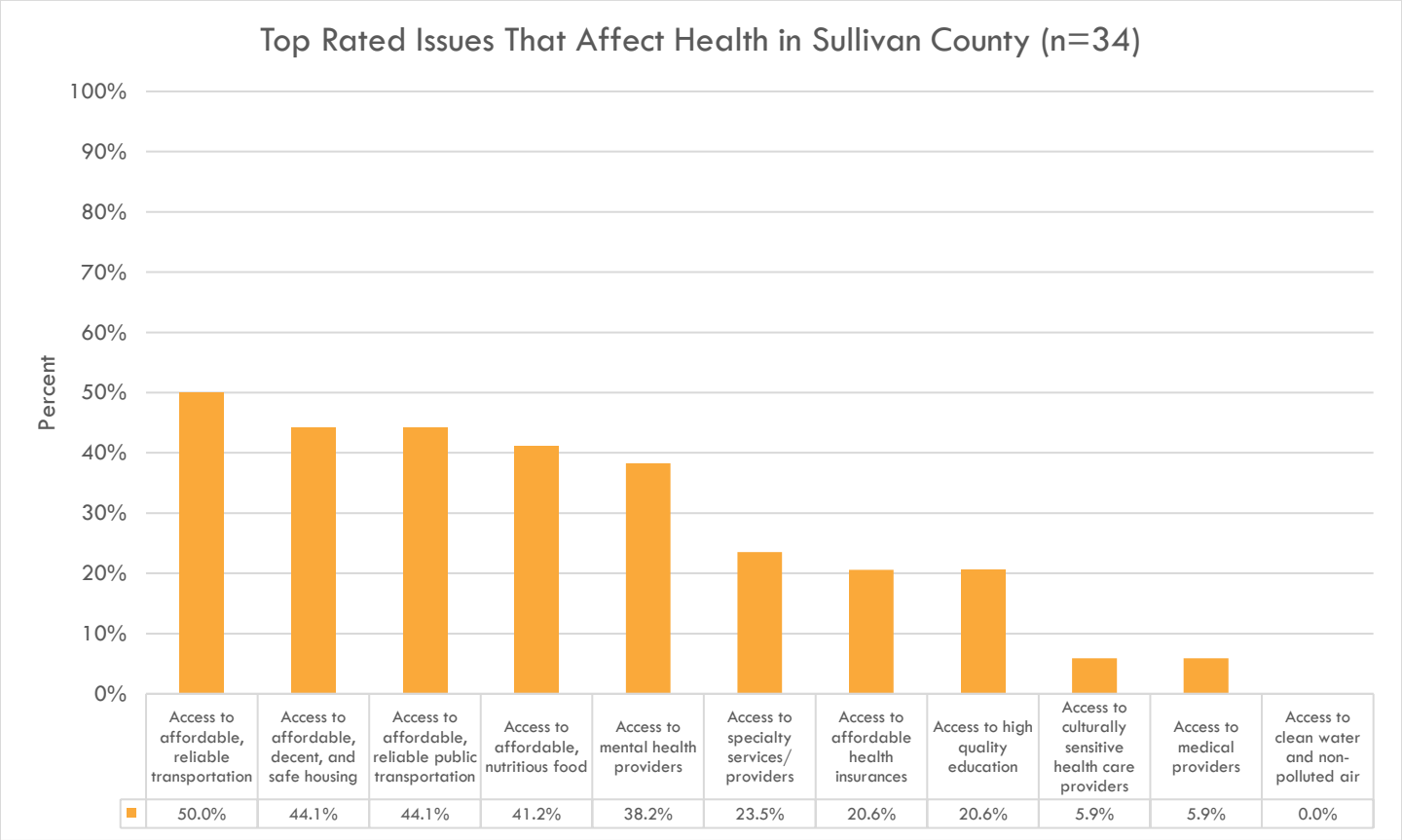
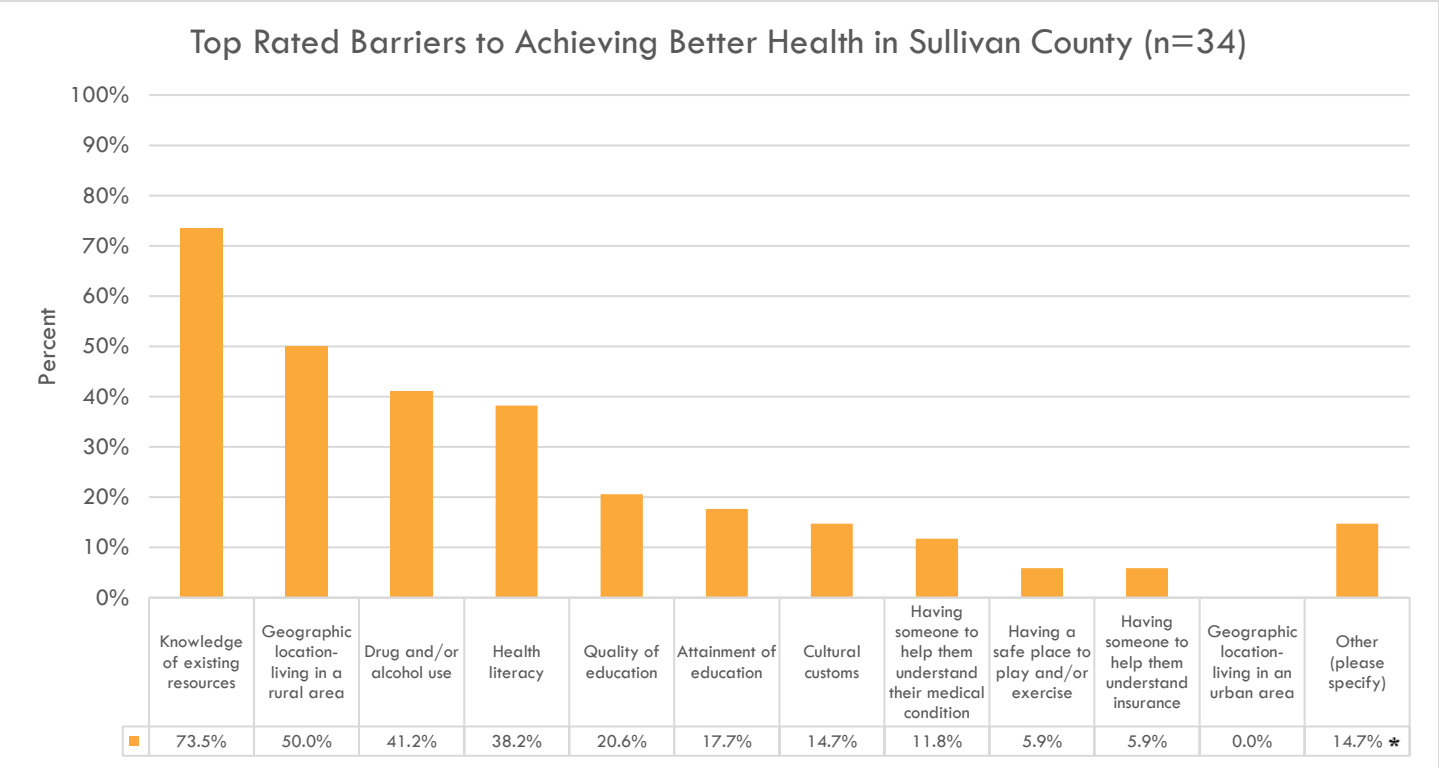
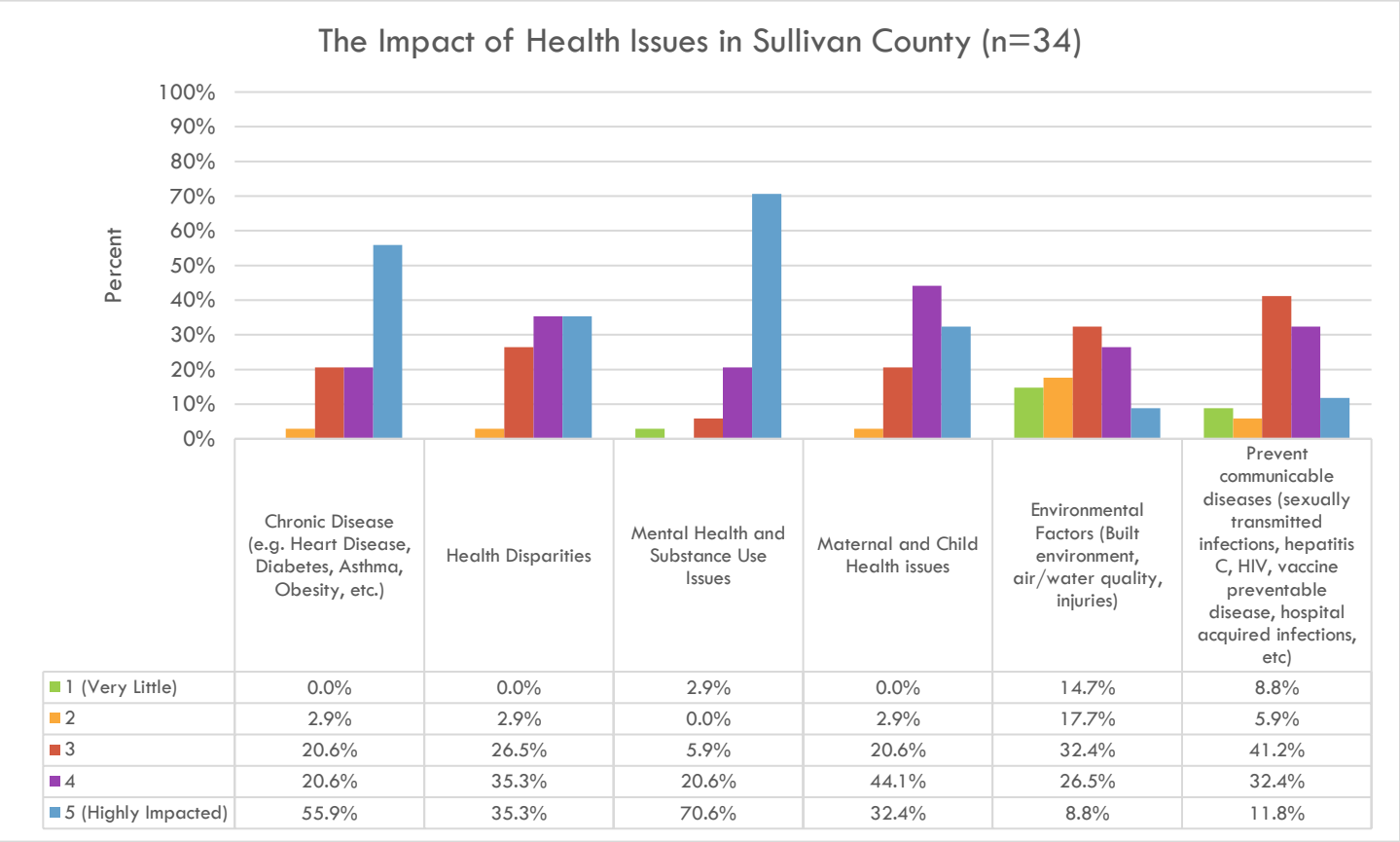


Figure 118



**Other (please specify): Some additional responses from participants include navigating health care access, poverty, affordable transportation, and accessibility and availability of quality services.*

Figure 119



	Chronic Disease (e.g. Heart Disease, Diabetes, Asthma, Obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health issues	Environmental Factors (Built environment, air/water quality, injuries)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable disease, hospital acquired infections, etc)
1 (Very Little)	0.0%	0.0%	2.9%	0.0%	14.7%	8.8%
2	2.9%	2.9%	0.0%	2.9%	17.7%	5.9%
3	20.6%	26.5%	5.9%	20.6%	32.4%	41.2%
4	20.6%	35.3%	20.6%	44.1%	26.5%	32.4%
5 (Highly Impacted)	55.9%	35.3%	70.6%	32.4%	8.8%	11.8%

ULSTER COUNTY

In Ulster County, 25 responses were collected from providers that serve various populations [see Appendix C]. The Ulster County Department of Health and Mental Health, along with HealtheConnections, conducted two focus groups. One took place at the Healthy Ulster Council, which is a community meeting where organizations come together to build on existing strengths; share services with one another; and create an integrated system of chronic disease prevention. The other focus group took place at the SPEAK meeting, which focuses on improving mental health and suicide prevention. Several agencies were represented at both meetings, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affect health in Ulster County were [see Figure 120]:

1) Access to affordable, decent, and safe housing
2) Access to affordable, reliable transportation
3) Access to mental health providers

The survey also showed that the top three barriers to people achieving better health in Ulster County were [see Figure 121]:

1) Knowledge of existing resources
2) Geographic location- living in a rural area
3) Drug and/or alcohol use

Issues highly impacting health in the communities, as listed by the providers include mental health and substance use issues, chronic diseases, and health disparities [see Figure 122]. When comparing the Mid-Hudson Region Community Health Survey to the provider survey, there were some discrepancies between both sets of responses. For example, on the Mid-Hudson Community Health Survey, more than half of the residents in Ulster County stated there were sufficient, quality mental health providers in their communities (20% stated it is a completely true statement, 32% stated it is a somewhat true statement) and that they can get to where they need using public transportation (19% stated that it is a completely true statement, 38% stated that it is a somewhat true statement). However, in the surveys distributed to providers, two of the top three issues that they believed affected health in their communities were access to mental health providers and access to affordable, reliable transportation. The focus groups provided an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Many providers agreed that people who are uninsured and have a low socioeconomic status (SES) face more of the barriers outlined in the community survey than any other population. Unfortunately, many lack health literacy, so they wait until they are in a crisis to obtain preventative services.
- Living in a large county, like Ulster, geographically isolates some people from getting the care that they need and the transportation to get to these services. Residents typically use the Ulster County Area Transit (UCAT) system, but the bus stops can be far to walk/travel to; the buses are often late; and they will only go off route to a certain extent. Transportation is offered through Medicaid, but many providers have stated that it is a broken, unreliable, and costly system. Organizations such as Ulster County Community Action are trying to help expand transportation services.

- There needs to be more services where volunteers drive clients to their medical appointments. This would eliminate the long wait time that is often associated with Medicaid transportation. There are also other organizations that provide transportation for their clients, but it has its limitations. Everyone unanimously agreed that there needs to be more transportation for preventative, health promoting activities, so that people do not wait until there is an emergency to receive help.
- Most of the providers felt there is not enough promotion about services that exist within the community. It should not only be the responsibility of the clients to seek out health services, but for providers to ensure that their services reach every population. One provider stated, "It should be as normal to know about behavioral health services as it is to know where to go and buy shoes, but unfortunately, this is not the case." Many providers agreed that peer and care navigator systems are essential in helping clients understand the system, and get to the appropriate services.

CURRENT EFFORTS

- Community health workers are highly utilized in Ulster County.
- Photo Voice projects have been used to capture the "voice" in the community and what issues are important to its members.
- A wellness program, created by the Mental Health Association (MHA) of Ulster, allows clients to be dropped off and picked up from activities, such as laundry, movies, and bowling trips. However, this program does not provide transportation to and from support groups.
- ACCESS: Supports for Living operates a mobile mental health van that services the southern part of Ulster County.
- Ellenville Regional Hospital has opened a FARMacy. This is a farm stand at the hospital, where patients can choose free fresh fruits and vegetables.
- MHA has an online resource guide that includes wellness, LGBTQ services, etc. The website is wellnessrecovery.org.
- Integrated Ulster is an attempt to increase warm hand-offs with clients to ensure they are connected with the right services.

SPECIFIC RECOMMENDATIONS

- In general, the attitude of collaboration was a key strength noted by participants. All service providers need to be accountable to one another in order to ensure that their clients receive the right services.
- Improvements and alternatives for public transportation was brought up by participants, such as using a voucher program utilizing existing companies, including Uber and Lyft.
- Participants recommended agency leaders meet with UCAT leaders to discuss transportation issues in the County.
- Mobile services should be used for all types of services, including health promoting activities.
- Populations need to be reached in non-clinical settings, including churches, schools, and libraries.
- An underutilized resource guide is United Way's 2-1-1 program. It is imperative that providers update their agency profiles, in order for the 2-1-1 database to be up to date.

Figure 120

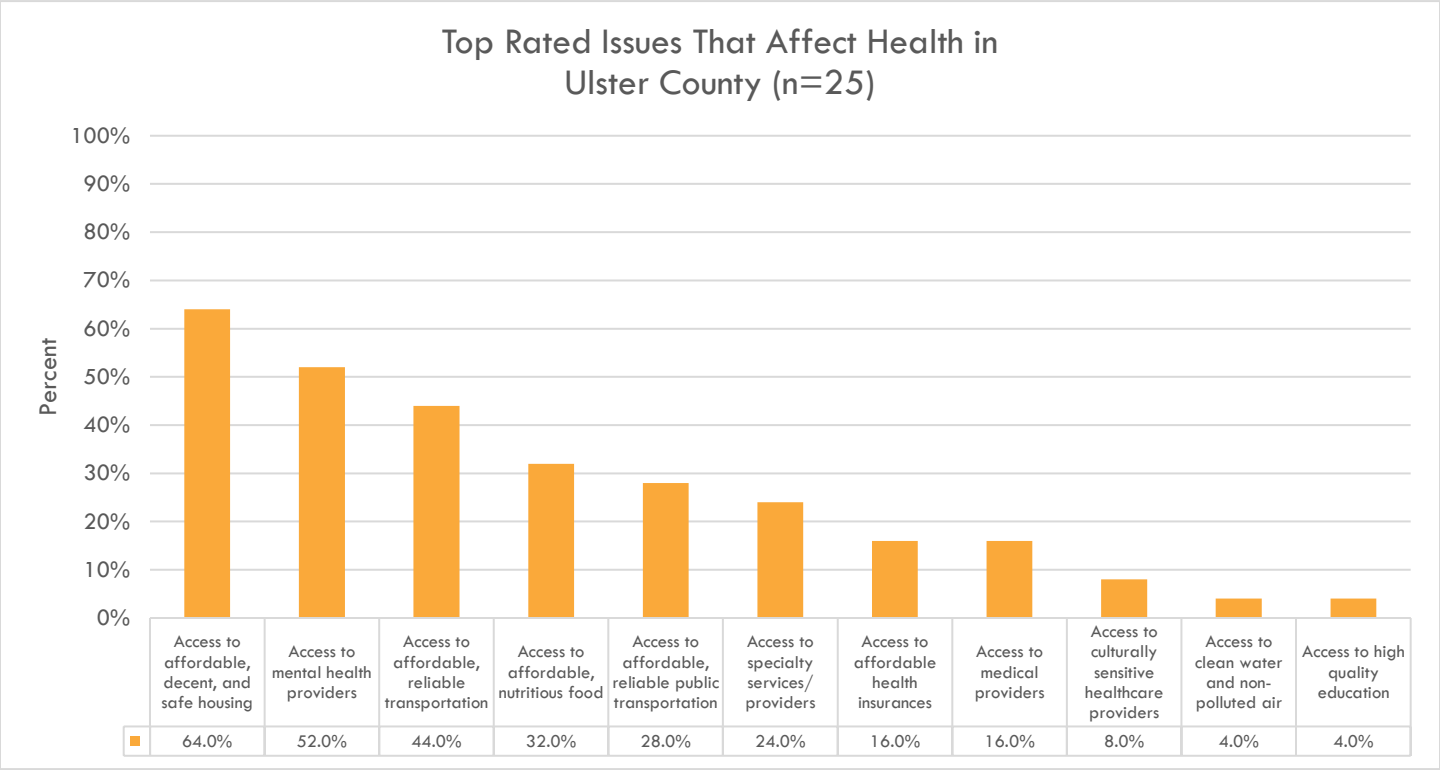
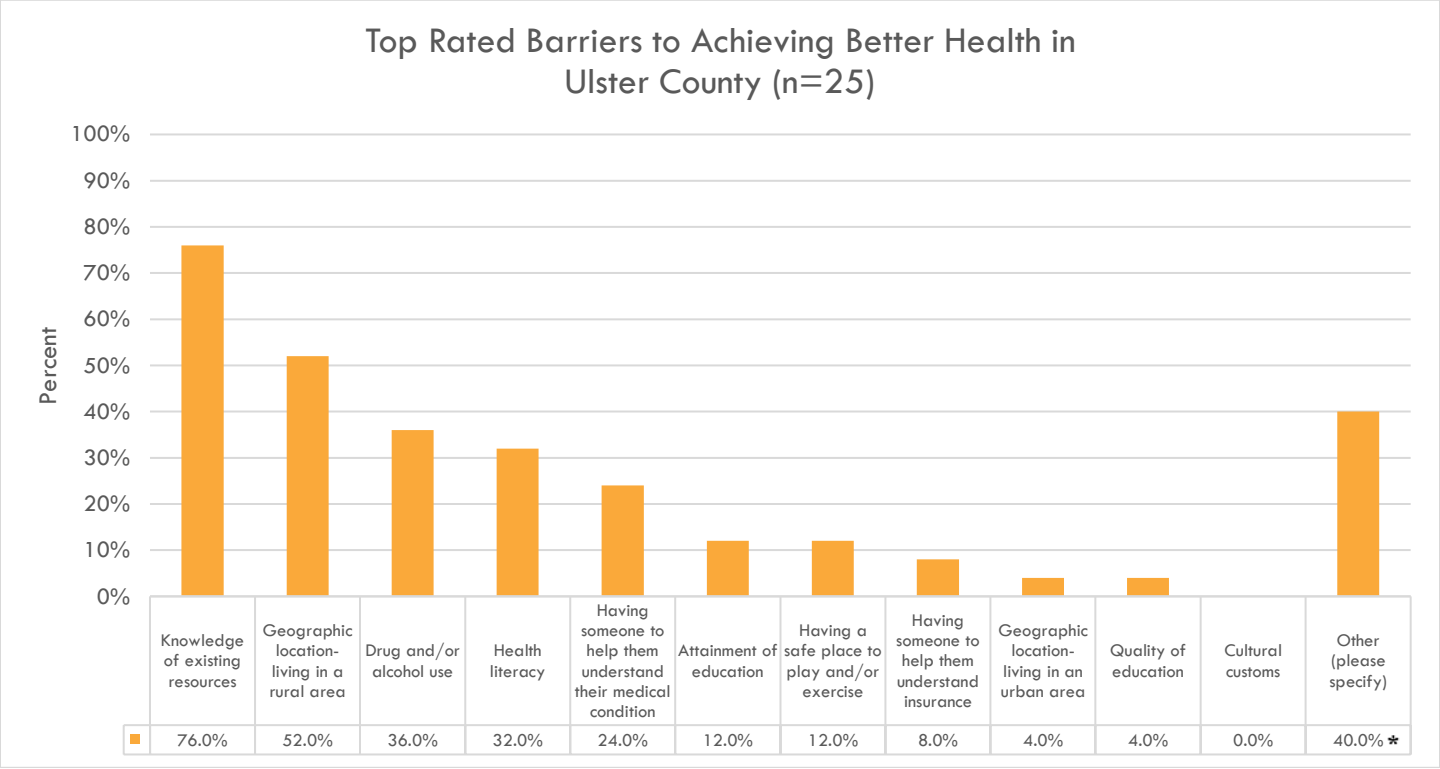
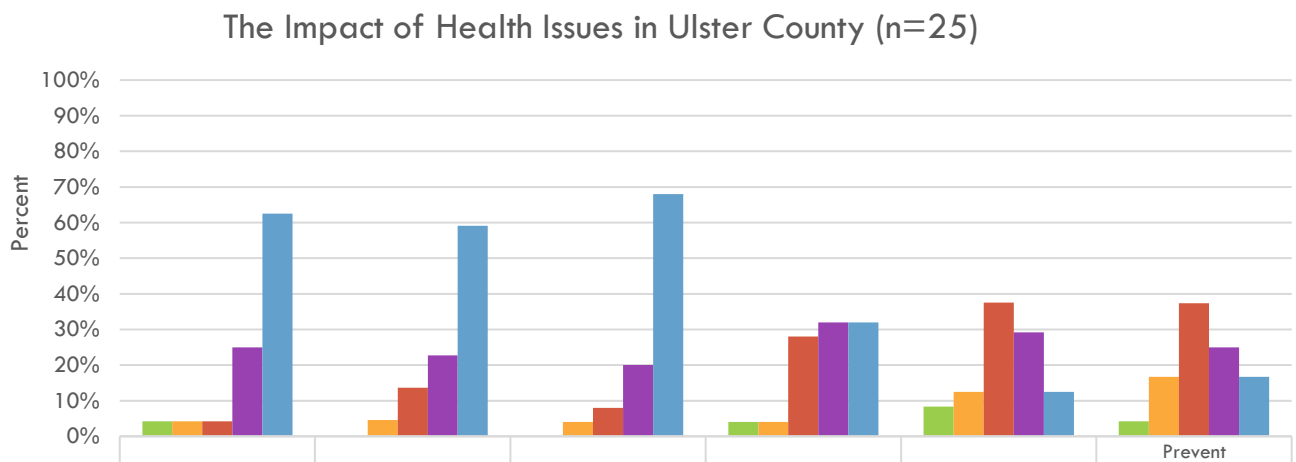


Figure 121



**Other (please specify): Some additional responses from participants include access to mental health services in languages other than English, access to well-paying jobs, transportation, poverty, and schools not offering enough education on health and mental health.*

Figure 122



	Chronic Disease (heart disease, diabetes, asthma, obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health Issues	Environmental Factors (built environment, air/water quality, injuries, etc.)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable diseases, hospital acquired infections, etc.)
1 (very little)	4.2%	0.0%	0.0%	4.0%	8.3%	4.2%
2	4.2%	4.6%	4.0%	4.0%	12.5%	16.7%
3	4.2%	13.6%	8.0%	28.0%	37.5%	37.4%
4	25.0%	22.7%	20.0%	32.0%	29.2%	25.0%
5 (highly impacted)	62.5%	59.1%	68.0%	32.0%	12.5%	16.7%

WESTCHESTER COUNTY

In Westchester County, 40 responses were collected from various service providers [see Appendix C]. The Westchester County Health Department, along with HealtheConnections, conducted one focus group at the White Plains/Greenburgh Family Network Meeting. This is a community network meeting where agency representatives come together to share information about their services, and work together to increase collaboration. Several agencies were represented in this focus group, and the discussion was centered around the survey questions that were distributed prior to the focus group [see Appendix B].

The survey showed that the top three issues that affect health in Westchester County were [see Figure 123]:

1) Access to affordable, decent, and safe housing
2) Access to mental health providers
3) Access to affordable health insurances

The survey also showed that the top three barriers to people achieving better health in Westchester County were (see [see Figure 124]:

1) Knowledge of existing resources
2) Health literacy
3) Having someone to help them understand their insurance

Issues highly impacting health in the communities, as listed by the providers include mental health and substance use issues; health disparities; and environmental factors (built environment, air/water quality, injuries) [see Figure 125]. When comparing the Mid-Hudson Region Community Health Survey to the provider survey, there were some discrepancies between both sets of responses. For example, in the Community Health Survey, more than half of the residents in Westchester County stated there were sufficient, quality mental health providers in their communities (32% stated it is a completely true statement, 33% stated it is a somewhat true statement). However, in the surveys distributed to providers, one of the top three issues believed to affect health in their communities were access to mental health providers. The focus groups provided an opportunity for agency providers to expand upon these issues and barriers.

MAJOR FINDINGS

- Many providers stated that there are multiple waiting lists for mental health providers. Even when a client gets an appointment, the provider may leave, and they have to start the whole process over. There is also an issue with people who have co-existing illnesses. Some mental health providers will not see patients that have an underlying mental health issue if they were initially diagnosed with a substance use issue.
- Having access to safe and decent housing is one of the predominant issues in Westchester County. Some populations that have a more difficult time finding housing are people with disabilities, the working poor, and young people who have recently graduated. There are many issues that are intertwined with housing, one of which is access to reliable transportation.
- Transportation is also linked with missing important medical appointments, as some clients have to take two or more buses to get to their doctor. If the appointment needs to be completed in multiple sessions, such as therapy, it becomes inconsistent since the client was only able to get to the appointment once or twice on a monthly basis.
- There is large percentage of undocumented individuals who live in Westchester, so there are many people who are afraid of accessing health services due to fear of deportation.
- Major factors that influence health among youth (especially those of color) are stigma, multiple traumas, and income. Providers noted that it is important to address these barriers in order to ensure that the needs of all populations are met.

CURRENT EFFORTS

- The Health Homes have care managers who connect Medicaid clients with the services that they needed. For example, there was a client that needed a special type of surgery, and the care manager was able to find this client a doctor who was willing to perform the surgery.
- Some agencies such as Westchester Jewish Community Services (WJCS) receive a daily report about any client of theirs that visited the Emergency Department (ED). They subsequently follow up with those clients to ensure that they don't use the ED unnecessarily, which will ultimately help prevent readmissions.
- The Single Point of Access (SPOA) program is used to ensure that high-need individuals have access to housing, although the waiting list can be very long.

SPECIFIC RECOMMENDATIONS

- Increase utilization of United Way's 2-1-1 program.
- Providers noted that it is important to breakdown the silos that they work in, but there needs to be universal input to determine where the greatest needs are present. This means that everyone must work together more collaboratively in order to ensure that all populations have equal access to services within their communities.

Figure 123

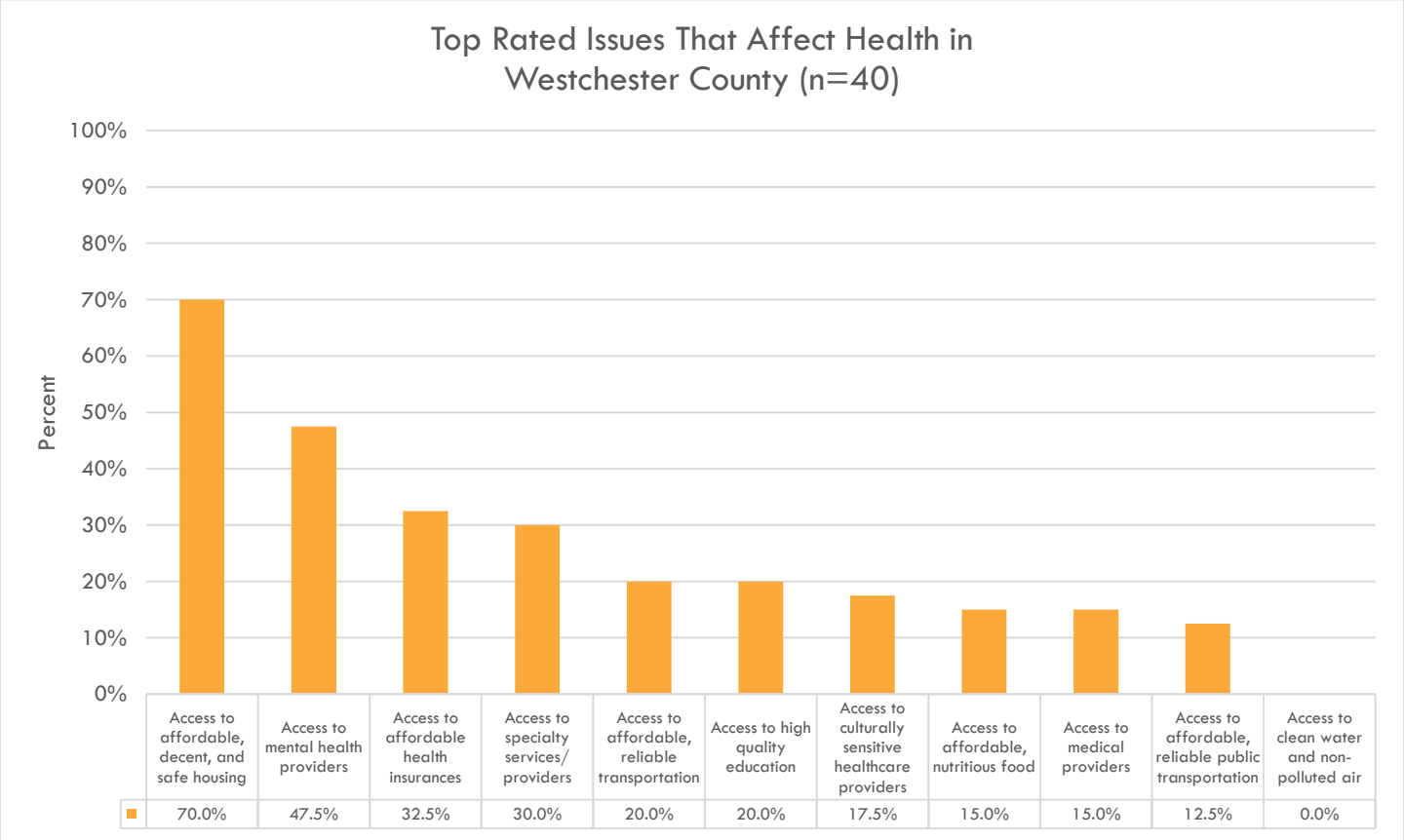
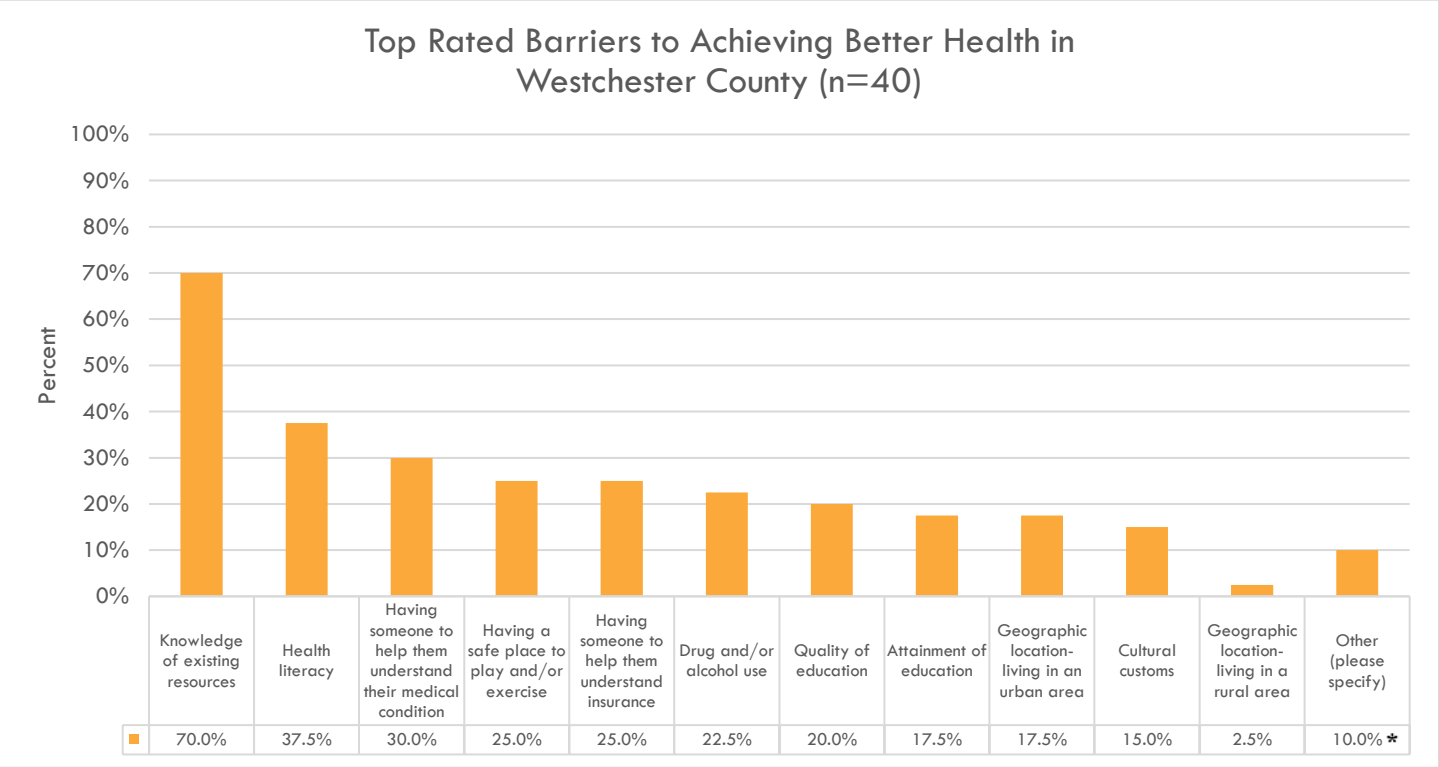
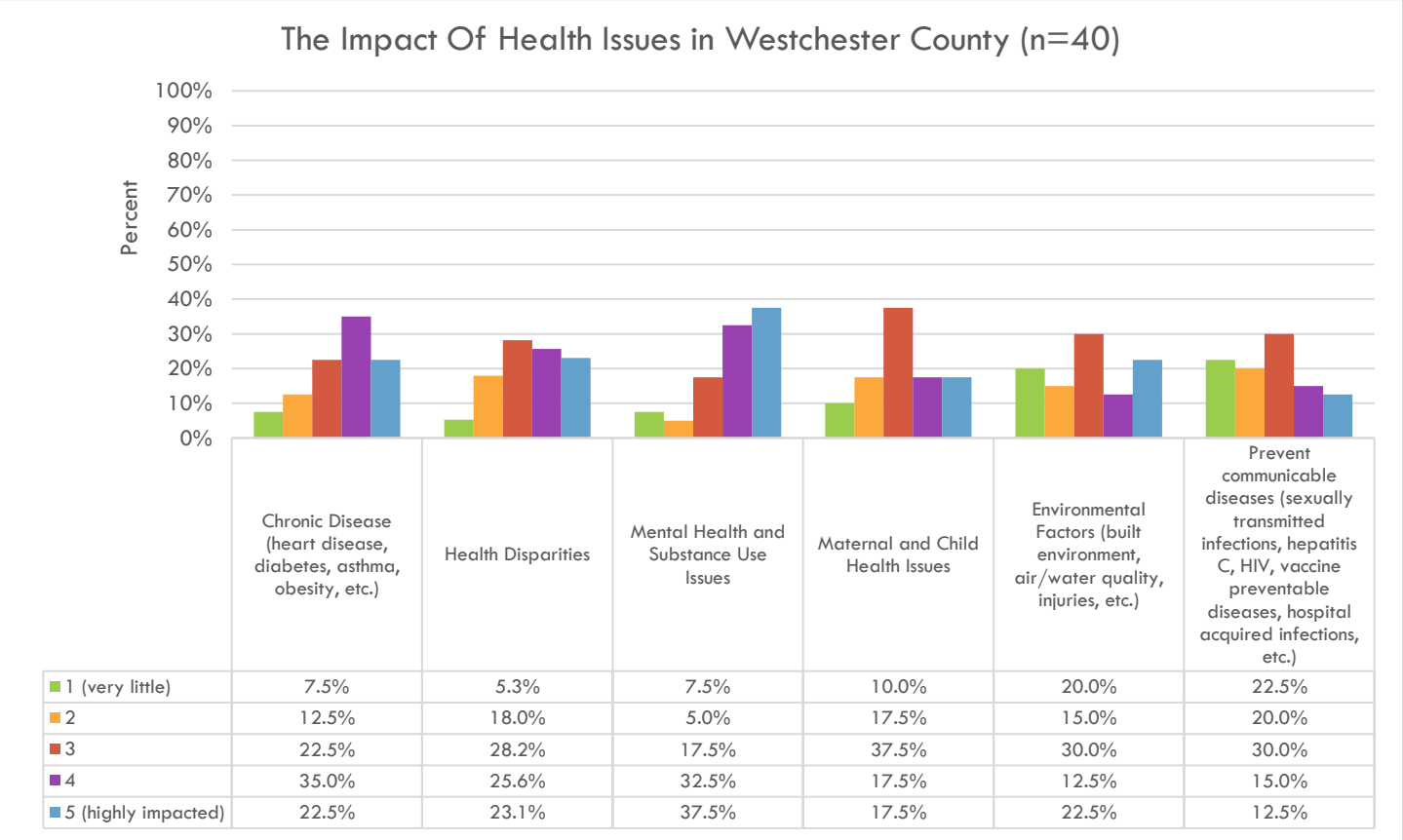


Figure 124



**Other (please specify): Some additional responses from participants include stigma, language barrier as a large portion of the population being served speaks Spanish, navigating the health system, and places to play and/or exercise.*

Figure 125



	Chronic Disease (heart disease, diabetes, asthma, obesity, etc.)	Health Disparities	Mental Health and Substance Use Issues	Maternal and Child Health Issues	Environmental Factors (built environment, air/water quality, injuries, etc.)	Prevent communicable diseases (sexually transmitted infections, hepatitis C, HIV, vaccine preventable diseases, hospital acquired infections, etc.)
1 (very little)	7.5%	5.3%	7.5%	10.0%	20.0%	22.5%
2	12.5%	18.0%	5.0%	17.5%	15.0%	20.0%
3	22.5%	28.2%	17.5%	37.5%	30.0%	30.0%
4	35.0%	25.6%	32.5%	17.5%	12.5%	15.0%
5 (highly impacted)	22.5%	23.1%	37.5%	17.5%	22.5%	12.5%

DOMAINS OF LIVABILITY

New York State is rapidly aging: the number of people aged 60 years and older has steadily increased over time. The New York State Office for the Aging projects that 1 in 4 State residents will be 60 years and older by 2030, which is almost a 50% increase in the number of residents who were aged 60 years in 2000.[52] The aging of the general population can be attributed to advancements made in the medical and public health fields. Healthy older people are a resource for their families and communities, and it is important that they are given opportunities to live safe, active lives. Age-friendly communities support people with disabilities, women, and children to live better lives to ensure they can age into healthy, older adults.

In order to address this rapid growth in the older population, the World Health Organization (WHO) developed the **Eight Domains of Livability** to provide a framework on how to make communities more livable for people of all ages. These eight domains are 1) outdoor spaces and buildings, 2) transportation, 3) housing, 4) social participation, 5) respect and social inclusion, 6) civic participation and employment, 7) communication and information, and 8) community and health services.

New York State Governor Andrew Cuomo issued an executive order to encourage agencies to incorporate the priorities of the New York State Prevention Agenda and the Eight Domains of Livability into their work. Cuomo stated "New York is committed to creating thriving communities that support and attract people of all ages, and this executive order will continue to maximize our efforts as the first age-friendly state in the country,." In addition he stated "incorporating age-friendly smart growth principles into the fabric of state government will support community development and improve the health and quality of life of all New Yorkers."[53] Through his leadership, New York State was declared the first age-friendly state in the U.S. in 2017 by the American Association of Retired Persons (AARP) and the WHO.

In order to understand how to create age-friendly communities, it is essential to address the key concepts and ideas found in these eight domains. The following section will provide a brief overview of each domain.

[52] NYS Department of Health, 2018, https://health.ny.gov/prevention/prevention_agenda/2019-2024/docs/sha/general_description.pdf, accessed July 2019

[53] New York State, November 2018, https://www.governor.ny.gov/news/governor-cuomo-announces-executive-order-support-new-york-first-age-friendly-state-country, accessed July 2019

OUTDOOR SPACES AND BUILDINGS

The outdoor environment and public buildings have a great impact on the quality of life of older people. People need to feel safe and comfortable in their surrounding environments in order to pursue a more active lifestyle. There are several important factors to consider when constructing outdoor spaces and buildings that are age-friendly. First, it is important that the environment is pleasant, clean, accessible, and safe for community members. Second, Law enforcement must ensure that outdoor spaces are safe for people to walk through without them experiencing any harm. Crime, violence, and homelessness create fear and often deter people from walking around in their communities, especially at night. Lastly, according to the WHO, having a place to rest is important for many older residents.[54] It can be difficult for older people to walk around for a long time without having somewhere to sit, therefore this is an important factor to consider when creating outdoor public spaces.

The condition of road and street pavement can also impact the people living in the community. If roads or sidewalks are cracked, uneven, or narrow, this can make it difficult for people to walk on them. In addition, there needs to be safe pedestrian crossings in order to avoid accidents with motor vehicles. This ties in with the concept of Complete Streets, which are designed to enable safe access of streets for everyone, including pedestrians, motorists, and cyclists.[55] In regard to age-friendly buildings, they should include elevators, escalators, ramps, wide doorways, public toilets with handicap access, and proper signage around the premises. All of these factors are important in creating outdoor spaces and buildings that are more accessible for all populations, especially for older adults.

TRANSPORTATION

People often need transportation to buy food; go for medical appointments; go to school; and get to their jobs. Although driving is the most common method for getting from place to place, it is important to consider other transportation modes for populations that have increased difficulty getting around, specifically the older population. Public transportation such as buses, trains, and taxi services can help meet the needs of this population. It is important to ensure that these services are accessible, affordable, and reliable. In addition, vehicles must be easy to get into and out of, as some buses and trains have high steps or do not offer wheelchair accessible amenities. Services must be safe and comfortable for those utilizing them, and staff should offer help when needed. Community transportation options are often needed to fill the gaps, some of which include Dial-A-Ride programs that offer curb-to-curb services, and volunteer transportation programs where volunteers offer their time and vehicles for people who cannot afford or access public transportation.[56] For more information on common methods of transportation that are used in the Mid-Hudson Region, please see page *64*.

HOUSING

Many older adults would prefer to age in their own homes and communities. However, affordability, location, and structure of housing units can often create barriers to living independently. Houses must include essential services, such as electricity, gas, and adequate water supply. In addition, the design of a house needs to be

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[54] World Health Organization, 2007, https://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf, accessed July 2019

[55] Smart Growth America, 2019, https://smartgrowthamerica.org/program/national-complete-streets-coalition/publications/what-are-complete-streets/, accessed July 2019

[56] National Aging and Disability Transportation Center, 2019, https://www.nadtc.org/about/transportation-aging-disability/unique-issues-related-to-older-adults-and-transportation/, accessed July 2019

suitable for the needs of an older person. This can include even walking surfaces, appropriate kitchen and bathroom facilities, wide doorways to accommodate anyone with a disability, and housing that is equipped for all weather conditions.[57] It is important that different housing options are available for older adults, and they are integrated into the surrounding community. Governor Cuomo launched a plan to invest $125 million into affordable housing for older, low-income adults aged 60 and above.[58] This project will create more options for older adults to live safely and comfortably in their communities.

SOCIAL PARTICIPATION

One of the biggest barriers to older adults living fulfilling and active lives is the feeling of isolation and seclusion. For many older adults, the feeling of loneliness can be brought on by the loss of a loved one or declining health. Social support is an important factor in helping people feel that they can lead happy, meaningful lives. This includes participating in social, cultural, and spiritual activities in the community, and having caring relationships with family and friends. Activities must be accessible, affordable, and open to community members of all ages. It is important to promote events and services at locations that older people frequently visit, including libraries, churches, and local community centers. Social connection is necessary for people to feel included in their communities, and it is essential to address this need in the creation of age-friendly communities.

RESPECT AND SOCIAL INCLUSION

Older people tend to have conflicting opinions on how they are treated in their communities. Many often feel they are respected and included, while others do not feel they are valued or even considered. It is important for the younger populations to interact with older adults, so they feel that they have a place in their communities. These interactions can foster a greater understanding of the norms and practices of each generation. The degree of participation of older adults in the social and economic life of their communities is closely linked with their feeling of inclusion. According to the WHO, some older adults have reported disrespectful behavior that they have experienced, including being treated poorly for doing things more slowly or even being treated like a child.[57] Society often values youth, while stigmatizing old age, believing that older people are useless and create more of a burden. It is essential to involve older adults in the activities of the community, and socially engage them in a way where they are respected, included, and valued.

CIVIC PARTICIPATION AND EMPLOYMENT

It is a common misconception to think that older people stop contributing to society once they enter retirement. There are a number of ways for them to continue to stay involved in the community. Many serve as volunteers in health care facilities, while others volunteer their time and effort during political activities. Volunteering helps create a sense of belonging and self-worth that can boost the mental and physical health of this population. Volunteer and employment opportunities should be geared toward the interest and needs of older populations, making it easy for them to participate. People need to feel that their work is valued, and that may very well mean reimbursement for their time and effort in certain activities. Many older people feel that they need to work in order to maintain good well-being, so it is essential that they are provided with more opportunities to do so. Trainings or refresher courses can help older individuals ease their way back into the workforce if they have not

[57] World Health Organization, 2007, https://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf, accessed July 2019

[58] NYS Department of Health, May 2017, https://www.governor.ny.gov/news/governor-cuomo-launches-landmark-20-billion-plan-combat-homelessness-and-create-affordable, accessed July 2019

been in the field for some time. Older people need to feel that they have a voice, and participating in community matters can provide this outlet.

COMMUNICATION AND INFORMATION

Technological advancements have changed the way people communicate with one another over time. In the age of social media, information is often quickly transmitted over various internet platforms, and can reach millions of people in a matter of seconds. Although this method of communication is preferred by many, it is not always the best way to transmit information, especially for older adults who may not be as comfortable using these new media outlets. Information needs to be disseminated through a variety of means that will reach all populations. There is a general fear of missing out on essential information within the older population, so it is vital to have information readily accessible for them. The communication methods that are commonly used among this population are telephone calls, in-person interactions, radio, television, newspapers, and print handouts in community centers, libraries, health centers, etc.[59] It is important for agencies to be mindful of different communication methods when disseminating information to the general population.

COMMUNITY AND HEALTH SERVICES

Accessible and affordable health care is essential in creating age-friendly communities. Health care costs are perceived to be too high, and it can prevent older adults from getting the care that they need. Health care services may also be too far for residents to get to, making it more difficult for those struggling with transportation (see Transportation domain above). According to the WHO, many older adults are unaware of the services that exist around them, meaning there is a lack of knowledge that needs to be addressed.[59] In addition, health care professionals need to provide a level of comfort that will encourage older adults to get routine checkups and seek medical care when necessary. Negative attitudes and poor communication by health care providers can drastically change an individual's health care experience and influence future medical decisions. Professionals should therefore be trained on how to treat older populations, so that they can be well prepared for any situation. Services should not only focus on medical care, but also on social services including access to food, housing, mental health services, etc. If a network of services is established in the community, older adults will have an easier way of navigating the system, and will utilize the services that they need to live long, healthy, active lives.

For more information and resources on the eight domains of livability, please visit the AARP Livable Communities (https://www.aarp.org/livable-communities/) or the World Health Organization's Guide to Global Age-Friendly Cities (https://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf).

[59] World Health Organization, 2007, https://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf, accessed July 2019

HEALTH BEHAVIORS INDICATORS

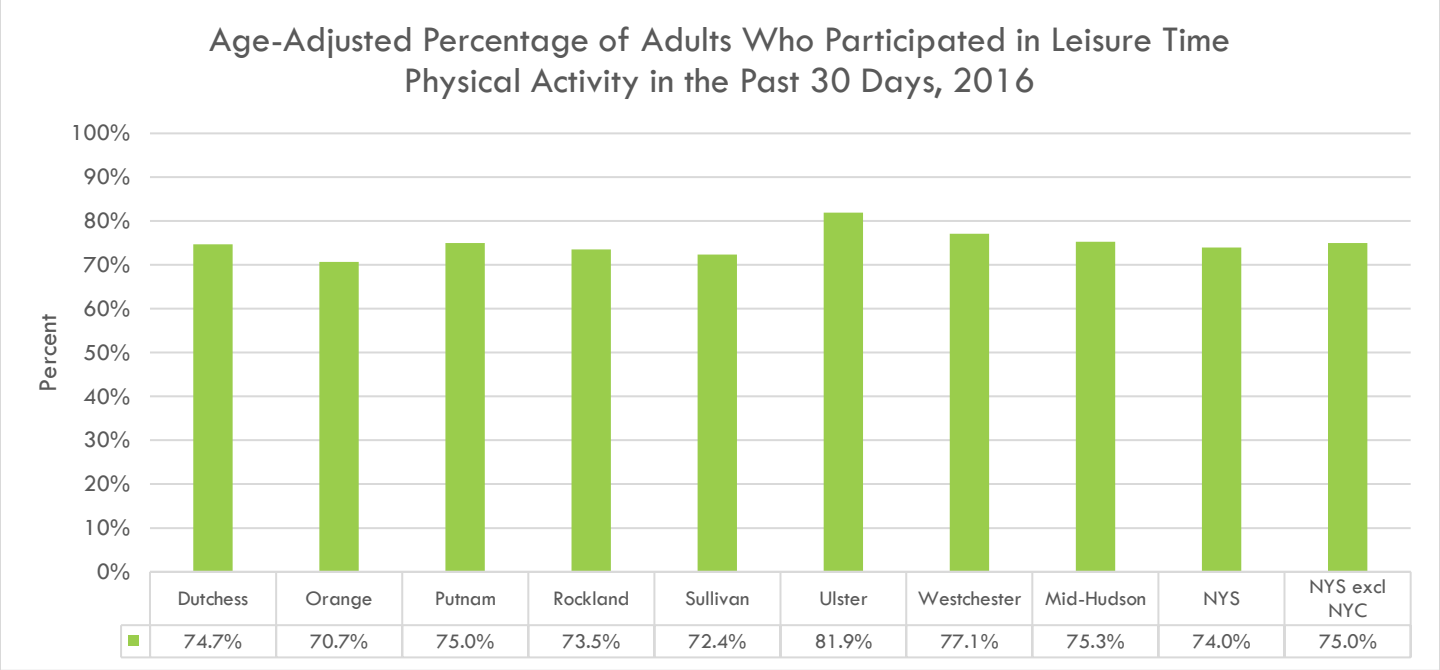
PHYSICAL ACTIVITY

The Physical Activity Guidelines for Americans state that to attain the most health benefits from physical activity, adults need at least 150 to 300 minutes each week of moderate-intensity aerobic activity, such as brisk walking or fast dancing. Adults also need at least two days of muscle-strengthening activities each week, such as lifting weights or doing pushups.[60]

More than 80% of adults do not meet the guidelines for both aerobic and muscle-strengthening activities.[60] Regular physical activity can improve both health and quality of life for people of all ages and abilities. Among adults and older adults, physical activity can lower the risk of early death, coronary artery disease, high blood pressure, type 2 diabetes, falls, and depression.

Healthy People 2020 has created objectives to reduce the proportion of adults who engage in no leisure time physical activity to 32.6%.[61] The Mid-Hudson Region has surpassed this target with only 24.7% of adults not participating in leisure time physical activity within the past 30 days [see Figure 126]. Ulster County had the highest percentage of adults who participated in leisure time physical activity in the past 30 days (81.9%)

Figure 126



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

NUTRITION

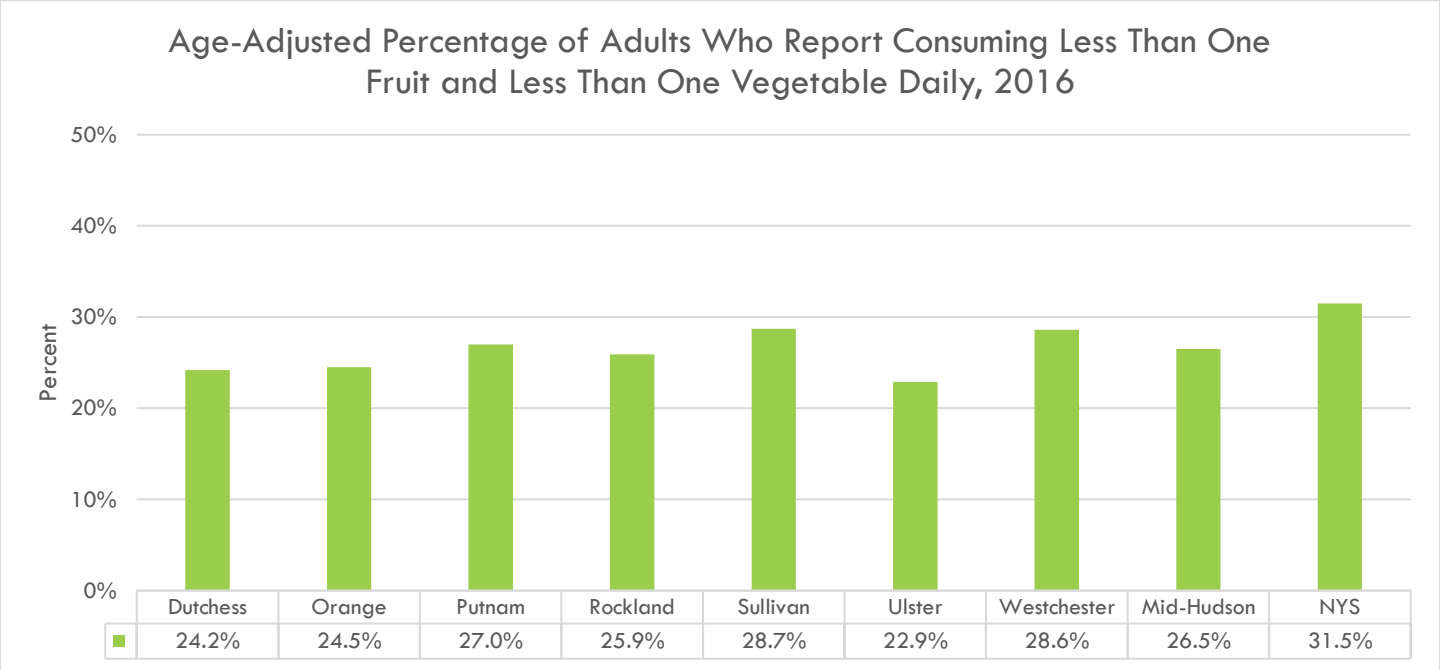
FRUIT AND VEGETABLE CONSUMPTION

Nutrition has a significant impact on health, and diet is one of the most powerful tools we have to prevent and reduce the burden of diseases, such as high blood pressure, heart disease, and type 2 diabetes.

The Dietary Guidelines for Americans recommends following a healthy eating pattern across the lifespan; focusing on variety; nutrient density, and amount of food; limiting calories from added sugars and saturated fats; reducing sodium intake; shifting to healthier food and beverage choices; and supporting healthy eating patterns for all.[60] To meet these guidelines, it is important that fruits and vegetables are accessible and affordable.

The Dietary Guidelines for Americans recommends adults consume 1.5-2 cups of fruit and 2-3 cups of vegetables a day, yet only 1 in 10 U.S. adults eat this recommended amount of fruits or vegetables.[61] In the Mid-Hudson Region, 26.5% of adults reported eating less than one fruit and less than one vegetable daily in 2016, which is lower than the percentage in New York State (31.5%). Dutchess County had the least amount of adults who reported consuming less than one fruit and less than one vegetable a day (24.2%), while Sullivan and Westchester had the highest percentages (28.7% and 28.6% respectively) [see Figure 127].

Figure 127



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[60] Dietary Guidelines for Americans, 2015-2020, July 2019, https://health.gov/dietaryguidelines/2015/, accessed June 2019

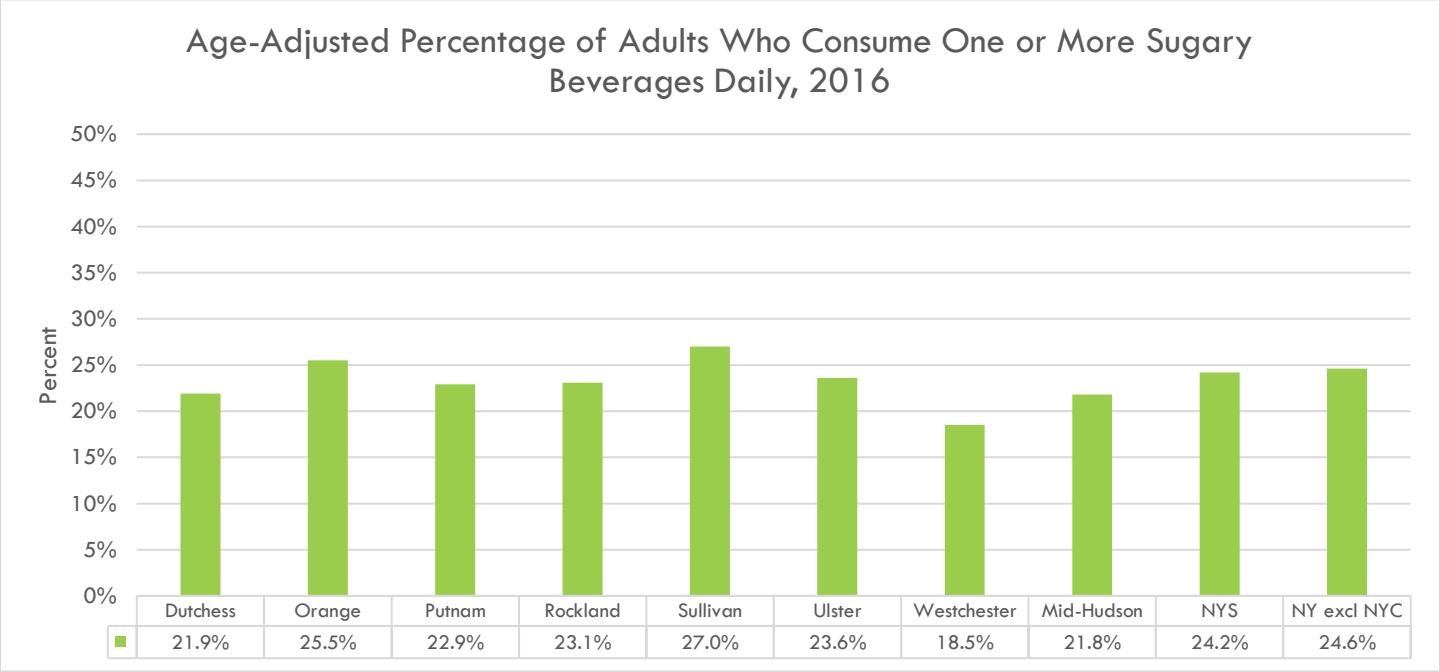
[61] State Indicator Report on Fruits and Vegetables, October 2018, https://www.cdc.gov/nutrition/data-statistics/2018-state-indicator-report-fruits-vegetables.html, accessed June 2019

SUGARY BEVERAGES

Sugar-sweetened beverages are one of the main sources of added sugars in U.S. diets. Consumption of sugar-sweetened beverages is linked to metabolic syndrome, cavities, and type 2 diabetes in adults. Foods and beverages high in calories from added sugar often provide few or no essential nutrients or dietary fiber, which therefore contributed to excess calorie intake without contributing to diet quality.[61] Intake of sugar-sweetened beverages should be limited in a varied, healthy diet.

According to the NYSDOH, Americans consume an average of 138 calories from sugary beverages on a given day. In New York State, 23.2% of adults drank at least one sugar-sweetened beverage daily in 2016.[62] This was highest in Sullivan and Orange Counties (24.7% and 24% respectively), while Westchester had the lowest percentage of adults who consumed one or more sugary drinks daily (17.8%). The Dietary Guidelines for Americans suggests reducing added sugars in the diet by reducing the consumption of sugar-sweetened beverages. This can be accomplished by choosing beverages with no added sugars; reducing portions of sugar-sweetened beverages; drinking these beverages less often; and selecting beverages low in added sugars. In place of sugar-sweetened beverages, Low-fat or fat-free milk, or 100% fruit or vegetable juice can also be consumed within recommended amounts. In the Mid-Hudson Region, 21.8% of people consumed one or more sugary beverages daily [see Figure 128].

Figure 128



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[62] New York State Behavioral Risk Factor Surveillance System, 2016, https://www.health.ny.gov/statistics/brfss/reports/docs/1804_brfssbrief_sugar_sweetened_beverages.pdf, accessed June 2019

HEALTH INDICATORS

MORTALITY

Before discussing the different health indicators in the Mid-Hudson Region, it is useful to have an overall sense of the burden of diseases facing residents in these seven counties. Morbidity measures illness, and it is defined in terms of incidence or prevalence. Incidence is the number of new cases of a disease divided by the number of people at risk for the disease. Prevalence is the total number of cases of disease existing in a population during a specific period of time. Mortality is another term for death. A mortality rate is the number of deaths due to a disease divided by the total population. Table 23 lists the top five causes of mortality in the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City.

In 2016, Sullivan County had the highest total mortality rate out of all seven counties in the Mid-Hudson Region, as well as New York State (821.9 per 100,000 population). In 2016, the leading cause of death in most of the Mid-Hudson Region counties and New York State was heart disease, with the exception of Putnam and Sullivan Counties, where cancer was the primary cause of death. The causes of death in most of the counties included heart disease, cancer, unintentional injury, Chronic Lower Respiratory Diseases (CLRD), and stroke. However, in Putnam County, the fifth leading cause of death was septicemia, which is a bloodstream infection, also known as blood poisoning. Additionally, in Rockland County, the fifth leading causes of death were pneumonia and influenza.

The following sub-sections under *Health Indicators* will provide more specific details about the different diseases that are impacting the health of the population in the Mid-Hudson Region. For some indicators at the county level, three-year averages were used due to greater stability of data. If a single year is posted for a three-year average, the years averaged include the year preceding and year following. For example, if the single year written is 2008, the three-year average would be from 2007-2009. Additionally, there are some cases where recent data from 2016 cannot be compared to data prior to 2014. According to the NYSDOH, the rate for 2015 is excluded due to SPARCS data transitioning on October 1, 2015 from ICD-9-CM to ICD-10-CM diagnosis codes. Since ICD-9-CM and ICD-10-CM are not comparable, an annual rate for 2015 cannot be calculated, and data for 2016-and-forward should not be compared with data for 2014-and-prior.

Table 23

Top Five Leading Causes of Death in the Mid-Hudson Region Counties and NYS, 2016 (Rate per 100,000 population)

	Total Deaths	#1 Cause of Death	#2 Cause of Death	#3 Cause of Death	#4 Cause of Death	#5 Cause of Death
Dutchess		**Heart Disease**	**Cancer**	**CLRD**	**Unintentional Injury**	**Stroke**
	No.: 2,507	No.: 724	No.: 570	No.: 149	No.: 128	No.: 99
	Rate: 660.6	Rate: 186.0	Rate: 148.9	Rate: 38.6	Rate: 39.5	Rate: 26.1
Orange		**Heart Disease**	**Cancer**	**Unintentional Injury**	**CLRD**	**Stroke**
	No.: 2,739	No.: 689	No.: 641	No.: 154	No.: 154	No.: 114
	Rate: 693.7	Rate: 173.0	Rate: 158.4	Rate: 42.7	Rate: 39.2	Rate: 29.2
Putnam		**Cancer**	**Heart Disease**	**Unintentional Injury**	**CLRD**	**Septicemia**
	No.: 711	No.: 212	No.: 178	No.: 39	No.: 32	No.: 26
	Rate: 593.5	Rate: 167.9	Rate: 148.8	Rate: 41.9	Rate: 26.7	Rate: 21.7
Rockland		**Heart Disease**	**Cancer**	**CLRD**	**Stroke**	**Pneumonia & Influenza**
	No.: 2,235	No.: 616	No.: 506	No.: 119	No.: 97	No.: 90
	Rate: 558.3	Rate: 147.9	Rate: 128.7	Rate: 28.6	Rate: 24.3	Rate: 22.1
Sullivan		**Cancer**	**Heart Disease**	**CLRD**	**Unintentional Injury**	**Stroke**
	No.: 765	No.: 187	No.: 179	No.: 48	No.: 46	No.: 26
	Rate: 821.9	Rate: 189.0	Rate: 186.7	Rate: 47.0	Rate: 56.6	Rate: 27.6
Ulster		**Heart Disease**	**Cancer**	**CLRD**	**Unintentional Injury**	**Stroke**
	No.: 1,759	No.: 454	No.: 418	No.: 94	No.: 73	No.: 64
	Rate: 716.5	Rate: 174.7	Rate: 166.2	Rate: 37.6	Rate: 39.2	Rate: 23.1
Westchester		**Heart Disease**	**Cancer**	**Unintentional Injury**	**Stroke**	**CLRD**
	No: 7,025	No.: 2,091	No.: 1,665	No.: 306	No.: 294	No.: 256
	Rate: 533.6	Rate: 148.9	Rate: 129.7	Rate: 28.3	Rate: 21.6	Rate: 19.2
NYS		**Heart Disease**	**Cancer**	**Unintentional Injury**	**CLRD**	**Stroke**
	No.: 153,684	No.: 43,869	No.: 35,170	No.: 7,334	No.: 6,808	No.: 6,197
	Rate: 637.9	Rate: 177.0	Rate: 146.7	Rate: 34.2	Rate: 28.2	Rate: 25.3
NYS excl NYS		**Heart Disease**	**Cancer**	**CLRD**	**Unintentional Injury**	**Stroke**
	No.: 99,793	No.: 26,569	No.: 22,422	No.: 5,137	No.: 5,041	No.: 4,290
	Rate: 676.7	Rate: 172.7	Rate: 152.4	Rate: 34.4	Rate: 41.7	Rate: 28.1

Note: Ranks are based on numbers of deaths, then on mortality rates.
Source: NYSDOH Vital Statistics, 2018
https://apps.health.ny.gov/public/tabvis/PHIG_Public/lcd/reports/#state

PHYSICAL HEALTH

CHRONIC DISEASES

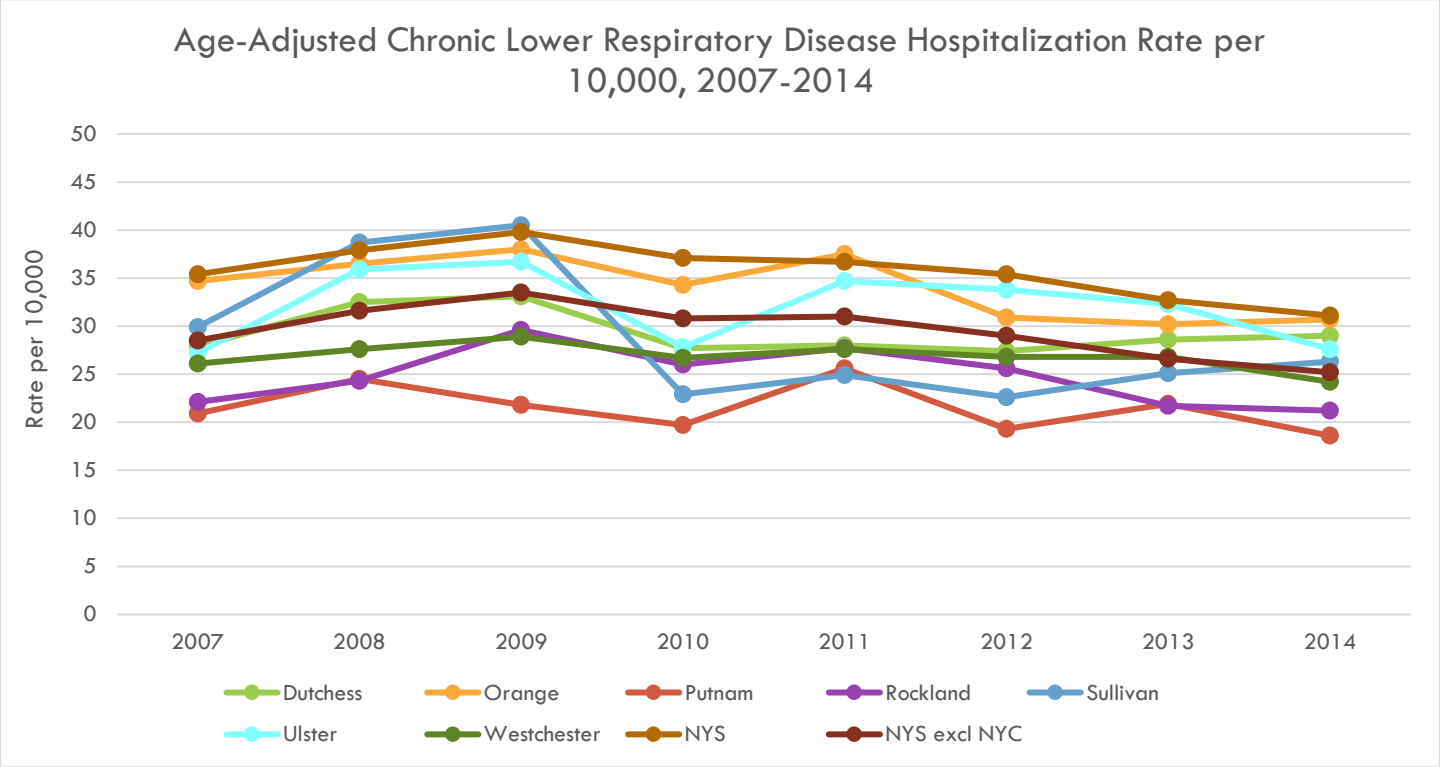
CHRONIC LOWER RESPIRATORY DISEASES

Chronic Lower Respiratory Diseases (CLRD) is a classification of diseases that affect the lungs and the respiratory tract. Some diseases include emphysema, bronchitis, asthma, and other chronic obstructive pulmonary diseases (COPD). Symptoms of CLRD include airflow constriction, leading to difficulty breathing.[63]

[63] CDC, May 2017, https://www.cdc.gov/nchs/fastats/copd.htm, accessed June 2019

From 2007-2014, the rates of CLRD hospitalization have decreased in almost all counties and New York State. This is excluding Dutchess County, which had a slight increase from 2007 to 2014 (27.9 vs 29.0 per 10,000 population, respectively), as seen in Figure 129.

Figure 129

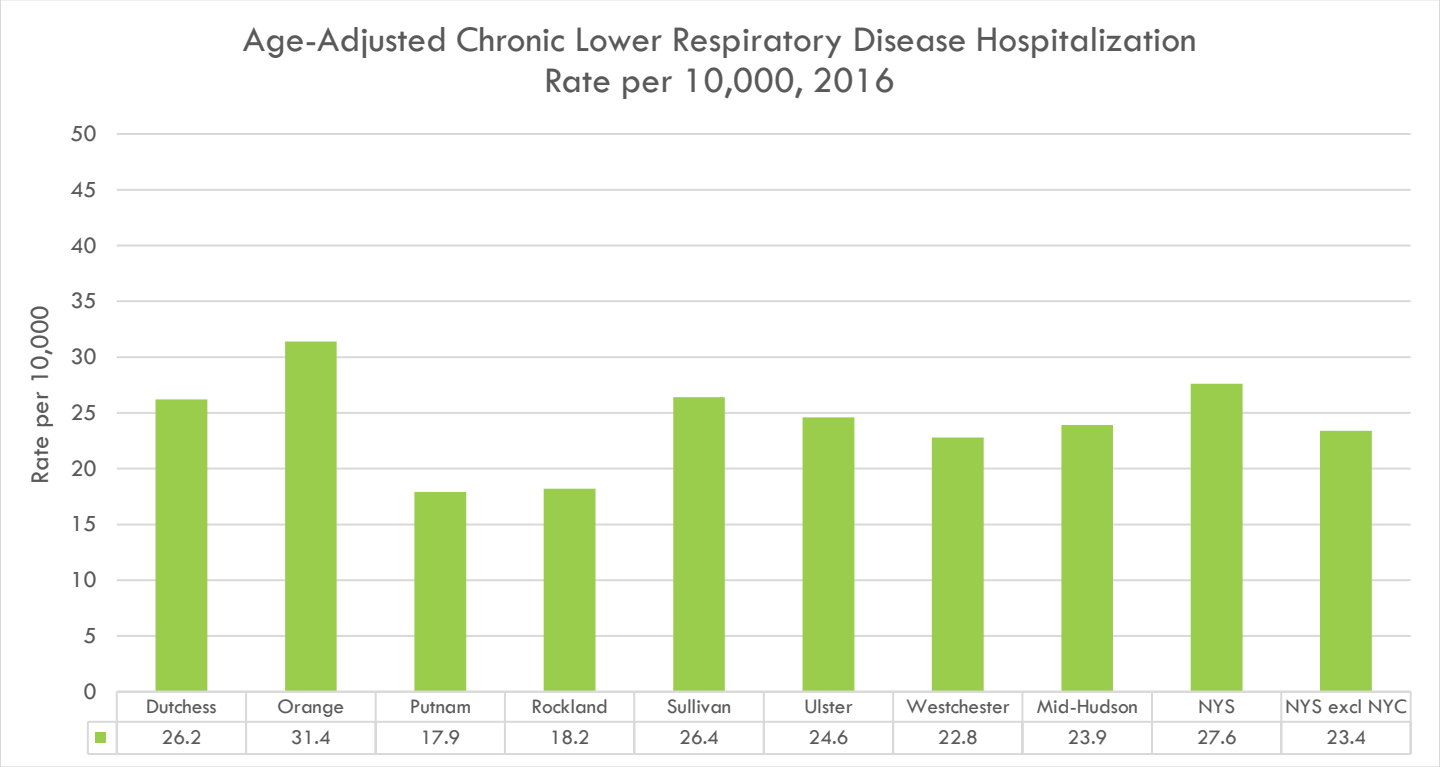


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	27.9	34.7	20.9	22.1	29.9	27.2	26.1	35.4	28.5
2008	32.5	36.5	24.5	24.3	38.7	35.9	27.6	37.9	31.6
2009	33.1	38.0	21.8	29.6	40.5	36.7	28.9	39.8	33.5
2010	27.7	34.3	19.7	26.0	22.9	27.8	26.7	37.1	30.8
2011	28.0	37.5	25.6	27.7	24.9	34.7	27.6	36.7	31.0
2012	27.4	30.9	19.3	25.6	22.6	33.8	26.8	35.4	29.0
2013	28.6	30.2	21.9	21.7	25.1	32.3	26.8	32.7	26.6
2014	29.0	30.7	18.6	21.2	26.3	27.6	24.2	31.1	25.2

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

According to Figure 130, in 2016, CLRD hospitalization rates in the Mid-Hudson Region were similar to that of New York State excluding New York City, with the exception of Orange County, which had the highest CLRD hospitalization rates (31.4 per 10,000 population). Putnam and Rockland Counties had slightly lower rates than the Mid-Hudson Region at 17.9 and 18.2 per 10,000 population, respectively.

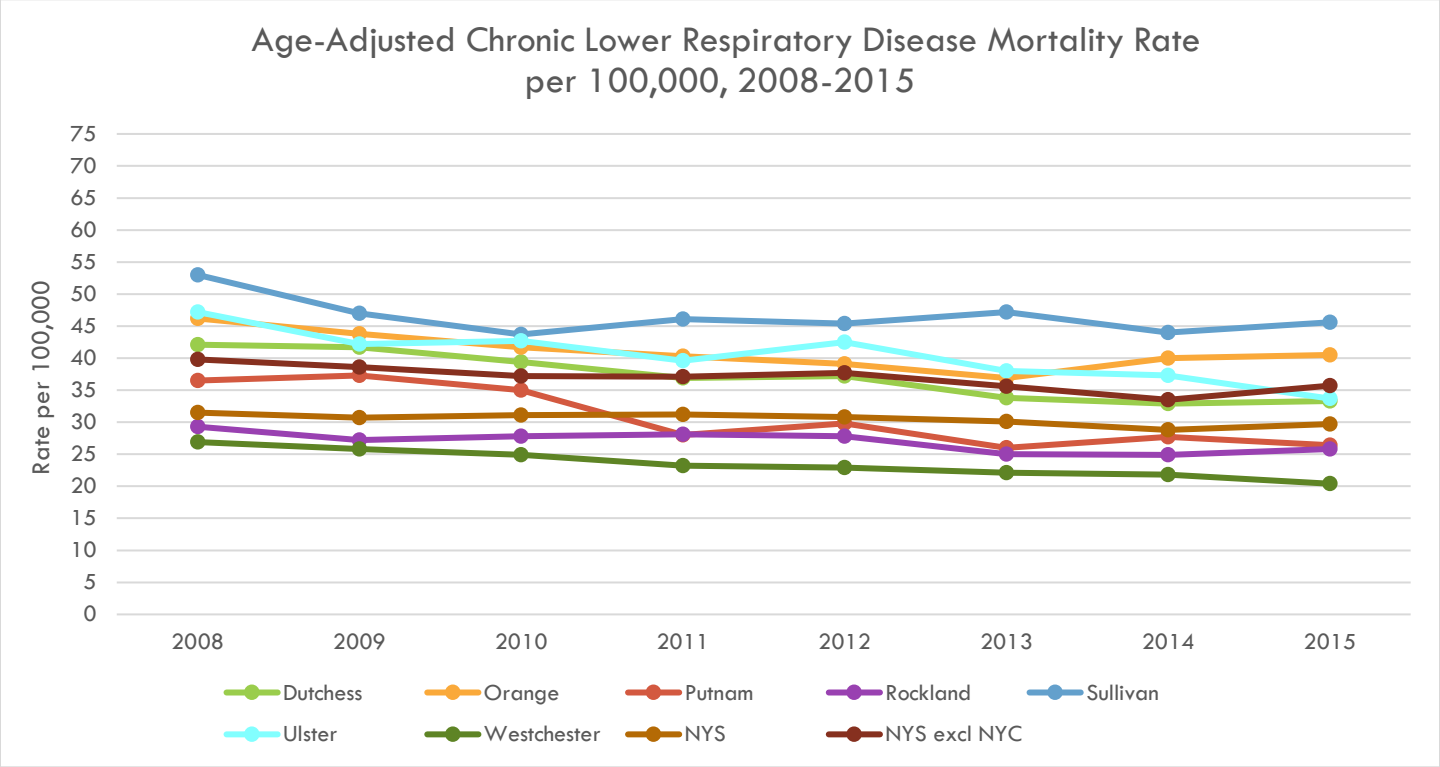
Figure 130



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When looking over time in Figure 131, mortality rates across each county have generally decreased. There had been a slight increase in mortality rates between 2014-2015 in Dutchess, Putnam, Rockland, and Sullivan Counties, as well as New York State and New York State excluding New York City.

Figure 131



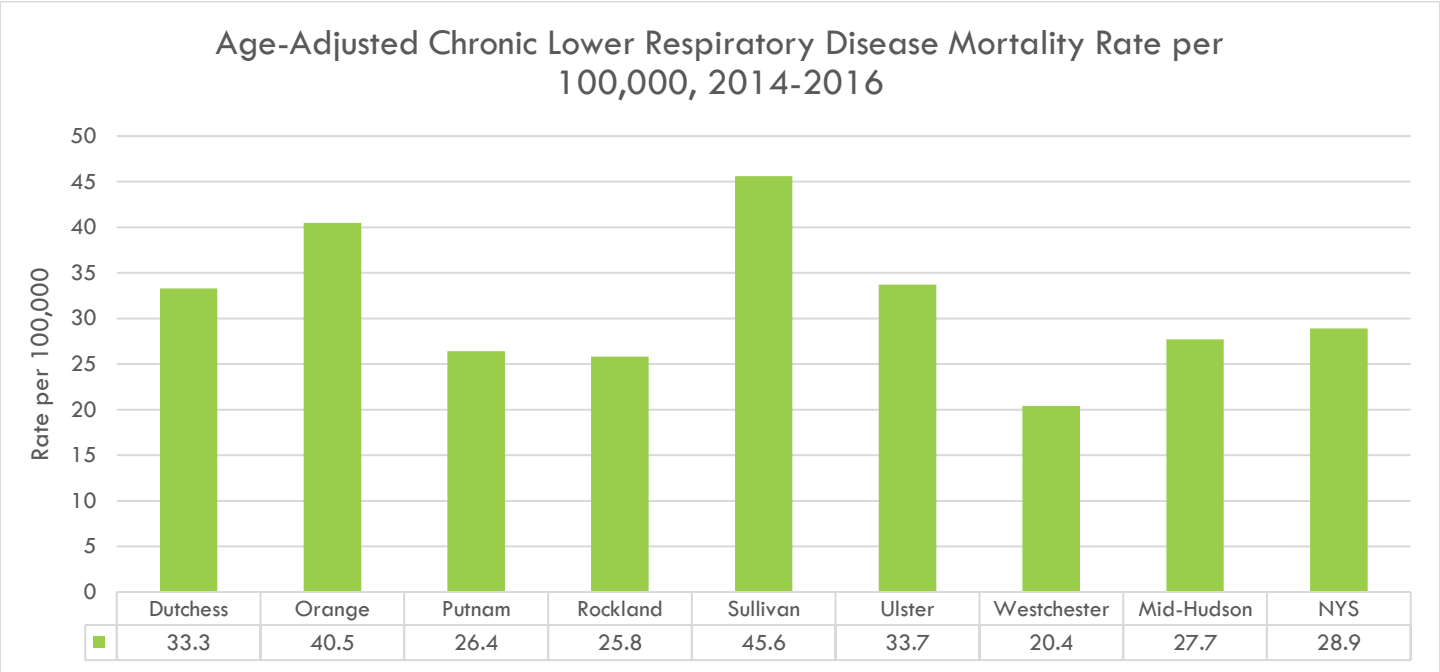
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	42.1	46.2	36.5	29.3	53.0	47.2	26.9	30.4	39.8
2009	41.7	43.8	37.3	27.2	47.0	42.2	25.8	31.5	38.6
2010	39.4	41.7	35.0	27.8	43.7	42.7	24.9	30.7	37.2
2011	36.9	40.3	28.0	28.1	46.1	39.6	23.2	31.1	37.1
2012	37.2	39.1	29.8	27.8	45.4	42.5	22.9	31.2	37.7
2013	33.8	36.9	26.0	25.0	47.2	38.0	22.1	30.8	35.6
2014	32.9	40.0	27.7	24.9	44.0	37.3	21.8	30.1	33.5
2015	33.3	40.5	26.4	25.8	45.6	33.7	20.4	28.8	35.7

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

According to Figure 132, CLRD mortality rates varied across the seven counties from 2014-2016, although the rate in the Mid-Hudson Region was similar to the rate in New York State (27.7 vs 28.9 per 100,000 population, respectively). Of the seven counties, Sullivan had the highest CLRD mortality rate at 45.6 per 100,000 population, and Westchester had the lowest rate at 20.4 per 100,000 population. The Healthy People 2020 goal is calculated specifically for COPD alone, so it is not comparable to these data points.

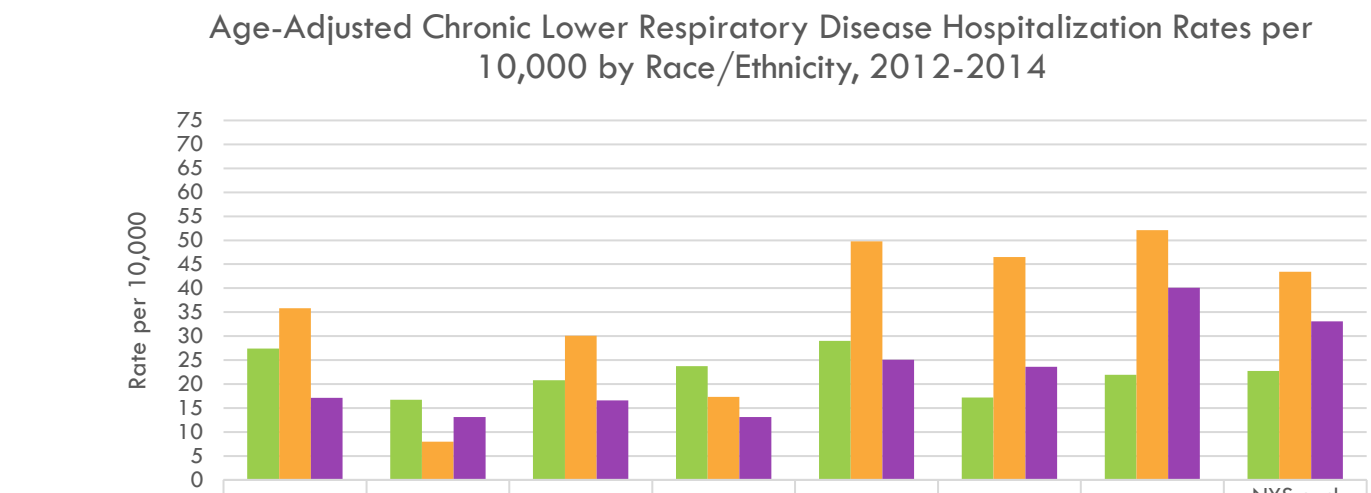
Figure 132



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying CLRD mortality rates by race/ethnicity, the disparities were not consistent among hospitalization and mortality rates. According to Figure 133, non-Hispanic Black adults had higher CLRD hospitalization rates across New York State and the majority of the counties in the Mid-Hudson Region, with the exception of Putnam and Sullivan Counties (Putnam had a rate that was unstable). However, non-Hispanic White adults had the highest CLRD mortality rates across all of the seven counties, which was also consistent with both New York State trends [see Figure 134].

Figure 133



	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	27.4	16.7	20.8	23.7	29.0	17.2	21.9	22.7
Non-Hispanic Black	35.8	8.0 *	30.1	17.3	49.8	46.5	52.1	43.4
Hispanic	17.1	13.1	16.6	13.1	25.1	23.6	40.1	33.1

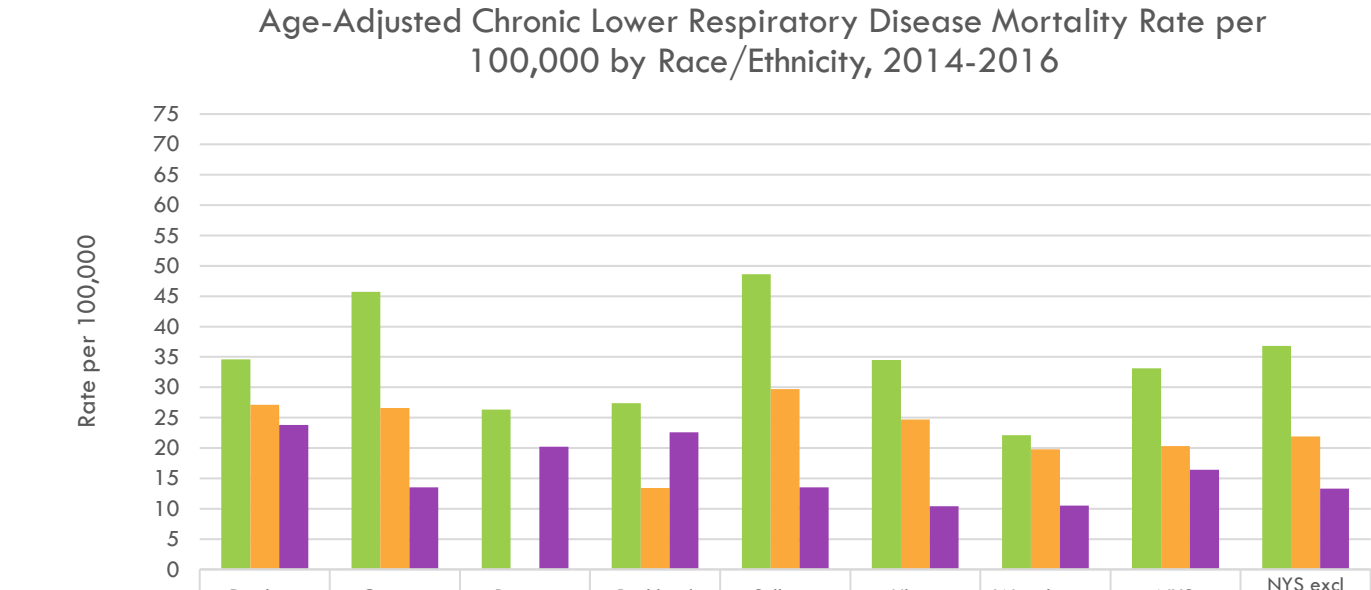
: The rate is unstable.

Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data is not available.

Source: NYSDOH Vital Statistics, 2018

NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

Figure 134



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	34.6	45.7	26.3	27.4	48.6	34.5	22.1	33.1	36.8
Non-Hispanic Black	27.1	26.6	0.0 *	13.4	29.7 *	24.7 *	19.8	20.3	21.9
Hispanic	23.8	13.5	20.2 *	22.6	13.5 *	10.4 *	10.5	16.4	13.3

: The rate is unstable.

Source: NYSDOH Vital Statistics, 2018

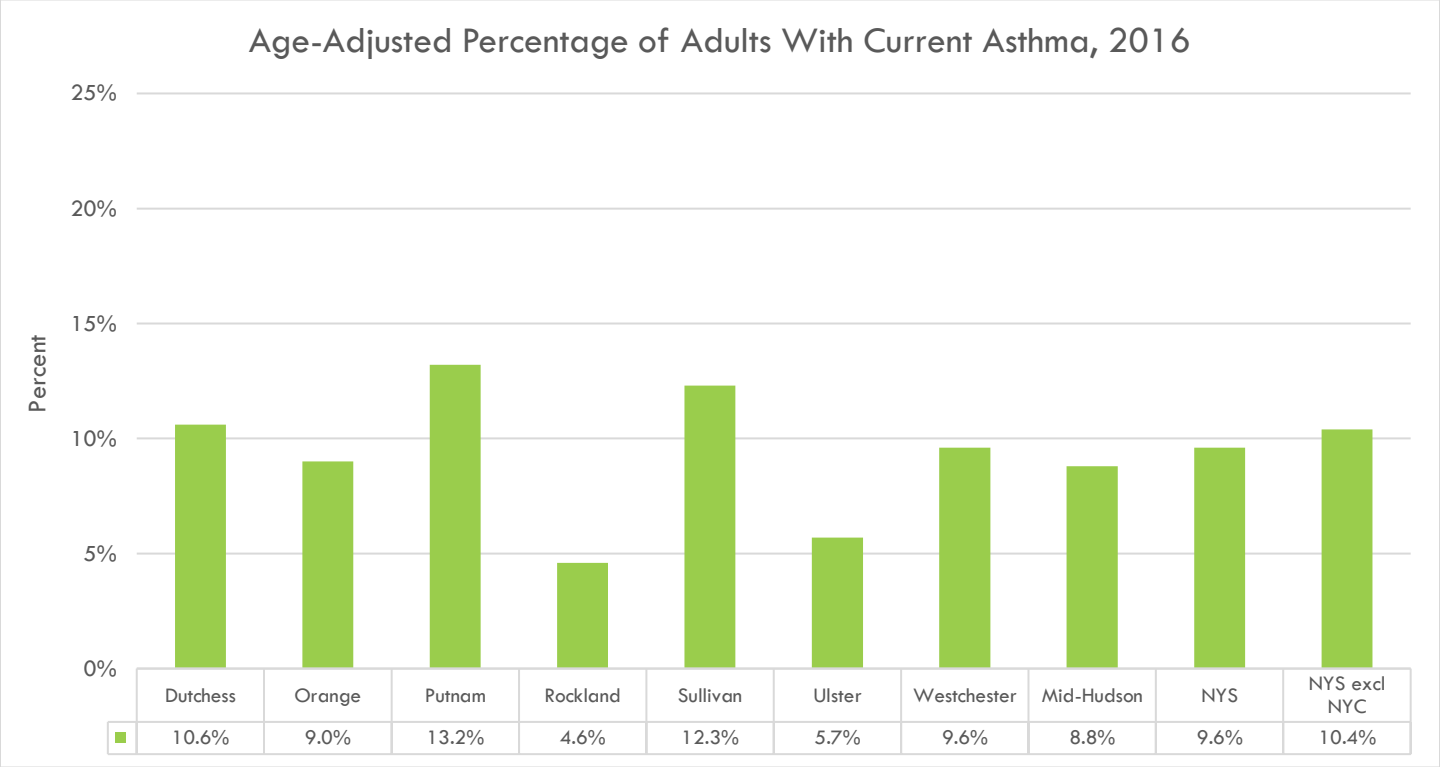
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

ASTHMA

Asthma is caused by airway restriction in the lungs resulting in difficulty breathing, wheezing, chest tightness, and coughing.[64] It is one of the most common diseases found among children, but the onset can also occur during adulthood. It can be caused by a variety of factors that may be genetic, environmental, or stress-related. In many cases, people are unaware they have asthma, and there is no definitive cure for the disease. However, there are ways to manage it with medical care by avoiding triggers, such as allergens, intense physical activity, tobacco smoke, and air pollution. Asthma is a serious economic burden, costing the U.S. almost $56 billion a year in medical expenses and almost $1.3 billion annually in New York State.[65] It is important that intervention starts in early childhood to avoid increased medical costs and fatal consequences.

In the U.S., 7.9% of adults were living with asthma in 2016.[64] This percentage varied across the seven counties in the Mid-Hudson Region and New York State. According to Figure 135, there were more than two times more residents in Putnam County living with asthma, compared to those living in Rockland County in 2016 (13.2% vs 4.6%, respectively). This is higher than those living in the Mid-Hudson Region and New York State excluding New York City (8.8% and 10.4%, respectively).

Figure 135



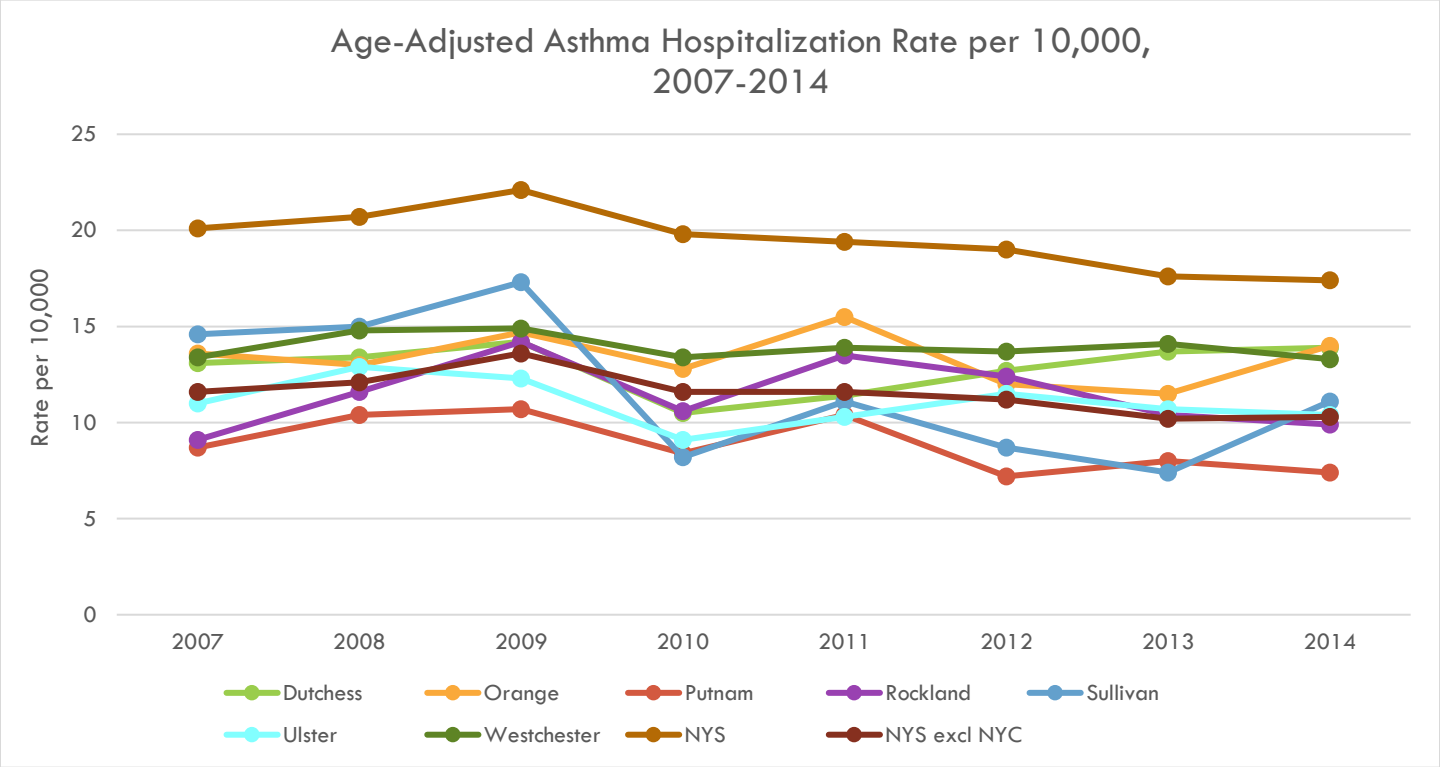
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[64] CDC, April 2018, https://www.cdc.gov/asthma/, accessed May 2019

[65] New York State Comptroller, April 2014, https://www.osc.state.ny.us/reports/economic/asthma_2014.pdf, accessed June 2019

The rates of asthma hospitalization vary across the Mid-Hudson Region and New York State. From 2007-2014, asthma rates stayed relatively constant across the seven counties in the Mid-Hudson Region and in New York State excluding New York City [see Figure 136].

Figure 136

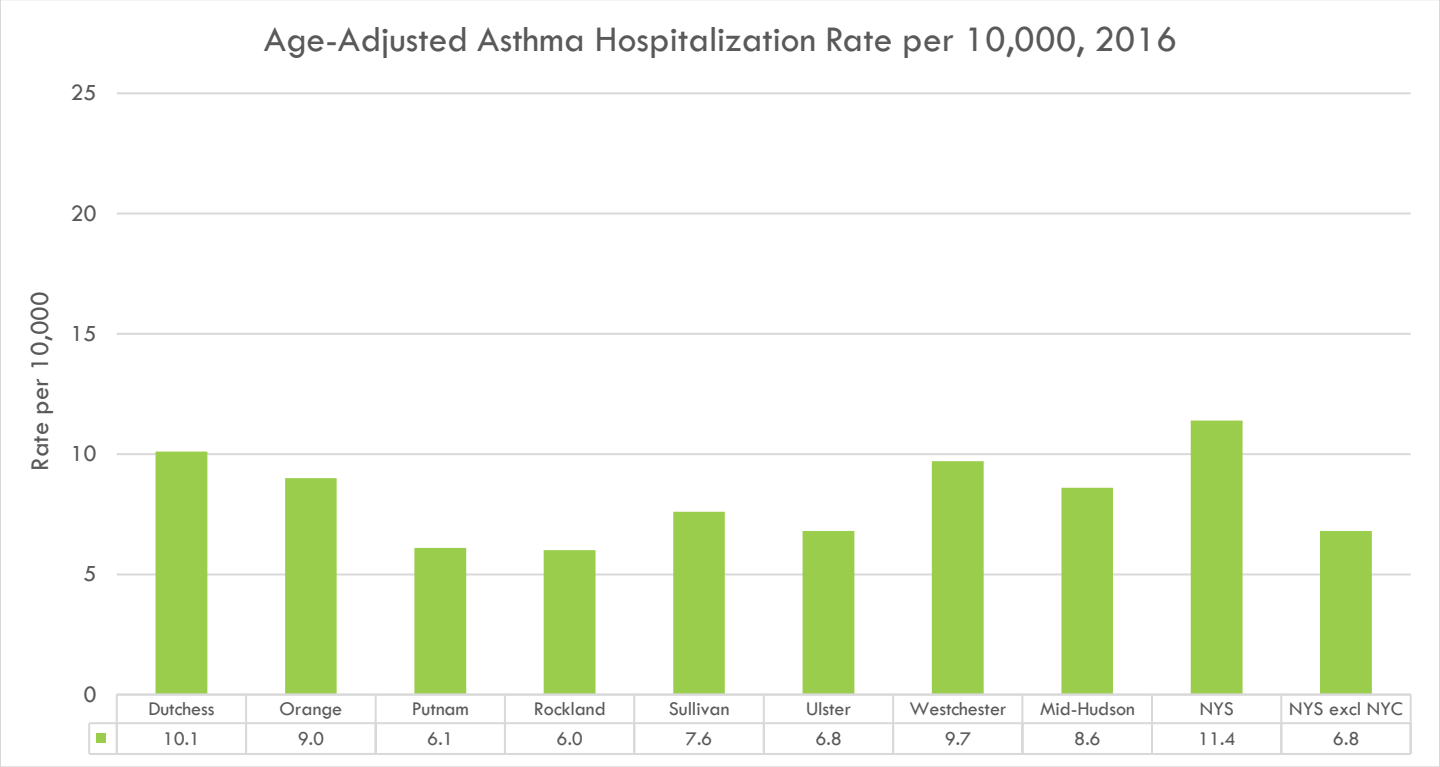


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	13.1	13.6	8.7	9.1	14.6	11.0	13.4	20.1	11.6
2008	13.4	13.0	10.4	11.6	15.0	12.9	14.8	20.7	12.1
2009	14.2	14.7	10.7	14.2	17.3	12.3	14.9	22.1	13.6
2010	10.5	12.8	8.4	10.6	8.2	9.1	13.4	19.8	11.6
2011	11.4	15.5	10.4	13.5	11.1	10.3	13.9	19.4	11.6
2012	12.7	12.0	7.2	12.4	8.7	11.5	13.7	19.0	11.2
2013	13.7	11.5	8.0	10.4	7.4	10.7	14.1	17.6	10.2
2014	13.9	14.0	7.4	9.9	11.1	10.4	13.3	17.4	10.3

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When looking at recent data from 2016 in Figure 137, Dutchess County had the highest asthma hospitalization rate at 10.1 per 10,000 population compared to rates in the Mid-Hudson Region and New York State excluding New York City (8.6 and 6.8 per 10,000, respectively).

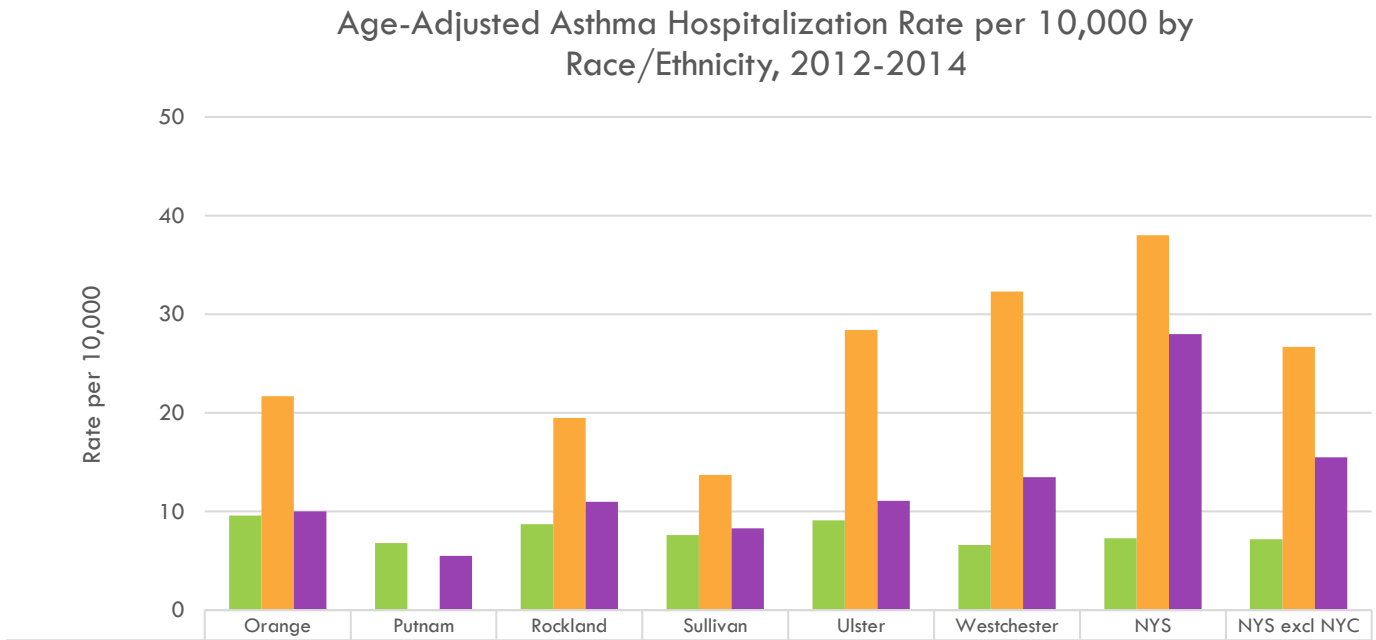
Figure 137



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying the data by race/ethnicity, as seen in Figure 138, non-Hispanic Black adults had higher rates of asthma hospitalization compared to non-Hispanic White and Hispanic adults. This is consistent throughout the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City.

Figure 138

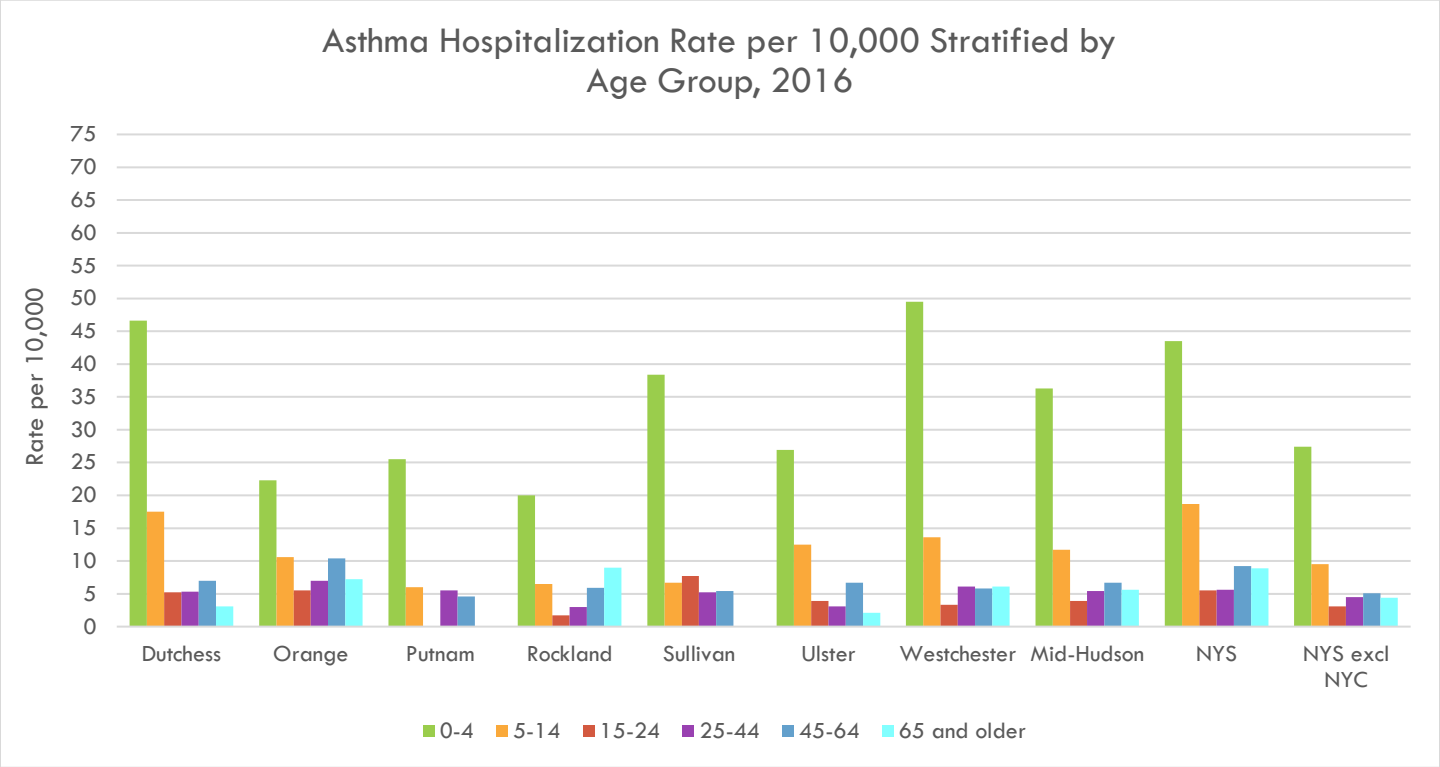


	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	9.6	6.8	8.7	7.6	9.1	6.6	7.3	7.2
Non-Hispanic Black	21.7	s	19.5	13.7	28.4	32.3	38.0	26.7
Hispanic	10.0	5.5	11.0	8.3	11.1	13.5	28.0	15.5

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data is not available.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2016
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

When stratifying asthma hospitalization by age group, the rates were higher for the younger population, specifically those aged 0-4 years. According to Figure 139, in the 0-4 age group, asthma hospitalization rates were highest in Westchester County at 49.5 per 10,000 population and lowest in Rockland County at 20.0 per 10,000 population. The Mid-Hudson Region counties and New York State did not meet the Healthy People 2020 target of reducing asthma hospitalizations for children aged five years and under to 18.2 hospitalizations per 10,000 population.

Figure 139

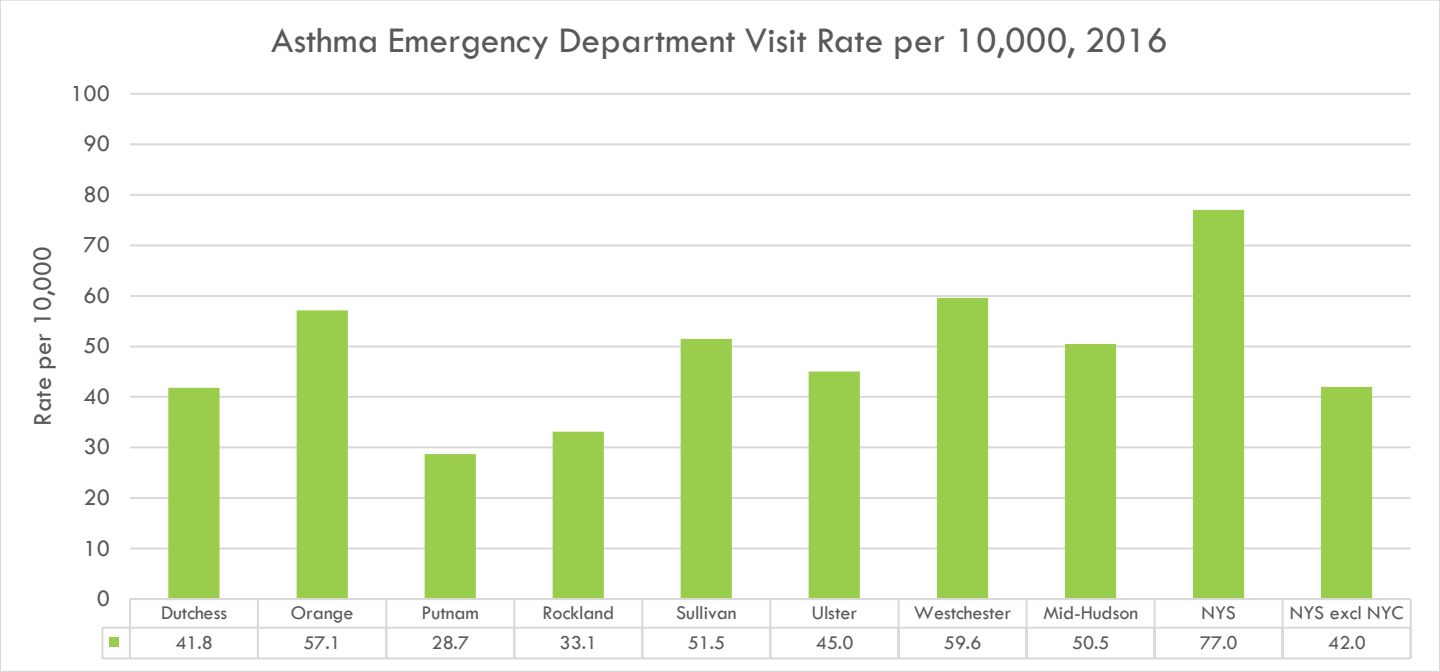


	0-4	5-14	15-24	25-44	45-64	65 and older
Dutchess	46.6	17.5	5.2	5.3	7.0	3.1
Orange	22.3	10.6	5.5	7.0	10.4	7.2
Putnam	25.5	6.0*	s	5.5	4.6	s
Rockland	20.0	6.5	1.7*	3.0	5.9	9
Sullivan	38.4	6.7*	7.7*	5.2*	5.4	s
Ulster	26.9	12.5	3.9*	3.1	6.7	2.1*
Westchester	49.5	13.6	3.3	6.1	5.8	6.1
Mid-Hudson	36.3	11.7	3.9	5.4	6.7	5.6
NYS excl NYC	27.4	9.5	3.1	4.5	5.1	4.4
NYS	43.5	18.7	5.5	5.6	9.2	8.9

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
s: Data do not meet reporting criteria.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

The Emergency Department (ED) is commonly used to treat asthma related complications. Among the seven counties in the Mid-Hudson Region, residents in Westchester County had the highest ED utilization rate, while those living in Putnam County had the lowest rate (59.6 vs 28.7 per 10,000 population, respectively) [see Figure 140]. According to Table 24, the rates have stayed relatively constant across the seven counties and New York State from 2008-2014, except for a significant decrease in Dutchess County from 58.9 in 2008 to 47.2 per 10,000 population in 2014.

Figure 140



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

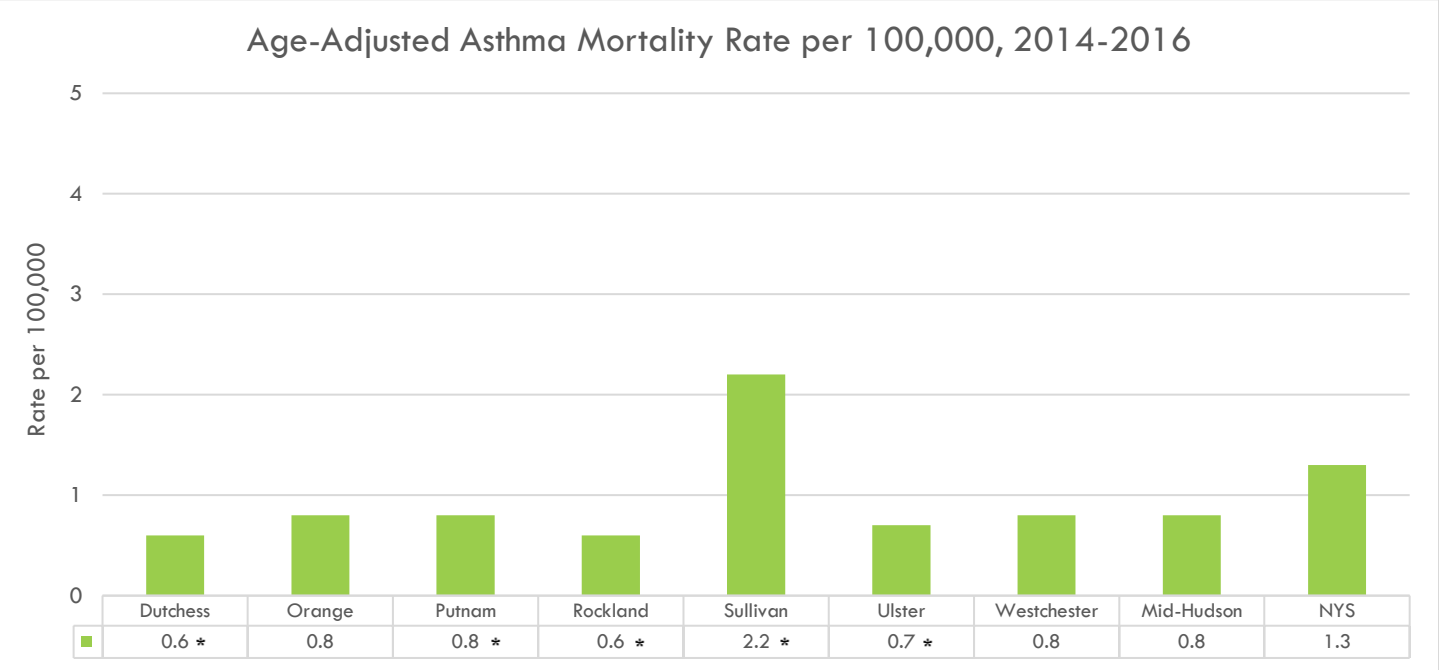
Table 24

Asthma Emergency Department Visit Rate per 10,000 population, 2008-2014									
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**Mid-Hudson**	**NYS**
2008	58.9	66.6	28.1	29.3	62.7	45.8	61.4	55.1	83.1
2009	54.7	67.8	27.8	36.5	57.2	44.3	61.3	55.4	85.6
2010	44.2	67.3	29.4	35.5	51.5	40.3	60.4	52.8	83.6
2011	49.9	66.9	31.6	36.0	52.4	45.9	61.7	54.6	85.7
2012	52.9	68.5	32.3	36.5	70.8	46.6	64.6	57.3	89.9
2013	45.1	66.2	26.9	34.1	60.5	43.4	61.9	53.6	86.3
2014	47.2	65.1	28.2	33.7	64.9	46.4	63.7	54.8	86.2

Source: NYSDOH Statewide Planning and Research Cooperative System, September 2016
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

From 2014-2016, the rates of asthma mortality stayed relatively low, with most of the counties having fewer than 10 deaths in this time period. Among the seven counties, Sullivan County had the highest asthma mortality rate at 2.2 deaths per 100,000 population (rates are unstable across most counties) [see Figure 141].

Figure 141



*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

CARDIOVASCULAR DISEASE

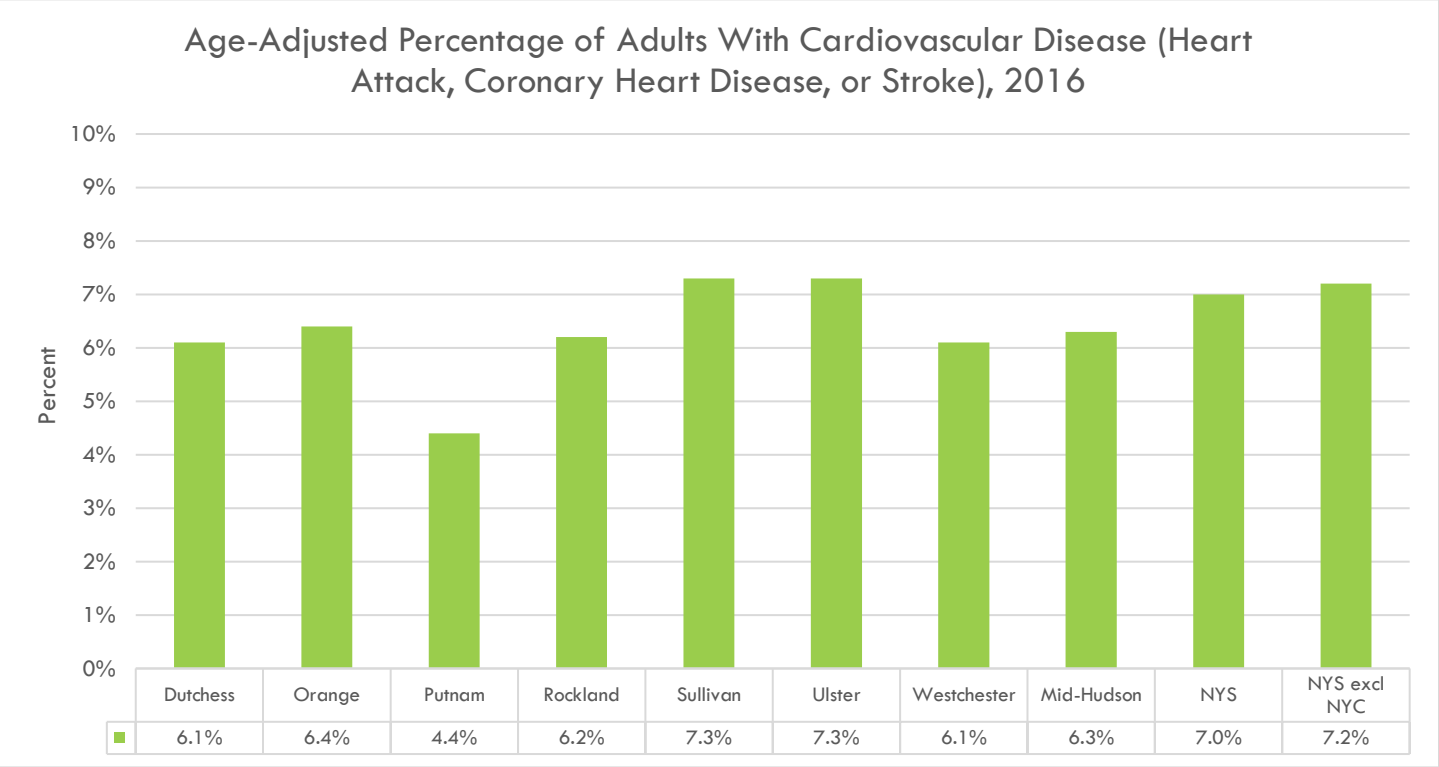
Cardiovascular disease (CVD), or heart disease, is the leading cause of death in the U.S., killing more than 600,000 people each year.[66] CVD refers to a number of conditions that affect the heart and other components of the circulatory system. It involves blocked or hardened blood vessels (otherwise known as atherosclerosis) that can lead to diseases, including (but not limited to) congestive heart failure, cerebrovascular disease or stroke, coronary artery disease, or a heart attack. The management, treatment, and lost productivity, due to CVD, costs the U.S. about $200 billion each year.[66]

Some risk factors for CVD include genetics, age (as you get older, the risk for CVD becomes higher), unhealthy lifestyle behaviors (unhealthy diet, decreased physical activity, tobacco use, alcohol use), stress, and other health conditions (high blood pressure, high cholesterol, diabetes, and obesity).

[66] CDC, November 2017, https://www.cdc.gov/heartdisease/facts.htm, accessed June 2019

According to Figure 142, in 2016, both Sullivan and Ulster Counties had the highest percentage of adults with CVD (limited to heart attack, coronary artery disease, and stroke) at 7.3%, which is higher than the Mid-Hudson Region at 6.3% and New York State at 7.0%. Putnam County had the lowest percentage of adults with CVD at 4.4%.

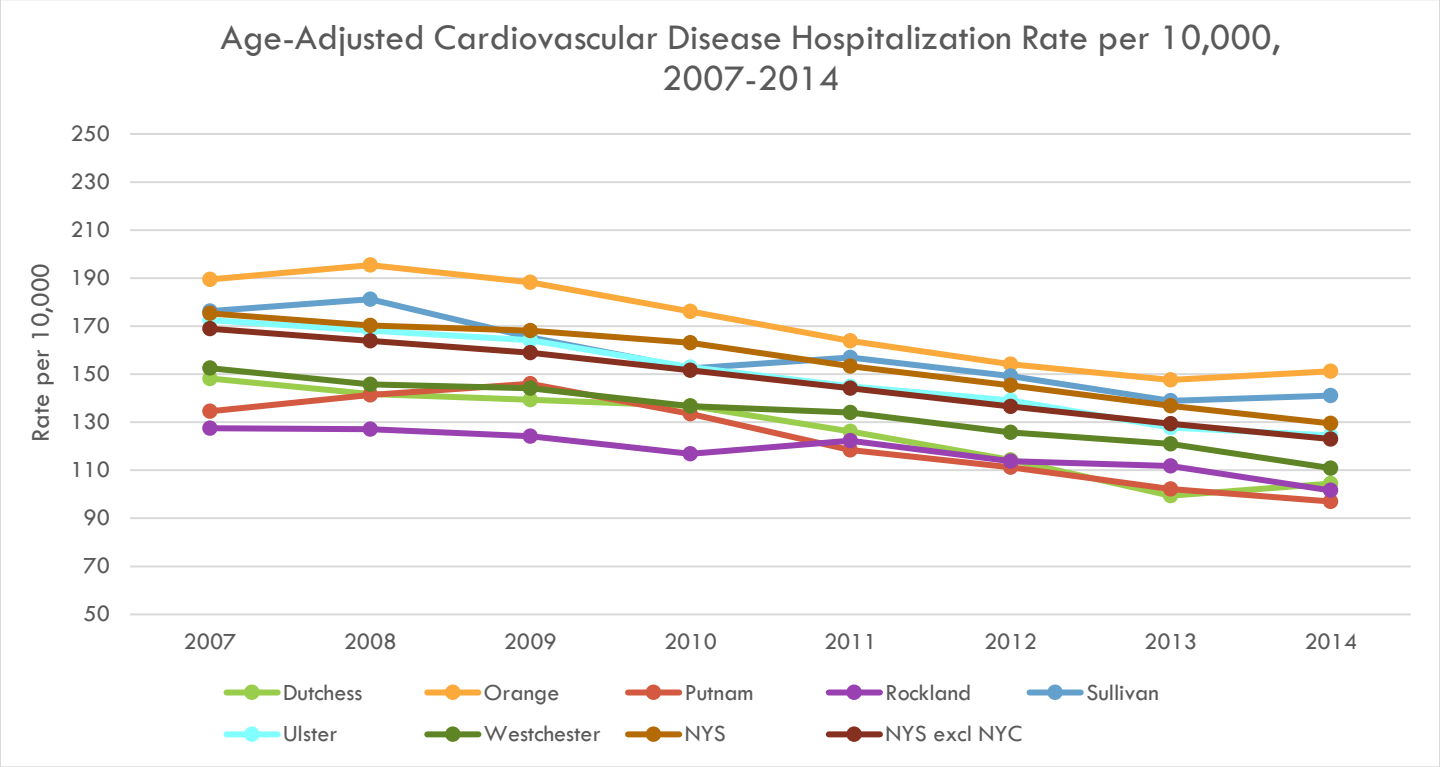
Figure 142



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When looking at CVD hospitalization rates from 2007-2014, there was a steady decline in all of the Mid-Hudson Region and New York State. Additionally, there was a slight increase from 2013 to 2014 in Dutchess, Orange, and Sullivan Counties [see Figure 143].

Figure 143



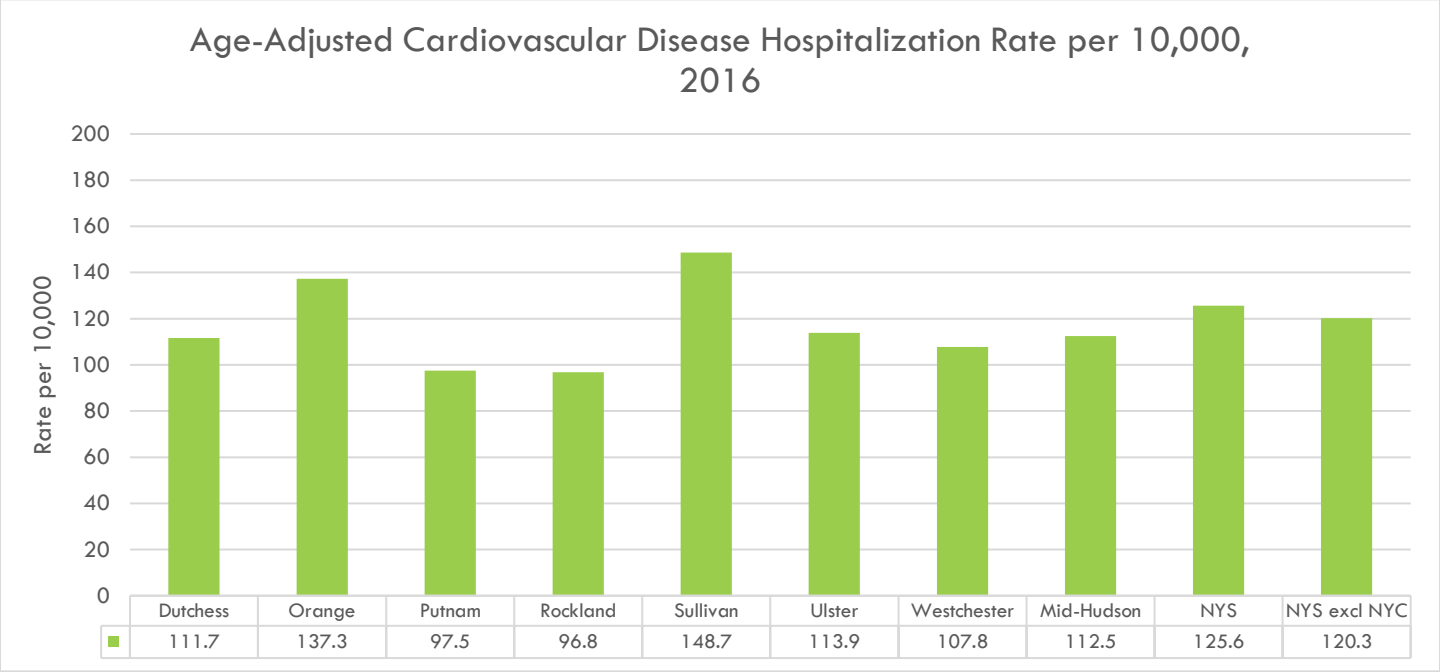
Note: Y-axis does not begin at zero in order to clearly display trend lines.

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	148.2	189.4	134.5	127.5	176.3	172.5	152.5	175.3	168.9
2008	141.7	195.4	141.3	127.1	181.2	168.1	145.7	170.2	163.8
2009	139.4	188.3	146.0	124.2	165.3	164.1	144.1	168.1	159.0
2010	136.8	176.1	133.5	116.9	152.4	152.9	136.7	163.0	151.6
2011	126.2	163.8	118.5	122.3	157.0	145.0	134.0	153.4	144.2
2012	114.3	154.2	111.2	113.8	149.2	139.1	125.8	145.3	136.6
2013	99.4	147.6	102.2	111.8	138.9	127.7	121.0	136.8	129.4
2014	104.5	151.2	97.0	101.6	141.1	124.5	110.9	129.5	123.0

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2016 shows that Sullivan County had the highest CVD hospitalization rate at 148.7 per 10,000 population. This rate was higher than the Mid-Hudson Region (112.5 per 10,000 population) and New York State, as well as New York State excluding New York City (125.6 and 120.3 per 10,000 population, respectively) [see Figure 144].

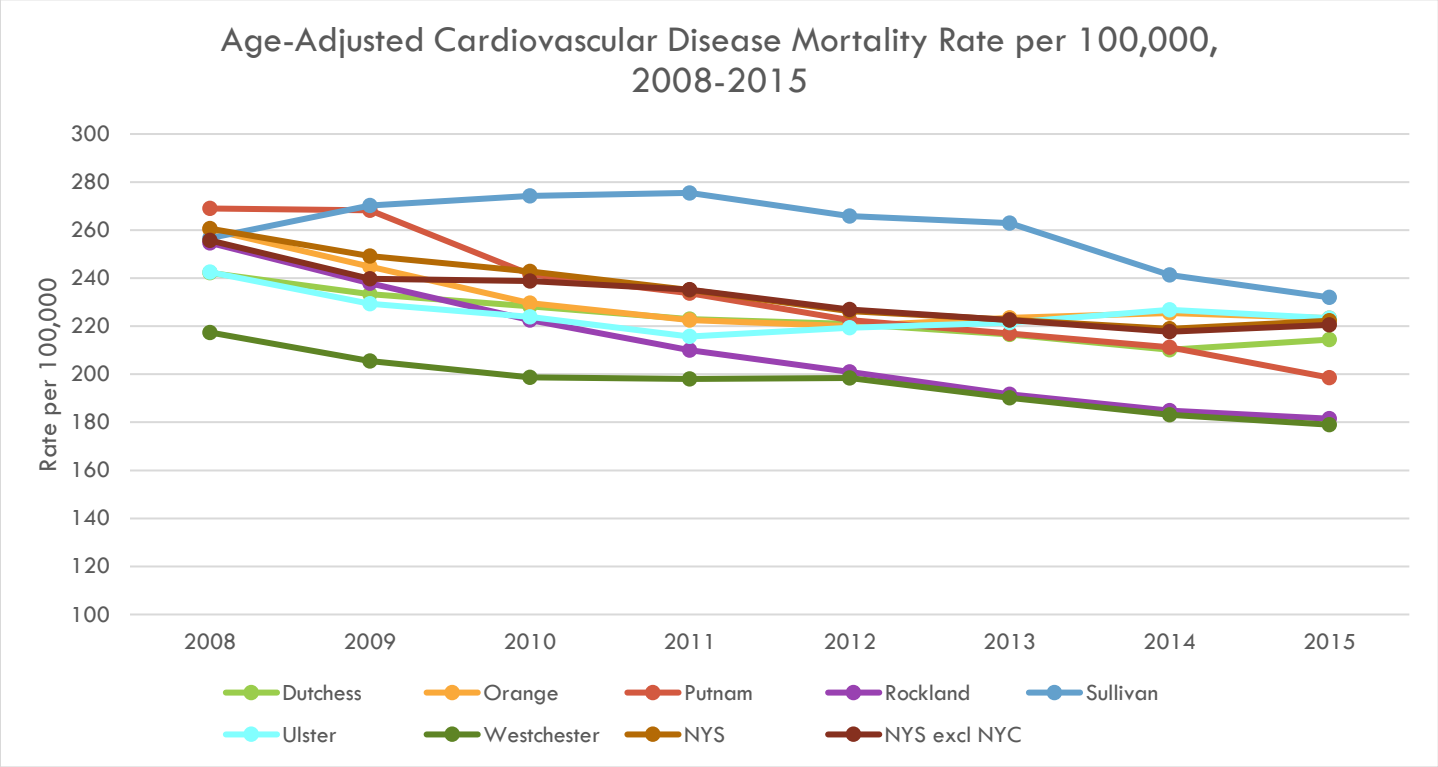
Figure 144



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

From 2008-2015, the rates of CVD mortality generally trended downward in the Mid-Hudson Region counties, with the exception of Dutchess County, which had a slight increase from 2014-2015 (210.2 to 214.4 per 100,000 population). This trend is evident in New York State and in New York State excluding New York City [see Figure 145].

Figure 145



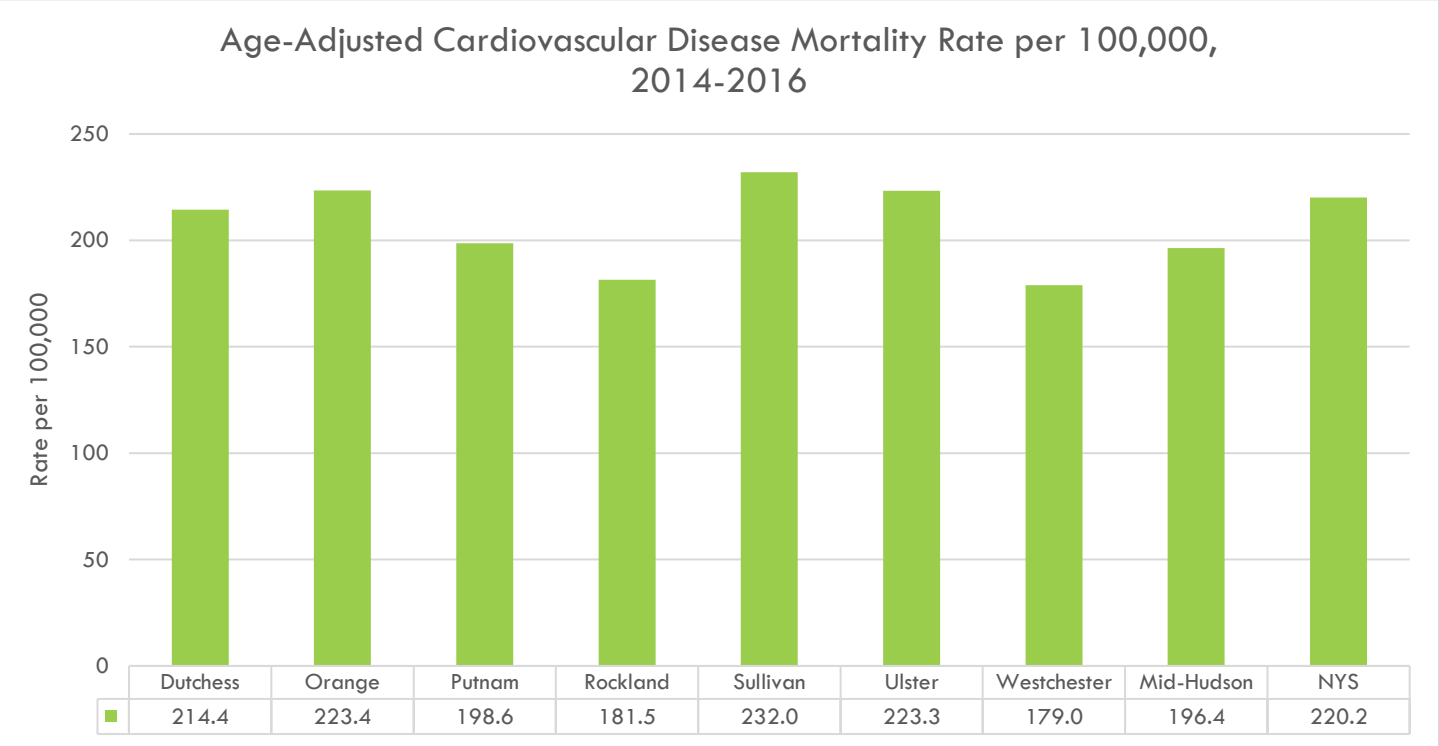
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above. Y-axis does not begin at zero in order to clearly display trend lines.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	242.2	260.3	269.0	254.7	256.7	242.5	217.4	260.6	255.7
2009	233.4	244.8	268.3	237.9	270.3	229.3	205.5	249.2	239.8
2010	228.3	229.6	241.6	222.5	274.2	223.9	198.7	242.8	238.8
2011	223.0	222.6	233.7	210.0	275.5	215.7	198.1	235.1	235.2
2012	221.0	220.0	222.6	201.0	265.8	219.3	198.5	226.3	226.9
2013	216.5	223.5	217.0	191.7	262.9	221.5	190.2	222.7	222.5
2014	210.2	225.5	211.2	184.9	241.3	226.8	183.1	218.9	217.7
2015	214.4	223.4	198.6	181.5	232.0	223.3	179.0	222.3	220.6

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When looking at CVD mortality rates from 2014-2016 in Figure 146, Sullivan County had the highest rate (232.0 per 100,000 population). Additionally, this rate was higher than the Mid-Hudson Region and New York State (196.4 and 220.2 per 100,000 population, respectively), and Putnam County had the lowest mortality rate (198.6 per 100,000 population).

Figure 146



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

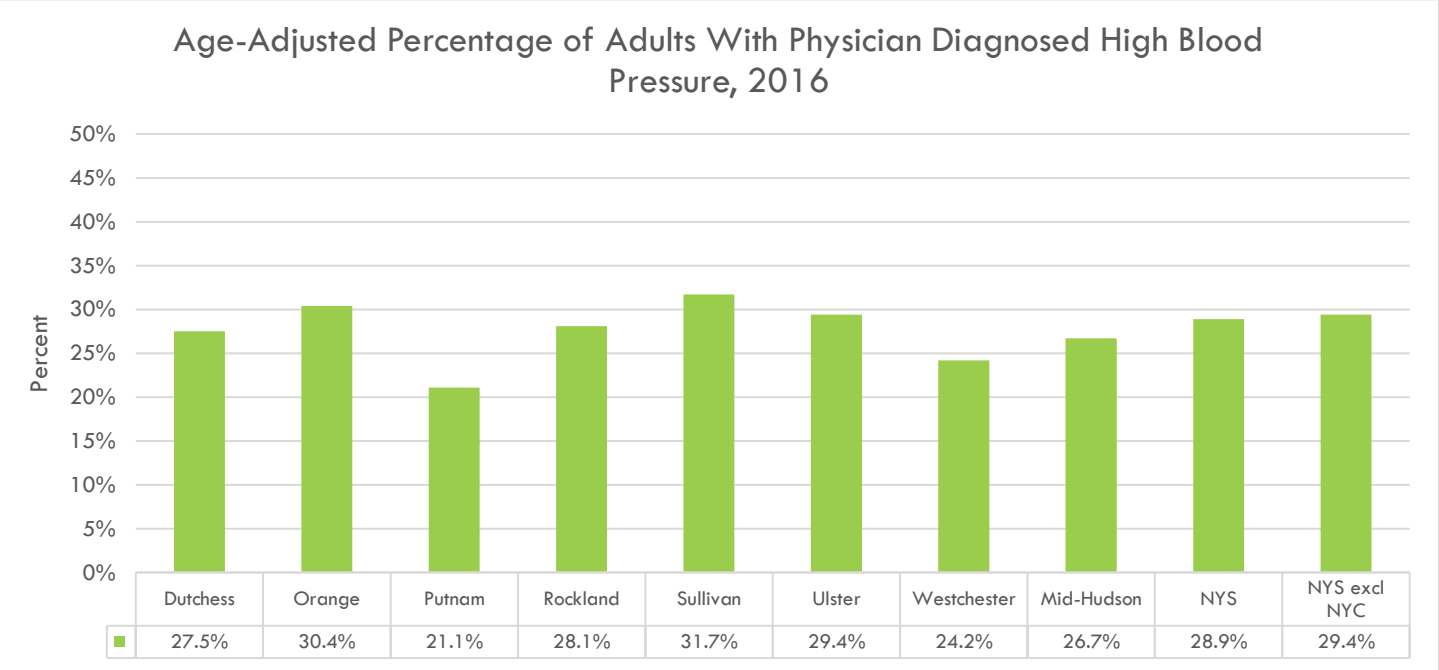
As mentioned previously, there are several risk factors for CVD, one of which includes hypertension. Hypertension, or high blood pressure, occurs when the force of blood against the arteries becomes high enough to cause diseases such as CVD. It is calculated based on the amount of blood the heart pumps, and the amount of resistance to blood flow in the arteries.[67] About 1 in 3 adults in the U.S. has hypertension, and only about half (54%) have it under control.[68] It is important to control hypertension through lifestyle modifications, as well as regular checkups with the doctor.

[67] Mayo Clinic, May 2018, https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/symptoms-causes/syc-20373410, accessed July 2019

[68] CDC, May 2019, https://www.cdc.gov/bloodpressure/index.htm, accessed July 2019

As shown in Figure 147, in 2016, the age-adjusted percentage of adults with physician-diagnosed hypertension was relatively constant across the seven counties in the Mid-Hudson Region. Sullivan County had the highest percentage of adults diagnosed with hypertension (31.7%), while Putnam County had the lowest percentage (21.1%).

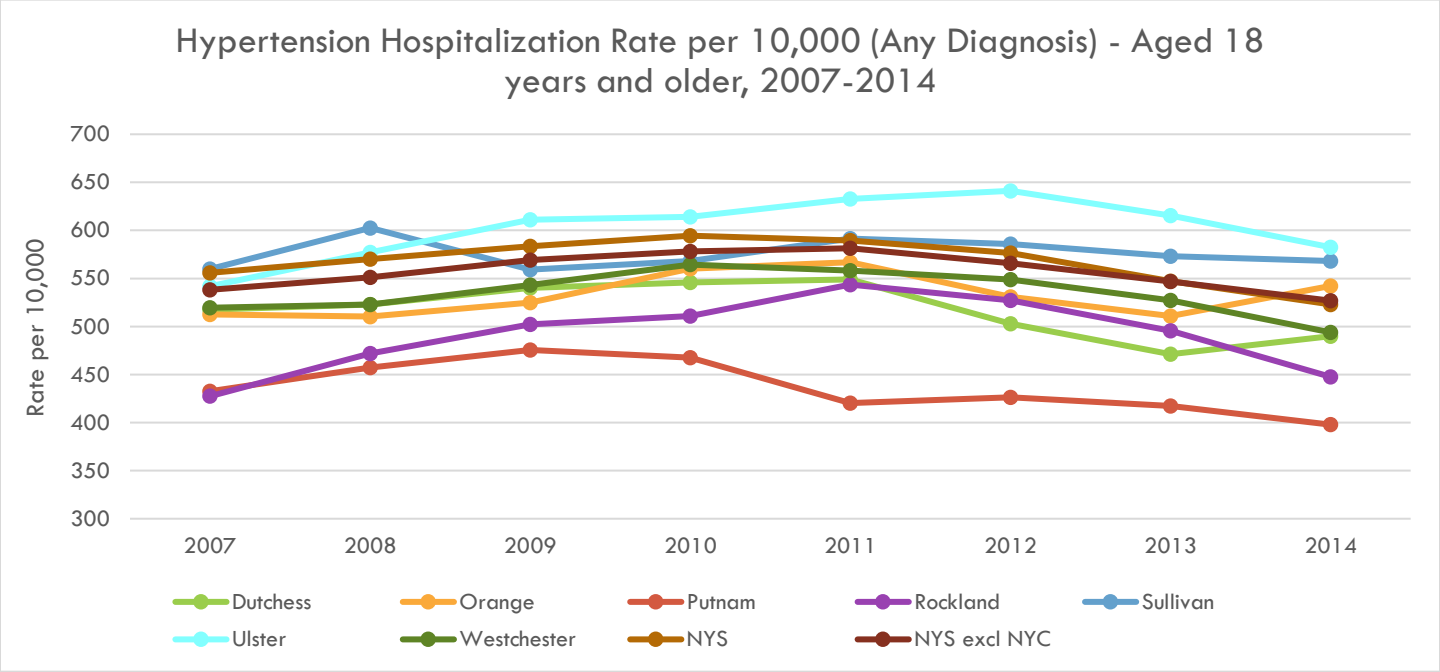
Figure 147



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Hospitalization rates of hypertension have varied across the seven counties in the Mid-Hudson Region from 2007-2014. Some counties experienced a decrease in hospitalization rates, while most experienced an increase in hospitalization rates, including Orange, Putnam, Rockland, Sullivan, and Ulster Counties [see Figure 148].

Figure 148



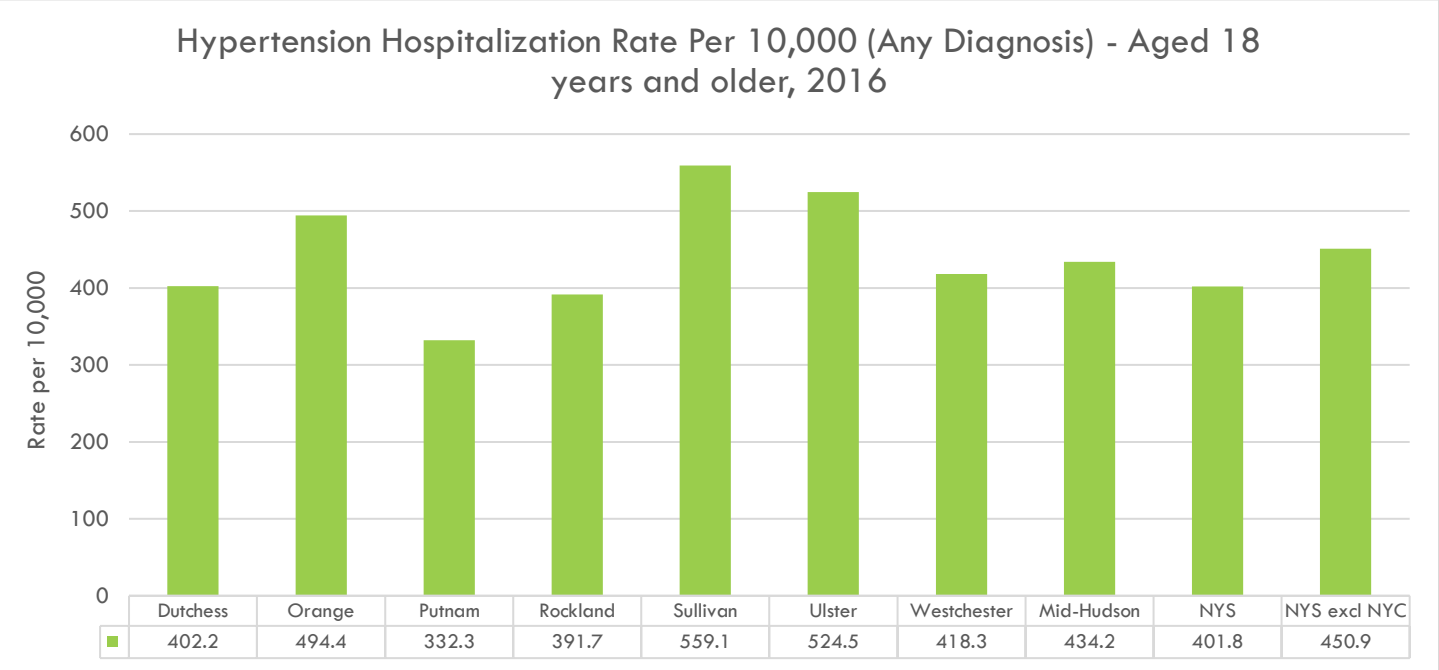
Note: Y-axis does not begin at zero in order to clearly display trend lines.

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	517.4	512.4	432.6	427.5	559.9	541.9	519.6	555.9	538.1
2008	522.9	510.4	457.3	471.9	602.6	577.0	523.0	570.2	551.3
2009	540.1	525.0	475.6	502.1	559.2	611.1	543.1	583.5	569.2
2010	546.0	560.2	467.5	510.8	568.3	614.2	564.4	594.5	578.2
2011	549.0	566.9	420.2	543.6	591.4	632.7	558.2	589.5	581.4
2012	502.9	530.9	426.2	527.1	585.7	641.2	548.7	576.6	565.7
2013	471.2	511.0	417.4	495.5	573.0	615.3	527.3	547.3	546.7
2014	489.9	542.3	397.9	447.8	568.2	582.5	493.9	523.0	526.9

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2016 shows that Sullivan County had the highest hypertension hospitalization rate at 559.1 per 10,000 population, while Putnam had the lowest hospitalization rate at 332.3 per 10,000 population [see Figure 149]. The Mid-Hudson Region, as a whole, was above the New York State rate (434.2 vs 401.8 per 10,000 population, respectively), but below the New York State rate excluding New York City (450.9 per 10,000 population).

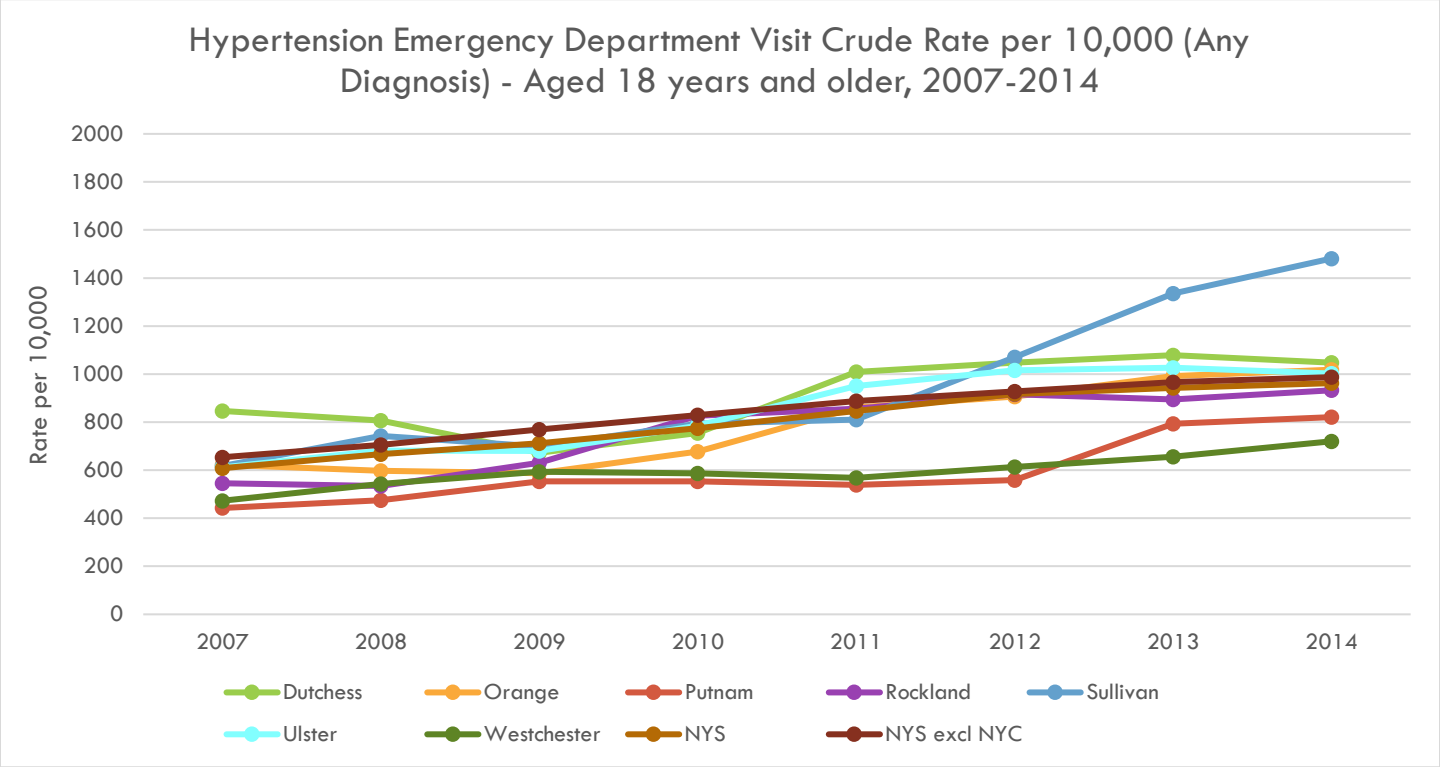
Figure 149



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

From 2007-2014, ED visits for hypertension have increased across every county in the Mid-Hudson Region, as well as New York State and New York State excluding New York City [see Figure 150].

Figure 150

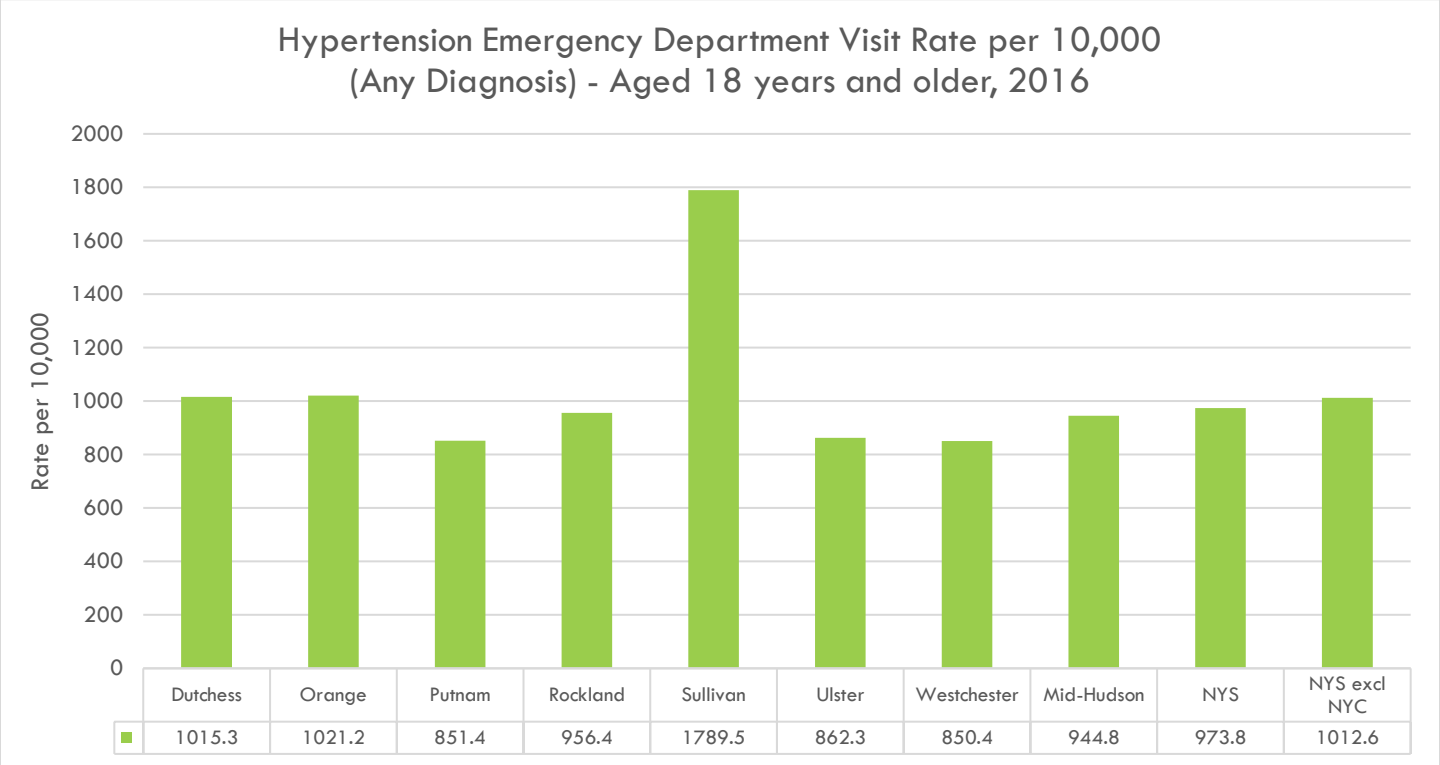


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	846.4	622.9	442.7	545.2	617.4	611.7	472.9	608.4	653.9
2008	806.9	597.8	474.8	534.3	742.5	682.1	543.2	667.2	705.7
2009	672.6	587.4	553.9	630.6	698.5	680.0	593.8	712.1	769.6
2010	754.1	676.9	553.6	826.1	793.0	785.4	587.3	775.2	829.9
2011	1009.1	861.4	538.4	855.5	810.8	950.6	567.6	846.0	887.3
2012	1048.4	906.5	559.3	916.3	1070.9	1015.5	613.7	916.6	927.9
2013	1078.8	991.5	792.7	895.1	1334.9	1026.7	656.0	942.1	966.8
2014	1047.3	1018.3	820.9	932.6	1481.1	1002.6	720.3	962.3	987.5

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2016 shows that Sullivan County had the highest rate of ED visits for hypertension, which is more than double Putnam County (1789.5 vs 851.4 per 10,000 population, respectively) [see Figure 151].

Figure 151



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

There are three main cardiovascular conditions that affect the general population:

CORONARY HEART DISEASE

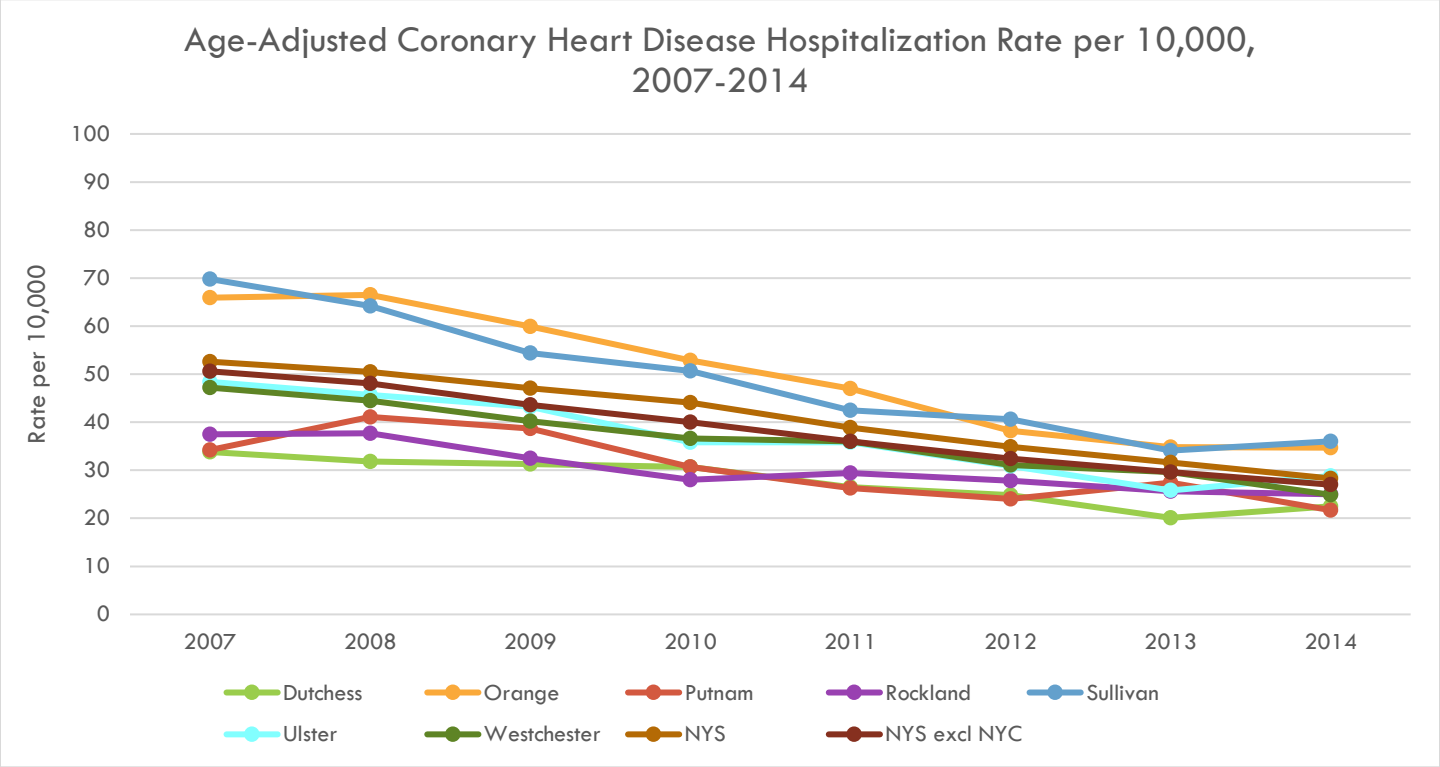
In the U.S., Coronary Heart Disease (CHD), also known as Coronary Artery Disease (CAD), is the most common type of CVD. It is caused by a buildup of plaque, which are deposits made up of substances, such as fat, cholesterol, and calcium, in the arteries.[69] This can result in angina (chest pain) that usually occurs in the middle or left side of chest.[70] Complete blockage of arteries can lead to a heart attack. However, much can be done to prevent and treat this disease, such as adopting a healthier lifestyle (dietary behaviors, physical activity, reduced or termination of tobacco use) and following up regularly with a medical provider to control conditions that can increase the risk of CHD (high blood pressure, cholesterol, diabetes).

[69] CDC, August 2015, https://www.cdc.gov/heartdisease/coronary_ad.htm, accessed July 2019

[70] Mayo Clinic, May 2018, https://www.mayoclinic.org/diseases-conditions/coronary-artery-disease/symptoms-causes/syc-20350613, accessed July 2019

When looking at hospitalization rates of CHD from 2007-2014, it is evident that rates have steadily decreased over time, with the exception of Ulster County, which experienced a slight increase from 2013 to 2014 (25.8 to 28.8 per 10,000 population) [see Figure 152].

Figure 152

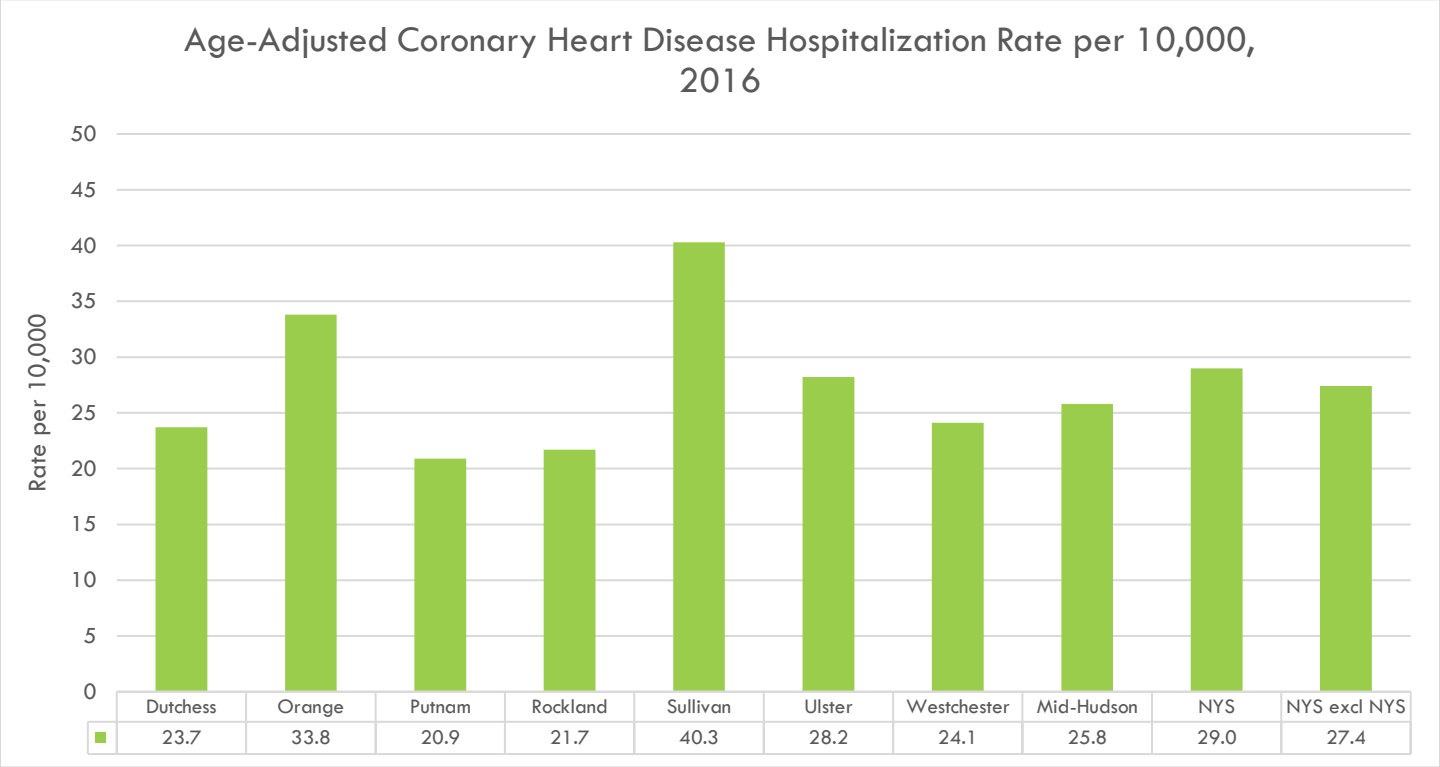


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	33.8	65.9	34.2	37.5	69.8	48.4	47.2	52.6	50.6
2008	31.8	66.5	41.1	37.7	64.2	45.7	44.5	50.5	48.1
2009	31.3	59.9	38.7	32.5	54.4	43.2	40.2	47.1	43.6
2010	30.7	52.9	30.7	28.0	50.7	35.8	36.6	44.1	40.0
2011	26.5	47.0	26.3	29.4	42.5	35.8	36.0	38.9	36.0
2012	24.8	38.2	24.0	27.8	40.6	30.9	31.1	34.9	32.4
2013	20.1	34.8	27.4	25.6	34.1	25.8	29.6	31.6	29.6
2014	22.5	34.7	21.7	25.0	36.0	28.8	24.9	28.3	27.0

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Data from 2016 shows that Sullivan County had the highest CHD hospitalization rate of the seven counties in the Mid-Hudson Region, and Putnam had the lowest rate (40.3 and 20.9 per 10,000 population, respectively.) However, rates in New York State and New York State excluding New York City were higher than rates in the Mid-Hudson Region (29.0 and 27.4 vs 25.8 per 10,000 population, respectively) [see Figure 153].

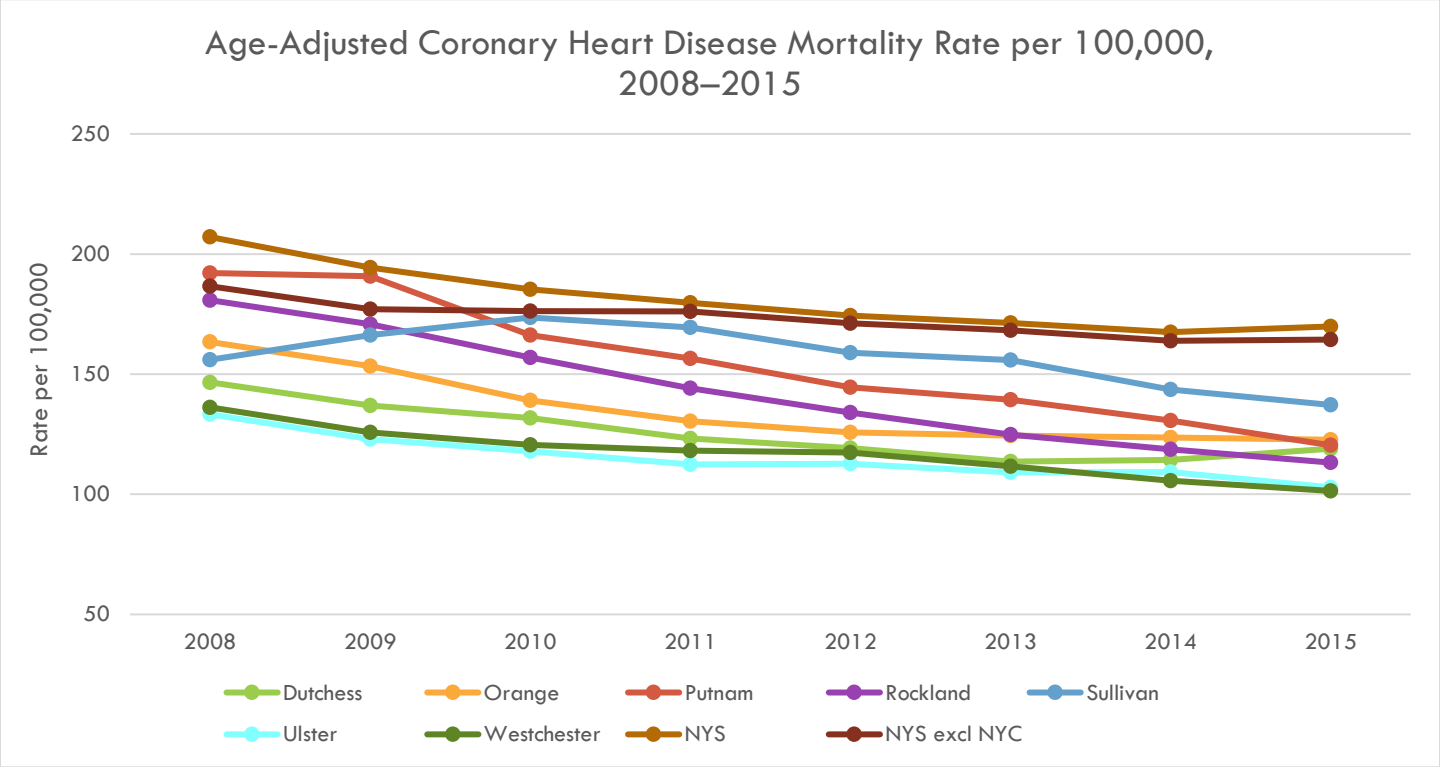
Figure 153



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

CHD mortality rates have generally decreased over time. From 2014 to 2015, there was a slight increase in mortality rates in Dutchess County, as well as New York State and New York State excluding New York City [see Figure 154].

Figure 154



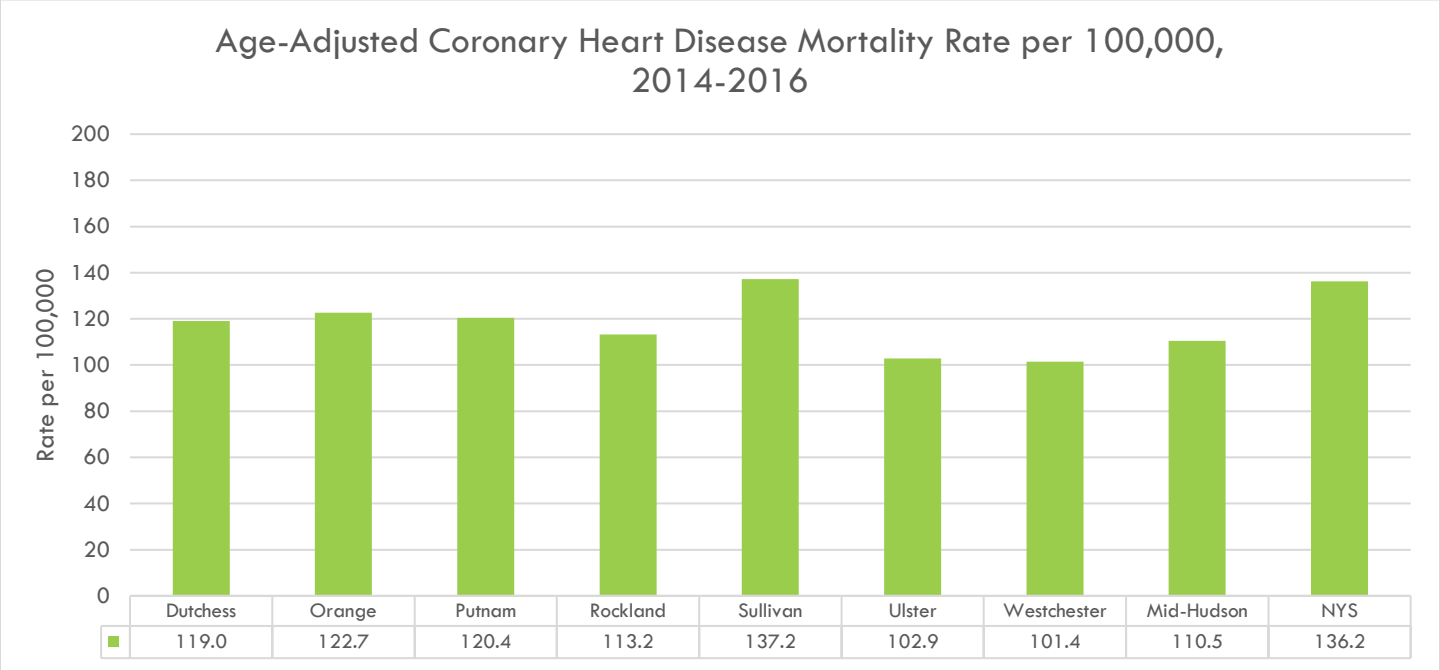
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above. Y-axis does not begin at zero in order to clearly display trend lines.

	Three-Year Average							Single-Year	
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYC excl NYC
2008	146.6	163.4	192.1	180.8	156.0	133.3	136.2	207.1	186.6
2009	136.9	153.3	190.8	170.8	166.2	123.0	125.8	194.4	177.0
2010	131.7	139.1	166.3	156.9	173.6	117.9	120.6	185.3	176.3
2011	123.2	130.4	156.5	144.1	169.5	112.4	118.2	179.7	176.1
2012	119.3	125.8	144.6	134.0	159.0	112.7	117.4	174.4	171.2
2013	113.6	124.5	139.3	124.8	155.9	109.1	111.7	171.3	168.2
2014	114.3	123.6	130.7	118.7	143.6	109.3	105.7	167.5	163.9
2015	119.0	122.7	120.4	113.2	137.2	102.9	101.4	169.9	164.4

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

At the county level, recent data from 2014-2016 shows that the CHD mortality rate was highest in Sullivan County and lowest in Westchester County (137.2 and 101.4 per 100,000 population, respectively). The CHD mortality rate in the Mid-Hudson Region was lower than the New York State average (110.5 vs 136.2 per 100,000 population, respectively) [see Figure 155]. The Healthy People 2020 goal was to reduce CHD deaths to 103.4 deaths per 100,000 population. With the exception of Ulster and Westchester Counties, none of the other Mid-Hudson Region counties, or New York State, met this target.

Figure 155



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

As mentioned previously, complete blockage of arteries can lead to a heart attack, otherwise known as a myocardial infarction. During a heart attack, part of the heart muscle does not receive enough blood flow, and the more time that passes, the greater the damage to the heart muscle.[71] Heart attacks may also be caused by a spasm of the coronary artery that may be induced by tobacco and illicit drug use. In the U.S., 790,000 Americans have a heart attack ever year, and 1 in 5 of these heart attacks were silent.[71] Men aged 45 years and older, and women aged 55 years and older, are more likely to have heart attacks compared to other age groups.[72] The five major symptoms of a heart attack include pain in the jaw, neck, back, arms or shoulders; feeling weak or fatigued; chest pain; and shortness of breath.[71]

[71] CDC, August 2017, CDC, August 2015, https://www.cdc.gov/heartdisease/coronary_ad.htm, accessed July 2019

[72] Mayo Clinic, May 2018, https://www.mayoclinic.org/diseases-conditions/heart-attack/symptoms-causes/syc-20373106, accessed July 2019

As seen in Table 25, heart attack hospitalization rates have stayed relatively constant throughout the seven counties in the Mid-Hudson Region, with slight fluctuations that vary by county.

Table 25

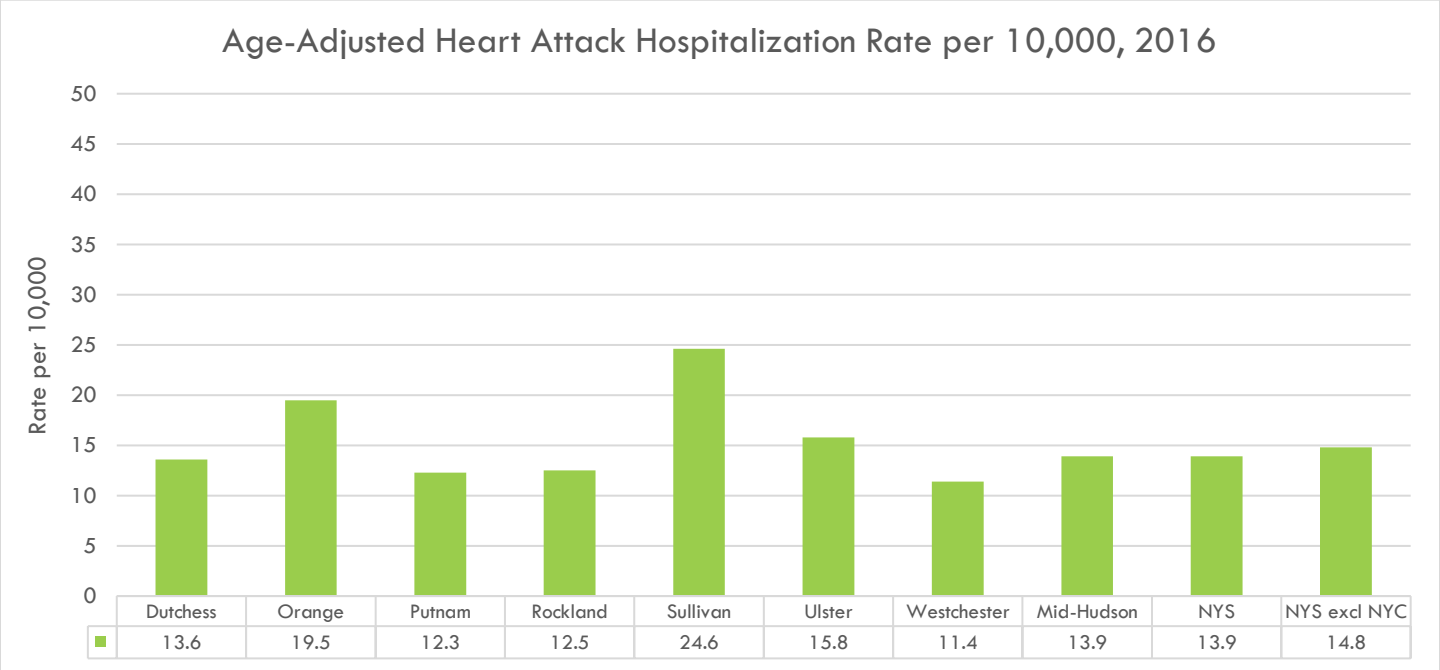
Age-Adjusted Heart Attack Hospitalization Rate per 10,000, 2007-2014

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	15.5	23.3	13.3	15.0	22.4	20.3	15.2	17.1	18.4
2008	13.9	25.0	15.2	15.7	15.9	19.0	14.6	16.8	18.0
2009	13.0	20.5	14.9	12.8	15.0	19.4	13.9	16.0	16.7
2010	13.1	21.1	15.0	13.9	13.3	16.0	13.3	15.8	16.3
2011	12.2	20.0	12.5	13.5	15.2	16.9	12.9	15.3	15.9
2012	13.0	18.2	11.8	13.3	24.4	14.9	13.4	15.3	16.2
2013	12.7	20.0	16.3	13.4	21.4	14.5	13.3	14.4	15.3
2014	14.8	20.7	14.1	13.7	24.3	17.6	12.5	14.0	14.8

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When looking at recent data from 2016, the heart attack hospitalization rate was highest in Sullivan County (24.6 per 10,000 population). This rate was higher than rates in the Mid-Hudson Region, New York State, and New York State excluding New York City (13.9, 13.9, and 14.8 per 10,000 population, respectively) [see Figure 156].

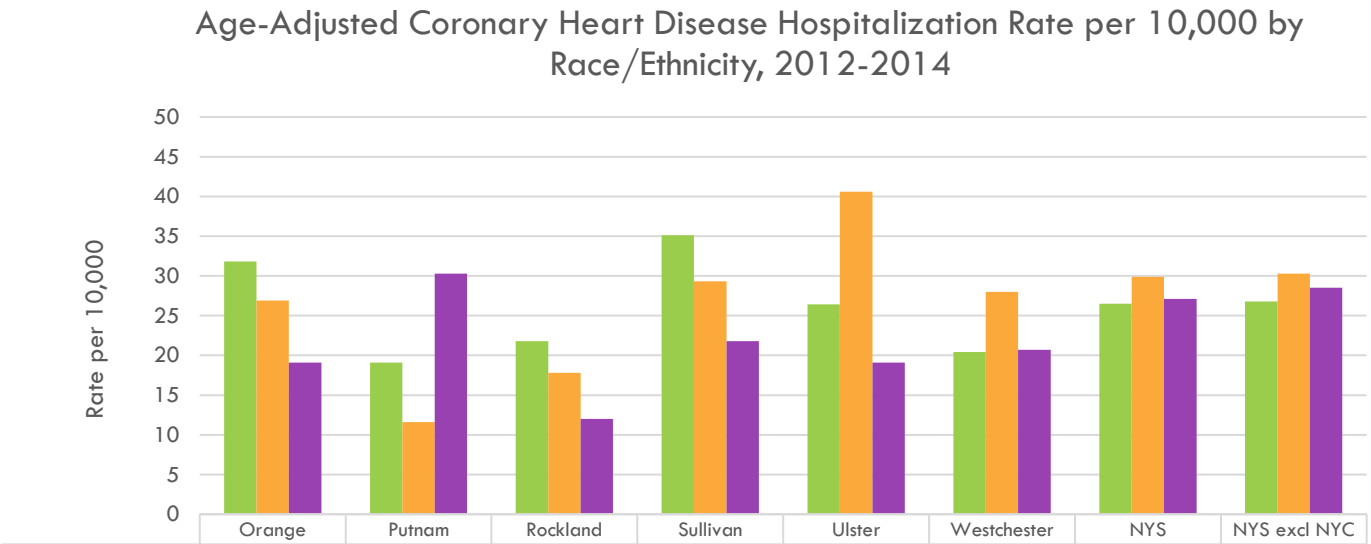
Figure 156



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying this data by race/ethnicity, trends are not consistent through each county. For example, non-Hispanic White adults had higher CHD hospitalization rates compared to the other racial/ethnic groups in Orange, Rockland, and Sullivan Counties. However, in Ulster, Westchester, New York State, and New York State excluding New York City, non-Hispanic Black adults had higher CHD hospitalization rates [see Figure 157].

Figure 157

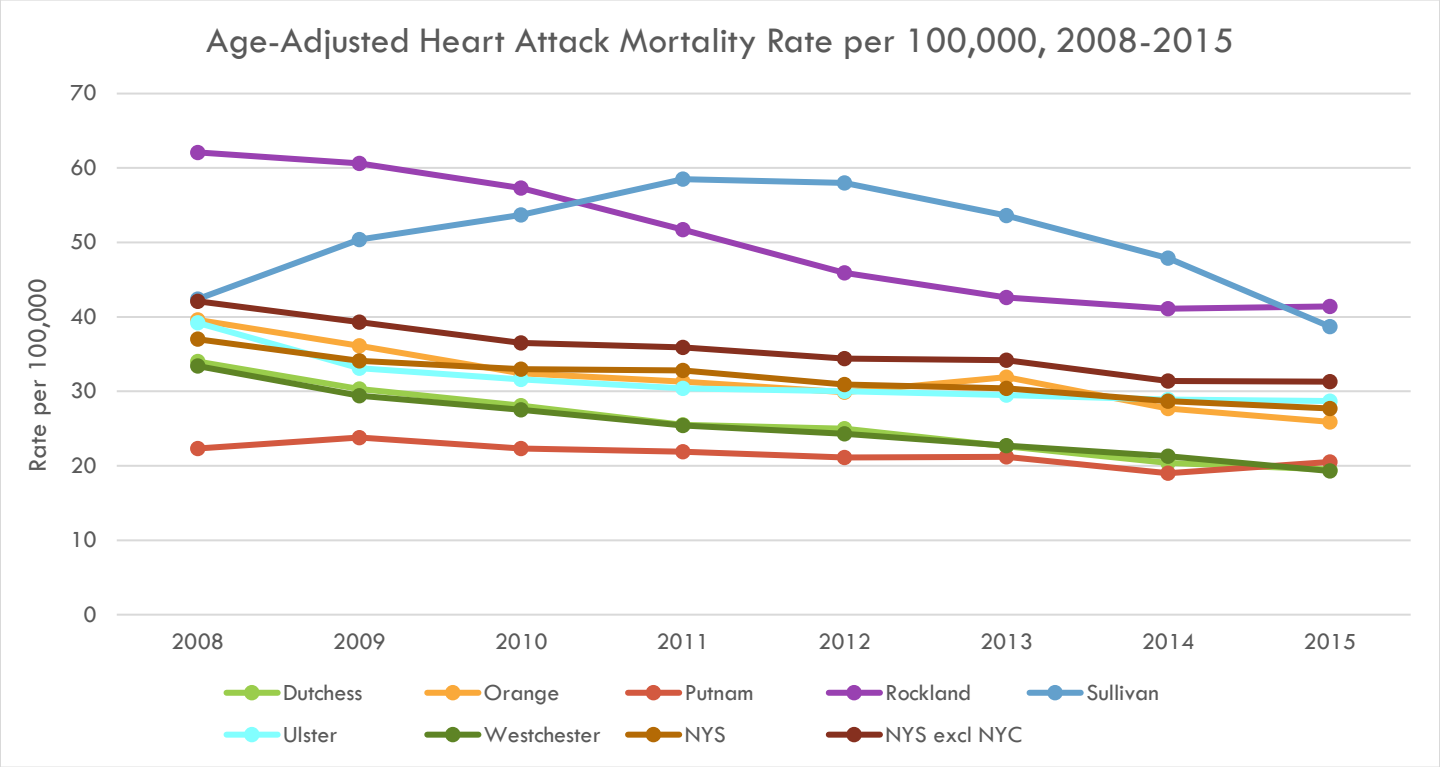


	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	31.8	19.1	21.8	35.1	26.4	20.4	26.5	26.8
Non-Hispanic Black	26.9	11.6	17.8	29.3	40.6	28.0	29.9	30.3
Hispanic	19.1	30.3	12.0	21.8	19.1	20.7	27.1	28.5

Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data is not available.
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

From 2008-2015, heart attack mortality rates have generally decreased at the county and state level, with some fluctuations during different time periods for each county [see Figure 158].

Figure 158



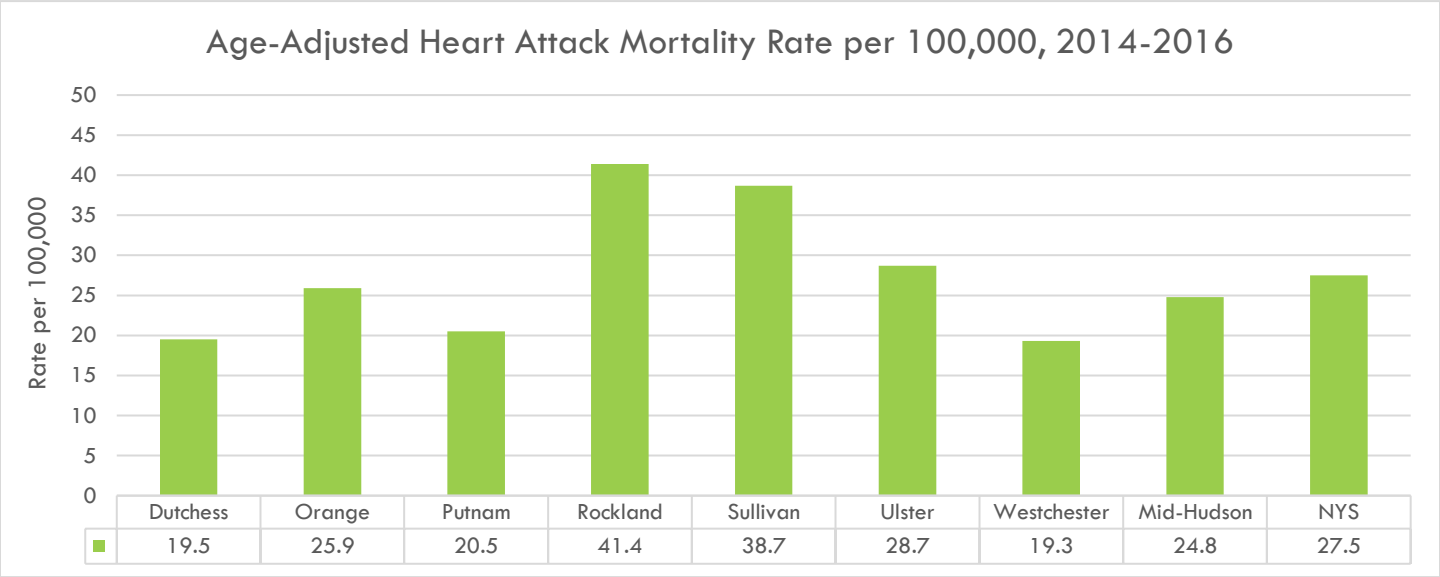
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	34.0	39.6	22.3	62.1	42.4	39.2	33.4	37.0	42.1
2009	30.3	36.1	23.8	60.6	50.4	33.1	29.4	34.1	39.3
2010	28.1	32.4	22.3	57.3	53.7	31.6	27.5	33.0	36.5
2011	25.5	31.3	21.9	51.7	58.5	30.4	25.4	32.8	35.9
2012	25.0	29.9	21.1	45.9	58.0	30.0	24.3	30.9	34.4
2013	22.6	31.9	21.2	42.6	53.6	29.5	22.7	30.4	34.2
2014	20.4	27.7	19.0	41.1	47.9	28.9	21.3	28.7	31.4
2015	19.5	25.9	20.5	41.4	38.7	28.7	19.3	27.7	31.3

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

At the county level, recent data from 2014-2016 shows Rockland County had the highest heart attack mortality rate of the seven counties (41.4 per 100,000 population). This rate was higher than the Mid-Hudson Region, as a whole, and New York State (24.8 and 27.5 per 100,000 population, respectively) [see Figure 159].

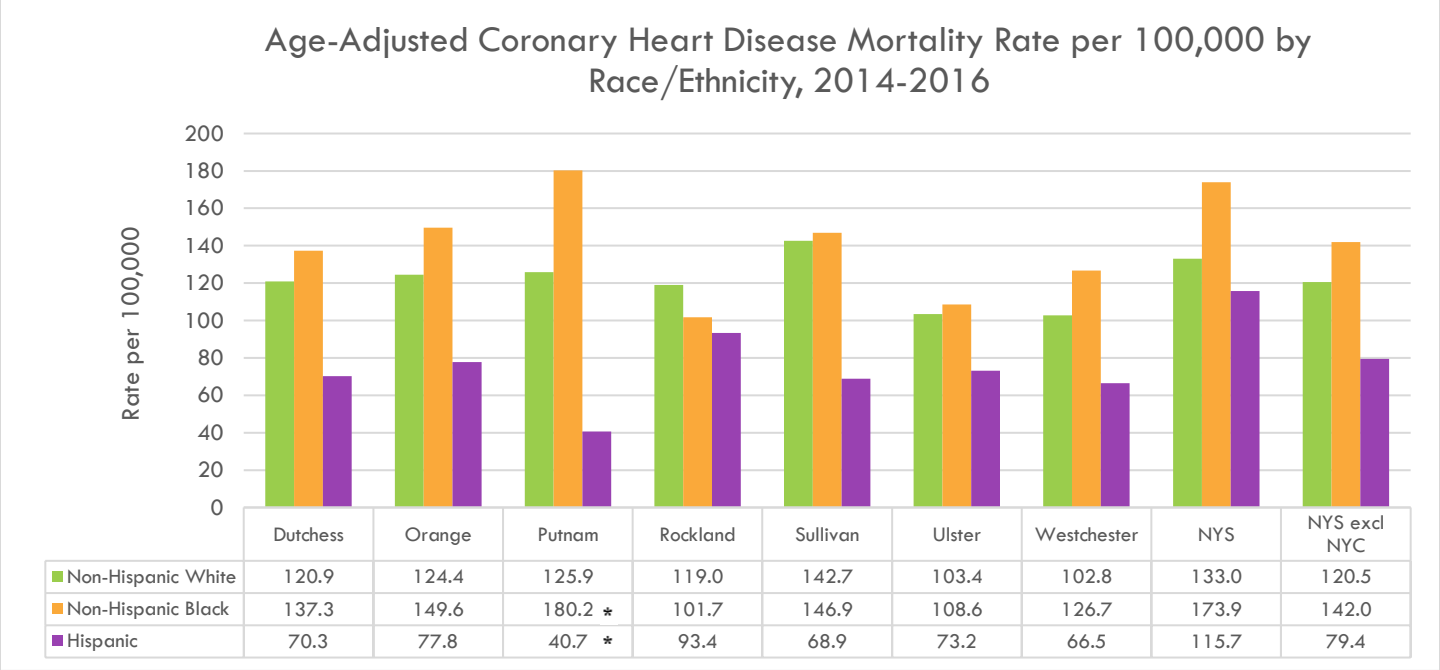
Figure 159



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Mortality rates stratified by race/ethnicity showed a more consistent trend across the seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City. As seen in Figure 160, non-Hispanic Black adults had higher mortality rates in most of the counties and at the state level, with the exception of Rockland County, where non-Hispanic White adults had higher CHD mortality rates.

Figure 160



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	120.9	124.4	125.9	119.0	142.7	103.4	102.8	133.0	120.5
Non-Hispanic Black	137.3	149.6	180.2 *	101.7	146.9	108.6	126.7	173.9	142.0
Hispanic	70.3	77.8	40.7 *	93.4	68.9	73.2	66.5	115.7	79.4

*: *The rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

CEREBROVASCULAR DISEASE

Cerebrovascular disease, also called a stroke, occurs when blood supply to the brain is blocked, which can lead to extensive damage to the brain and even death. There are three main types of stroke: ischemic stroke, hemorrhagic stroke, and transient ischemic attack (TIA).[73] Ischemic stroke occurs when blood clots or plaques block the blood vessels to the brain, causing the brain to receive decreased oxygen. Almost 87% of strokes are ischemic strokes.[73] A hemorrhagic stroke occurs when a blood vessel bursts inside the brain, and the blood building up in the tissues causes severe damage. A TIA, which is also called a mini-stroke, occurs when blood flow is blocked to the brain for a short period of time (usually five minutes or less). There is no permanent damage with a TIA, but follow-up with a medical provider is necessary to decrease the risk of having a major stroke.

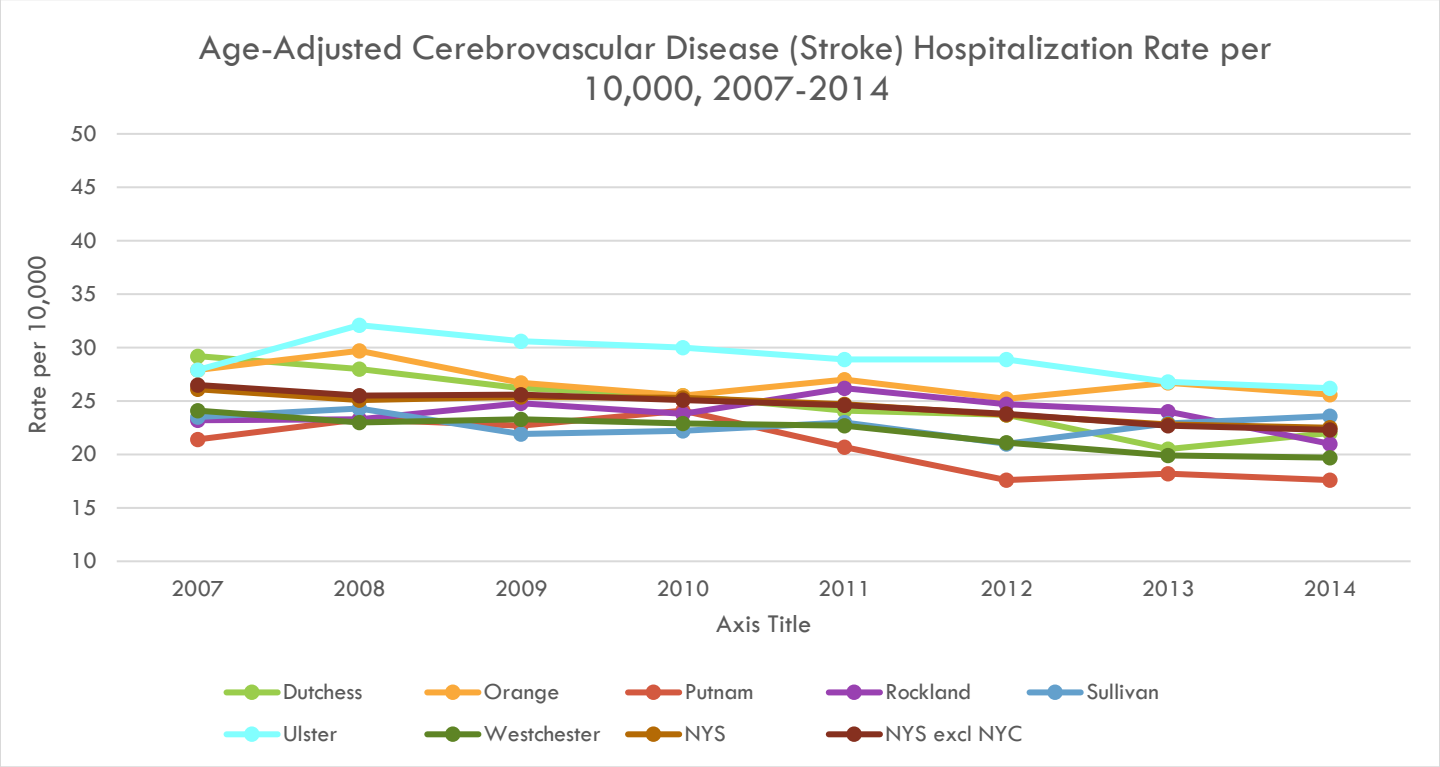
It is important to recognize the signs and symptoms of a stroke in order for action to be taken quickly. Signs of a stroke include numbness in the face or extremities, often on one side of the body; confusion or difficulty speaking; vision problems; loss of balance or lack of coordination; or a severe headache.[6] Some risk factors for a stroke include lifestyle behaviors (unhealthy diet, decreased physical activity, use of illicit drugs) and other medical conditions, including high blood pressure, high cholesterol, diabetes, other types of CVDs, family history, and being aged 55 years and older.[74]

[73] CDC, October 2016, https://www.cdc.gov/stroke/types_of_stroke.htm, accessed July 2019

[74] Mayo Clinic, June 2019, https://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/syc-20350113, accessed July 2019

When looking at stroke hospitalization rates over time, they have generally decreased, although there was a slight increase from 2013 to 2014 in Sullivan County (22.9 to 23.6 per 10,000 population) [see Figure 161].

Figure 161



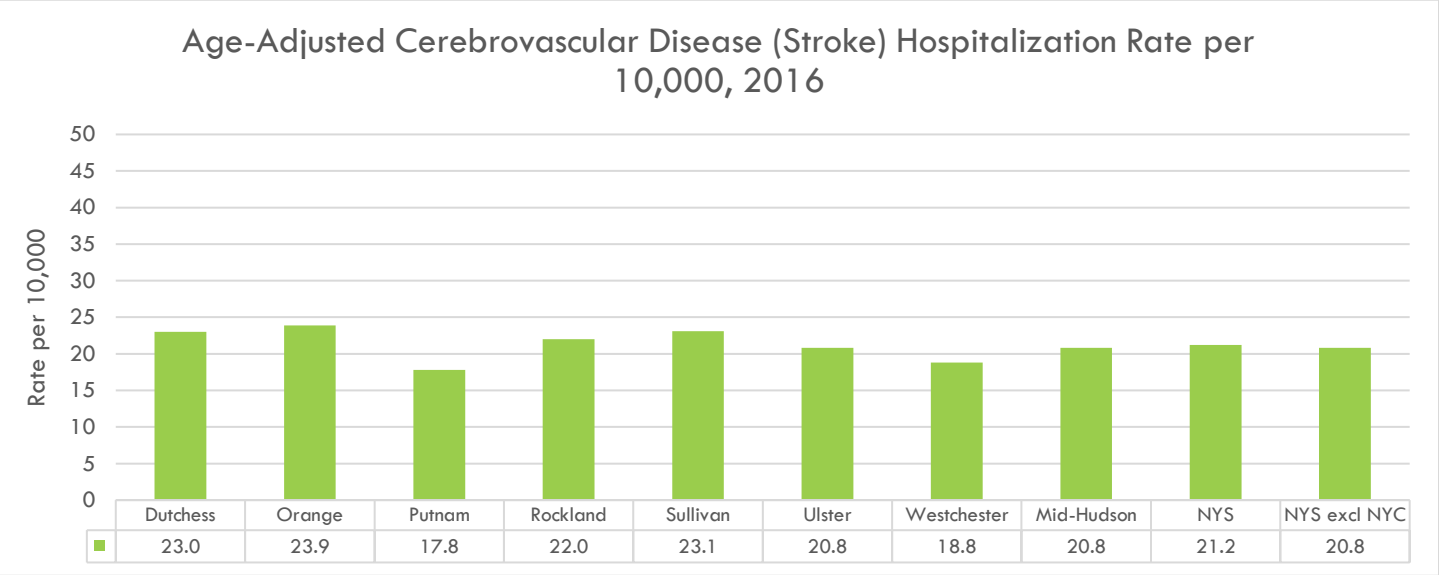
Note: Y-axis does not begin at zero in order to clearly display trend lines.

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	29.2	27.9	21.4	23.2	23.5	27.9	24.1	26.1	26.5
2008	28.0	29.7	23.3	23.3	24.3	32.1	23.0	25.1	25.5
2009	26.2	26.7	22.7	24.8	21.9	30.6	23.3	25.4	25.6
2010	25.5	25.5	24.1	23.8	22.2	30.0	22.9	25.3	25.1
2011	24.1	27.0	20.7	26.2	23.0	28.9	22.7	24.7	24.6
2012	23.7	25.2	17.6	24.7	21.0	28.9	21.1	23.7	23.8
2013	20.5	26.7	18.2	24.0	22.9	26.8	19.9	22.8	22.7
2014	22.0	25.6	17.6	21.0	23.6	26.2	19.7	22.5	22.3

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2016 shows that Orange County had the highest stroke hospitalization rate of the seven counties in the Mid-Hudson Region, while Putnam had the lowest rate (23.9 and 17.8 per 10,000 population, respectively) [see Figure 162].

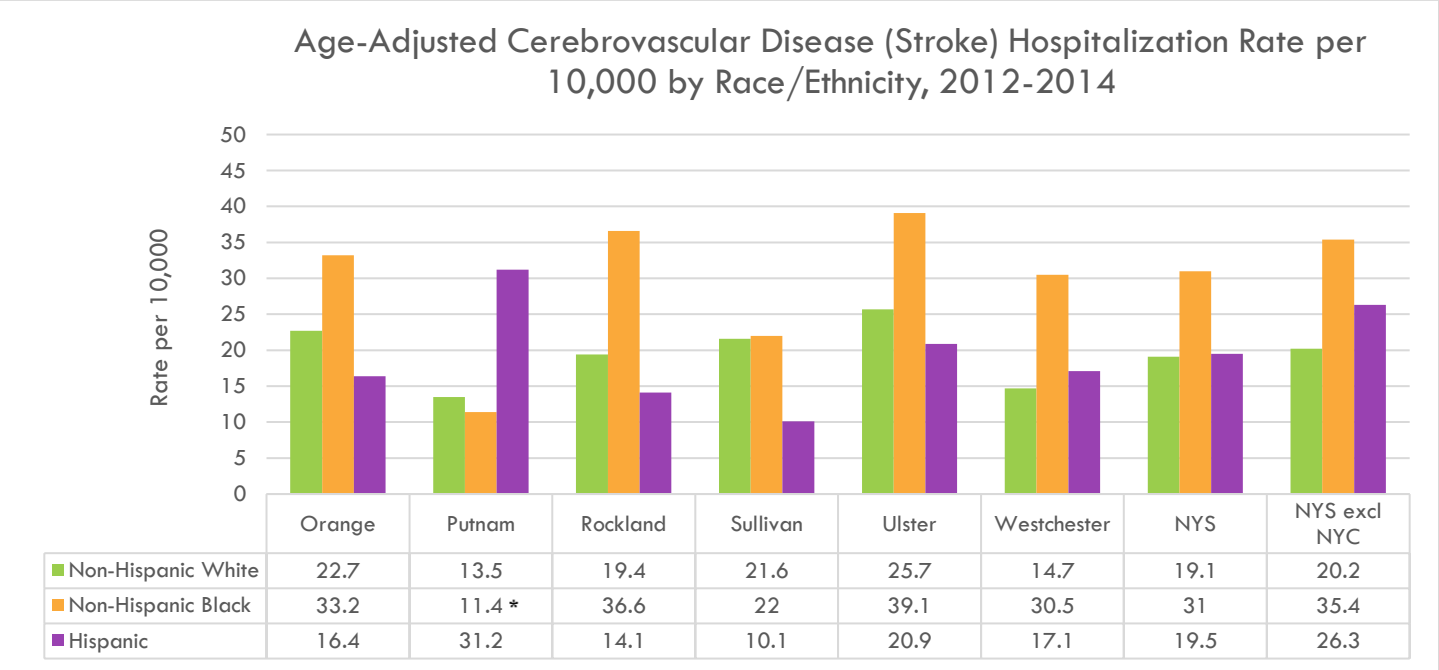
Figure 162



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying data by race/ethnicity, non-Hispanic Black adults had higher rates of stroke hospitalization compared to other racial/ethnic groups in the majority of the counties in the Mid-Hudson Region, New York State, and New York State excluding New York City. This excludes Putnam County, where Hispanic adults had the highest hospitalization rates [see Figure 163].

Figure 163

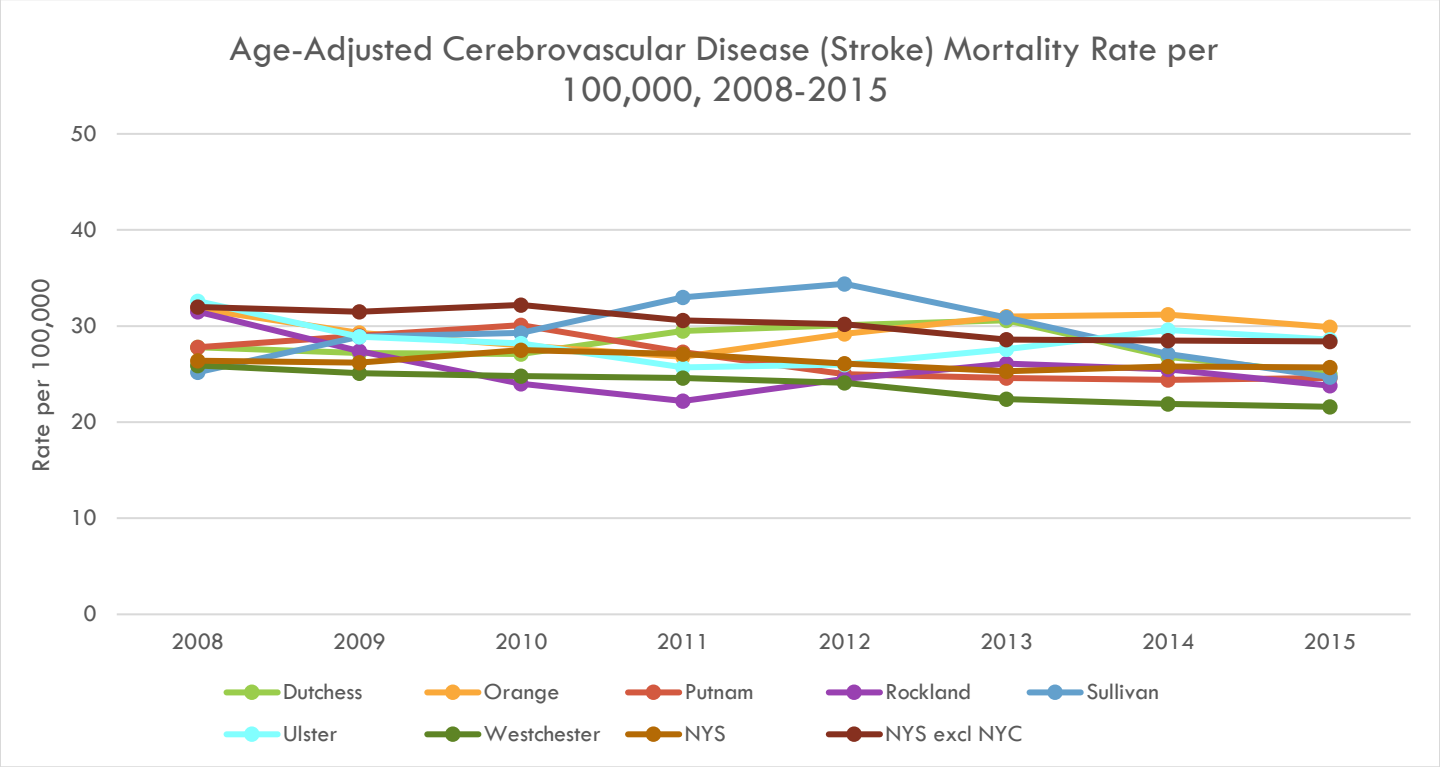


	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	22.7	13.5	19.4	21.6	25.7	14.7	19.1	20.2
Non-Hispanic Black	33.2	11.4 *	36.6	22	39.1	30.5	31	35.4
Hispanic	16.4	31.2	14.1	10.1	20.9	17.1	19.5	26.3

: The rate is unstable.
Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data are not available.
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

Mortality rates have decreased over time, with some fluctuation through different time periods for each county [see Figure 164].

Figure 164



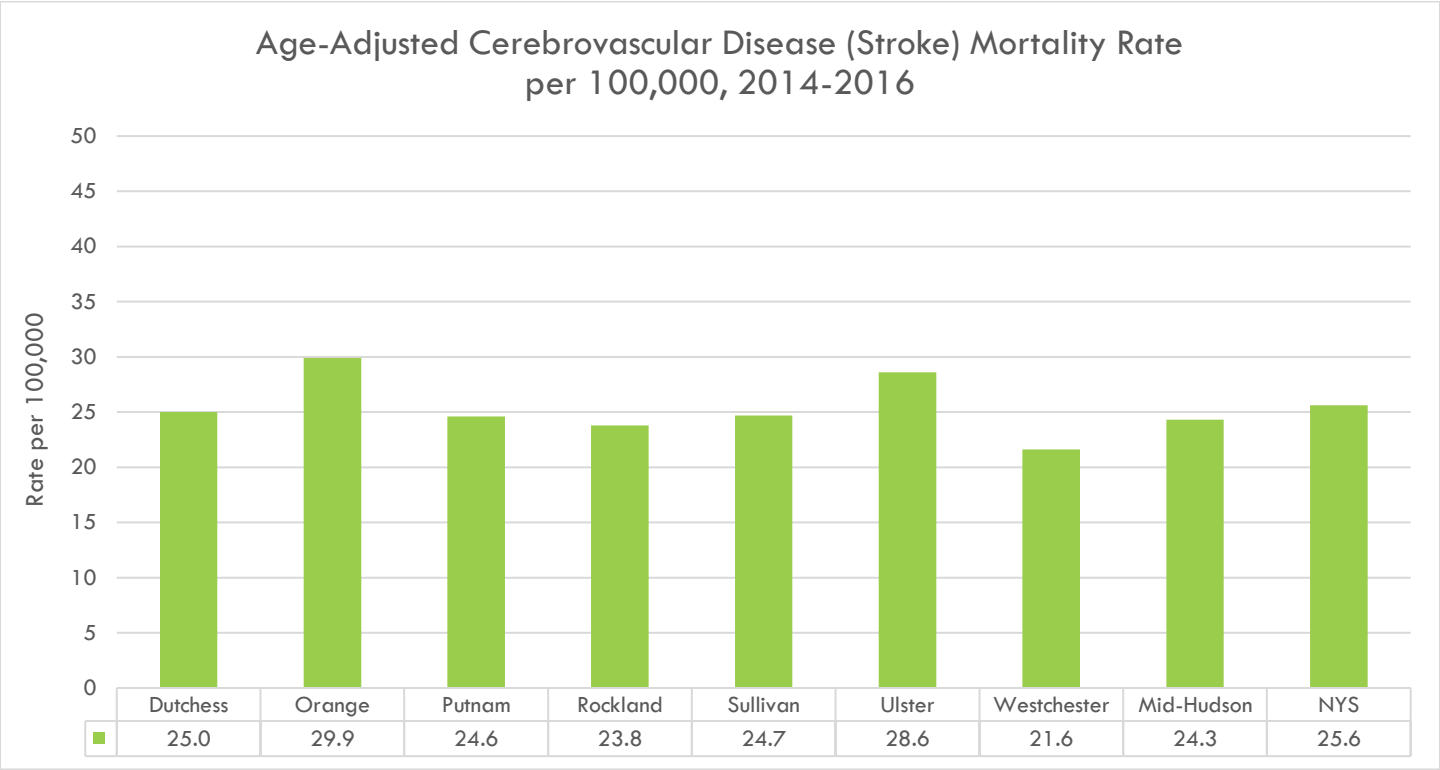
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	27.8	31.8	27.8	31.5	25.2	32.6	25.9	26.4	32.0
2009	27.2	29.3	29.0	27.4	28.9	28.9	25.1	26.2	31.5
2010	27.1	28.0	30.1	24.0	29.3	28.2	24.8	27.5	32.2
2011	29.5	26.8	27.3	22.2	33.0	25.7	24.6	27.1	30.6
2012	30.1	29.2	25.0	24.5	34.4	26.0	24.1	26.1	30.2
2013	30.6	31.0	24.6	26.1	30.9	27.6	22.4	25.3	28.6
2014	26.8	31.2	24.4	25.5	27.1	29.6	21.9	25.8	28.5
2015	25.0	29.9	24.6	23.8	24.7	28.6	21.6	25.7	28.4

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2014-2016 shows that the stroke mortality rate was highest in Orange County (29.9 per 100,000 population). This rate was higher than the Mid-Hudson Region and New York State (24.3 and 25.6 per 100,000 population, respectively) [see Figure 165]. The Healthy People 2020 goal was to reduce stroke deaths in the U.S. to 34.8 deaths per 100,000 population. All counties in the Mid-Hudson and New York State met this target.

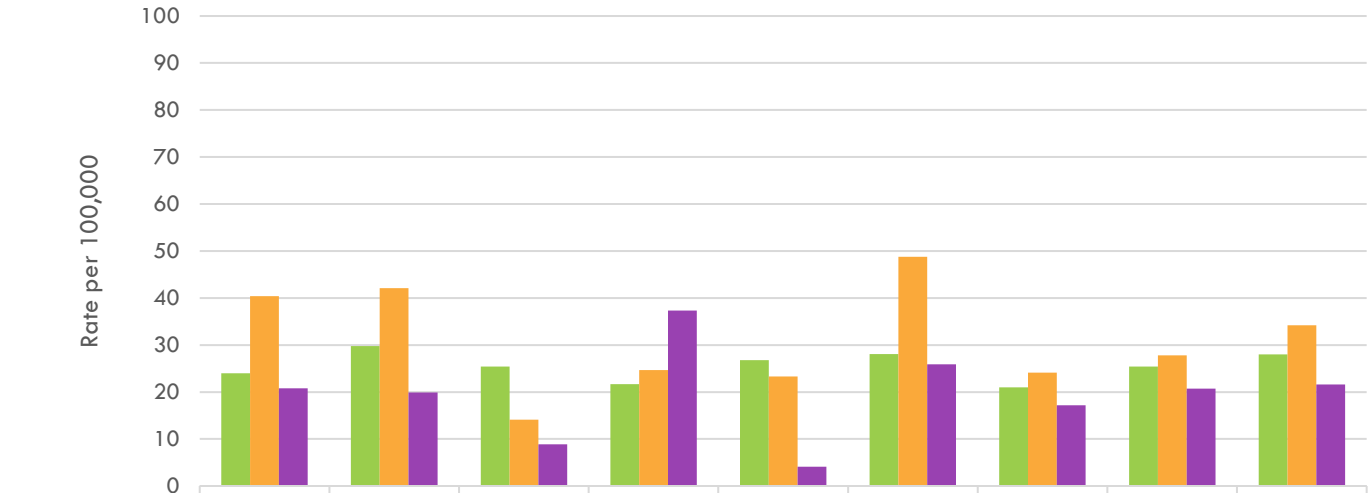
Figure 165



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying this data by race/ethnicity, the trends differs among each county. The majority of the counties in the Mid-Hudson Region had a higher rate of non-Hispanic Black adults who died from a stroke. However, in Putnam and Sullivan Counties, the non-Hispanic White population had a higher rate of stroke mortality. Additionally, in Rockland County, the Hispanic population had a higher rate of stroke mortality [see Figure 166].

Figure 166



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	24.0	29.8	25.4	21.7	26.8	28.1	21.0	25.4	28.0
Non-Hispanic Black	40.4	42.1	14.1 *	24.7	23.3 *	48.8	24.1	27.8	34.2
Hispanic	20.8 *	19.9	8.9 *	37.3	4.1 *	25.9 *	17.2	20.7	21.6

*: *The rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

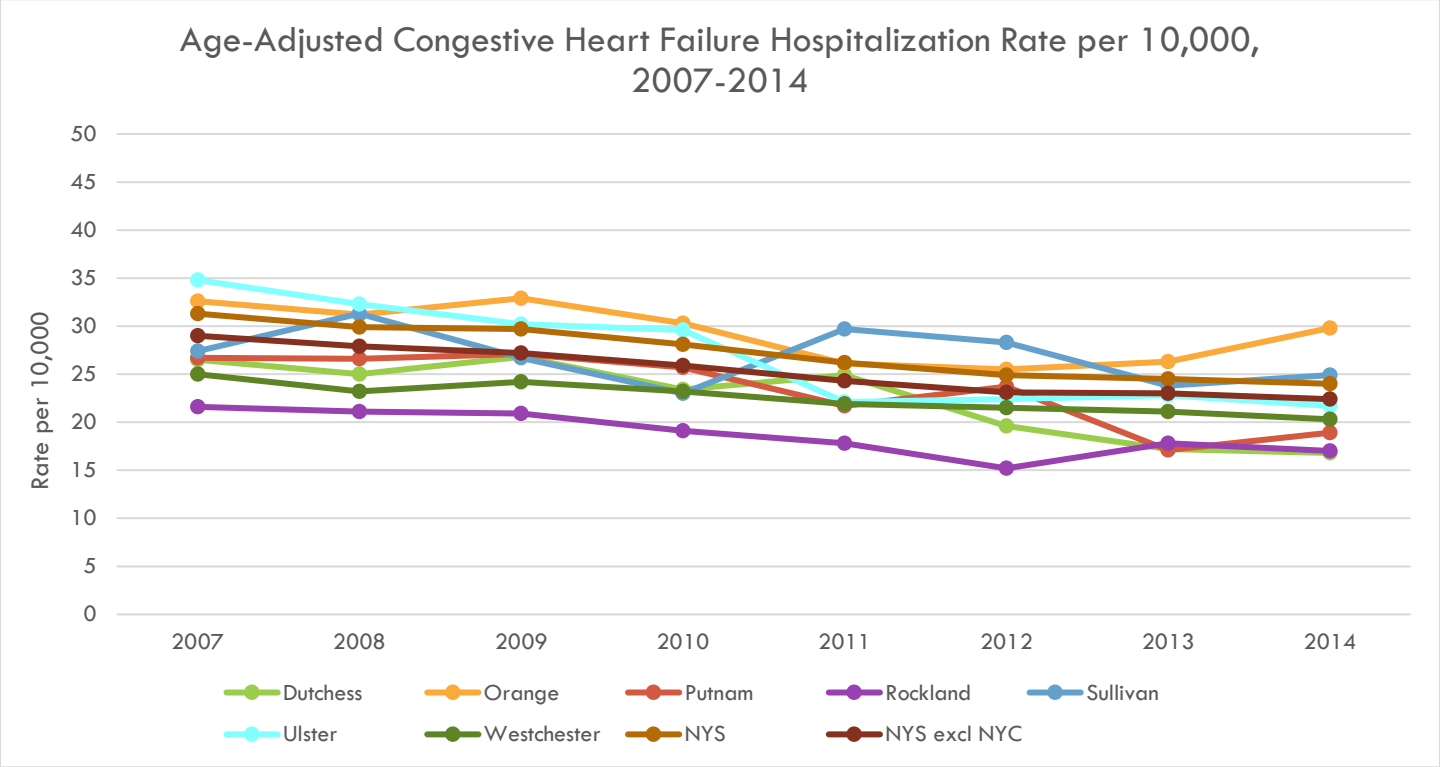
CONGESTIVE HEART FAILURE

Congestive heart failure (CHF) occurs when fluid builds up in the lungs, GI tract, and/or the upper and lower extremities.[75] This leads to the heart not being able to pump enough blood to meet the body's needs. Some common symptoms of CHF include shortness of breath (dyspnea), edema (swelling) in lower extremities, and chest pain.[75]

[75] Mayo Clinic, December 2017, https://www.mayoclinic.org/diseases-conditions/heart-failure/symptoms-causes/syc-20373142, accessed July 2019

CHF hospitalization rates have decreased from 2007-2014 in the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City [see Figure 167]. However, there was a slight increase in hospitalization rates from 2013-2014 in Orange, Putnam, and Sullivan Counties.

Figure 167

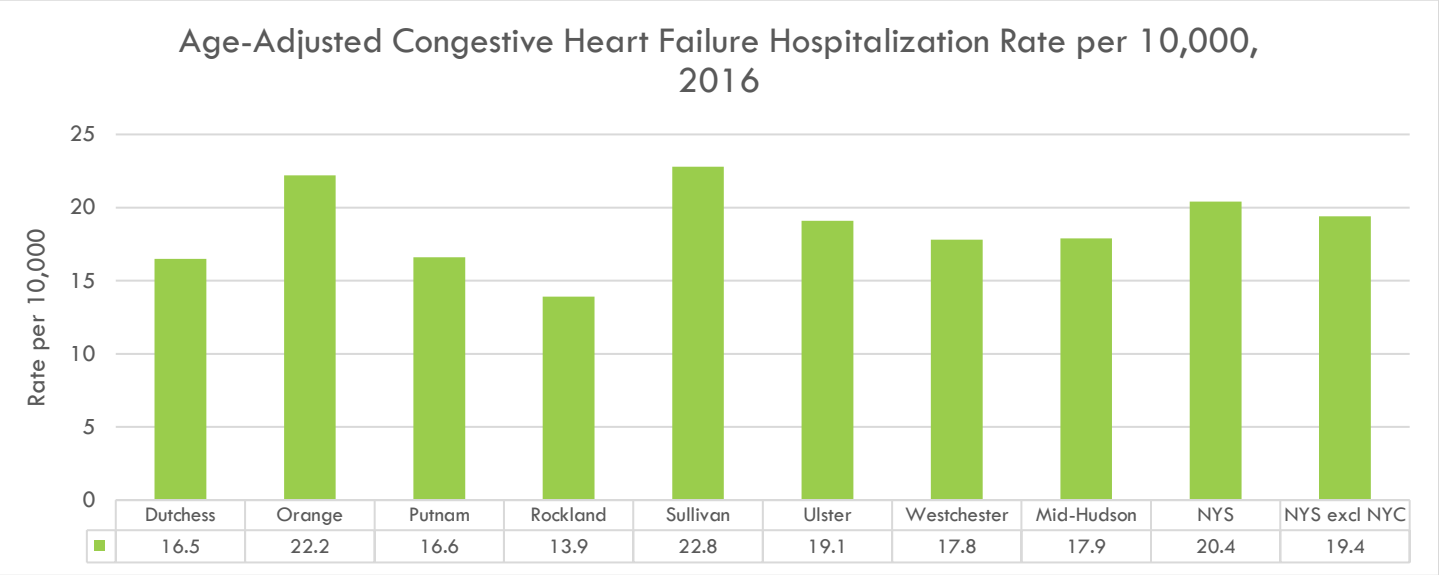


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	26.5	32.6	26.7	21.6	27.4	34.8	25.0	31.3	29.0
2008	25.0	31.2	26.6	21.1	31.3	32.3	23.2	29.9	27.9
2009	26.8	32.9	27.1	20.9	26.7	30.2	24.2	29.7	27.2
2010	23.4	30.3	25.7	19.1	23.0	29.6	23.2	28.1	25.9
2011	24.9	26.1	21.7	17.8	29.7	22.1	21.9	26.2	24.3
2012	19.6	25.5	23.7	15.2	28.3	22.4	21.5	24.9	23.1
2013	17.2	26.3	17.1	17.8	23.8	22.8	21.1	24.5	23.0
2014	16.8	29.8	18.9	17.0	24.9	21.7	20.3	24.0	22.4

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

In 2016, CHF hospitalization rates were highest in Sullivan and Orange Counties (22.8 and 22.2 per 10,000 population, respectively), while they were the lowest in Rockland County (13.9 per 10,000 population). The Mid-Hudson Region had a lower CHF hospitalization rate compared to New York State and New York State excluding New York City (17.9 vs 20.4 and 19.4 per 10,000 population, respectively) [see Figure 168].

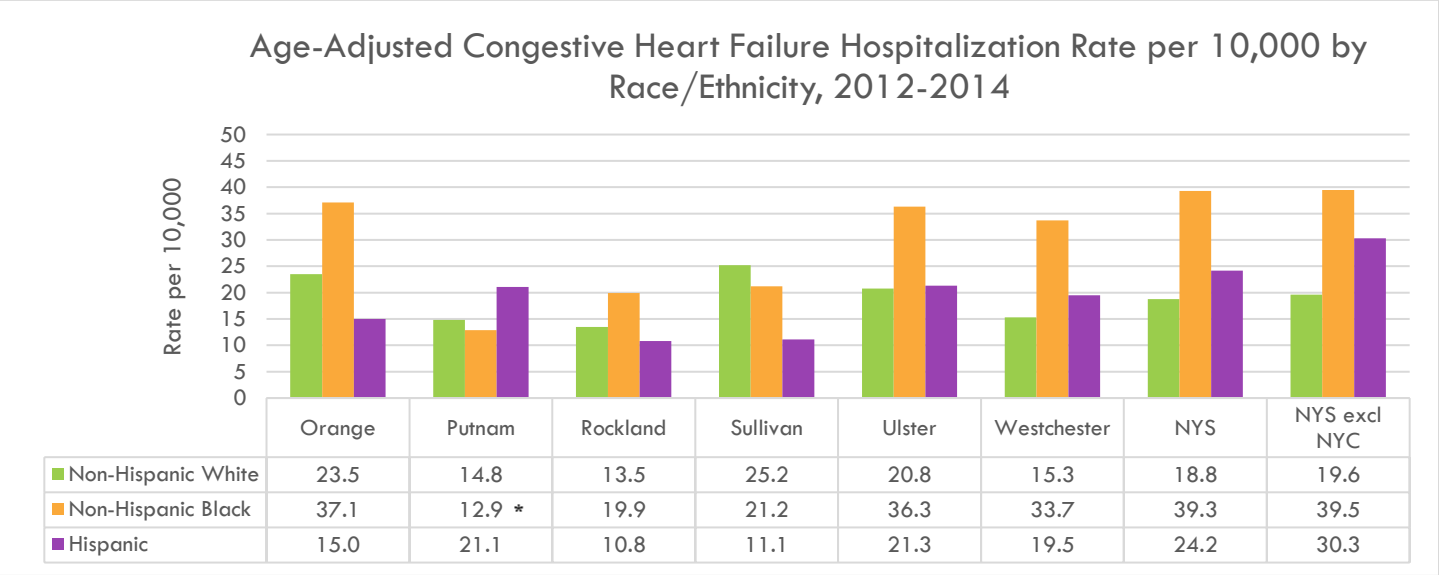
Figure 168



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying data by race/ethnicity, the non-Hispanic Black population had the highest CHF hospitalization rates in the majority of the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City [see Figure 169]. However, in Putnam County, the Hispanic population had the highest CHF hospitalization rate, and in Sullivan County, the non-Hispanic White population had the highest rate.

Figure 169

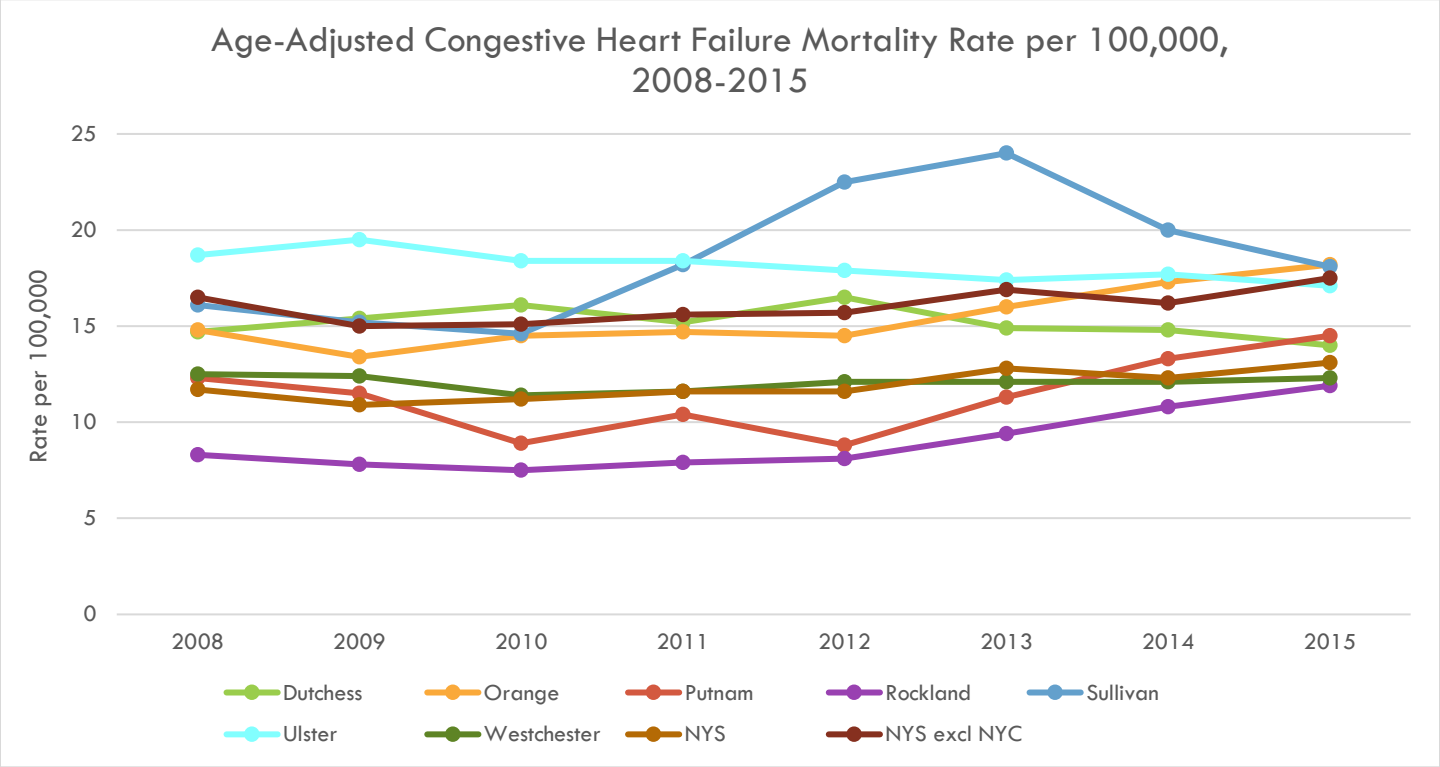


	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	23.5	14.8	13.5	25.2	20.8	15.3	18.8	19.6
Non-Hispanic Black	37.1	12.9 *	19.9	21.2	36.3	33.7	39.3	39.5
Hispanic	15.0	21.1	10.8	11.1	21.3	19.5	24.2	30.3

: The rate is unstable.
Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data is not available.
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

When looking at CHF mortality rates from 2008-2015, New York State and New York State excluding New York City, as well as most of the counties in the Mid-Hudson Region, experienced a slight increase, with the exception of Dutchess, Ulster, and Westchester Counties [see Figure 170].

Figure 170



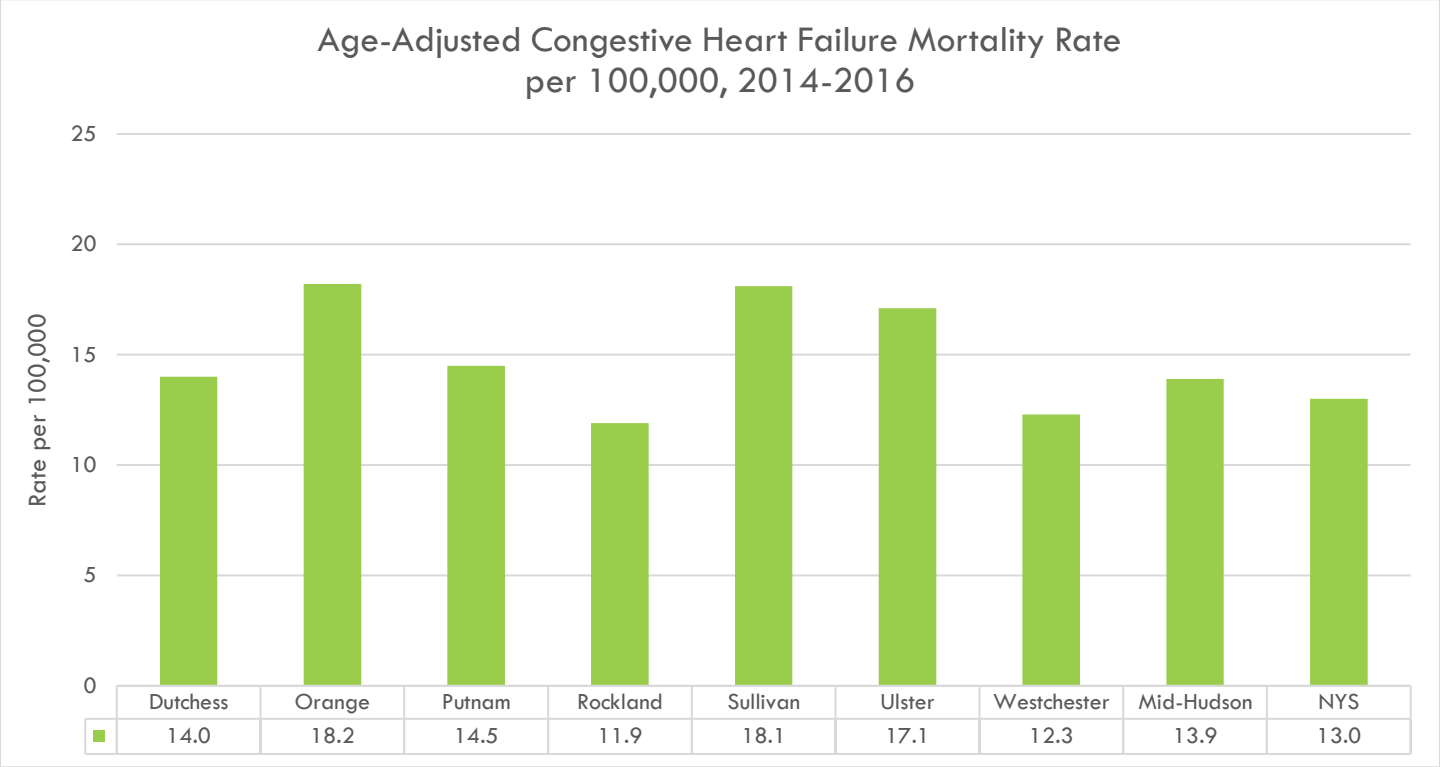
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	14.7	14.8	12.3	8.3	16.1	18.7	12.5	11.7	16.5
2009	15.4	13.4	11.5	7.8	15.2	19.5	12.4	10.9	15.0
2010	16.1	14.5	8.9	7.5	14.6	18.4	11.4	11.2	15.1
2011	15.2	14.7	10.4	7.9	18.2	18.4	11.6	11.6	15.6
2012	16.5	14.5	8.8	8.1	22.5	17.9	12.1	11.6	15.7
2013	14.9	16.0	11.3	9.4	24.0	17.4	12.1	12.8	16.9
2014	14.8	17.3	13.3	10.8	20.0	17.7	12.1	12.3	16.2
2015	14.0	18.2	14.5	11.9	18.1	17.1	12.3	13.1	17.5

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2014-2016 shows that Orange and Sullivan Counties had the highest rates of CHF mortality (18.2 and 18.1 per 100,000 population, respectively). This rate was higher than the Mid-Hudson Region and New York State (13.9 and 13.0 per 100,000 population, respectively) [see Figure 171].

Figure 171



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

DIABETES

In the U.S., diabetes is the seventh leading cause of death.[76] It is a chronic condition that alters how the body breaks down glucose (sugar) for energy. Diabetes can be classified into two primary forms: insulin-dependent diabetes mellitus (type 1 diabetes) and non-insulin-dependent diabetes mellitus (type 2 diabetes). Type 1 diabetes occurs when the body attacks itself and does not make enough insulin, which is a hormone released from the pancreas to help break down glucose. Alternatively, type 2 diabetes occurs when the body is unable to use existing insulin to help control the amount of glucose released into the blood stream. According to the CDC, about 90% of people with diabetes have type 2 diabetes.[77]

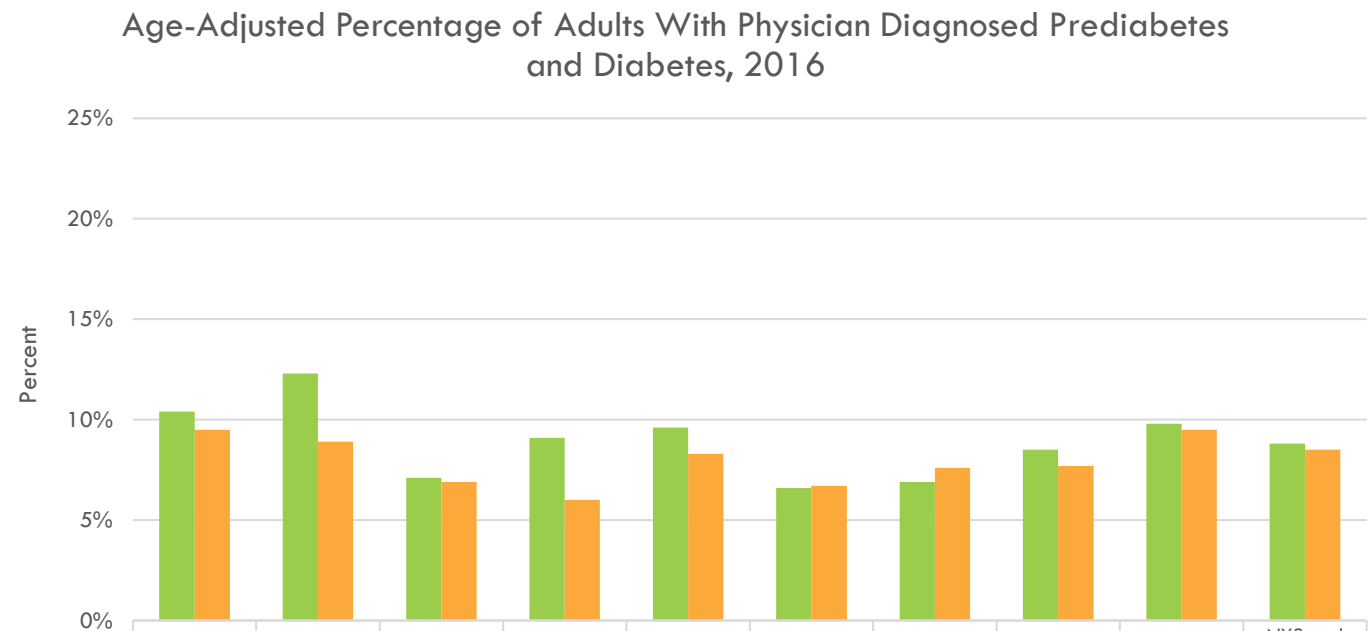
Before people are diagnosed with diabetes, they are usually tested for prediabetes, which is when a person's blood sugar level is higher than normal, thereby putting them at a greater risk of developing diabetes. According to the NYSDOH, 15-30% of the population in New York State with prediabetes will develop type 2 diabetes within five years, if they do not change their lifestyle behaviors.[76]

[76] NYSDOH, April 2018, https://www.health.ny.gov/diseases/conditions/diabetes/, accessed May 2019

[77] CDC, June 2019, https://www.cdc.gov/diabetes/index.html, accessed May 2019

Figure 172 shows that within the Mid-Hudson Region in 2016, 8.5% of adults were diagnosed with prediabetes by a physician, which is lower than rates in New York State and New York State excluding New York City (9.8% and 8.8%, respectively). Orange County had the highest percentage of the population diagnosed with prediabetes at 12.3%, and Ulster County had the lowest percentage diagnosed at 6.6%. According the U.S. Diabetes Surveillance System (USDSS), 8.5% of the U.S. population 18 years and older, was diagnosed with diabetes in 2016.[77] This is the same as the percentage in New York State excluding New York City, although it was slightly higher in New York State at 9.5%. In the Mid-Hudson Region, 7.7% of the population was diagnosed with diabetes, with the highest percentage seen in Dutchess County at 9.5%.

Figure 172



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
Prediabetes	10.4%	12.3%	7.1%	9.1%	9.6%	6.6%	6.9%	8.5%	9.8%	8.8%
Diabetes	9.5%	8.9%	6.9%	6.0%	8.3%	6.7%	7.6%	7.7%	9.5%	8.5%

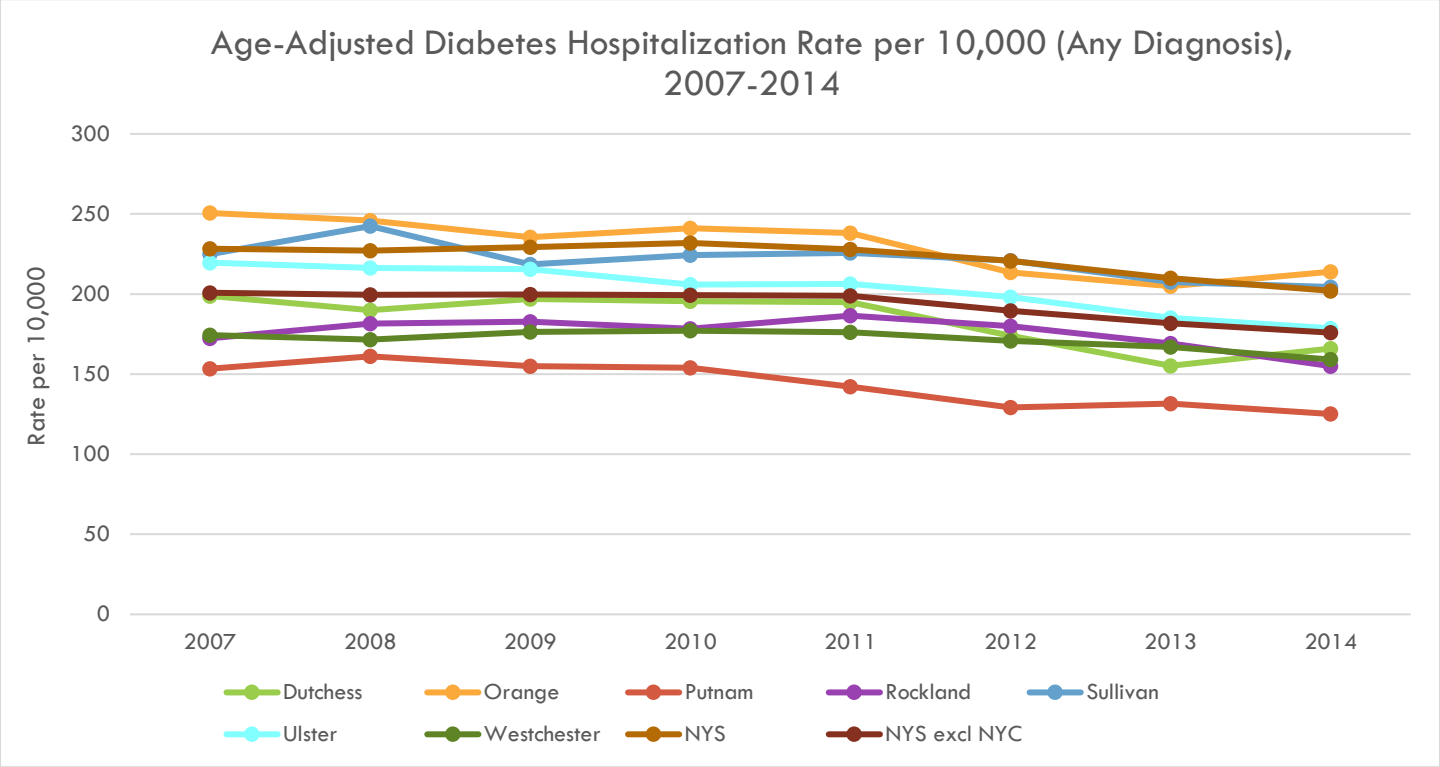
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Some risk factors for diabetes include genetics; being overweight or obese; negative health behaviors, including tobacco or alcohol use; unhealthy diet; and decreased physical activity. Uncontrolled diabetes could result in serious morbidities over time, including heart disease, loss of limbs, loss of vision (retinopathy), and kidney disease. According to the American Diabetes Association (ADA), the health care industry has attempted to manage the effects of diabetes, spending $237 billion in direct medical costs in 2017.[78]

[78] ADA, March 2018, http://www.diabetes.org/diabetes-basics/statistics/?loc=db-slabnav, accessed May 2019

From 2007-2014, hospitalization rates for diabetes trended downward in the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City [see Figure 173].

Figure 173

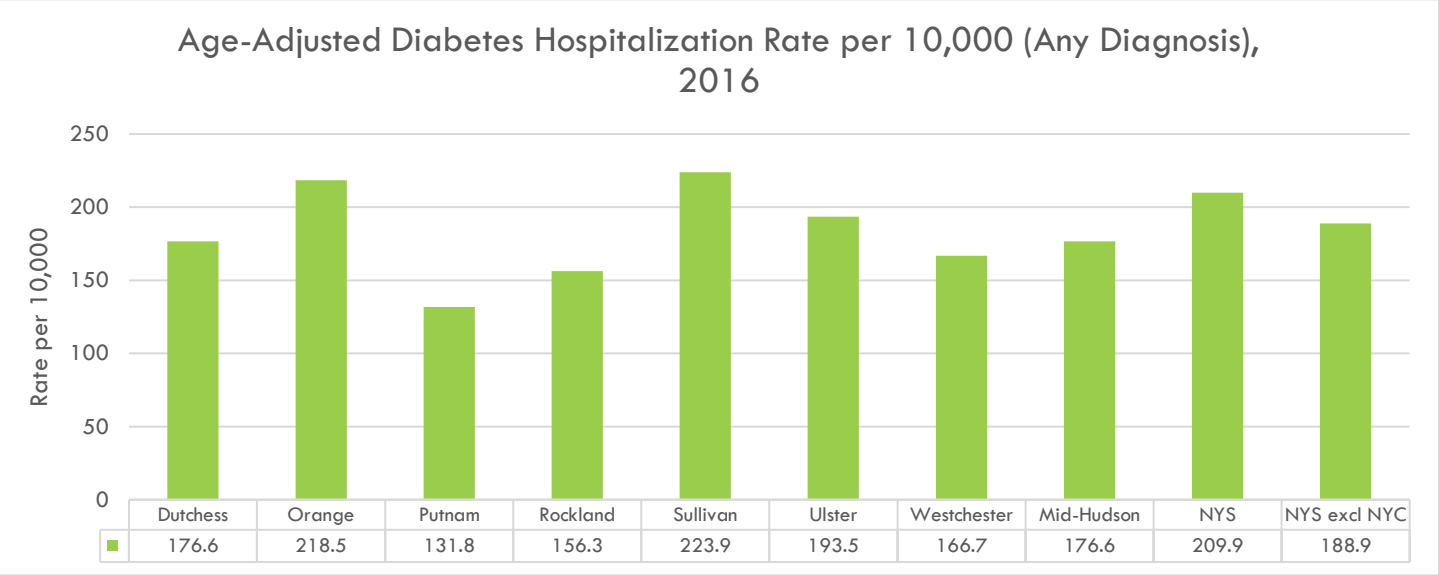


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	198.8	250.6	153.3	172.4	224.9	219.6	174.3	228.2	200.8
2008	190.0	245.8	161.1	181.5	242.4	216.3	171.5	227.0	199.5
2009	197.0	235.4	155.0	182.7	218.6	215.5	176.3	229.2	199.8
2010	195.5	241.1	153.9	178.3	224.3	205.9	177.1	231.9	199.4
2011	195.0	238.1	142.2	186.5	225.6	206.3	176.2	227.8	198.9
2012	174.0	213.5	129.2	180.0	221.0	198.1	170.7	220.7	189.6
2013	155.2	204.9	131.6	169.1	207.6	185.2	166.9	210.0	181.8
2014	165.9	213.9	125.1	155.0	204.4	178.6	159.1	202.0	175.9

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

In 2016, diabetes hospitalization rates varied across the seven counties in the Mid-Hudson Region. According to Figure 174, Sullivan County had the highest hospitalization rate at 223.9 per 10,000 population, and Putnam County had the lowest rate at 131.8 per 10,000 population. These rates are compared to the Mid-Hudson Region at 176.6 per 10,000 population.

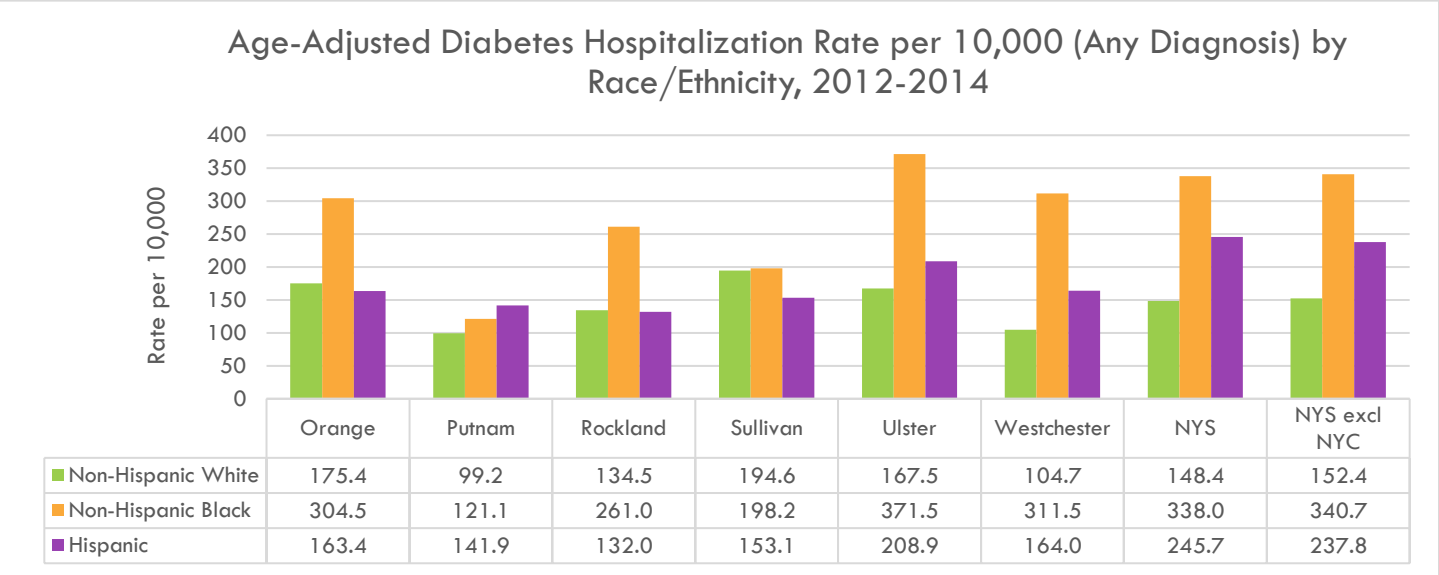
Figure 174



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying this data by race/ethnicity, diabetes hospitalization rates were highest among the non-Hispanic Black population in New York State and New York State excluding New York City, along with most of the counties in the Mid-Hudson Region. However, in Putnam County, Hispanic adults had the highest hospitalization rate (141.9 per 10,000 population) [see Figure 175].

Figure 175

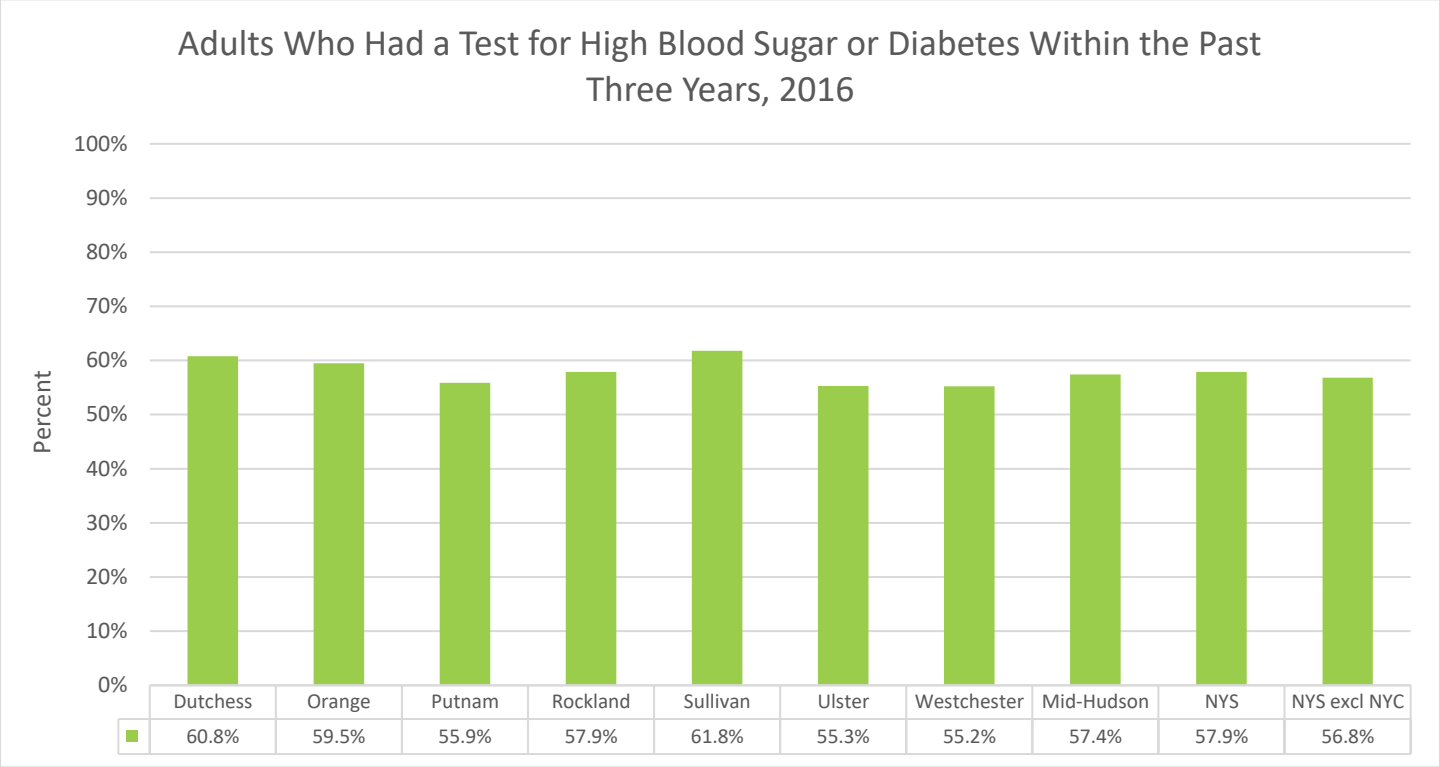


	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	175.4	99.2	134.5	194.6	167.5	104.7	148.4	152.4
Non-Hispanic Black	304.5	121.1	261.0	198.2	371.5	311.5	338.0	340.7
Hispanic	163.4	141.9	132.0	153.1	208.9	164.0	245.7	237.8

Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data are not available.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

In order to avoid the consequences of uncontrolled diabetes, there are many adults who get their blood sugar tested by their medical provider. In 2016, the percentage of those who had a test for high blood sugar or diabetes within the past three years, was very similar across the Mid-Hudson Region, as well as New York State and New York State excluding New York City [see Figure 176].

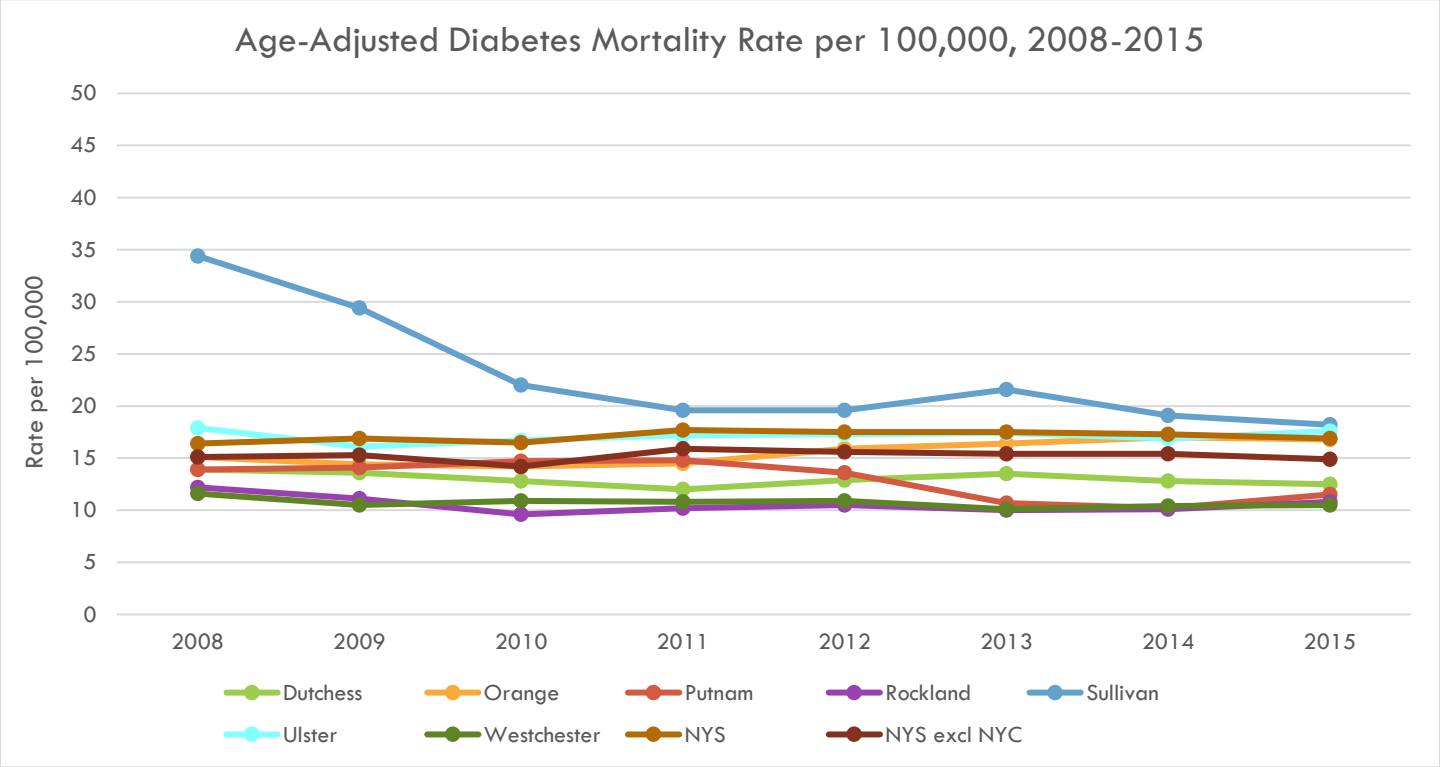
Figure 176



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Expanded-Behavioral-Risk-Factor-Surveillance-Surve/jsy7-eb4n/data

From 2008-2015, diabetes morality rates varied across the seven counties in the Mid-Hudson Region counties. Sullivan County experienced the greatest decrease in mortality rate, although Sullivan and Ulster Counties led in mortality rates. The rates slightly increased from 2014 to 2015 in Orange County, as well as New York State [see Figure 177].

Figure 177



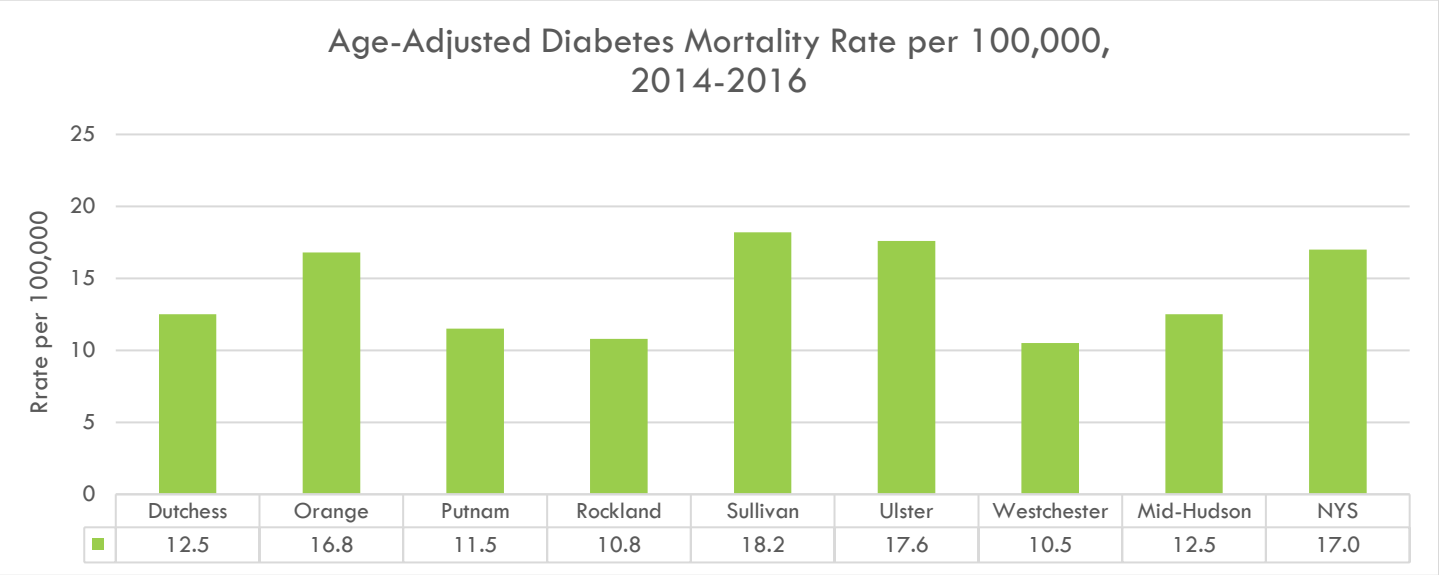
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	13.9	15.1	13.9	12.2	34.4	17.9	11.6	16.4	15.1
2009	13.6	14.4	14.1	11.1	29.4	16.1	10.5	16.9	15.3
2010	12.8	14.2	14.7	9.6	22.0	16.7	10.9	16.5	14.2
2011	12.0	14.5	14.8	10.2	19.6	17.2	10.8	17.7	15.9
2012	12.9	15.9	13.6	10.5	19.6	17.3	10.9	17.5	15.6
2013	13.5	16.4	10.7	10.0	21.6	17.4	10.1	17.5	15.4
2014	12.8	17.0	10.2	10.1	19.1	16.9	10.4	17.3	15.4
2015	12.5	16.8	11.5	10.8	18.2	17.6	10.5	16.9	14.9

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Data from 2014-2016 shows that the highest mortality rates were seen in Sullivan, Ulster, and Orange Counties (18.2, 17.6, and 16.8 per 100,000 population, respectively). These rates were higher than the rates in the Mid-Hudson Region and New York State (12.5 and 17.0 per 100,000 population, respectively). The Healthy People 2020 target of reducing diabetes morality to 66.6 deaths per 100,000 population covers all deaths related to diabetes, which cannot be compared to this data.

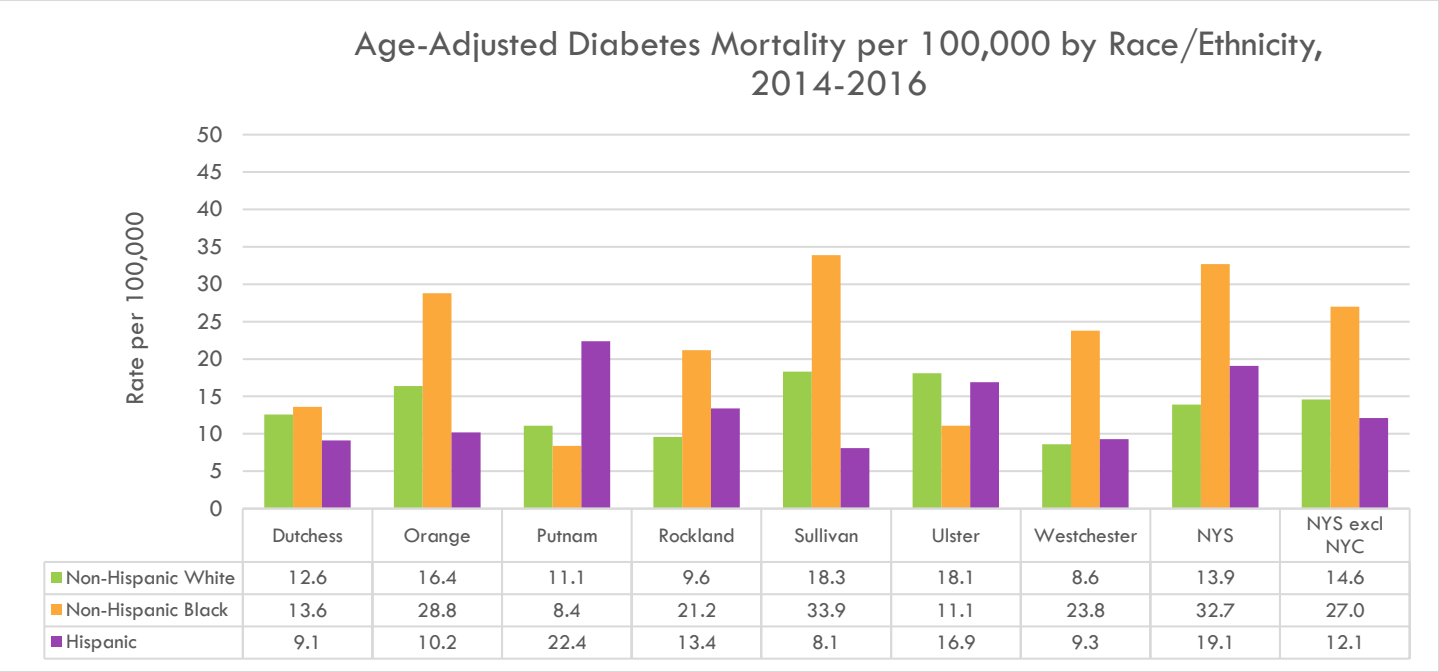
Figure 178



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When stratifying data by race/ethnicity, diabetes mortality rates were highest among the non-Hispanic Black population in New York State, as well as New York State excluding New York City, and most of the counties in the Mid-Hudson Region. However, in Putnam County, Hispanic adults had the highest mortality rate (22.4 per 10,000 population). In addition, non-Hispanic White adults had the highest mortality rate in Ulster County (18.1%) [see Figure 179].

Figure 179



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	12.6	16.4	11.1	9.6	18.3	18.1	8.6	13.9	14.6
Non-Hispanic Black	13.6	28.8	8.4	21.2	33.9	11.1	23.8	32.7	27.0
Hispanic	9.1	10.2	22.4	13.4	8.1	16.9	9.3	19.1	12.1

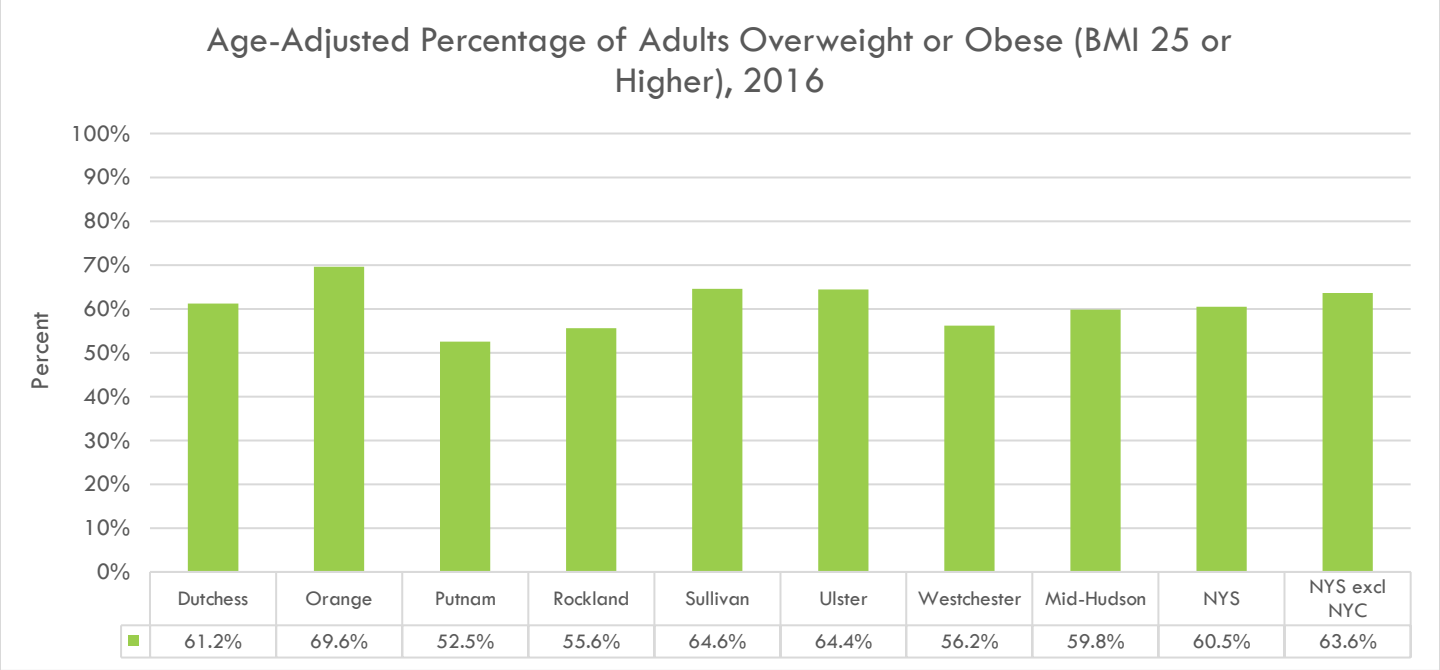
Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

OBESITY

Obesity, which is a condition where an individual's weight is higher than what is considered normal for his/her height, has become a widespread epidemic in the U.S. over the past few years. Body Mass Index (BMI) is a screening tool used to measure weight to height ratio that can determine if individuals have a healthy weight for their height. The calculation consists of person's weight in kilograms divided by his/her height in meters squared. If individuals have a BMI between 25.0 to 29.9 kg/m^2, they are considered to be overweight, and if they have a BMI of 30.0 or higher, they are considered to be obese.[79]

Of the seven counties in the Mid-Hudson Region, Orange County has the highest percentage of adults who are overweight or obese (69.6%), and Putnam County has the lowest percentage (52.5%). The combined prevalence of overweight and obesity in the Mid-Hudson Region (59.8%) was lower than the New York State average (60.5%) and New York State excluding New York City (63.6%) [see Figure 180].

Figure 180



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

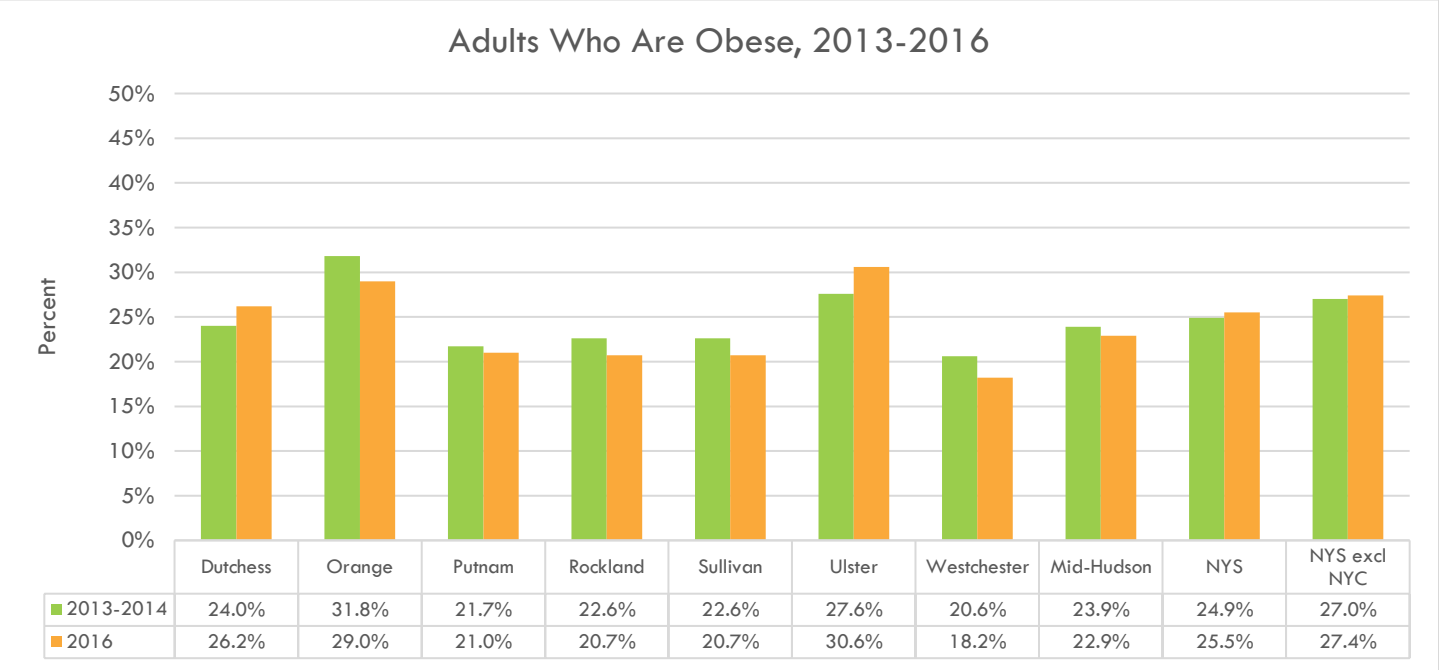
Obesity poses a great health risk on the American population due to its linkage with higher mortality, reduced life span, and many chronic diseases. For instance, those who are obese are at a greater risk of developing other conditions, including diabetes, heart disease, hypertension, cancer, and renal failure.[80] Eating food high in sugar and fat content and having decreased physical activity can increase the risk of obesity. However, there are also multiple environmental, behavioral, and emotional factors that contribute to this disease, including stress. Stress has an indirect effect on obesity, as it can lead to increased food consumption, increased alcohol intake, and pursuing a less active lifestyle, which can all result in increased weight gain.[80]

[79] NIDDK, August 2017, https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity, accessed June 2019

[80] CDC, June 2019, https://www.cdc.gov/obesity/index.html, accessed June 2019

Recent data shows that more than one third of adults in the U.S. are obese.[80] When comparing data from 2013-2014 to 2016, there were slight changes in the percentage of the population obese in each Mid-Hudson Region county [see Figure 181]. Most counties experienced a decrease in the percentage of the population obese, while some experienced an increase in rates, including Dutchess (24.0% to 26.2%) and Ulster (27.6% to 30.6%) Counties. In 2016, Ulster County had the highest obesity rate across the seven counties, with Orange County following close behind (29.0%).

Figure 181

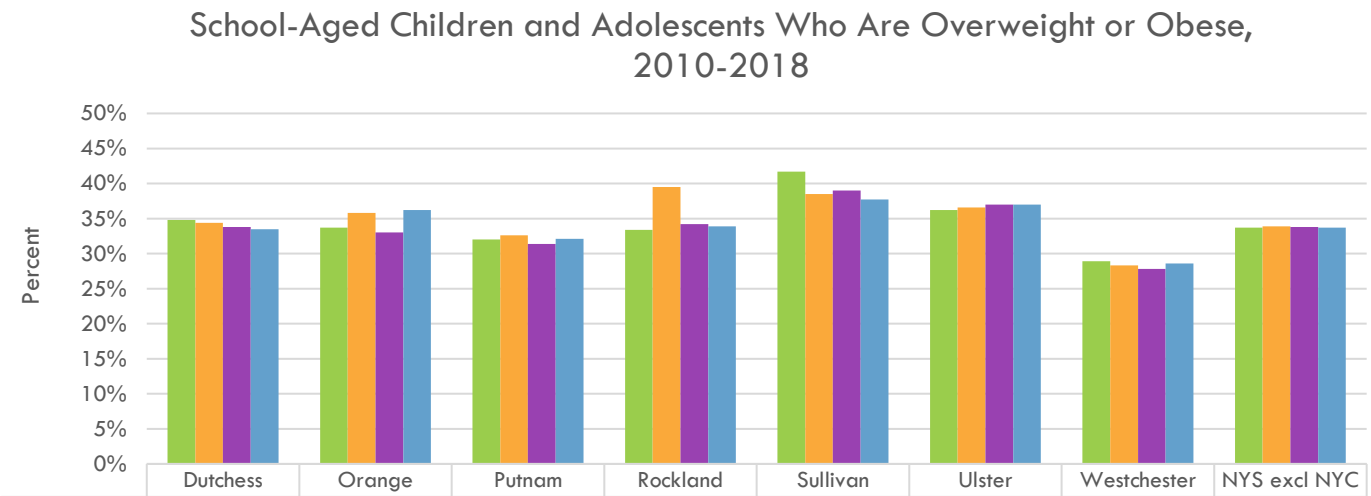


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
2013-2014	24.0%	31.8%	21.7%	22.6%	22.6%	27.6%	20.6%	23.9%	24.9%	27.0%
2016	26.2%	29.0%	21.0%	20.7%	20.7%	30.6%	18.2%	22.9%	25.5%	27.4%

Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

In 2007, the Student Weight Status Category Reporting System (SWSCRS) was established by amendments to the New York State Education Law to help the state and counties address the increasing rates of obesity among school-aged children. When looking at the combined prevalence of overweight and obesity among school-aged children from 2010-2018, the trend differs in each county. In Dutchess and Sullivan Counties, there was a slight decrease, although Sullivan and Ulster Counties had the highest percentage of students who were overweight or obese compared to the other Mid-Hudson Region counties and New York State excluding New York City [see Figure 182].

Figure 182

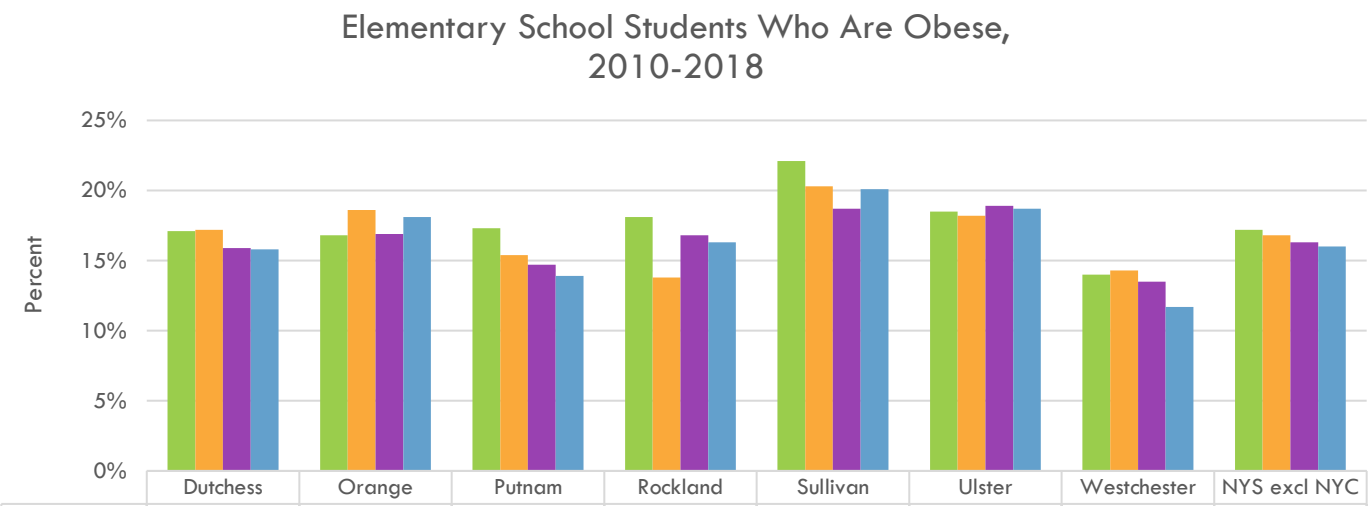


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS excl NYC
2010-2012	34.8%	33.7%	32.0%	33.4%	41.7%	36.2%	28.9%	33.7%
2012-2014	34.4%	35.8%	32.6%	39.5%	38.5%	36.6%	28.3%	33.9%
2014-2016	33.8%	33.0%	31.4%	34.2%	39.0%	37.0%	27.8%	33.8%
2016-2018	33.5%	36.2%	32.1%	33.9%	37.7%	37.0%	28.6%	33.7%

Source: NYSDOH Student Weight Status Category Reporting System, 2019
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When data is stratified by elementary and middle/high school children who are obese, the percentages vary across the different age groups in the Region. As seen in Figure 183 and Figure 184, Sullivan County led in obesity rates among elementary, middle, and high school students when compared to the Mid-Hudson Region and New York State excluding New York City. The Healthy People 2020 goal was to reduce the percentage of elementary school children who were obese to 15.7%. With the exception of Putnam and Westchester Counties, all of the other Mid-Hudson Region counties and New York State excluding New York City have not met this target.

Figure 183

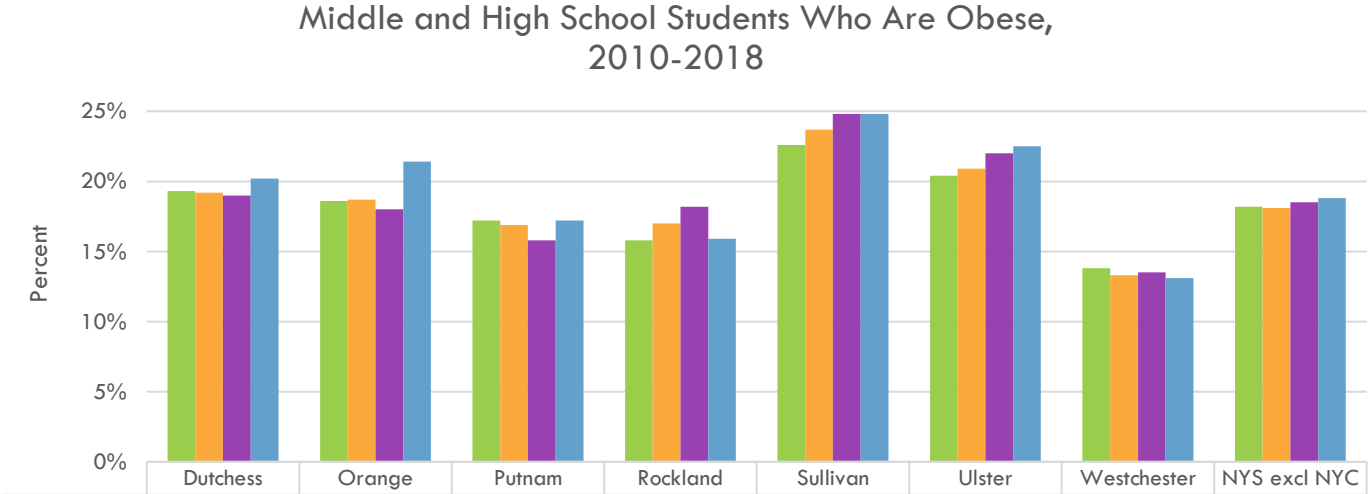


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS excl NYC
2010-2012	17.1%	16.8%	17.3%	18.1%	22.1%	18.5%	14.0%	17.2%
2012-2014	17.2%	18.6%	15.4%	13.8%	20.3%	18.2%	14.3%	16.8%
2014-2016	15.9%	16.9%	14.7%	16.8%	18.7%	18.9%	13.5%	16.3%
2016-2018	15.8%	18.1%	13.9%	16.3%	20.1%	18.7%	11.7%	16.0%

Source: NYSDOH Student Weight Status Category Reporting System, 2019
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

In regard to middle and high school students, the Healthy People 2020 was to reduce the percentage of students who were obese to 16.1%. With the exception of Rockland and Westchester Counties, all of the other Mid-Hudson Region counties and New York State excluding New York City have not met this target.

Figure 184



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS excl NYC
2010-2012	19.3%	18.6%	17.2%	15.8%	22.6%	20.4%	13.8%	18.2%
2012-2014	19.2%	18.7%	16.9%	17.0%	23.7%	20.9%	13.3%	18.1%
2014-2016	19.0%	18.0%	15.8%	18.2%	24.8%	22.0%	13.5%	18.5%
2016-2018	20.2%	21.4%	17.2%	15.9%	24.8%	22.5%	13.1%	18.8%

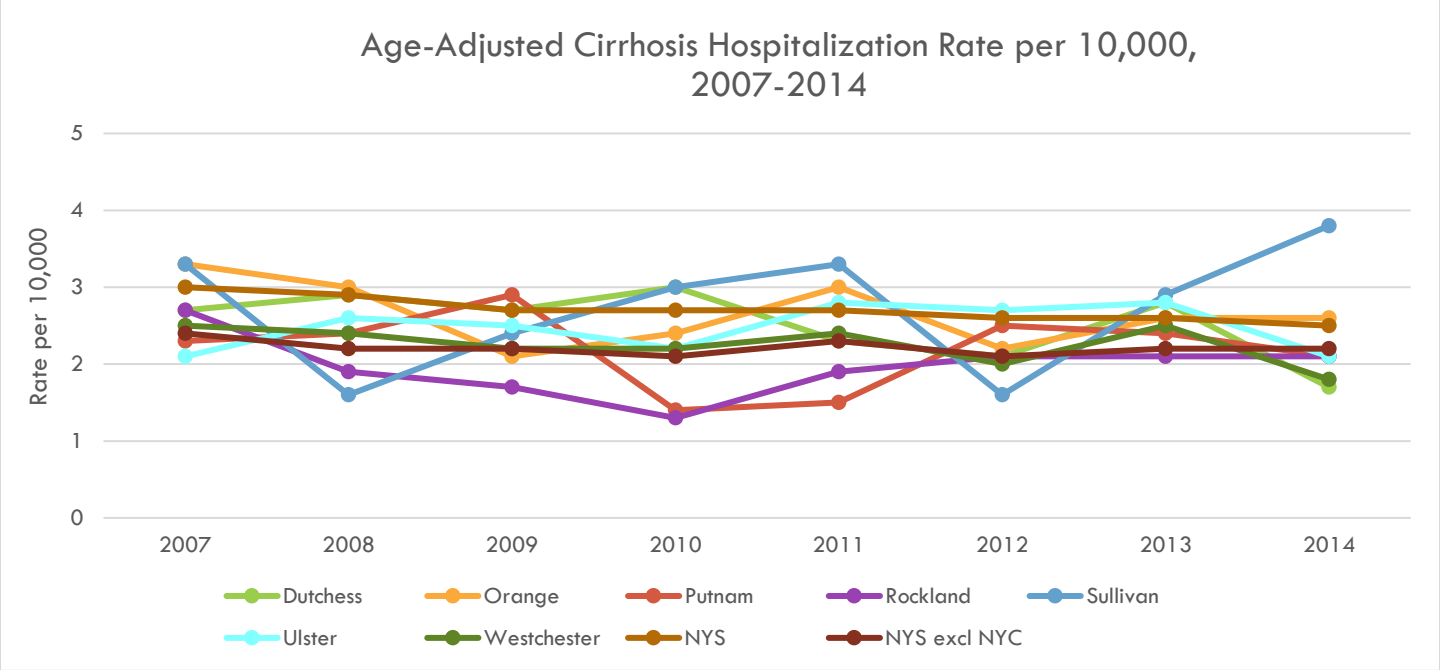
Source: NYSDOH Student Weight Status Category Reporting System, 2019
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

CIRRHOSIS OF THE LIVER

Cirrhosis is a condition in which the liver experiences fibrosis (scarring) that can lead to permanent damage.[81] In the U.S., it is included in the top ten leading causes of death. Causes of cirrhosis include (but are not limited to) chronic alcohol abuse, viral hepatitis (more commonly hepatitis B and C), and fatty liver disease. Symptoms also include fatigue, bleeding, edema (swelling) in lower extremities, and hepatic encephalopathy (loss of brain function due to the liver's inability to remove toxins from the blood).[82]

When looking over time, cirrhosis hospitalization rates have varied across the seven counties in the Mid-Hudson Region [see Figure 185]. From 2007 to 2014, hospitalization rates decreased across the Mid-Hudson Region counties, with the exception of Sullivan and Ulster Counties. This rate also decreased in New York State, and New York State excluding New York City, with some variance throughout this time period.

Figure 185



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	2.7	3.3	2.3	2.7	3.3	2.1	2.5	3.0	2.4
2008	2.9	3.0	2.4	1.9	1.6	2.6	2.4	2.9	2.2
2009	2.7	2.1	2.9	1.7	2.4	2.5	2.2	2.7	2.2
2010	3.0	2.4	1.4	1.3	3.0	2.2	2.2	2.7	2.1
2011	2.3	3.0	1.5	1.9	3.3	2.8	2.4	2.7	2.3
2012	2.1	2.2	2.5	2.1	1.6	2.7	2.0	2.6	2.1
2013	2.8	2.6	2.4	2.1	2.9	2.8	2.5	2.6	2.2
2014	1.7	2.6	2.1	2.1	3.8	2.1	1.8	2.5	2.2

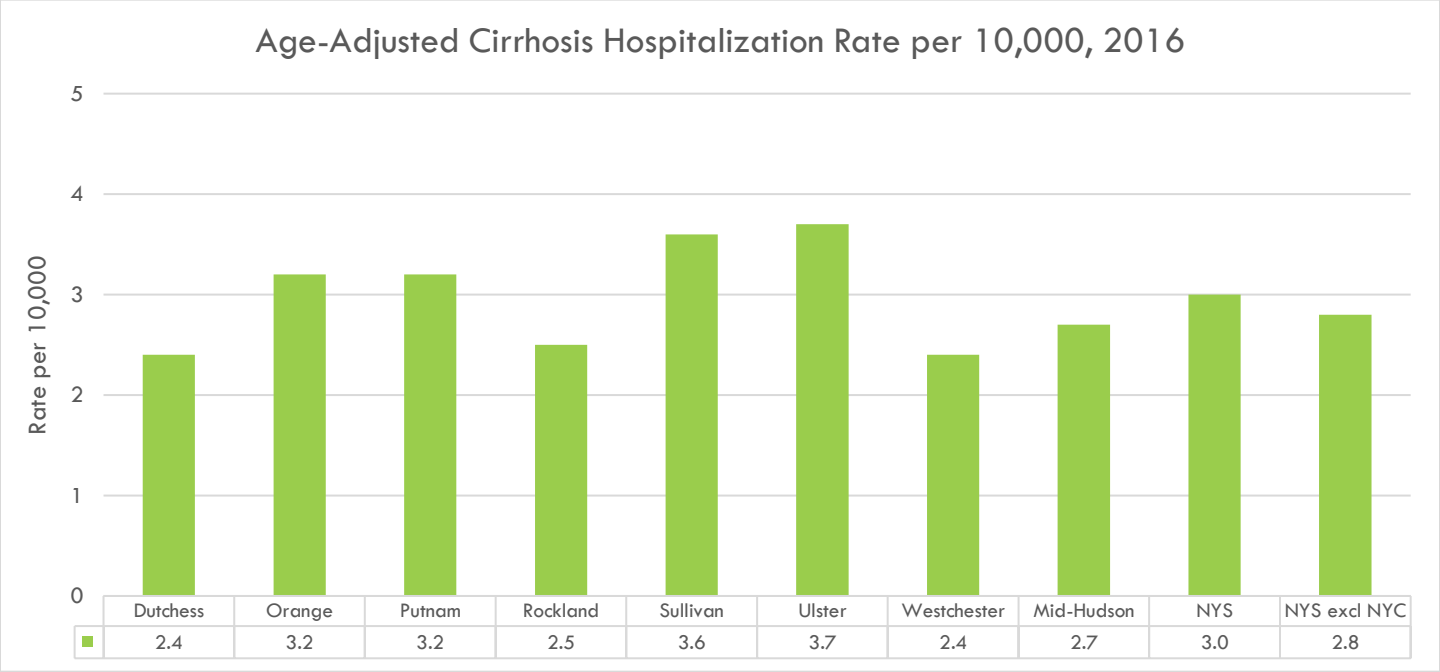
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[81] World Journal of Gastroenterology, May 2014, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017060/, accessed July 2019

[82] Mayo Clinic, December 2018, https://www.mayoclinic.org/diseases-conditions/cirrhosis/symptoms-causes/syc-20351487, accessed July 2019

When looking at recent data from 2016, Ulster and Sullivan Counties had the highest cirrhosis hospitalization rates (3.7 and 3.6 per 10,000 population, respectively), while Dutchess and Westchester Counties had the lowest rates (2.4 per 10,000 population) [see Figure 186].

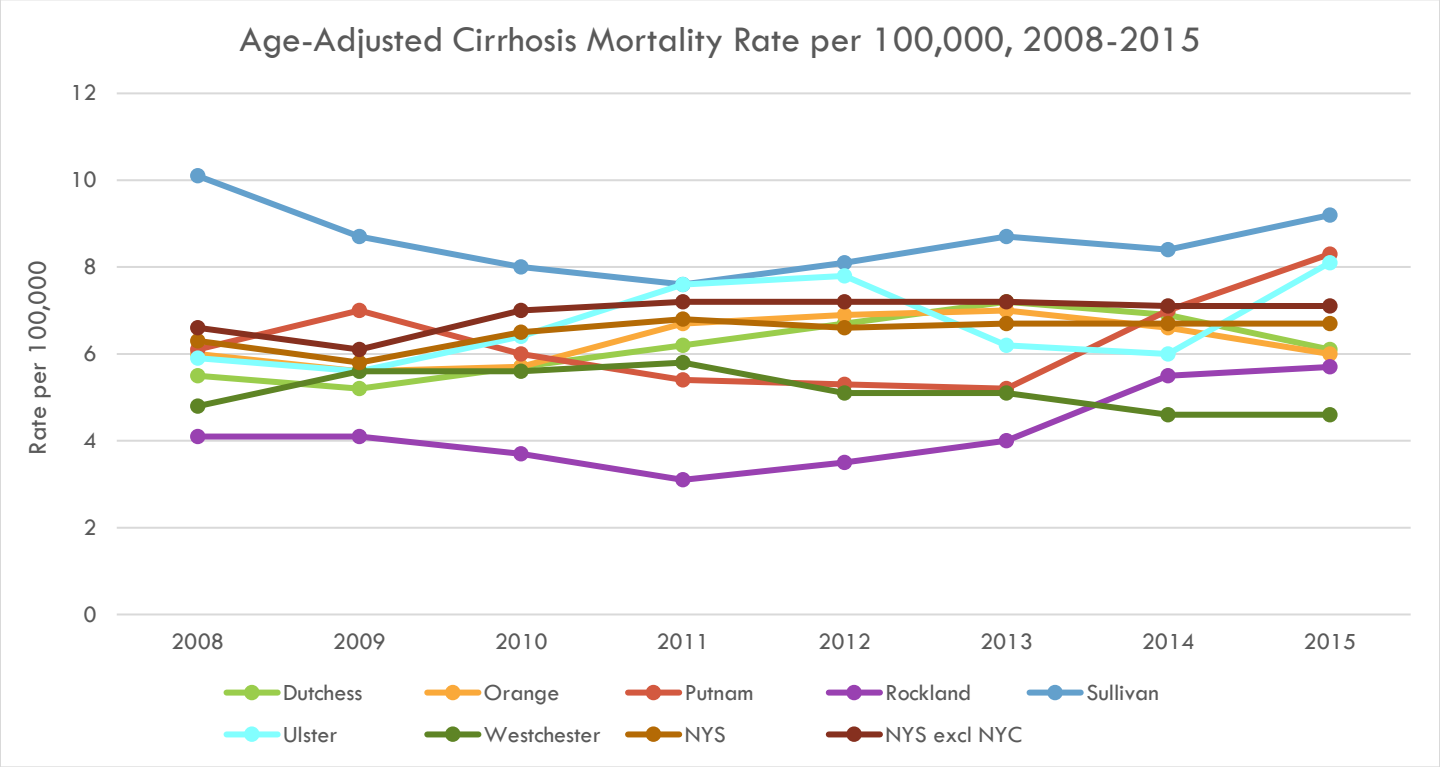
Figure 186



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

From 2008-2015, data shows mortality rates have stayed the same or increased in almost all of the counties in the Mid-Hudson Region, with the exception of Sullivan County. Similar trends are seen in New York State and New York State excluding New York City. Additionally, there was an increase in mortality rate from 2014 to 2015 in Sullivan County [see Figure 187].

Figure 187



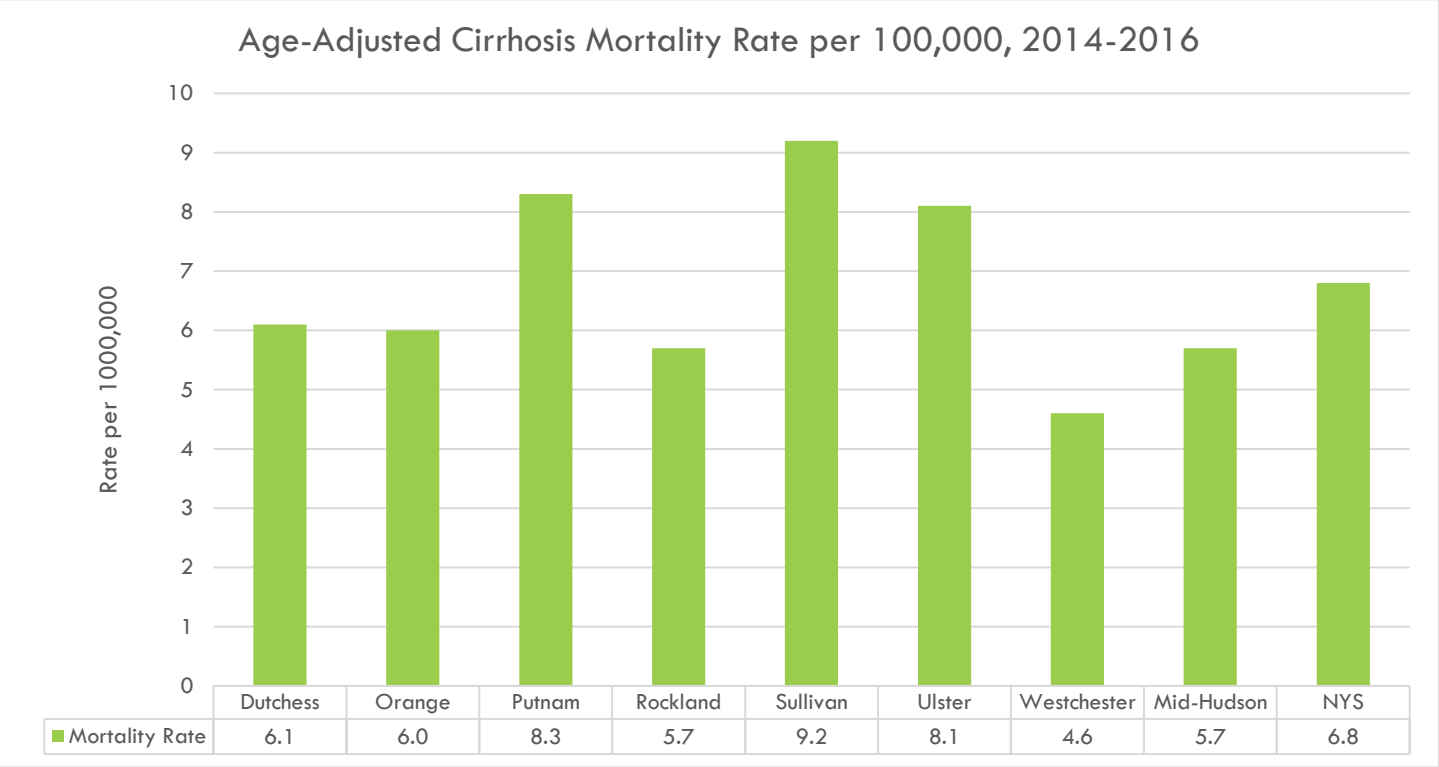
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	5.5	6.0	6.1	4.1	10.1	5.9	4.8	6.3	6.6
2009	5.2	5.6	7.0	4.1	8.7	5.6	5.6	5.8	6.1
2010	5.7	5.7	6.0	3.7	8.0	6.4	5.6	6.5	7.0
2011	6.2	6.7	5.4	3.1	7.6	7.6	5.8	6.8	7.2
2012	6.7	6.9	5.3	3.5	8.1	7.8	5.1	6.6	7.2
2013	7.2	7.0	5.2	4.0	8.7	6.2	5.1	6.7	7.2
2014	6.9	6.6	7.0	5.5	8.4	6.0	4.6	6.7	7.1
2015	6.1	6.0	8.3	5.7	9.2	8.1	4.6	6.7	7.1

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Recent data from 2014-2016 shows that Sullivan County led in mortality rate compared to all other Mid-Hudson Region counties (9.2 per 100,000 population) [see Figure 188]. The Healthy People 2020 goal was to reduce cirrhosis deaths to 8.2 deaths per 100,000 population. Most counties met this goal, with the exception of Putnam and Sullivan Counties (8.3 and 9.2 deaths per 100,000, respectively).

Figure 188



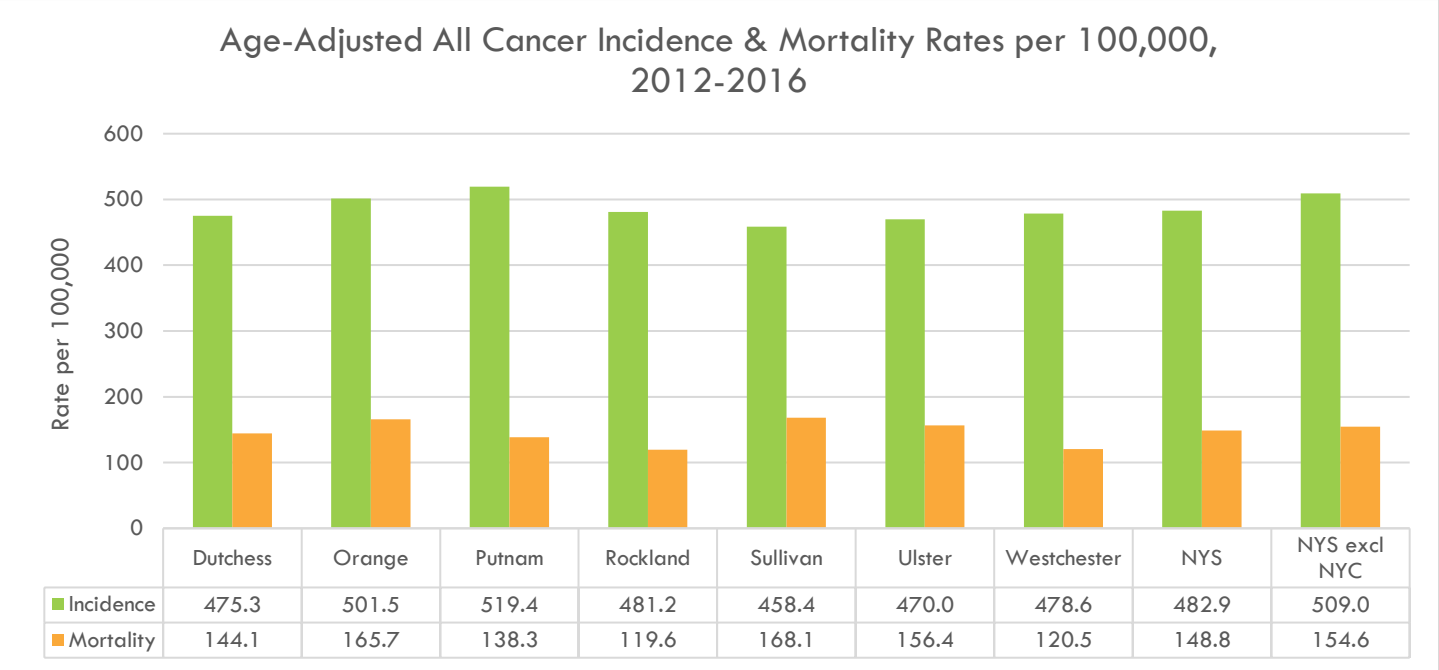
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

CANCER

Cancer is a disease in which the cells of the body grow out of control and invade tissues in the body. Cancer can metastasize, or spread, from one part of the body to another. There are a variety of risk factors, including genetics, environment, and health behaviors. These include smoking, drinking alcohol, diet, and physical activity.

Cancer is one of the leading causes of death across all seven counties in the Mid-Hudson Region.[83] From 2012-2016, incidence rates were relatively similar across the seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City [see Figure 189]. The highest incidence rate was in Putnam County, and the highest mortality rate was in Sullivan County (519.4 and 168.1 per 100,000 population, respectively).

Figure 189



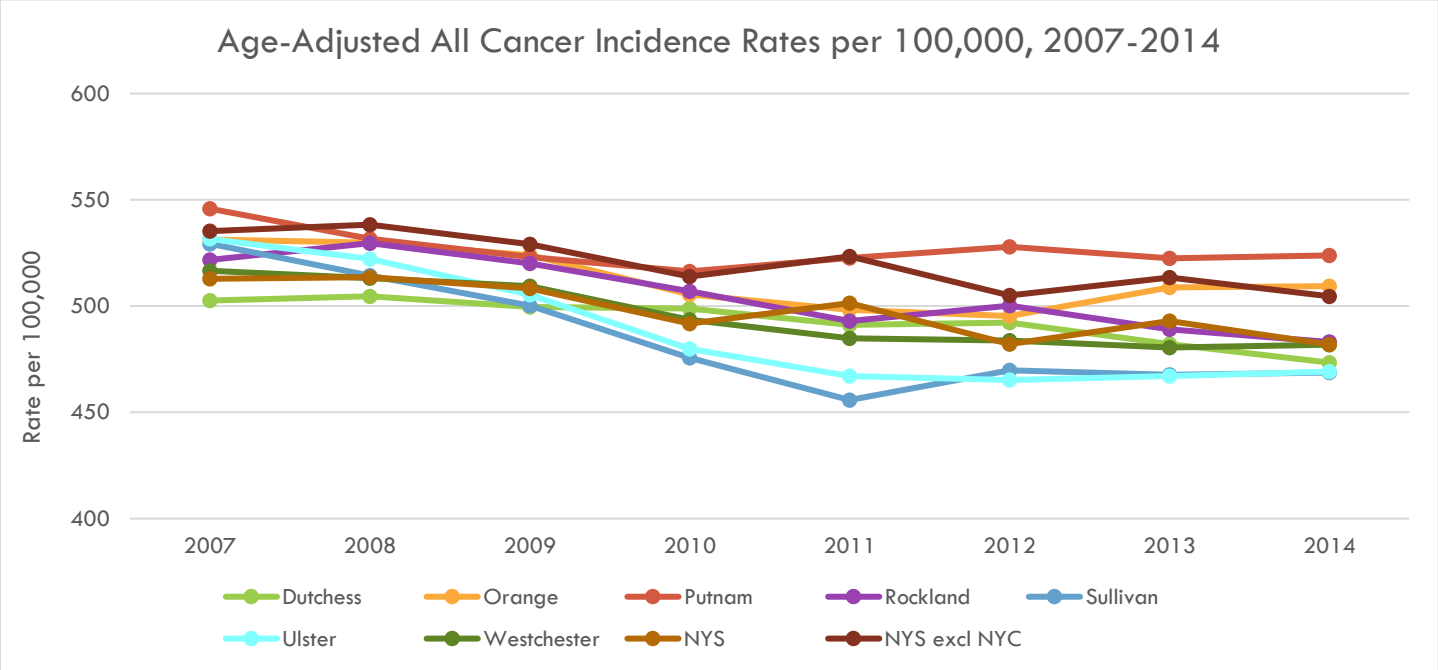
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	475.3	501.5	519.4	481.2	458.4	470.0	478.6	482.9	509.0
Mortality	144.1	165.7	138.3	119.6	168.1	156.4	120.5	148.8	154.6

Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

[83] NYSDOH, January 2018, https://apps.health.ny.gov/public/tabvis/PHIG_Public/lcd/reports/#state, accessed April 2019

When looking over time, all cancer incidence rates have decreased across the seven counties in the Mid-Hudson Region, New York State, and New York State excluding New York City [see Figure 190]. Of the seven counties, in 2014, Putnam had the highest cancer incidence rate of 523.8 per 100,000 population, and Dutchess had the lowest cancer incidence of 473.4 per 100,000 population. The age-adjusted rate of cancer incidence in the U.S. was 435.6 per 100,000 population in 2016, which was lower than rates in the Mid-Hudson Region and New York State.[84]

Figure 190



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above. Y-axis does not begin at zero in order to clearly display trend lines.

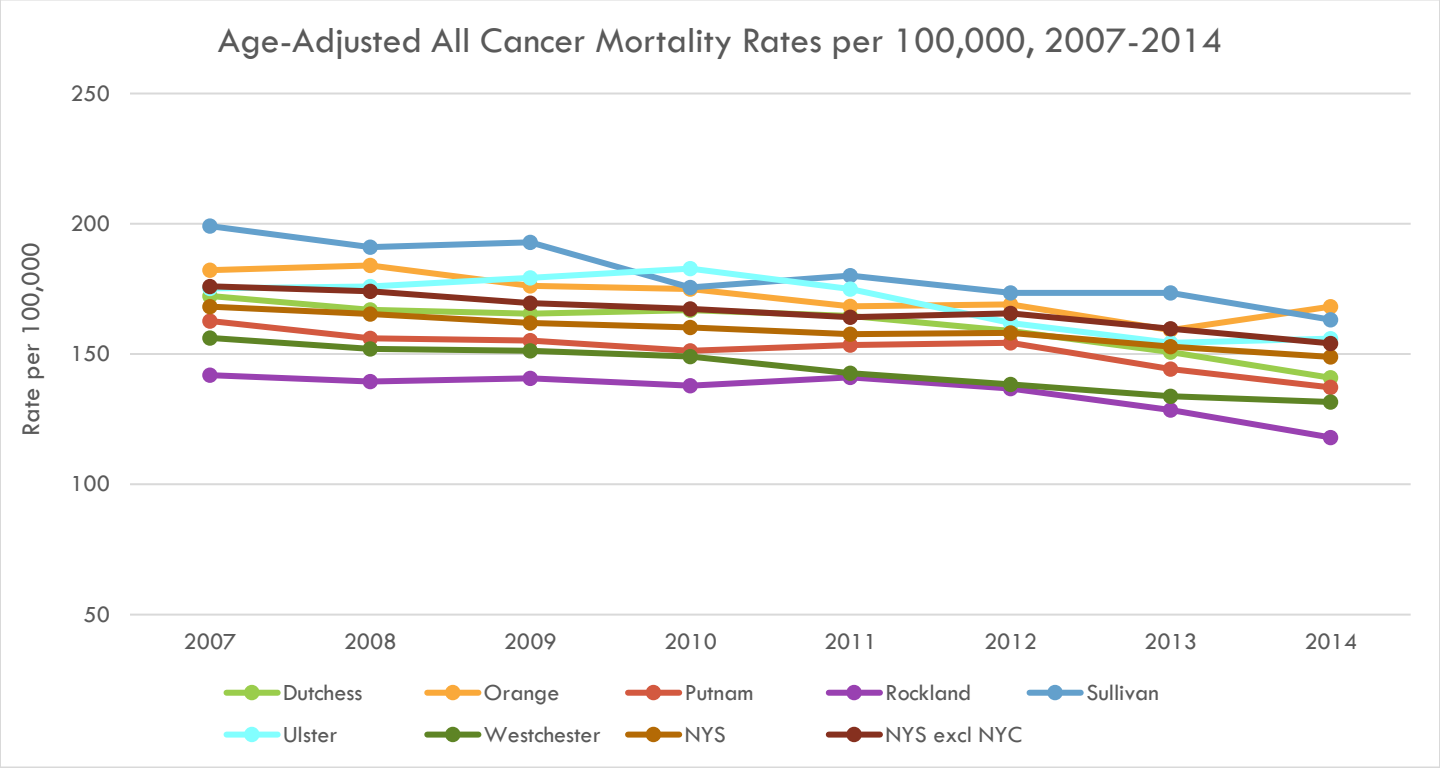
	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2007	502.6	531.3	545.8	521.7	529.3	531.6	516.6	512.9	535.2
2008	504.6	529.9	531.7	529.6	514.3	522.1	513.1	513.6	538.3
2009	499.6	524.0	523.0	520.0	500.2	505.3	509.3	508.3	529.1
2010	498.8	505.5	516.3	507.0	475.6	479.8	493.6	491.8	513.9
2011	491.1	498.3	522.6	492.9	455.8	467.0	484.8	501.4	523.3
2012	492.2	495.3	527.9	500.2	469.8	465.2	483.8	482.1	505.0
2013	482.1	508.7	522.5	489.0	467.7	467.1	480.5	492.9	513.5
2014	473.4	509.3	523.8	483.1	468.7	469.1	481.8	481.9	504.6

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Cancer Registry, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[84] U.S. Cancer Statistics, June 2019, https://gis.cdc.gov/Cancer/USCS/DataViz.html, accessed April 2019

Overall, all cancer mortality rates have decreased across the seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City. However, Orange County had an increase in cancer mortality rates from 2013 to 2014 [see Figure 191]. Most of the Mid-Hudson Region counties, as well as New York State and New York State excluding New York City, met the Healthy People 2020 target rate to reduce cancer deaths to 161.4 deaths per 100,000 population, with the exception of Orange and Sullivan Counties.

Figure 191



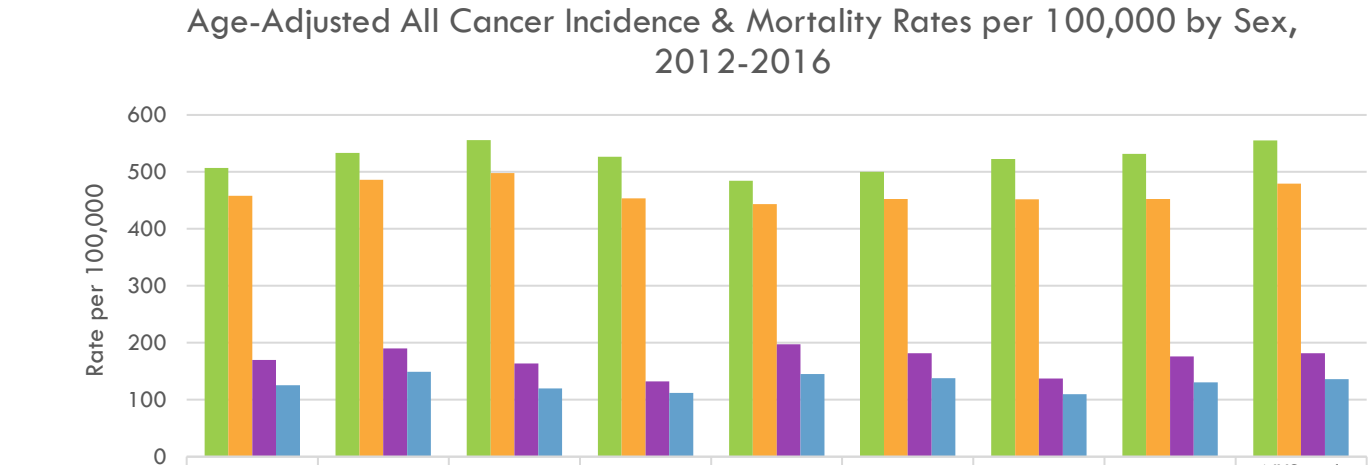
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above. Y-axis does not begin at zero in order to clearly display trend lines.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2007	172.3	182.2	162.7	141.9	199.1	175.2	156.2	168.2	176.0
2008	167.0	184.0	156.0	139.5	191.0	175.9	152.0	165.4	174.1
2009	165.5	176.2	155.2	140.7	192.9	179.2	151.2	162.0	169.6
2010	166.9	174.9	151.2	137.9	175.6	182.8	149.1	160.2	167.4
2011	164.7	168.3	153.5	141.1	180.1	174.9	142.7	157.6	164.2
2012	158.9	169.1	154.3	136.8	173.5	161.9	138.3	158.1	165.6
2013	150.8	159.2	144.3	128.5	173.5	154.3	133.8	152.9	159.7
2014	140.9	168.2	137.2	118.0	163.2	155.9	131.6	148.9	154.1

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Cancer Registry, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

When all cancer incidence and mortality rates were stratified by sex, males had higher incidence and mortality rates than females in all seven counties, as well as New York State and New York State excluding New York City [see Figure 192].

Figure 192



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence (Male)	506.8	533.3	556.1	526.4	484.6	500.4	522.6	531.6	555.4
Incidence (Female)	457.8	486.2	498.0	453.4	443.5	452.4	451.7	452.4	479.3
Mortality (Male)	169.9	190.2	163.7	132.0	197.3	181.4	137.4	176.1	181.6
Mortality (Female)	125.5	149.2	120.0	111.7	144.9	137.8	109.7	130.4	135.9

Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

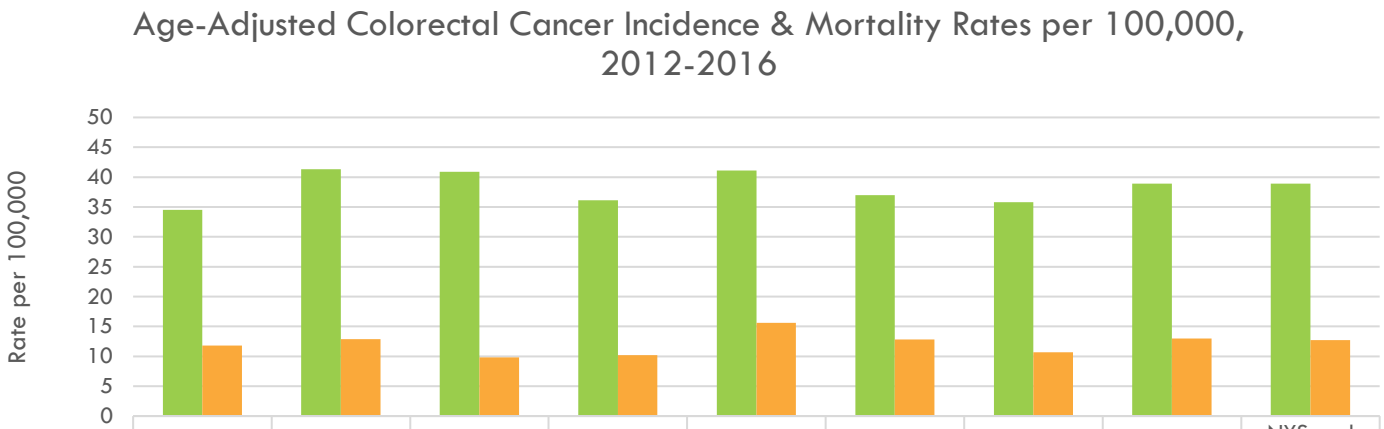
COLORECTAL CANCER

Colorectal cancer is a cancer that occurs in the colon or rectum. Some symptoms include blood in the stool, abdominal pains or aches, fatigue, and abnormal weight loss.[85] Of the seven counties in the Mid-Hudson Region, Orange and Sullivan Counties had the highest colorectal cancer incidence rates (41.3 & 41.1 per 100,000 population, respectively). Sullivan County had the highest mortality rate at 15.6 per 100,000 population [see Figure 193]. In the U.S., the rate of new colorectal cancer cases in 2016 was 37.4 per 100,000 population, while the mortality rate due to colorectal cancer was 13.7 per 100,000 population.[86]

[85] CDC, March 2019, https://www.cdc.gov/cancer/colorectal/index.htm, accessed April 2019

[86] U.S. Cancer Statistics, June 2019, https://gis.cdc.gov/Cancer/USCS/DataViz.html, accessed April 2019

Figure 193

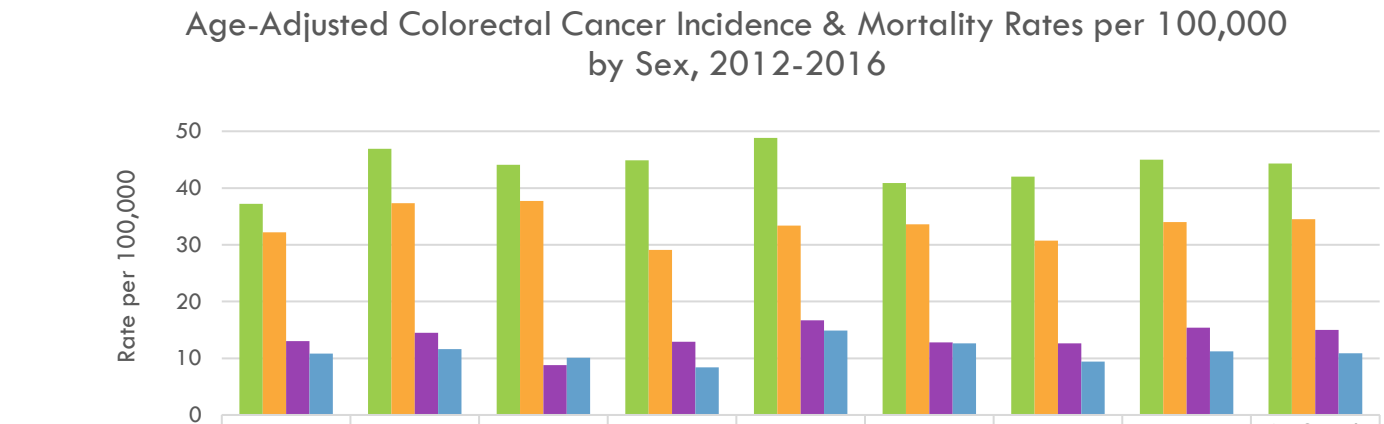


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	34.5	41.3	40.9	36.1	41.1	37.0	35.8	38.9	38.9
Mortality	11.8	12.9	9.8	10.2	15.6	12.8	10.7	13.0	12.7

Note: Trend data for incidence and mortality rates can be found on NYS Community Health Indicator Reports (CHIRS):
https://www.health.ny.gov/statistics/chac/indicators/index.htm
Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

When stratifying this data by sex, males had higher colorectal cancer incidence rates across all seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City. With the exception of Putnam County, mortality rates also follow a similar pattern, where females had higher colorectal cancer mortality rates than males (10.1 vs 8.8 per 100,000 population, respectively).

Figure 194

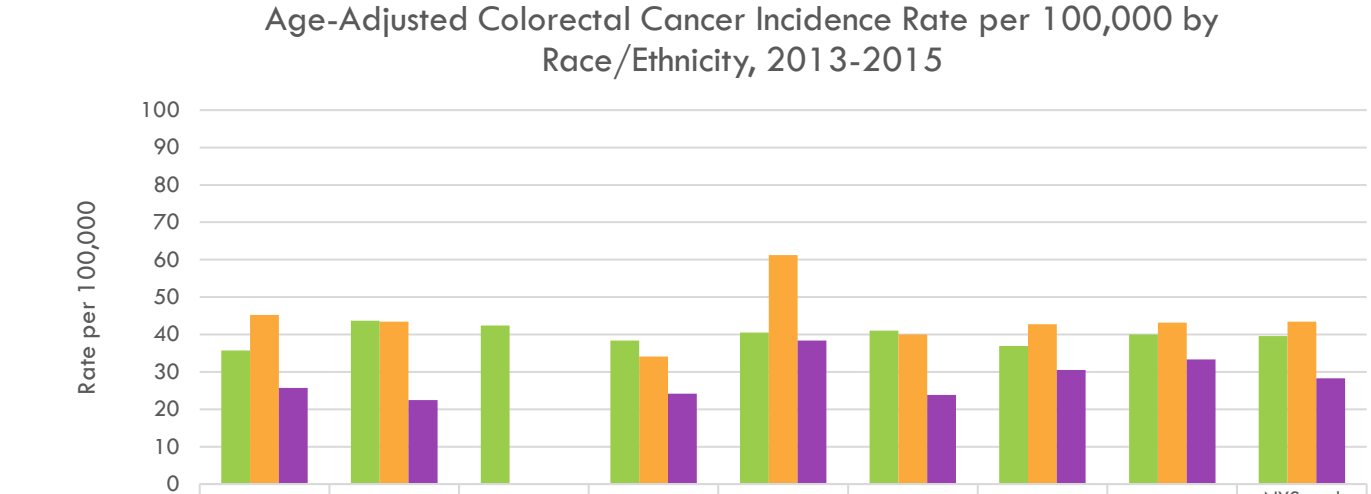


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence (Male)	37.2	46.9	44.1	44.9	48.8	40.9	42.0	45.0	44.3
Incidence (Female)	32.2	37.3	37.7	29.1	33.4	33.6	30.7	34.0	34.5
Mortality (Male)	13.0	14.5	8.8	12.9	16.7	12.8	12.6	15.4	15.0
Mortality (Female)	10.8	11.6	10.1	8.4	14.9	12.6	9.4	11.2	10.9

Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

When stratifying this data by race/ethnicity, the rates differ in most of the counties. In Dutchess, Sullivan, and Westchester Counties, the highest rates of colorectal cancer incidence were among the non-Hispanic Black population. Additionally, there were similar rates of cancer incidence among the non-Hispanic White and Black populations in Orange and Ulster Counties [see Figure 195]. In New York State, colorectal cancer incidence rates were highest among the non-Hispanic Black population.

Figure 195



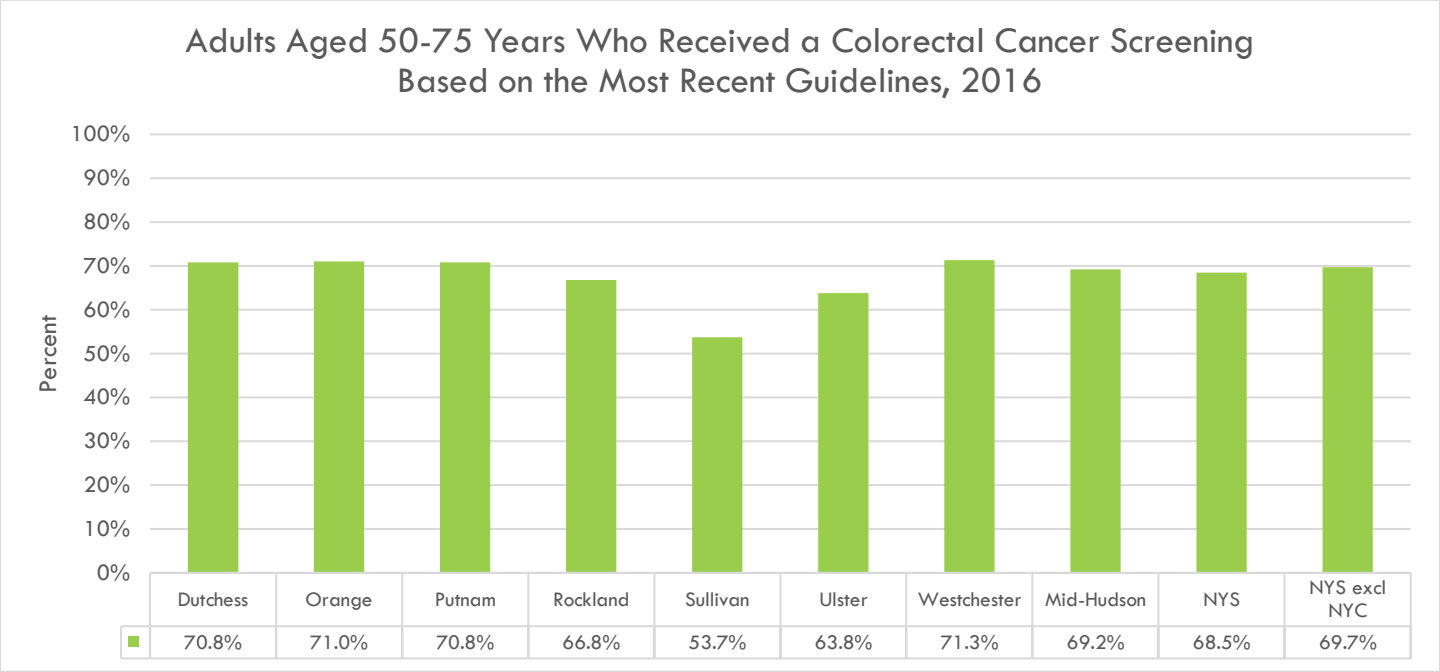
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	35.7	43.7	42.4	38.4	40.5	41.0	36.9	40.0	39.6
Non-Hispanic Black	45.2	43.4	s	34.1	61.2	40.0	42.7	43.2	43.4
Hispanic	25.7	22.5	s	24.2	38.4	23.8 *	30.5	33.3	28.3

Note: Mortality rates stratified by race/ethnicity are not shown due to suppressed and/or unstable data in most counties.
**: The rate or percentage is unstable.*
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: NYSDOH Cancer Registry, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE):
https://www.health.ny.gov/statistics/community/minority/county/index.htm

The U.S. Preventive Services Task Force recommends that adults aged 50-75 years receive screening for colorectal cancer. Some screening tests include colonoscopy; guaiac-based fecal occult blood test (gFOBT), which uses a chemical called guaiac to detect blood in the stool; or a fecal immunochemical test (FIT), which uses antibodies to look for blood in the stool.[87] The Healthy People 2020 goal was to increase the percentage of adults who receive colorectal cancer screening to 70.5%. The Mid-Hudson Region was just below this target, with 69.2% of adults aged 50-75 year, who received a colorectal cancer screening test based on the most recent guidelines in 2016 [see Figure 196].

[87] U.S. Preventive Services Task Force, June 2016, https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/colorectal-cancer-screening2?ds=1&s=colorectal, accessed April 2019

Figure 196



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/

LUNG CANCER

Lung cancer is the primary cause of cancer deaths, for both males and females, in all of the Mid-Hudson Region and New York State. Some symptoms of lung cancer include chest pain, coughing (sometimes with blood), shortness of breath, and/or wheezing. The leading risk factor for lung cancer is tobacco use. According to the NYSDOH, smoking is responsible for 80% of lung cancers.[88] Another risk factor for lung cancer is radon exposure. Radon is a colorless, radioactive gas that comes from the decay of elements such as uranium, which is found in soil and rock.[89] Radon is in the surrounding air, so it is not possible to completely avoid it. However, preventive measures can be taken to lower exposure, such as utilization of radon detection kits in the home or office.

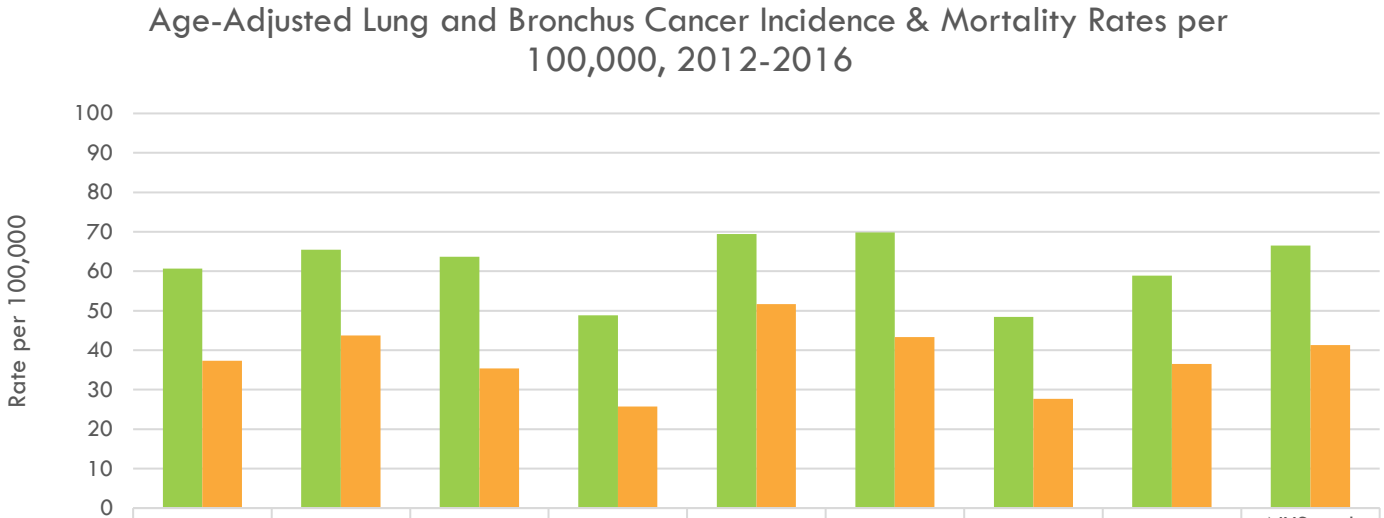
From 2012-2016, the highest rates of lung cancer incidence were in Sullivan and Ulster Counties (69.4 and 69.8 per 100,000 population, respectively), which was higher than both New York State and New York State excluding New York City (58.9 and 66.5 per 100,000 population, respectively) [see Figure 197].

The Healthy People 2020 goal was to reduce lung cancer mortality to 45.4 deaths per 100,000 population. Most of the counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City, met this target. However, Sullivan County did not meet this target, as there were 51.7 lung cancer deaths per 100,000 population [see Figure 197].

[88] NYSDOH, July 2018, https://www.health.ny.gov/statistics/cancer/registry/abouts/lung.htm, accessed April 2019

[89] American Cancer Society, September 2015, https://www.cancer.org/cancer/cancer-causes/radiation-exposure/radon.html, accessed July 2019

Figure 197

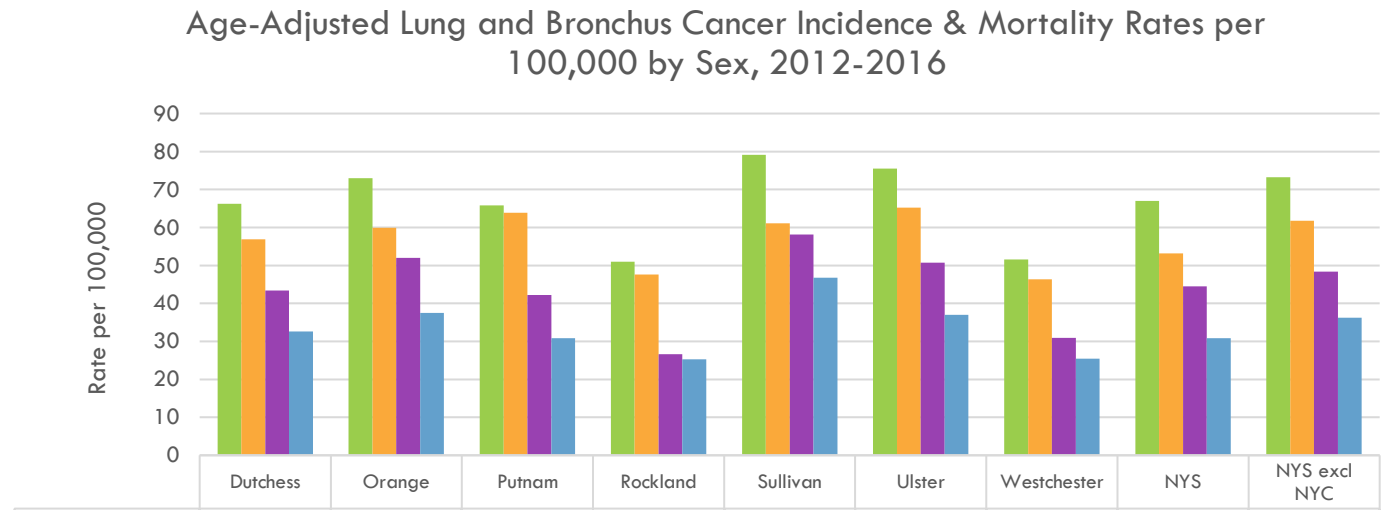


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	60.7	65.5	63.7	48.8	69.4	69.8	48.4	58.9	66.5
Mortality	37.3	43.7	35.4	25.7	51.7	43.3	27.7	36.5	41.3

Note: Trend data for incidence and mortality rates can be found on NYS Community Health Indicator Reports (CHIRS):
https://www.health.ny.gov/statistics/chac/indicators/index.htm
Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

When stratifying this data by sex, males had higher lung cancer incidence and mortality rates than females in all seven counties, as well as New York State and New York State excluding New York City, with the largest disparity seen in Ulster County [see Figure 198].

Figure 198

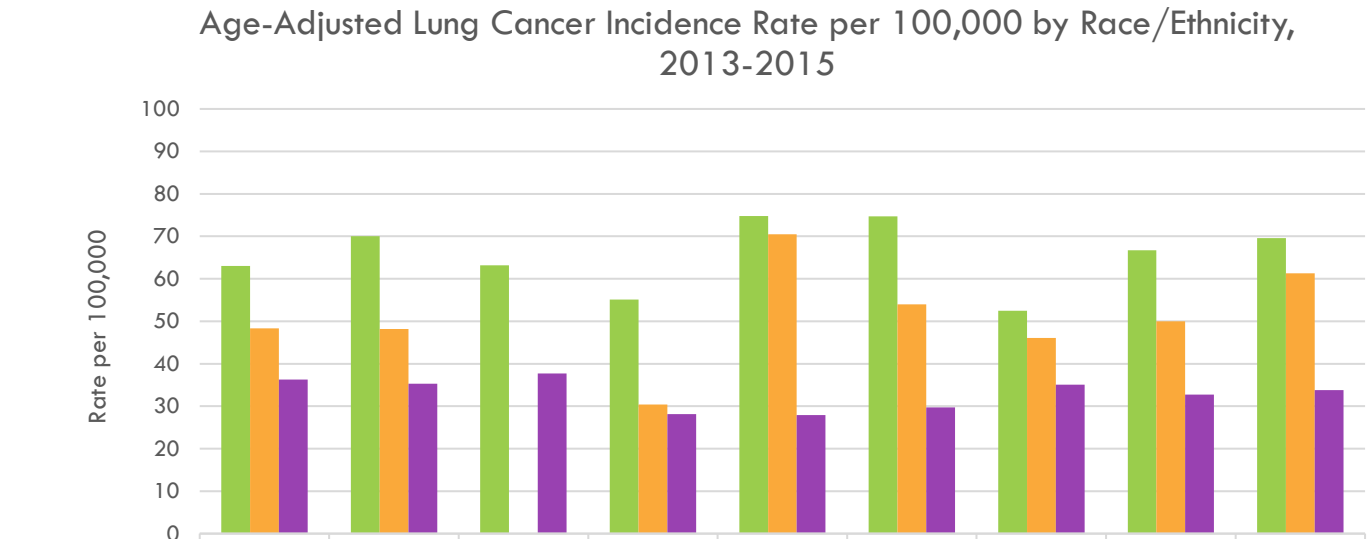


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence (Male)	66.2	73.0	65.8	51.0	79.1	75.5	51.6	67.0	73.2
Incidence (Female)	56.9	59.9	63.9	47.6	61.1	65.2	46.3	53.2	61.8
Mortality (Male)	43.4	52.0	42.2	26.6	58.1	50.7	30.9	44.5	48.4
Mortality (Female)	32.6	37.5	30.8	25.3	46.8	37.0	25.4	30.8	36.2

Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

When stratifying this data by race/ethnicity, non-Hispanic White adults had the highest lung cancer incidence rates in all seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City [see Figure 199].

Figure 199



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	63.0	70.0	63.2	55.1	74.8	74.7	52.5	66.7	69.6
Non-Hispanic Black	48.3	48.2	s	30.4	70.5	54.0	46.1	50.0	61.3
Hispanic	36.3	35.3	37.7 *	28.1	27.9 *	29.7	35.1	32.7	33.8

**: The rate or percentage is unstable.*
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: Mortality rates stratified by race/ethnicity are not available.
Source: NYSDOH Cancer Registry, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE):
https://www.health.ny.gov/statistics/community/minority/county/index.htm

PROSTATE CANCER

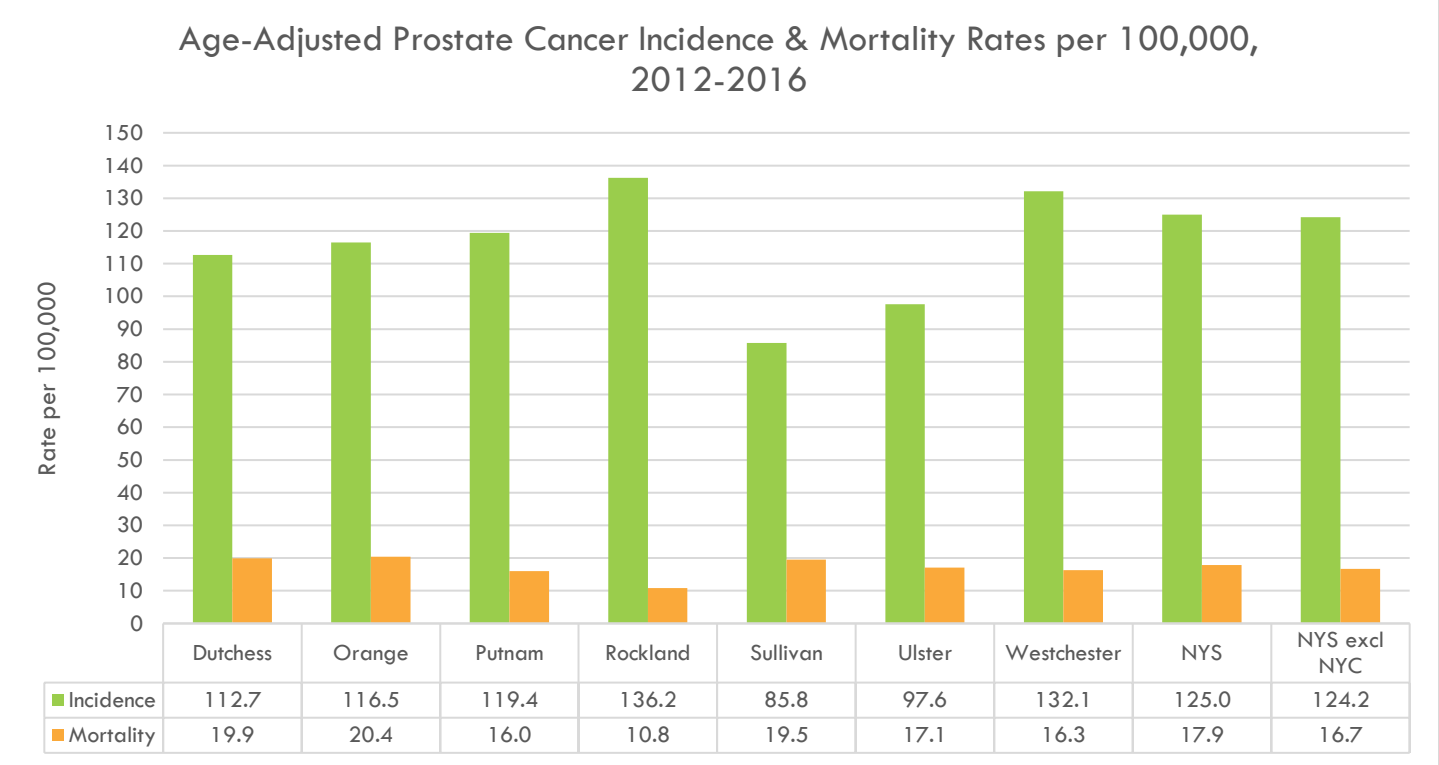
Out of every 100 American men, about 13 will get prostate cancer during their lifetime.[90] Some common symptoms of prostate cancer include difficulty urinating, frequent urination, blood in the urine or semen, and painful ejaculation. Prostate cancer has a better prognosis compared to other cancers when people receive treatment early. The Prostate Specific Antigen (PSA) test measures the level of PSA in the blood, which is a substance created in the prostate. When PSA levels are high, this most likely means there is a problem with the prostate. It is important for men to begin being tested at a younger age in order to prevent future complications.

[90] CDC, November 2018, https://www.cdc.gov/cancer/prostate/index.htm, accessed April 2019

When looking at Figure 200, the highest rate of prostate cancer incidence was seen in Rockland County, and the lowest incidence rate was seen in Sullivan County (136.2 and 85.8 per 100,000 males, respectively).

The Healthy People 2020 goal was to reduce prostate cancer mortality to 21.8 deaths per 100,000 males. According to Figure 200, the counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City, met this target. Orange County had the highest rate of prostate cancer mortality in the Mid-Hudson Region, but was still under this target (20.4 per 100,000 males).

Figure 200



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	112.7	116.5	119.4	136.2	85.8	97.6	132.1	125.0	124.2
Mortality	19.9	20.4	16.0	10.8	19.5	17.1	16.3	17.9	16.7

Note: Incidence and mortality rates stratified by race/ethnicity are not available. However, trend data for incidence and mortality rates can be found on NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm
Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

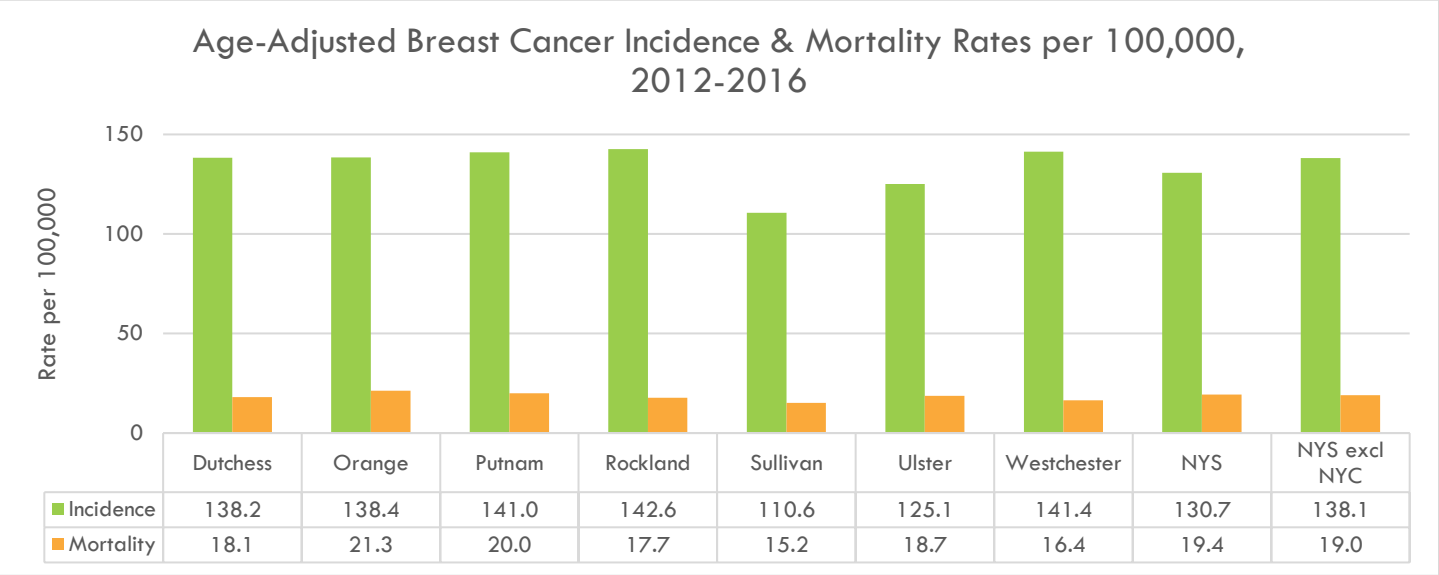
FEMALE BREAST CANCER

Breast cancer is one of the most prevalent cancers in American women. The most common symptom of breast cancer is a lump or mass found in the breast. The average risk of a woman in the U.S. developing breast cancer in her lifetime is about 12%.[91]

In the U.S., the age-adjusted rate of breast cancer incidence in 2015 was 126.2 per 100,000 females. When looking at the Mid-Hudson Region, as well as New York State and New York State excluding New York City, the highest rate of breast cancer incidence from 2012-2016 was in Rockland County, and the lowest rate was in Sullivan County (142.6 and 110.6 per 100,000 females, respectively). When looking at mortality rates, the highest rate was in Orange County at 21.3 per 100,000 females [see Figure 201].

[91] American Cancer Society, September 2017, https://www.cancer.org/cancer/breast-cancer.html, accessed June 2019

Figure 201

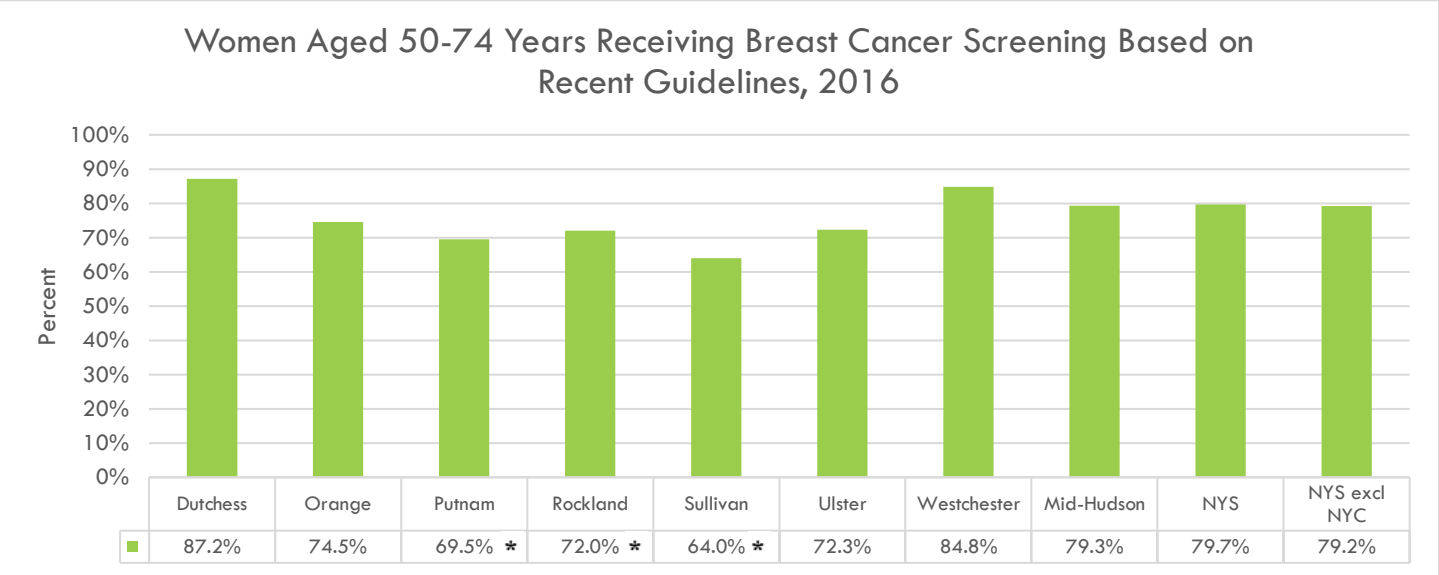


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	138.2	138.4	141.0	142.6	110.6	125.1	141.4	130.7	138.1
Mortality	18.1	21.3	20.0	17.7	15.2	18.7	16.4	19.4	19.0

Note: Incidence and mortality rates stratified by race/ethnicity are not shown due to suppressed and/or unstable data in most counties. However, trend data for incidence and mortality rates can be found on NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm
Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

Public awareness, screening tests, and advancements in treatment options contribute to the decreased mortality rates seen over time. One of the most important screening tests for breast cancer is a mammogram, which is an X-ray picture of the breast that should be routinely administered to women aged 40 years and older.[91] The Healthy People 2020 goal was to have at least 81.1% of the female population receive a breast cancer screening, based on the most recent data. Dutchess and Westchester Counties met this target at 87.2% and 84.8%, respectively [see Figure 202]. However, the rest of the Mid-Hudson Region counties, as well as New York State, have not met this target.

Figure 202



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
	87.2%	74.5%	69.5% *	72.0% *	64.0% *	72.3%	84.8%	79.3%	79.7%	79.2%

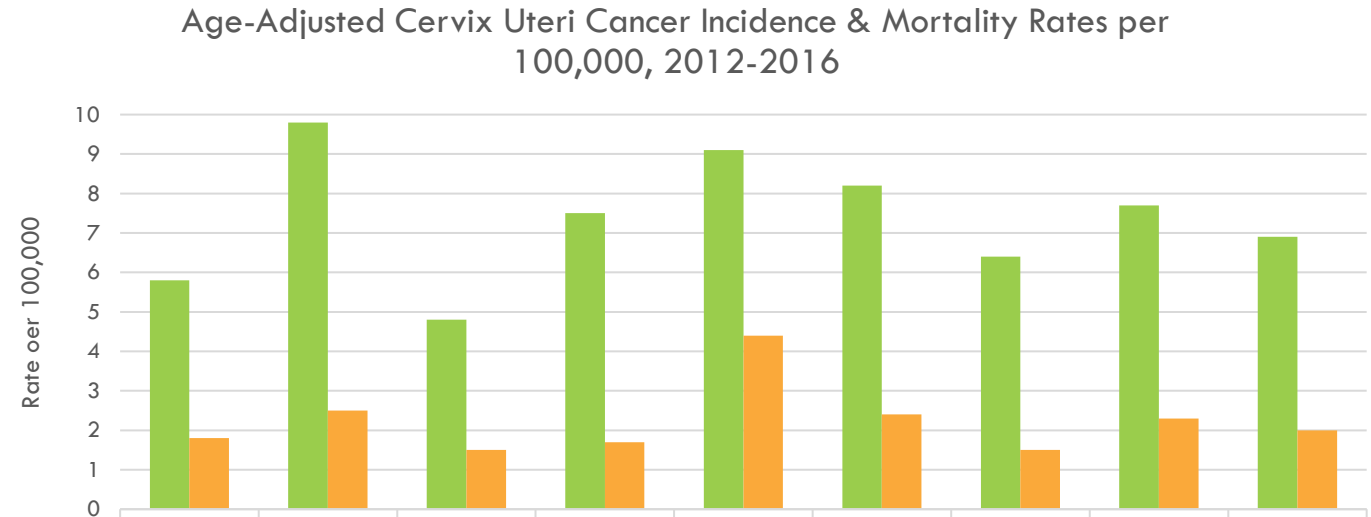
**: Unreliable percentage due to large standard error.*
Source: NYS Department of Health Cancer Registry, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

CERVIX UTERI CANCER

Cervical cancer occurs most often in females over the age of 30.[92] There are no early signs or symptoms for this disease, but advanced cervical cancer can lead to symptoms of abnormal bleeding and discharge from the vagina. According to the American Cancer Society (ACS), some risk factors specific to cervical cancer include multiple full-term pregnancies; family history of cervical cancer; Human Papillomavirus (HPV) infection, which can spread through sexual activity (vaginal, oral, and anal sex) that sometimes presents as warts on the body; and HIV/AIDS, which weakens the immune system and puts women at a higher risk for HPV infection.[93]

When looking at the incidence and mortality rates of cervical cancer in Figure 203, the highest incidence rate was in Orange County at 9.8 per 100,000 females and the lowest in Putnam County at 4.8 per 100,000 females. The highest mortality rate was seen in Sullivan County at 4.4 per 100,000 females. The Healthy People 2020 goal was to reduce the cervical cancer mortality rate to 2.2 deaths per 100,000 females. All counties met this target, with the exception of Sullivan, Orange, and Ulster Counties, as well as New York State.

Figure 203



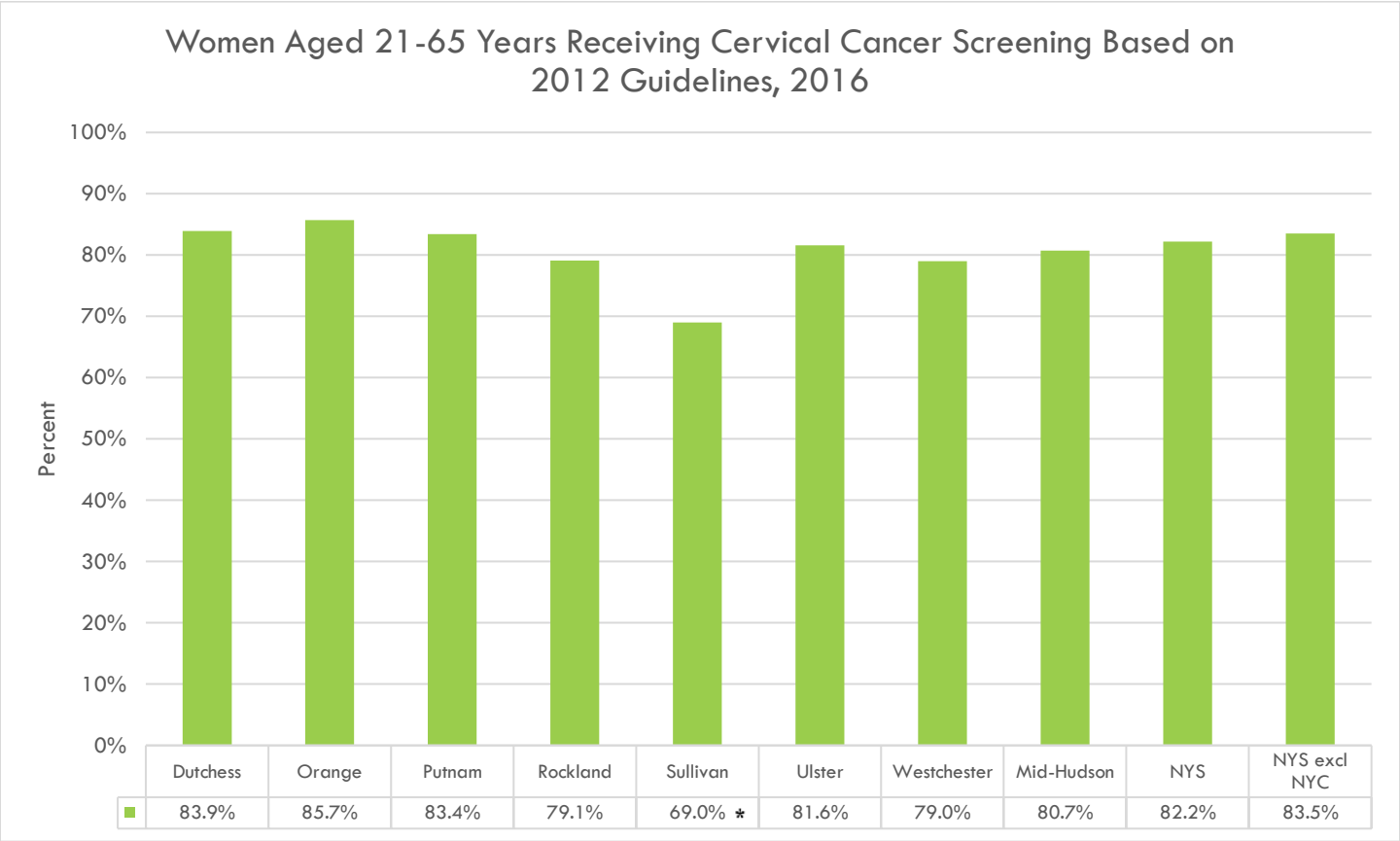
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Incidence	5.8	9.8	4.8	7.5	9.1	8.2	6.4	7.7	6.9
Mortality	1.8	2.5	1.5	1.7	4.4	2.4	1.5	2.3	2.0

Note: Incidence and mortality rates stratified by race/ethnicity are not shown due to suppressed and/or unstable data in most counties. However, trend data for incidence and mortality rates can be found on NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm
Source: NYSDOH Cancer Registry, 2018
https://www.health.ny.gov/statistics/cancer/registry/vol1.htm

[92] CDC, February 2017, https://www.cdc.gov/cancer/cervical/basic_info/index.htm, accessed June 2019
[93] American Cancer Society, November 2017, https://www.cancer.org/cancer/cervical-cancer/causes-risks-prevention/risk-factors.html, accessed June 2019

Women should be screened for cervical cancer starting at the age of 21 through a pap smear or pap test. This test is designed to look for any changes in the cervix, and should be completed every three years, or as noted by the medical provider.[92] The Healthy People 2020 goal was to increase the percentage of women who receive a cervical cancer screening to 93.0%. New York State, the Mid-Hudson Region, and the seven counties have not met this goal. Orange, Dutchess, and Putnam Counties showed the highest percentage of women who were screened, while Sullivan County had the lowest percentage receiving screenings, which may explain the higher incidence and mortality rates in this County [see Figure 204].

Figure 204



*: *Unreliable percentage due to large standard error.*
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

INFECTIOUS DISEASES

VACCINE-PREVENTABLE DISEASES

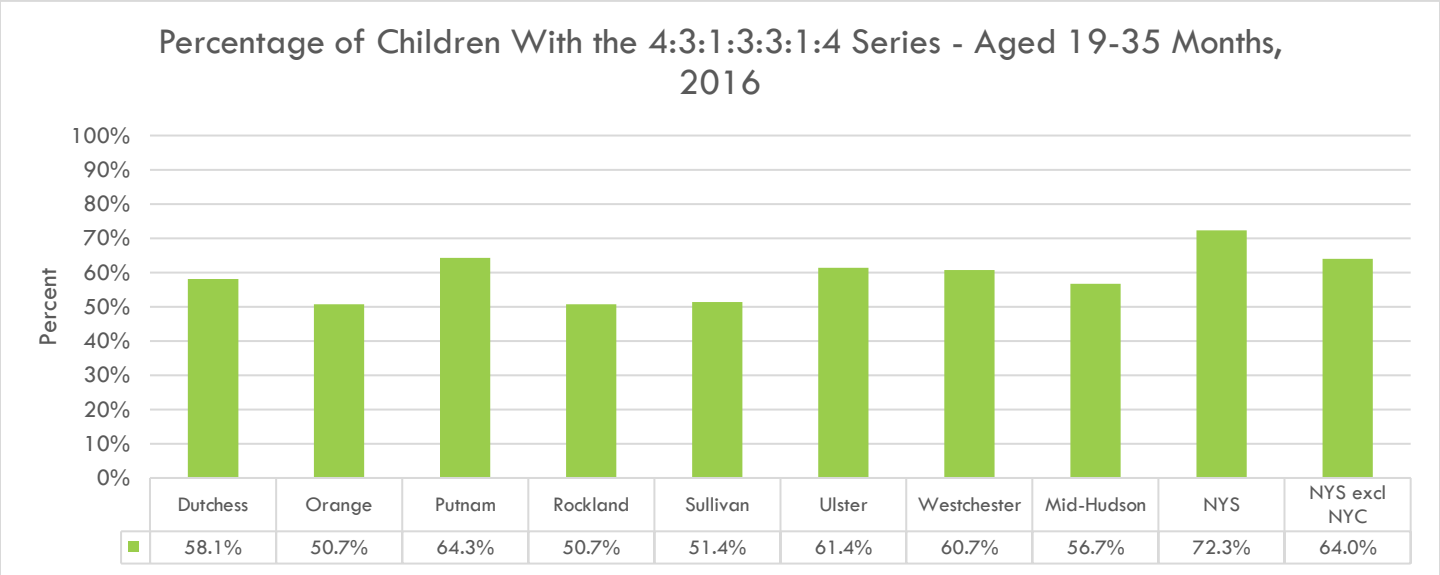
Infectious diseases are illnesses caused by disease-causing organisms that often spread from person-to-person. Life expectancy increased in the 20th century due largely to reductions in deaths caused by infectious diseases where vaccines were available. Despite these improvements, people in the U.S. continue to get preventable diseases. Approximately 42,000 adults and 300 children in the U.S. die each year from vaccine preventable diseases.[94] Communities with unimmunized populations are at an increased risk for outbreaks of vaccine preventable diseases.

CHILDHOOD IMMUNIZATION

The Advisory Committee on Immunization Practices (ACIP) recommends routine childhood vaccination by two years of age. The combined 4:3:1:3:3:1:4 vaccine series consists of four doses of diptheria, tetanus, and acellular pertussis (DTaP); three polio; one measles, mumps, rubella (MMR); three haemophilus influenza (Hib); three hepatitis B (HepB); one varicella; and four pneumococcal conjugate (PCV) vaccines. Appropriate vaccination coverage is linked to improved health outcomes and cost savings. Complying with age-appropriate receipt of vaccines is critical in providing maximum effectiveness against vaccine preventable diseases.

The Healthy People 2020 Immunization and Infectious Disease goals set a target that 80% of children should receive all doses in the 4:3:1:3:3:1:4 series by age 19 to 35 months to achieve and maintain effective vaccination coverage levels for universally recommended vaccines among children. While coverage had generally been trending upwards, it remained suboptimal in the Mid-Hudson Region with 56.7% coverage [see Figure 206]. Putnam County had the highest coverage at 64.3%, while Orange and Rockland Counties had the lowest coverage at 50.7% [see Figure 205].

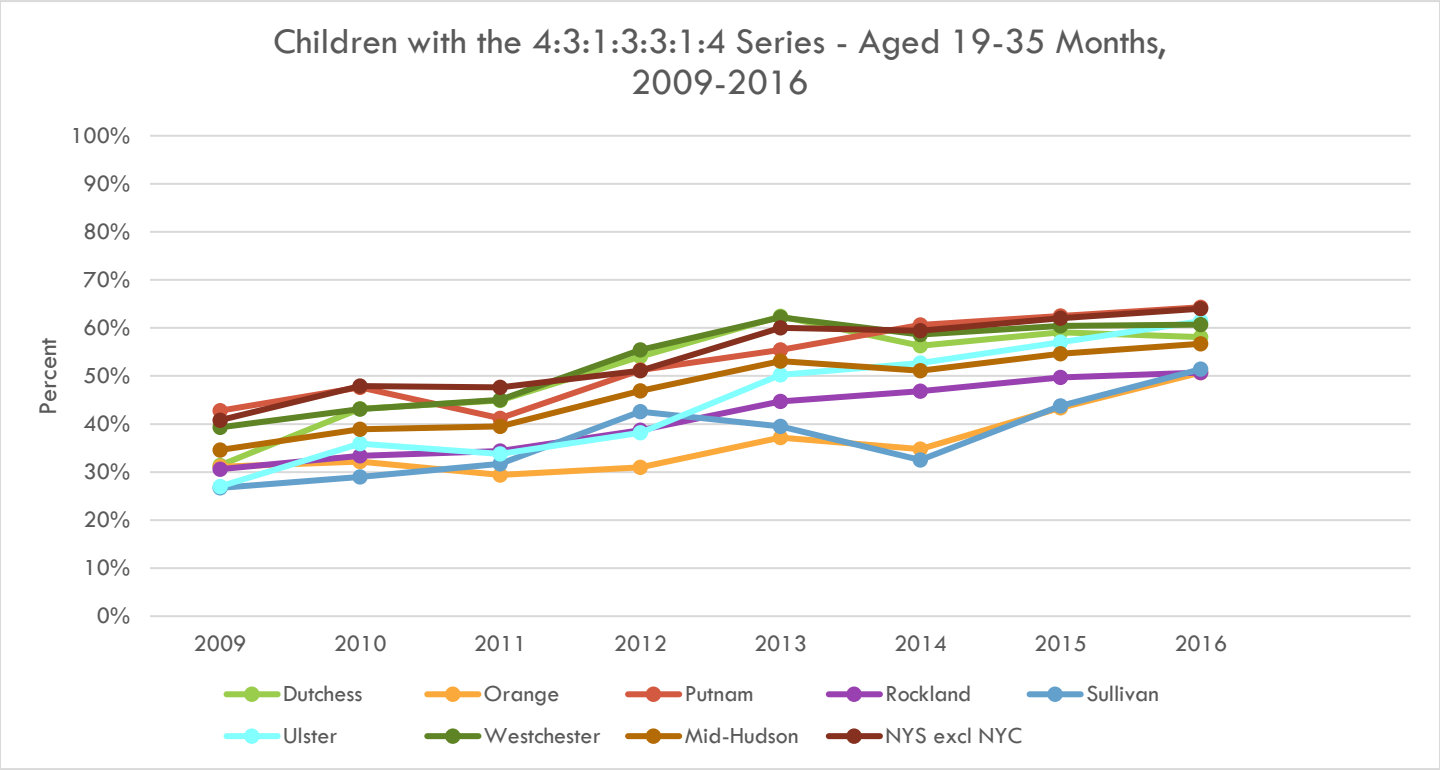
Figure 205



Source: NYS Immunization Information System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

[94] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases#one, accessed June 2019

Figure 206



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS excl NYS
2009	31.4%	31.1%	42.8%	30.6%	26.7%	27.0%	39.3%	34.6%	40.8%
2010	43.2%	32.2%	47.6%	33.4%	29.0%	35.9%	43.1%	38.9%	47.9%
2011	44.9%	29.4%	41.2%	34.4%	31.7%	33.8%	45.0%	39.5%	47.6%
2012	54.0%	31.0%	51.2%	38.7%	42.6%	38.2%	55.4%	46.9%	51.1%
2013	62.4%	37.2%	55.4%	44.7%	39.5%	50.2%	62.2%	53.1%	60.0%
2014	56.3%	34.8%	60.6%	46.8%	32.5%	52.7%	58.6%	51.1%	59.4%
2015	59.1%	43.4%	62.5%	49.7%	43.8%	57.0%	60.4%	54.6%	62.0%
2016	58.1%	50.7%	64.3%	50.7%	51.4%	61.4%	60.7%	56.7%	64.0%

Source: NYSDOH Immunization Information System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

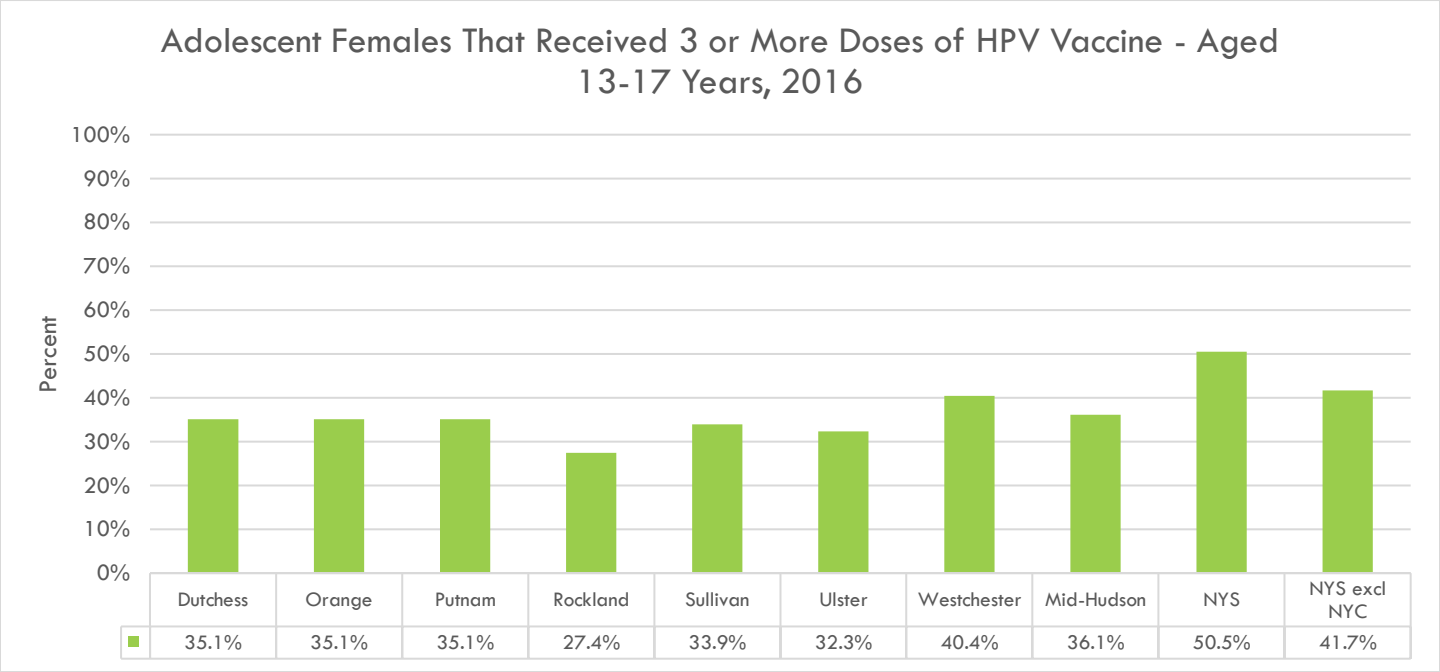
HUMAN PAPILLOMAVIRUS IMMUNIZATION

In the U.S., human papillomavirus virus (HPV) is the most common sexually transmitted infection (STI). Nearly 80 million Americans are infected with HPV, and it is most prevalent in teens and young adults.[95] HPV is spread through vaginal, anal, or oral sex with someone who has the virus, even if they have no symptoms. Anyone who is sexually active is at risk for HPV, and symptoms may not develop until years after exposure.

While HPV can often go away on its own without causing any health problems, it can lead to conditions, such as genital warts and cervical cancer. There is no way to know which people with HPV will develop cancer or other health problems. The CDC recommends adolescents aged 11-12 years get two doses of HPV vaccine to protect against cancers caused by HPV. Other actions individuals can take to lower their risk of HPV include screening for cervical cancer; using latex condoms during sex; and limiting number of sexual partners. For more information on cervical cancer, see page 202.

The Healthy People 2020 target aims to increase the percentage of female adolescents aged 13-17 years receiving two or three doses of HPV vaccine to 80%.[96] Westchester County had the highest percentage of female adolescents aged 13-17 years who received three or more doses of the HPV vaccines (40.4%), while Rockland County had the lowest percentage (27.4%) [see Figure 207]. The percentage of adolescent females who received three or more doses has been increasing since 2014 [see Figure 208]. The overall percentage of adolescent females who received three or more doses of the HPV vaccine in the Mid-Hudson Region is well below the 80% target (36.1%).

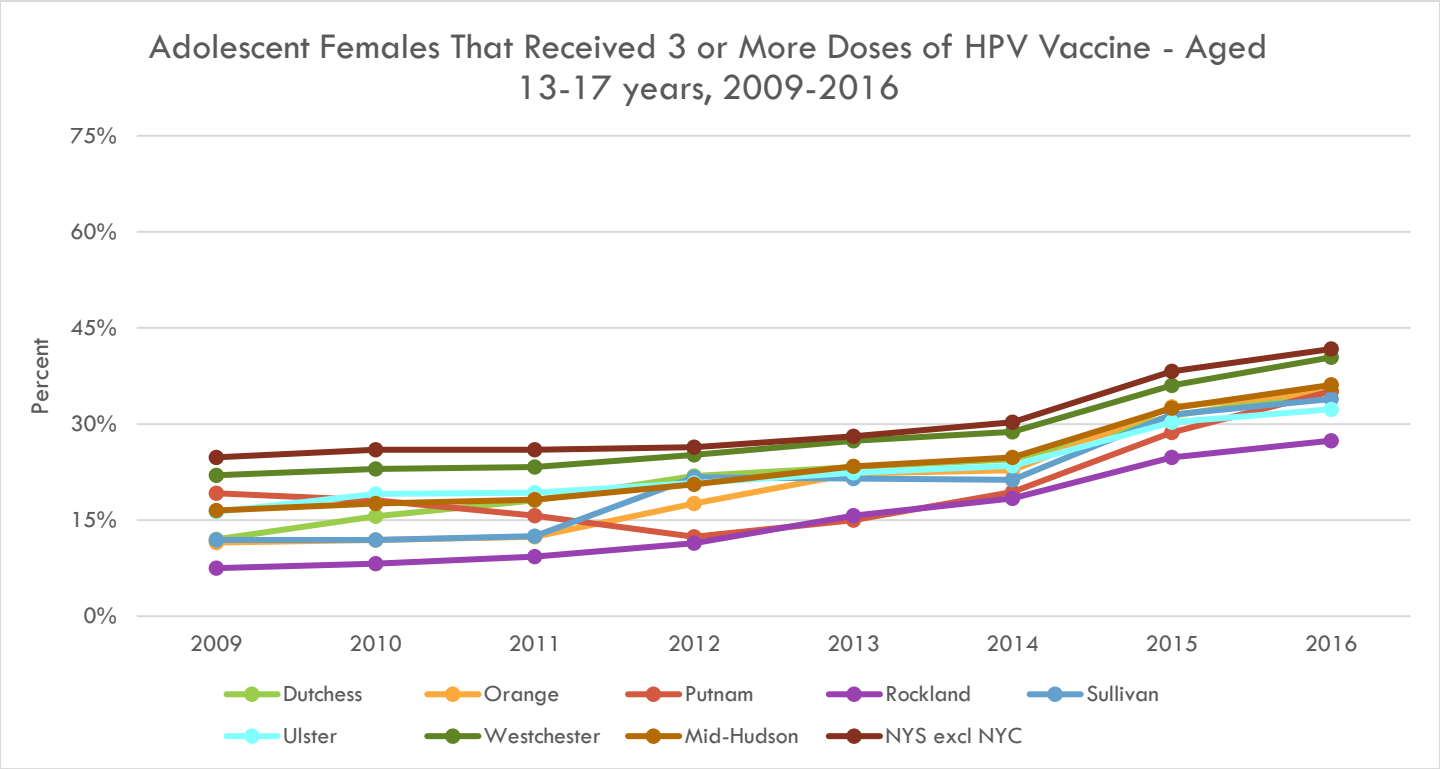
Figure 207



Source: NYSDOH Immunization Information System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

[95] CDC, 2017, https://www.cdc.gov/std/hpv/stdfact-hpv.htm, accessed June 2019
[96] Healthy People, 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases#one, accessed June 2019

Figure 208



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2009	12.0%	11.5%	19.2%	7.5%	11.9%	16.3%	22.0%	16.5%	24.8%
2010	15.6%	11.9%	18.1%	8.2%	11.9%	19.1%	23.0%	17.6%	26.0%
2011	18.1%	12.4%	15.7%	9.3%	12.5%	19.3%	23.3%	18.2%	26.0%
2012	21.9%	17.6%	12.4%	11.4%	21.7%	20.8%	25.2%	20.6%	26.4%
2013	23.3%	22.3%	15.0%	15.7%	21.5%	22.4%	27.4%	23.4%	28.1%
2014	24.5%	22.8%	19.4%	18.4%	21.3%	23.5%	28.8%	24.8%	30.3%
2015	31.3%	32.7%	28.7%	24.8%	31.5%	30.3%	36.0%	32.5%	38.2%
2016	35.1%	35.1%	35.1%	27.4%	33.9%	32.3%	40.4%	36.1%	41.7%

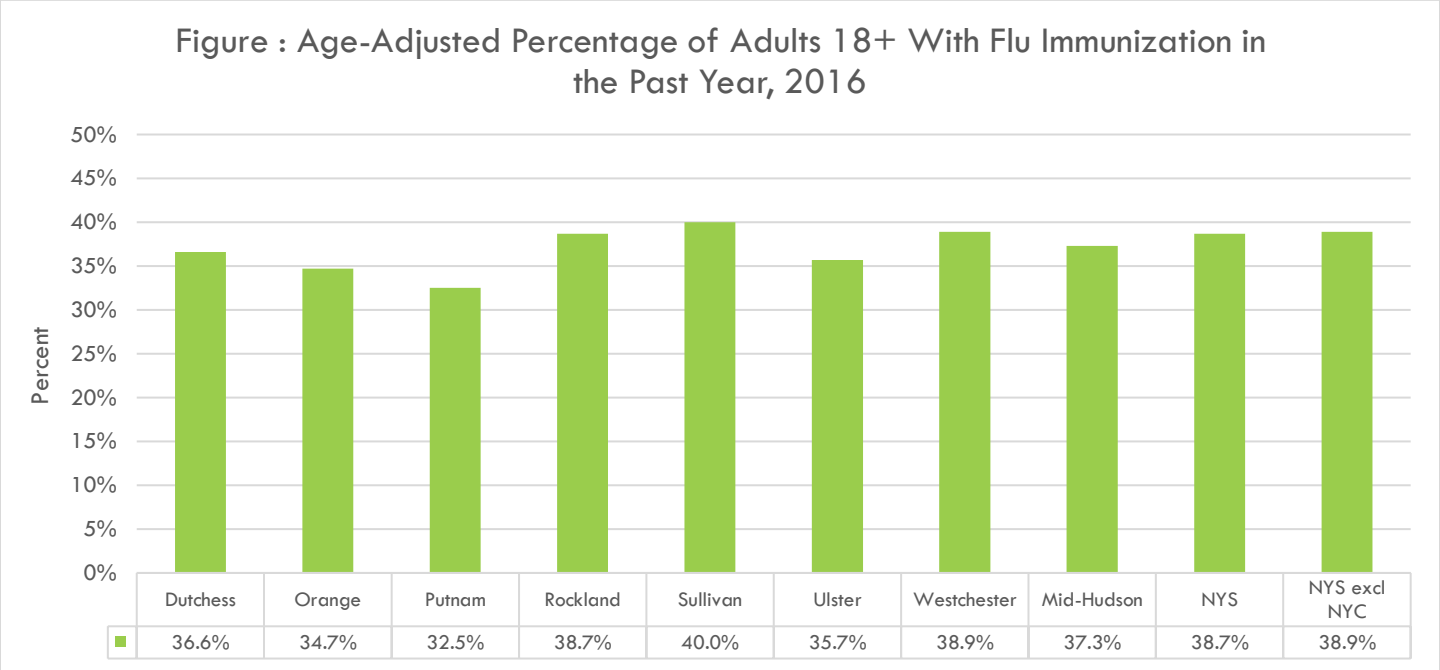
Source: NYSDOH Immunization Information System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

FLU IMMUNIZATION

Influenza (flu) is a contagious respiratory virus that can cause mild to severe illness. Severe illness from flu can result in hospitalization or even death. Certain populations are at a higher risk of complications from the flu virus, such as older people, young children, and people with certain health conditions. An annual flu vaccine is the best way to help protect against flu. Vaccination has been shown to reduce the risk of flu, hospitalizations, and risk of flu-related death in children.[97]

ACIP recommends that everyone six months of age and older receive a flu vaccine every flu season.[97] Healthy People 2020 set a target to increase the percentage of noninstitutionalized adults aged 18 and older who are vaccinated annually against seasonal influenza to 70%.[98] In 2016, 38.7% of adults aged 18 and older received a flu vaccine in New York State. Sullivan had the highest percentage of adults vaccinated (40%), while Putnam County had the lowest coverage (32.5%).

Figure 209



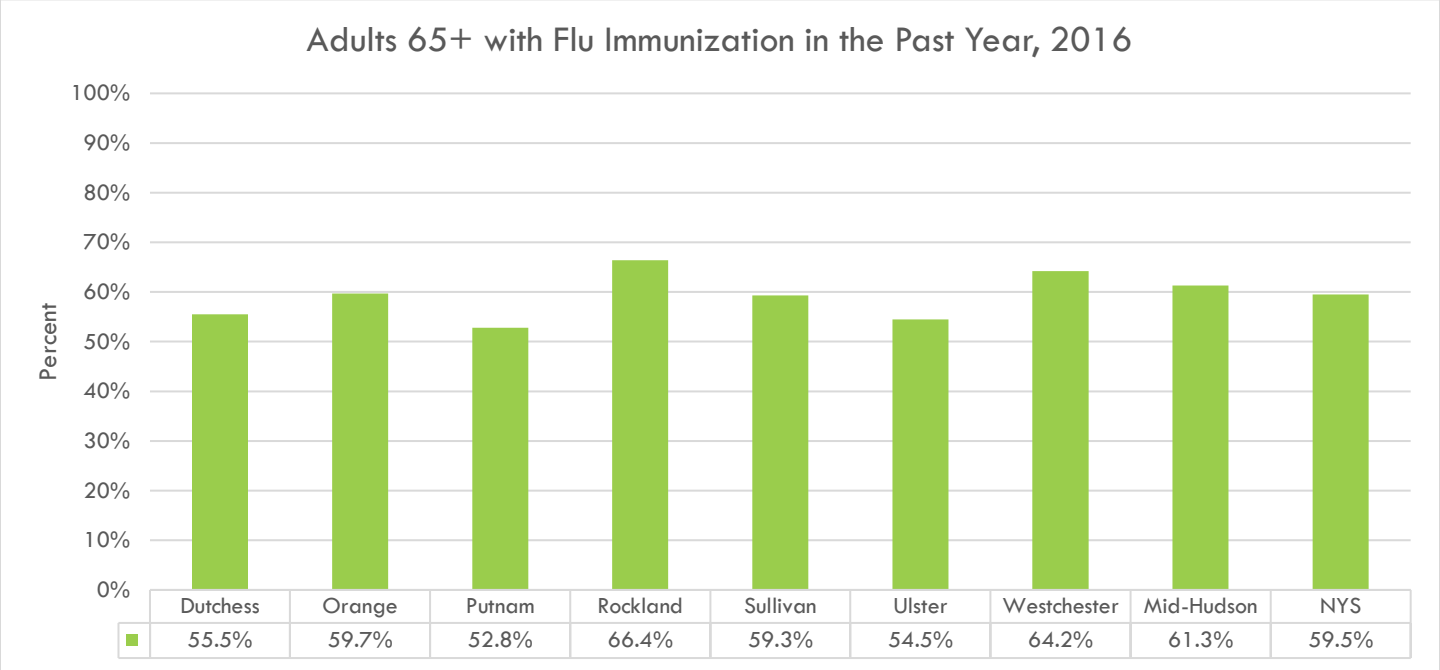
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
NYSDOH BRFSS: https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[97] CDC, September 2018, https://www.cdc.gov/flu/prevent/keyfacts.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fflu%2Fprotect%2Fkeyfacts.htm, accessed June 2019

[98] Healthy People, 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases#one, accessed June 2019

In New York State, 59.5% of those aged 65 years and older received a flu immunization in 2016 [see Figure 210]. This was slightly lower than the percentage in the Mid-Hudson Region, which was 61.3%. Rockland County had the highest percentage of individuals aged 65 years and older who received a flu vaccine (66.4%), while Putnam had the lowest flu vaccine coverage (52.8%).

Figure 210



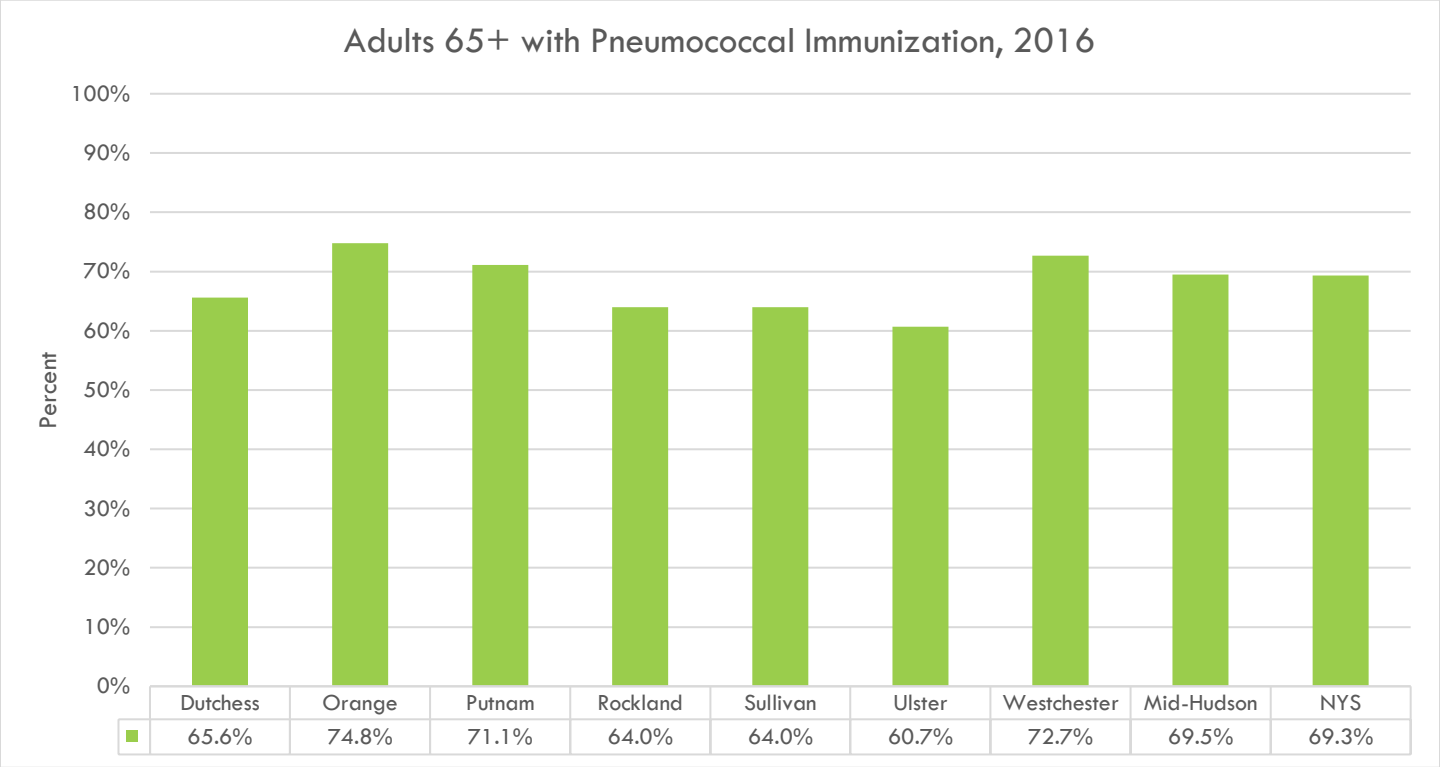
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
NYSDOH BRFSS: https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

PNEUMONIA IMMUNIZATION

Pneumococcal disease is caused by a type of bacteria that can lead to pneumonia, meningitis, and bacteremia. Pneumococcal bacteria are spread through droplets in the air through someone who coughs or sneezes. While pneumococcal disease is more common in children, it is more likely to cause serious complications in adults.[99] Healthy choices, such as giving up smoking and managing chronic illnesses, can also help prevent pneumonia. The CDC recommends two pneumococcal vaccines for adults aged 65 years and older. Healthy People 2020 aims to increase the percentage of noninstitutionalized adults aged 65 years and older who are vaccinated against pneumococcal disease to 90%. New York State did not reach this goal, nor did the counties in the Mid-Hudson Region, in which 69.5% of adults aged 65 years and older received the pneumococcal immunization in 2016. Orange County had the highest percentage (74.8%), while Ulster County has the lowest coverage (60.7%) [see Figure 211].

[99] U.S. Department of Health and Human Services, January 2018, https://www.vaccines.gov/diseases/pneumonia, accessed June 2019

Figure 211



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2019
NYSDOH BRFSS: https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

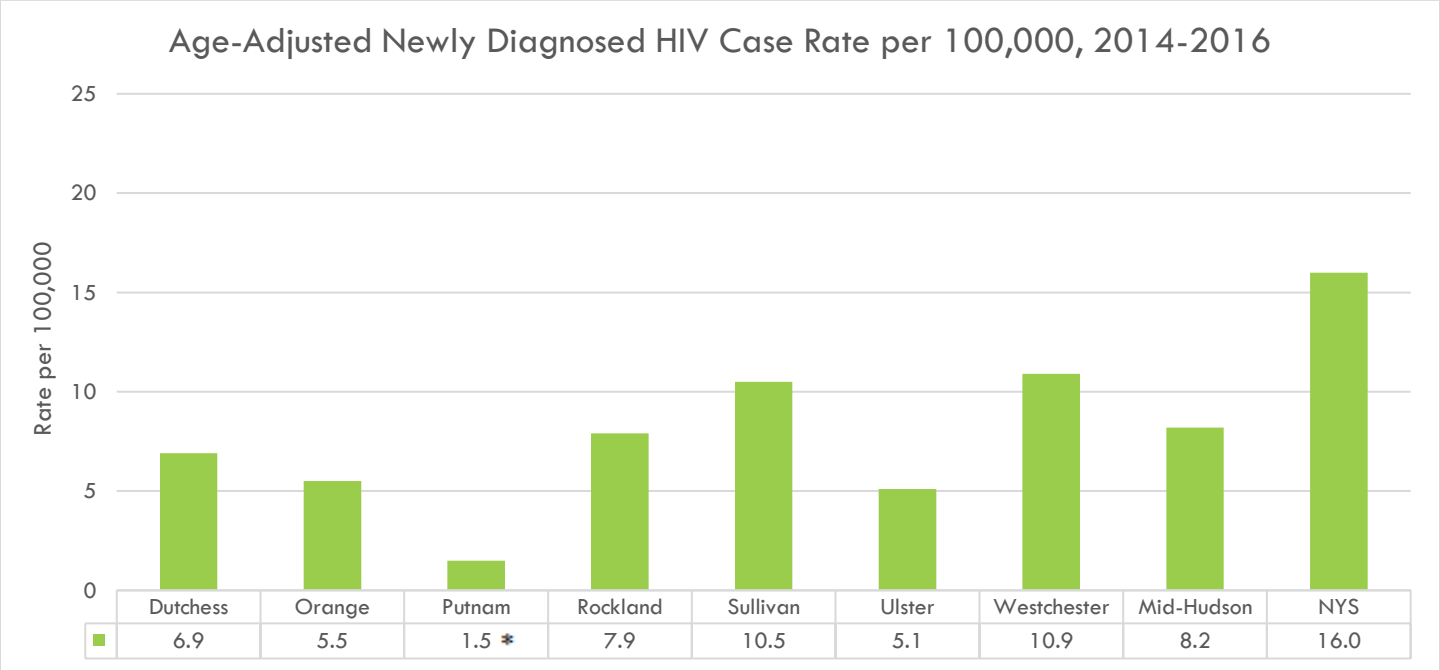
SEXUALLY TRANSMITTED INFECTIONS

HIV/AIDS

HIV is a virus spread through certain body fluids, including blood, vaginal and rectal secretions, semen, and breast milk, that attacks the body's immune system. An estimated 1.1 million people in the U.S. had HIV at the end of 2016, and 1 out of 7 did not know they have it.[100] There are age, gender, race, and ethnicity disparities in new HIV diagnoses. Young people aged 13-24 years accounted for 21% of all new HIV infections in 2017. Black individuals, as well as Hispanic individuals and LGBTQ male individuals, bear the burden of new HIV infections. The majority of people who receive a HIV diagnosis live in urban areas of the U.S., and the northeastern U.S. makes up 16% of new diagnoses.[100] AIDS is the final stage of infection with HIV, but not everyone with HIV will develop AIDS. No effective cure for HIV exists, but the virus can be controlled with proper medical care. The only way to know whether you have HIV is to be tested for it. The CDC recommends that everyone aged 13-64 years is tested at least once, as part of routine health care.

HIV/AIDS infections continue to be a substantial public health issue in New York State and the U.S. as a whole. HIV is a preventable disease, and people who are tested and learn they are HIV-positive can make changes to reduce the risk of transmitting it to their sexual or drug-using partners significantly. It is estimated that 91% of new HIV infections in the U.S. are transmitted from people who are not diagnosed or who are diagnosed, but not in care.[101] Healthy People 2020 set a target to reduce the number of new HIV diagnoses in the U.S. from 43,806 to 32,855 per year. Westchester and Sullivan Counties had the highest case rates (10.9 and 10.5), while Putnam had the lowest (1.5). The Mid-Hudson Region's rate of newly diagnosed HIV infections was lower than the rate for New York State, which was 16.0 per 100,000 population, including New York City [see Figure 212].

Figure 212

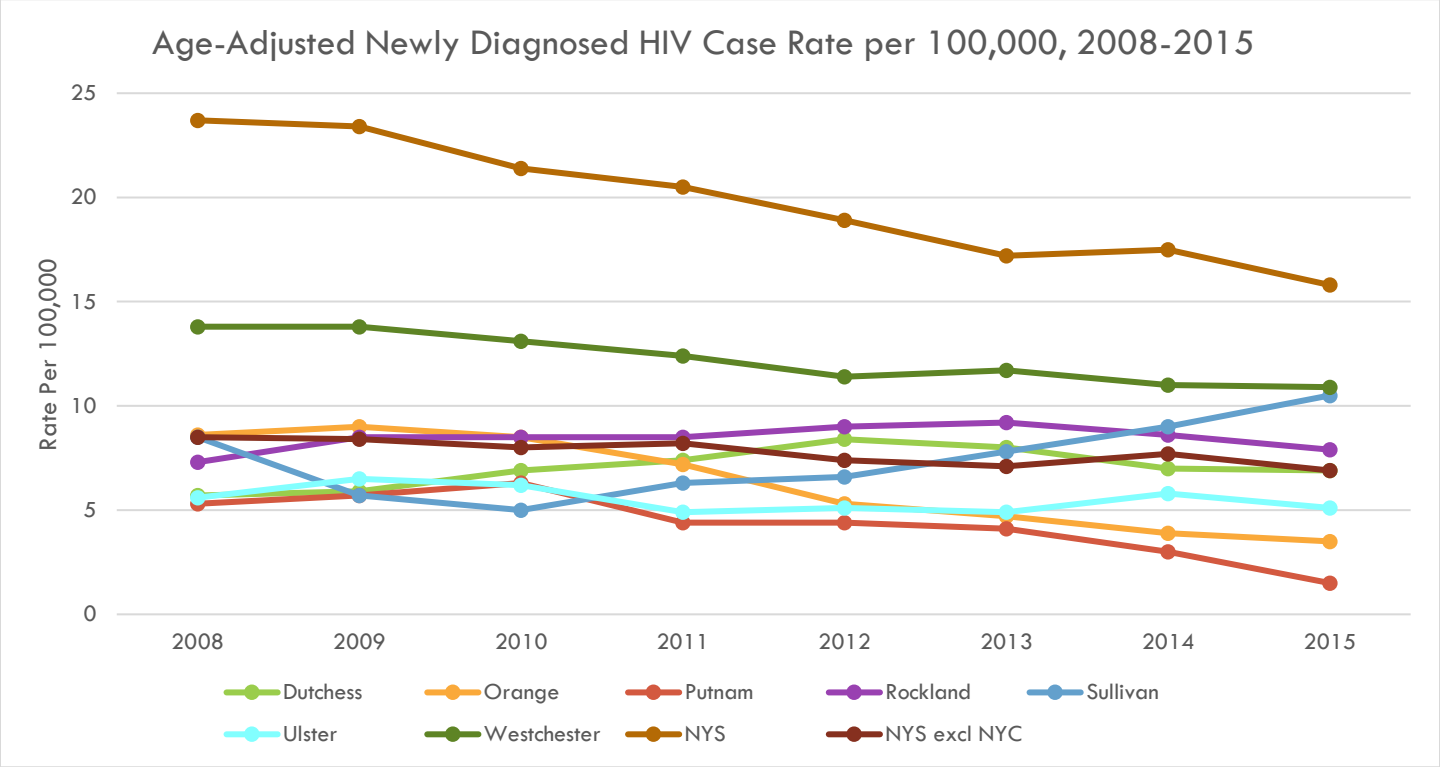


*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH HIV Surveillance System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[100] CDC, April 2019, https://www.cdc.gov/hiv/, accessed June 2019
[101] Healthy People, 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/hiv, accessed June 2019

Rates in New York State have generally been falling, with the exception of Sullivan County, which increased between 2014-2015 [see Figure 213].

Figure 213



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	5.7	8.6	5.3	7.3	8.5	5.6	13.8	23.7	8.5
2009	5.9	9.0	5.7	8.5	5.7	6.5	13.8	23.4	8.4
2010	6.9	8.5	6.3	8.5	5.0	6.2	13.1	21.4	8.0
2011	7.4	7.2	4.4	8.5	6.3	4.9	12.4	20.5	8.2
2012	8.4	5.3	4.4	9.0	6.6	5.1	11.4	18.9	7.4
2013	8.0	4.7	4.1	9.2	7.8	4.9	11.7	17.2	7.1
2014	7.0	3.9	3.0*	8.6	9.0	5.8	11.0	17.5	7.7
2015	6.9	3.5	1.5*	7.9	10.5	5.1	10.9	15.8	6.9

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH HIV Surveillance System Data, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

GONORRHEA

Gonorrhea is an STI that can infect individuals of all genders. Gonorrhea can cause infections in the genitals, rectum, and throat. Gonorrhea can affect people of all ages, but is especially common among young people aged 15-24 years.[102] Gonorrhea is spread by vaginal, anal, or oral sex with an infected partner. Pregnant women with gonorrhea can also pass the infection on to babies during childbirth.

Healthy People 2020 aims to reduce gonorrhea rates among females aged 15-44 years to 251.9 cases per 100,000 years and to 194.8 new cases per 100,000 for males aged 15-44 years.[103] Westchester County had the highest rate of males with gonorrhea (153.7 per 100,000), while Sullivan County had the highest rate of female infections (166.8 per 100,000) [see Figure 214]. There was an increase in infection rates in the majority of counties between 2016-2018 [see Figure 219]. Despite this increase, the counties in the Mid-Hudson Region did meet the Healthy People 2020 target.

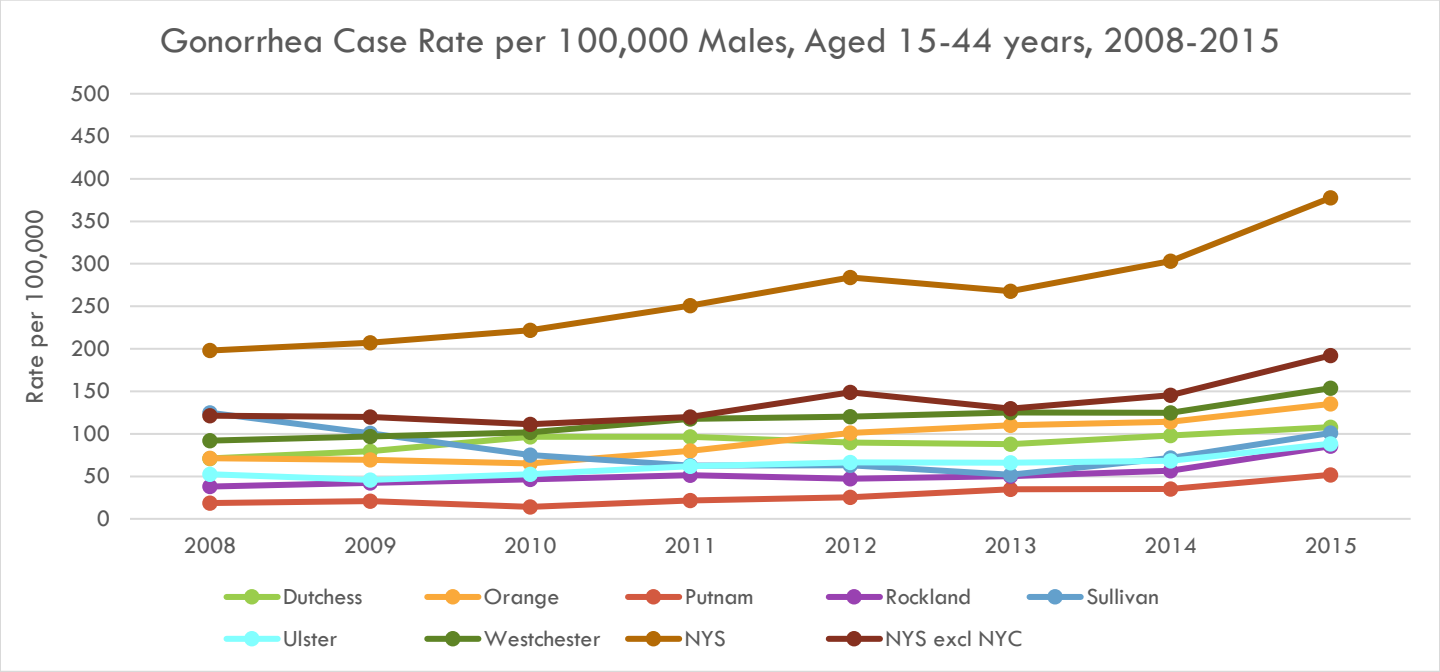
Figure 214

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Males	107.9	135.2	51.8	85.5	100.9	88.4	153.7	124.4	377.5
Females	83.7	123.6	17.7	48.6	166.8	86.0	105.1	94.6	191.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[102] CDC, January 2019, https://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea.htm, accessed June 2019
[103] Healthy People, 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases, accessed June 2019

Figure 215

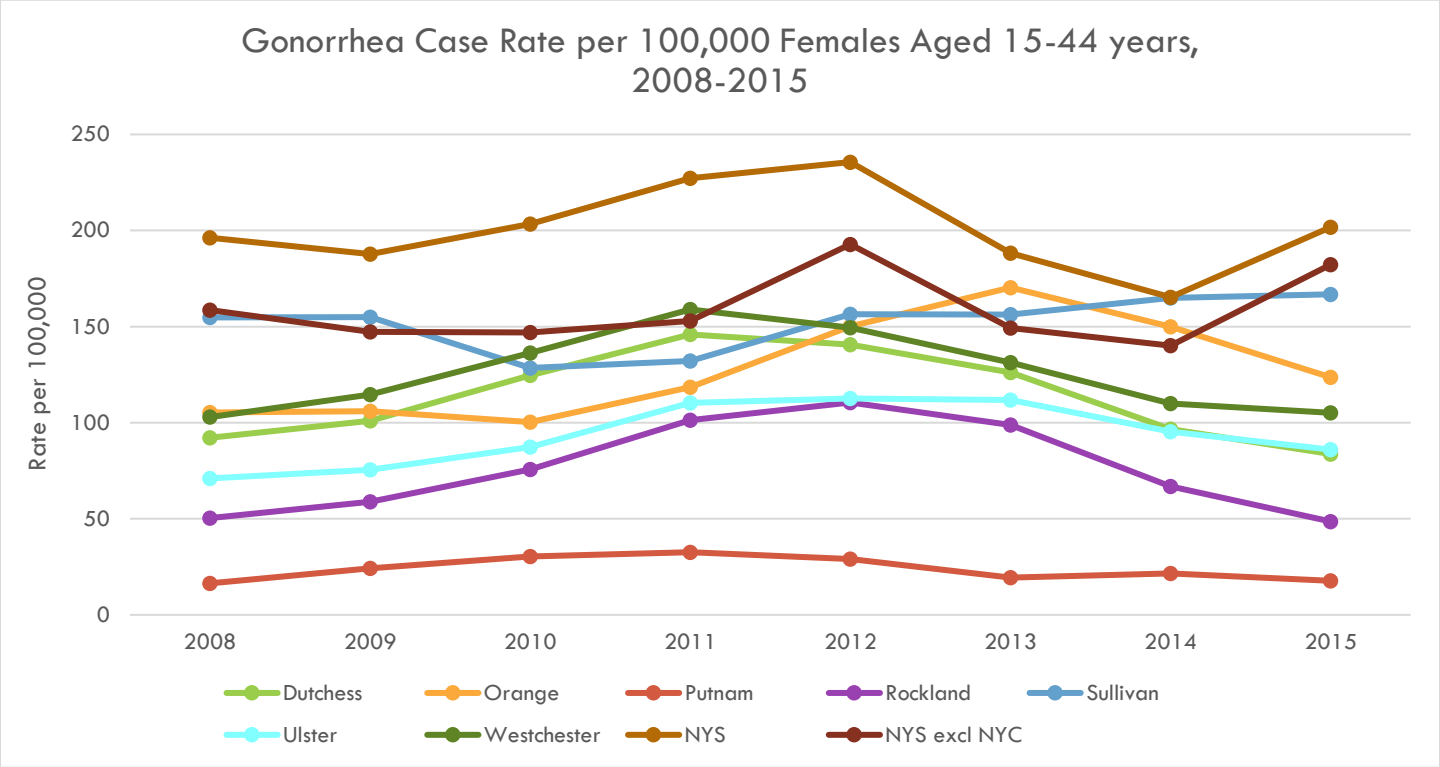


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	71.1	71.4	18.6	38.0	124.8	52.4	92.0	198.0	121.5
2009	79.7	69.4	20.8	42.3	100.6	45.8	96.8	207.3	119.8
2010	96.4	65.2	14.1*	46.4	74.9	52.6	101.9	221.7	111.3
2011	96.4	79.9	21.6	51.3	62.5	61.9	117.7	250.7	119.7
2012	89.7	101.0	25.4	47.1	63.1	66.3	120.4	284.1	148.7
2013	87.9	109.9	34.7	50.1	51.9	65.9	125.3	267.7	129.7
2014	98.1	114.4	35.0	56.5	71.6	68.4	124.8	303.1	145.3
2015	107.9	135.2	51.8	85.5	100.9	88.4	153.7	377.6	192.2

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 216

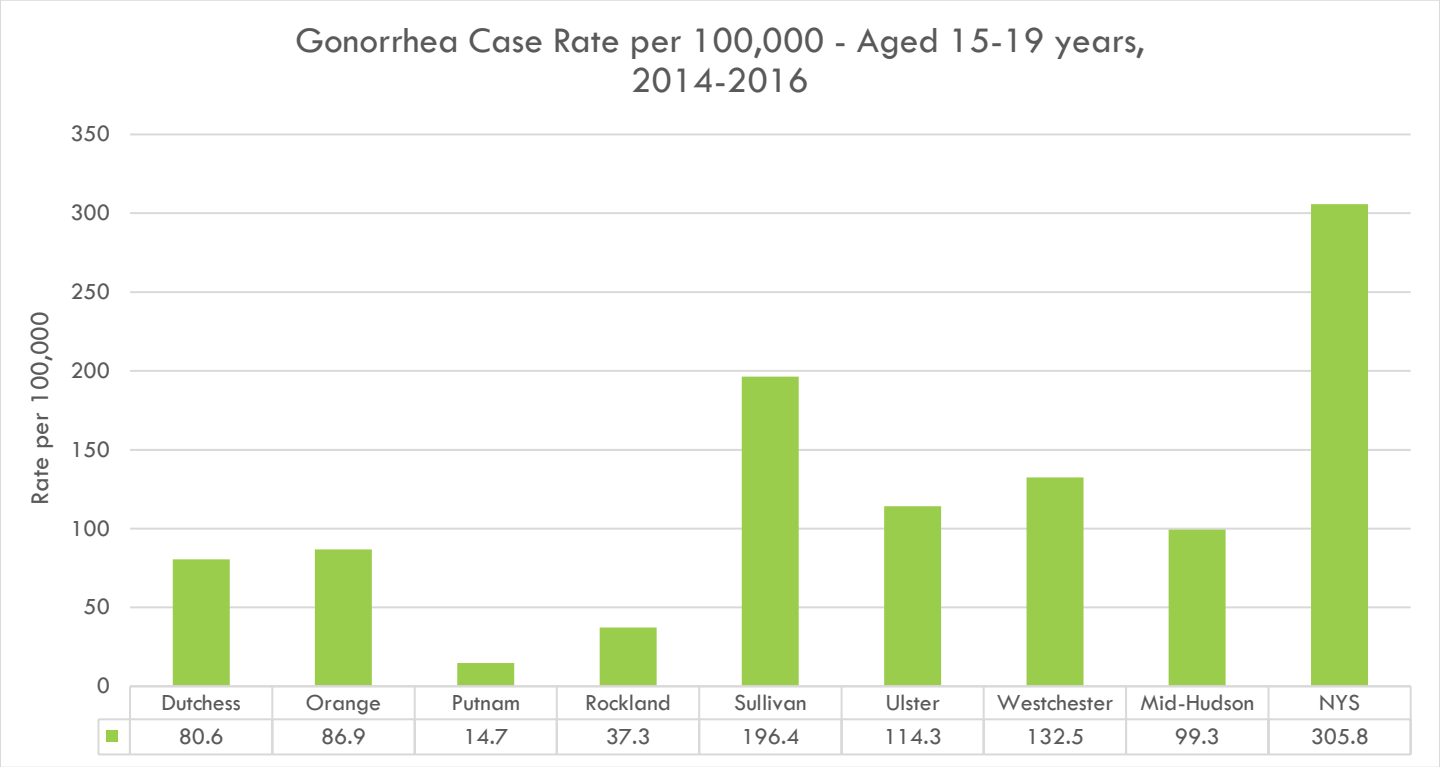


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	92.1	105.3	16.4*	50.4	154.8	71.0	102.9	198.0	158.6
2009	100.9	106.0	24.2	58.8	154.9	75.5	114.6	207.3	147.2
2010	124.7	100.3	30.3	75.6	128.5	87.3	136.3	221.7	147.0
2011	145.9	118.5	32.6	101.3	132.1	110.3	158.9	250.7	152.9
2012	140.6	150.1	29.0	110.5	156.5	112.6	149.5	284.1	192.8
2013	126.2	170.3	19.4	98.8	156.2	111.8	131.3	267.7	149.3
2014	96.6	149.9	21.5	66.9	165.0	95.4	110.0	303.1	140.1
2015	83.7	123.6	17.7*	48.6	166.8	86.0	105.1	377.6	182.3

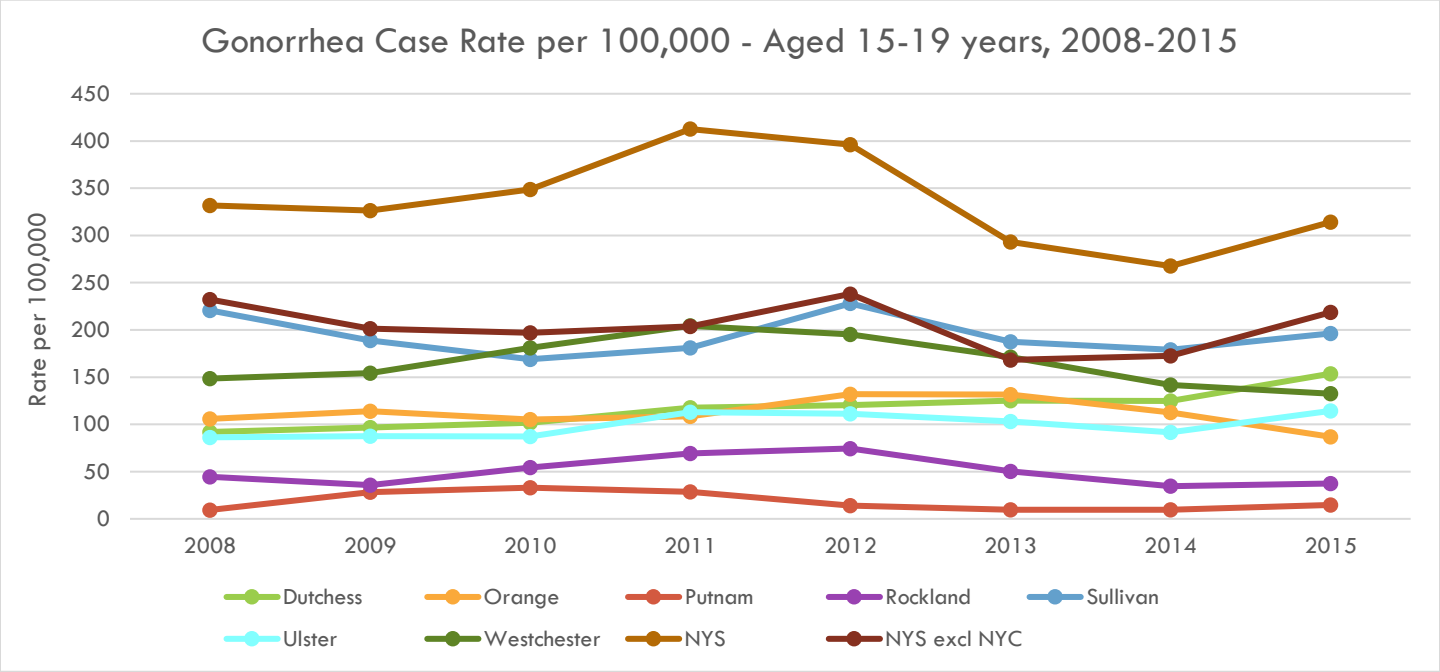
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 217



*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 218

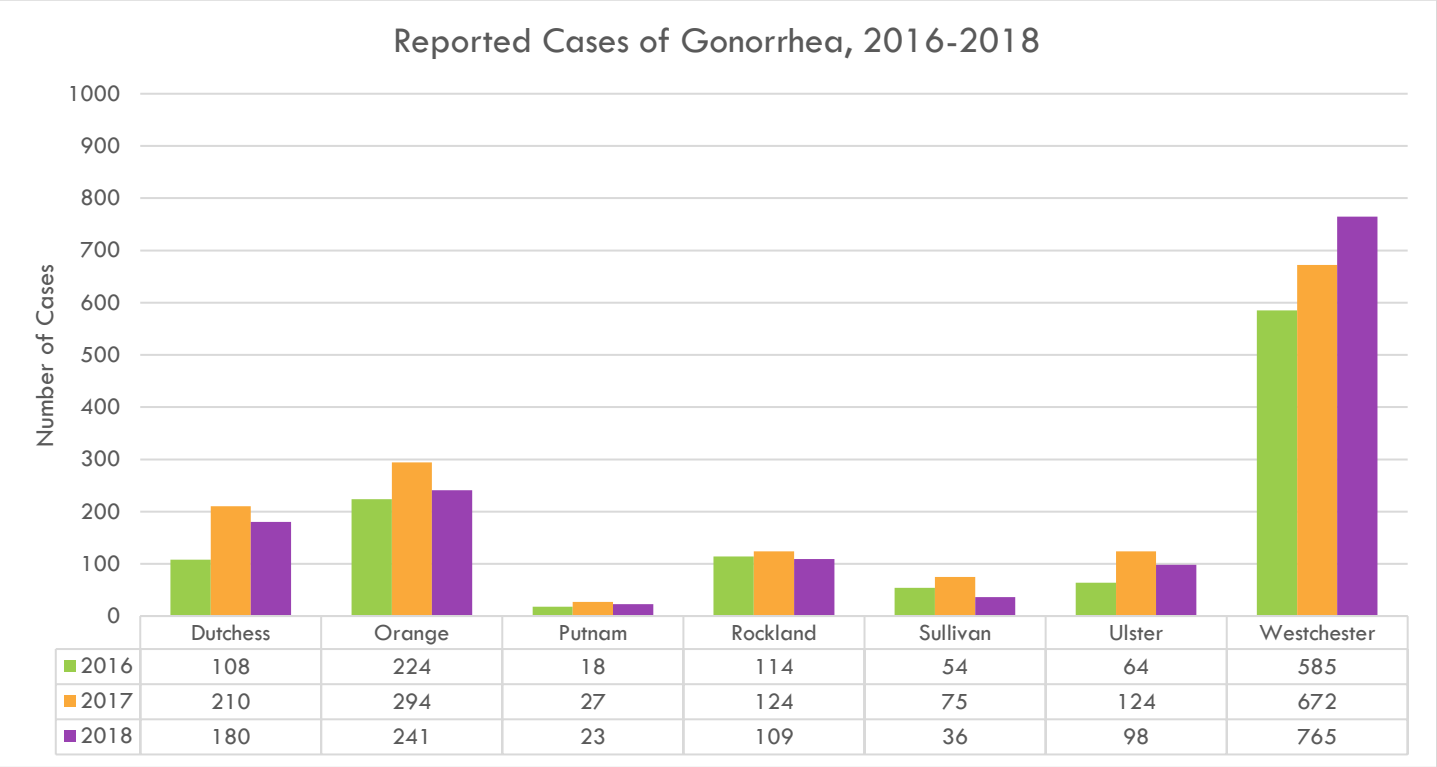


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	92.0	105.7	9.4*	44.6	220.8	86.3	148.5	331.7	232.1
2009	96.8	114.1	28.3*	35.8	188.8	87.5	154.4	326.2	201.5
2010	101.9	105.0	33.0*	54.2	169.0	87.2	181.2	348.8	196.9
2011	117.7	108.4	28.6*	69.3	181.1	112.9	204.3	412.6	203.8
2012	120.4	132.0	14.2*	74.5	228.0	111.3	195.2	396.3	238.1
2013	125.3	131.5	9.5*	50.3	187.5	103.2	171.1	293.2	168.3
2014	124.8	112.6	9.7*	34.6	178.9	91.7	141.6	267.6	172.6
2015	153.7	86.9	14.7*	37.3	196.4	114.3	132.5	314.0	218.8

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 219



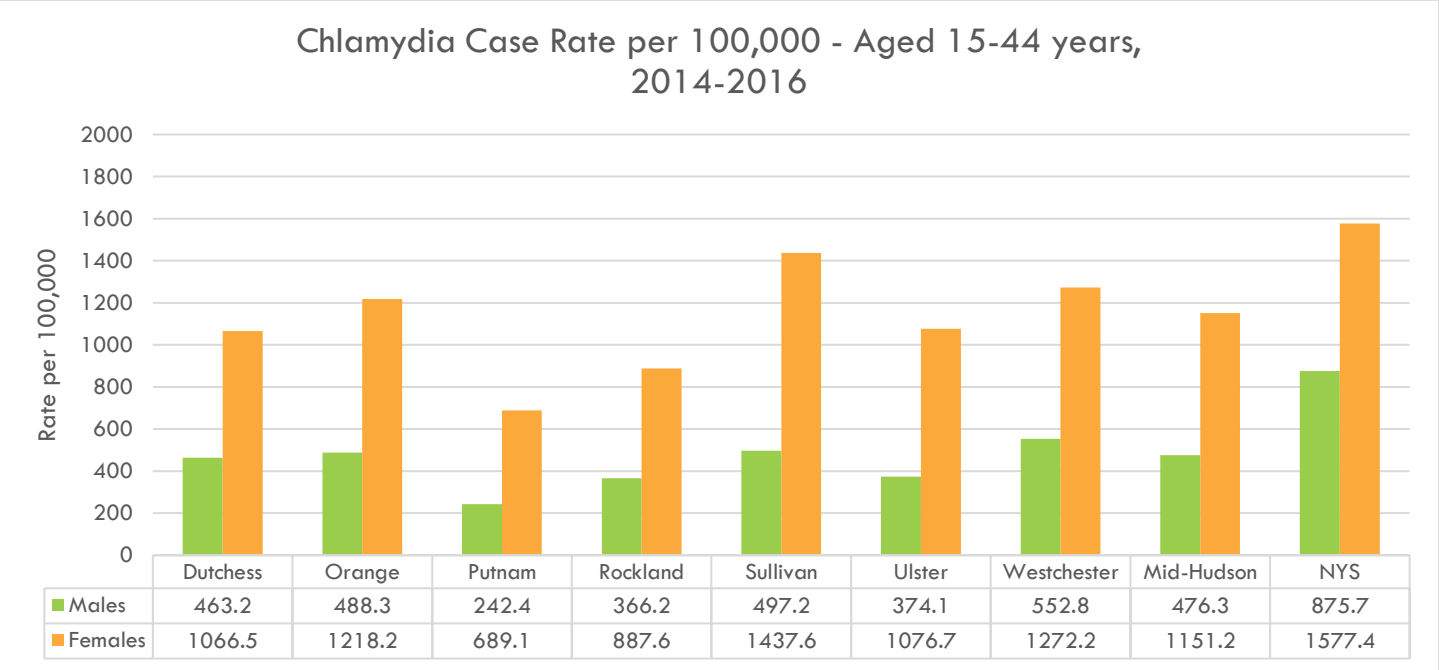
Note: 2018 data provided by the LHDs.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

CHLAMYDIA

Chlamydia is a common STI that can infect people of all genders. While chlamydia can be treated easily, it can cause serious damage to the reproductive system if left untreated. Chlamydia is spread by vaginal, anal, or oral sex with a partner who has chlamydia. If someone was treated for chlamydia in the past, he/she can still become infected again through unprotected sex with another person who has chlamydia. Pregnant women can also pass chlamydia on to their babies during childbirth.[104]

From 2014-2016, Westchester County had the highest rate of males with chlamydia (552.8 per 100,000), and Sullivan County had the highest rate of females with chlamydia (1437.6 per 100,000) [see Figure 220]. Putnam County had the lowest rates for both males and females. Overall, rates in the counties within the Mid-Hudson Region were all below the New York State rate, which includes New York City. The number of cases have increased every year in most counties between 2016-2018 [see Figure 229].

Figure 220

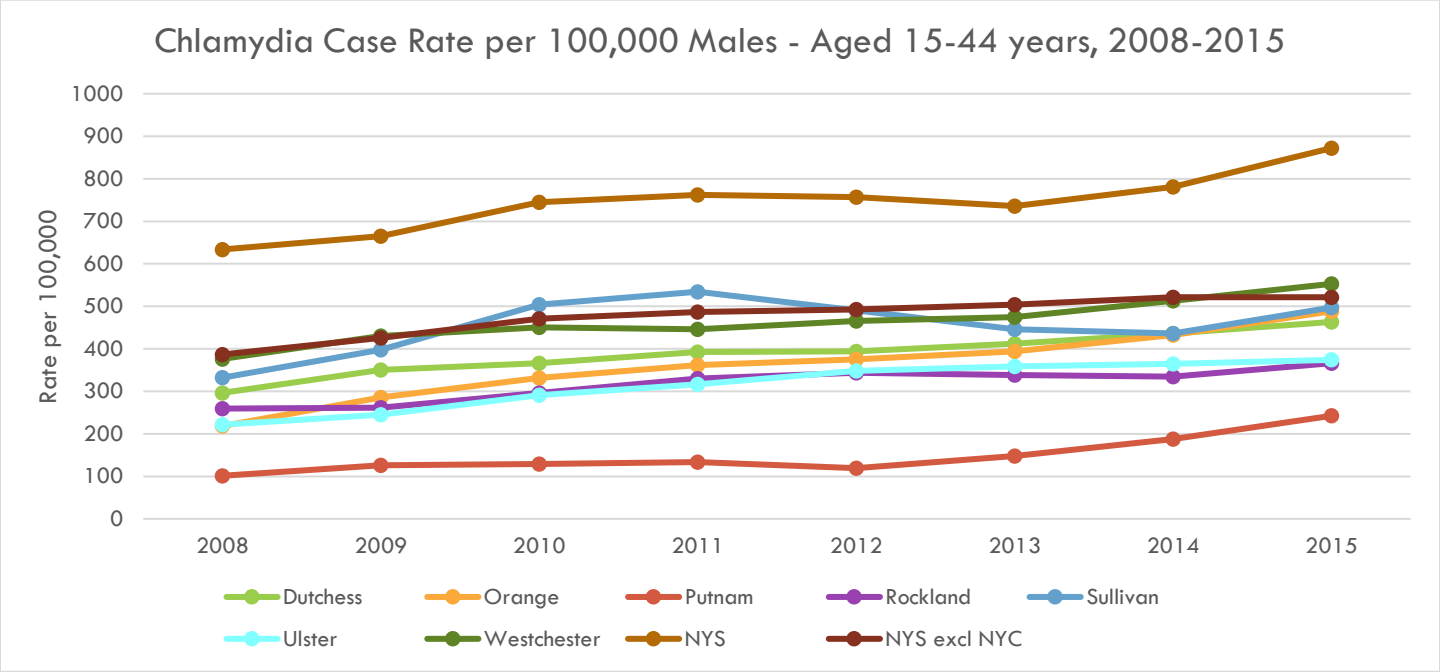


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Males	463.2	488.3	242.4	366.2	497.2	374.1	552.8	476.3	875.7
Females	1066.5	1218.2	689.1	887.6	1437.6	1076.7	1272.2	1151.2	1577.4

Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[104] CDC, January 2019, https://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm, accessed June 2019

Figure 221

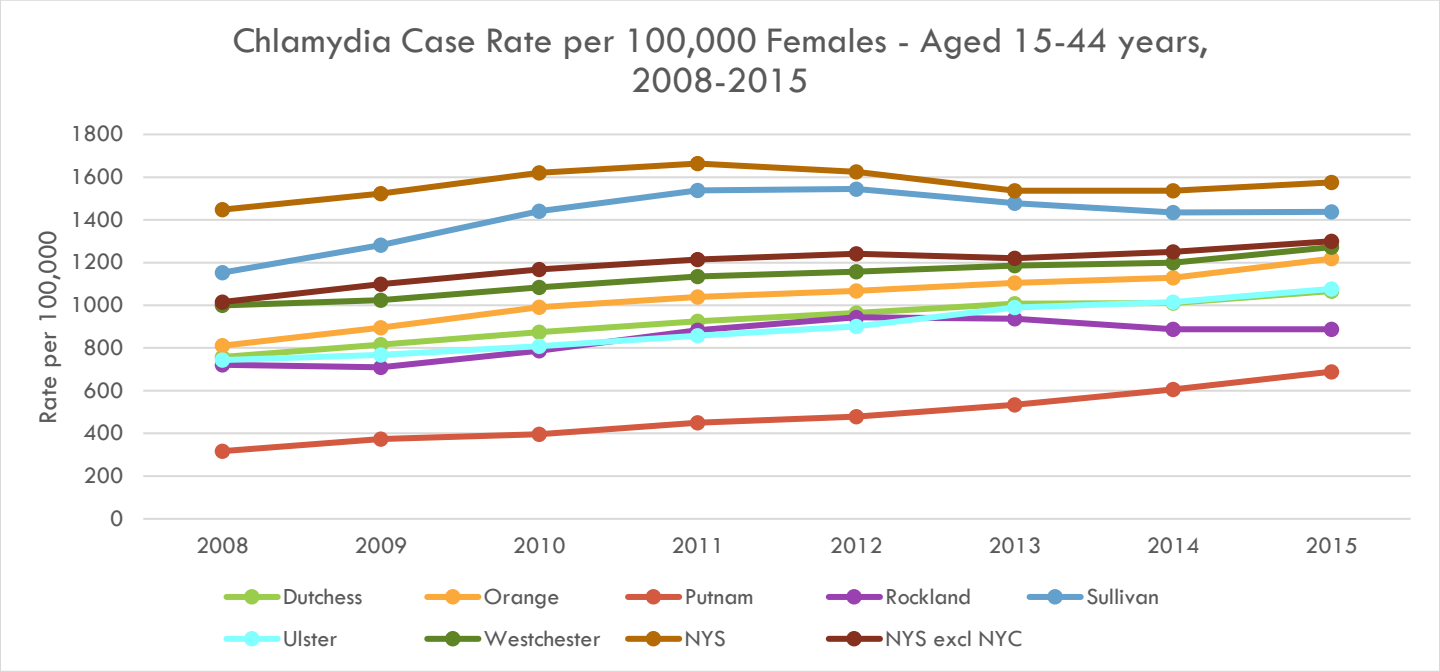


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	296.5	218.4	101.4	259.4	332.1	221.6	376.3	633.7	386.7
2009	350.6	285.7	126.3	261.2	398.0	245.1	430.2	665.3	425.8
2010	366.0	331.2	128.8	295.9	503.6	290.8	450.4	745.0	470.7
2011	392.2	361.3	133.3	330.3	534.3	316.2	446.1	762.1	486.8
2012	393.7	375.5	119.6	343.9	490.5	347.8	465.2	757.1	492.7
2013	412.3	393.8	148.0	338.0	445.9	359.0	474.8	736.1	504.3
2014	435.9	432.6	187.7	334.4	436.5	364.9	513.0	781.3	521.4
2015	463.2	488.3	242.4	366.2	497.2	374.1	552.8	872.1	521.4

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 222

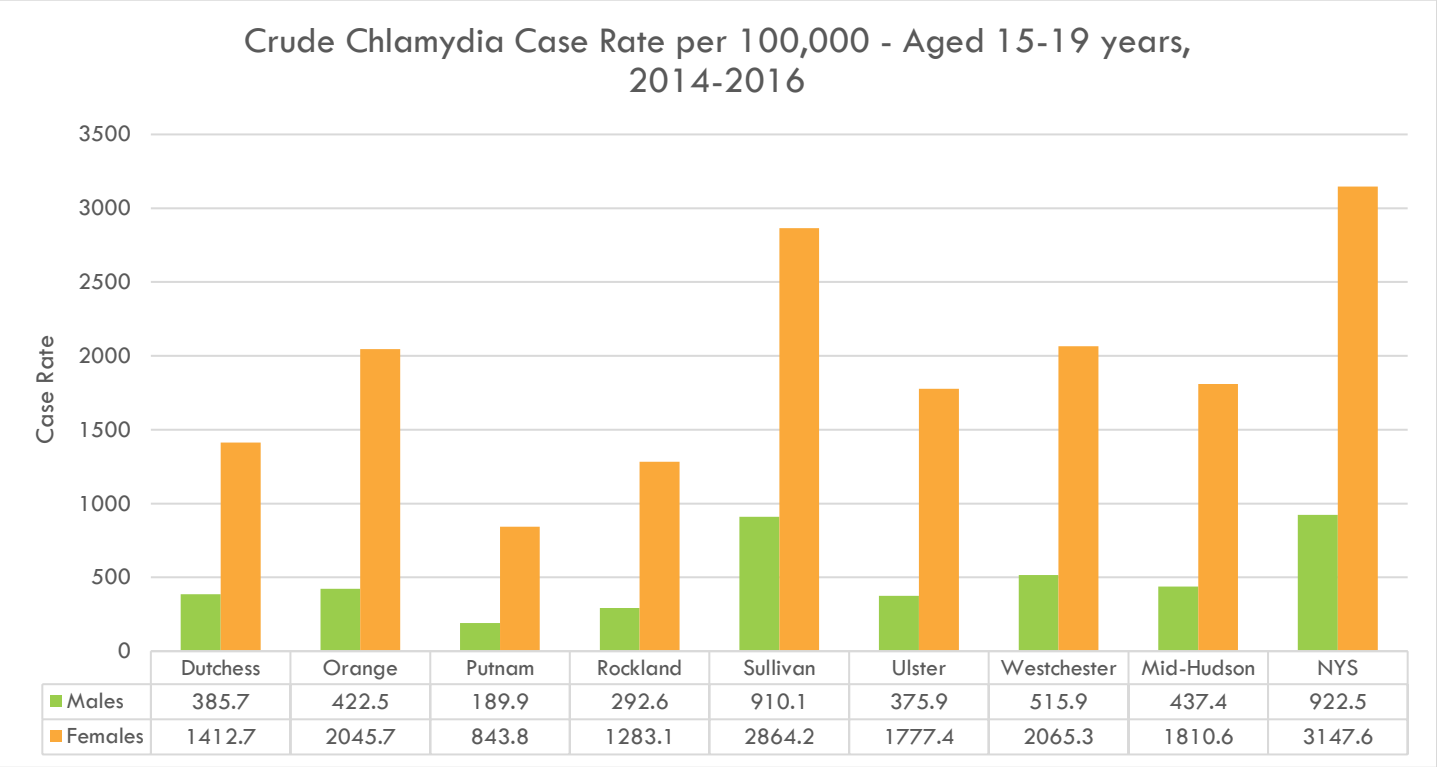


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	757.8	810.7	317.1	720.9	1152.9	743.4	999.4	1447.7	1015.2
2009	815.3	895.7	374.2	709.6	1282.2	767.8	1024.4	1523.1	1099.3
2010	874.8	991.1	396.1	786.6	1440.6	808.2	1083.9	1619.8	1167.9
2011	924.4	1038.3	450.4	883.0	1537.3	857.7	1134.5	1663.6	1214.2
2012	963.9	1067.3	479.1	943.8	1544.6	901.2	1157.9	1625.1	1241.6
2013	1007.0	1104.6	534.3	936.6	1477.5	989.1	1186.4	1535.8	1220.3
2014	1010.1	1128.4	606.7	887.9	1433.9	1014.4	1199.5	1536.3	1249.6
2015	1066.5	1218.2	689.1	887.6	1437.6	1076.7	1272.2	1575.7	1299.8

Note: Three-year average for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

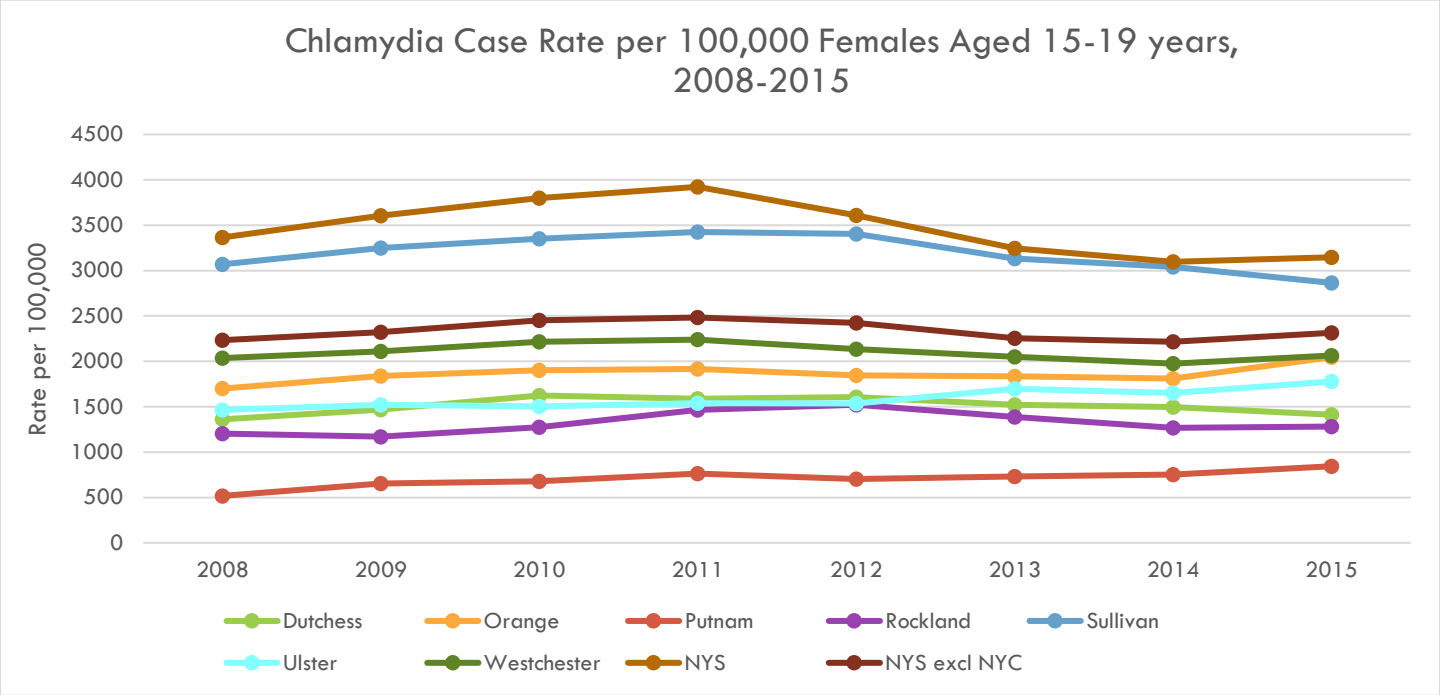
Figure 223



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Males	385.7	422.5	189.9	292.6	910.1	375.9	515.9	437.4	922.5
Females	1412.7	2045.7	843.8	1283.1	2864.2	1777.4	2065.3	1810.6	3147.6

Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 224

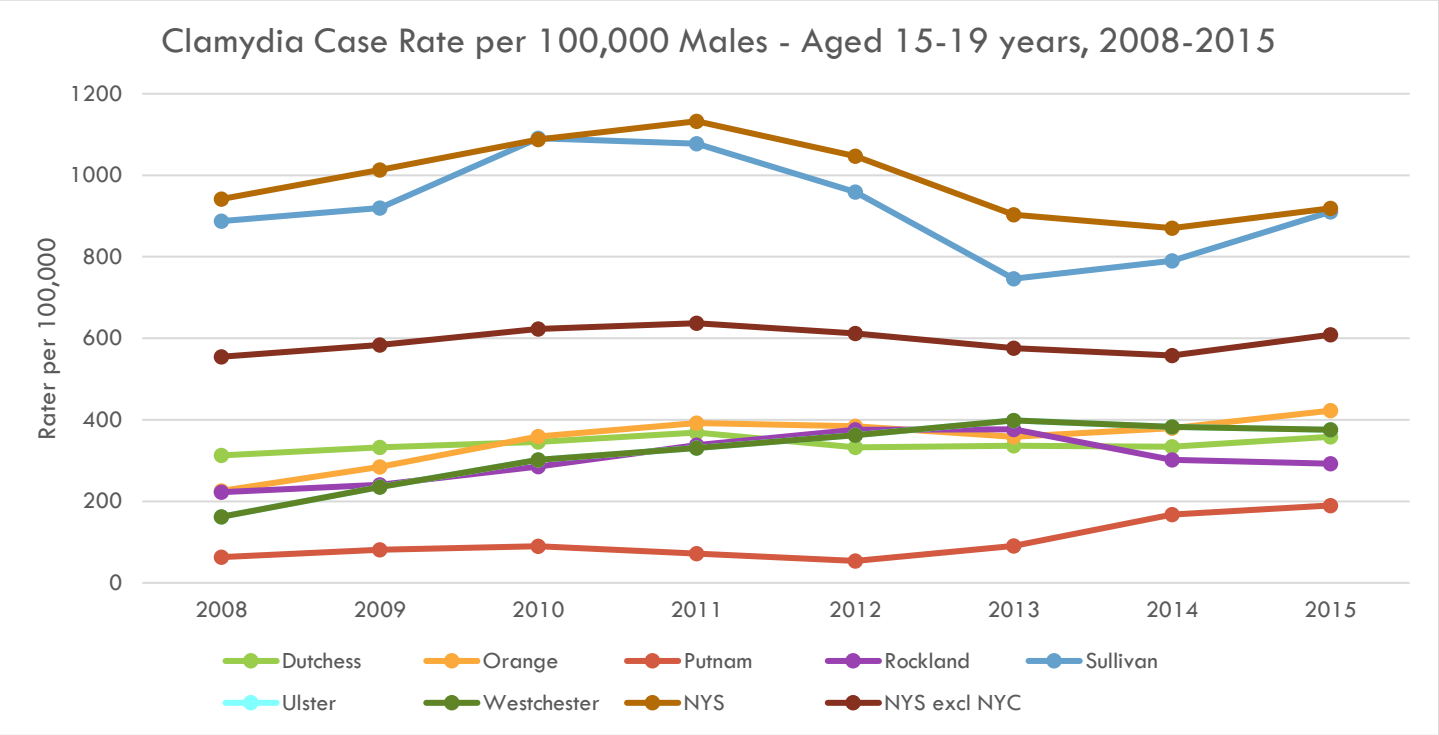


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	1361.1	1699.8	517.7	1204.9	3068.2	1464.5	2036.8	3365.2	2234.2
2009	1469.8	1837.1	654.8	1170.2	3249.4	1521.1	2111.3	3605.7	2320.1
2010	1623.3	1902.5	679.8	1275.5	3352.3	1503.7	2216.3	3798.5	2452.4
2011	1586.4	1916.6	762.5	1463.3	3425.2	1539.8	2238.9	3922.3	2482.6
2012	1606.9	1844.2	703.1	1521.6	3404.7	1533.9	2134.1	3607.3	2423.6
2013	1522.0	1834.5	729.9	1386.0	3131.3	1695.8	2049.1	3246.7	2253.8
2014	1497.7	1808.6	752.1	1265.6	3042.2	1652.9	1974.4	3096.5	2215.5
2015	1412.7	2045.7	843.8	1283.1	2864.2	1777.4	2065.3	3146.3	2312.9

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 225

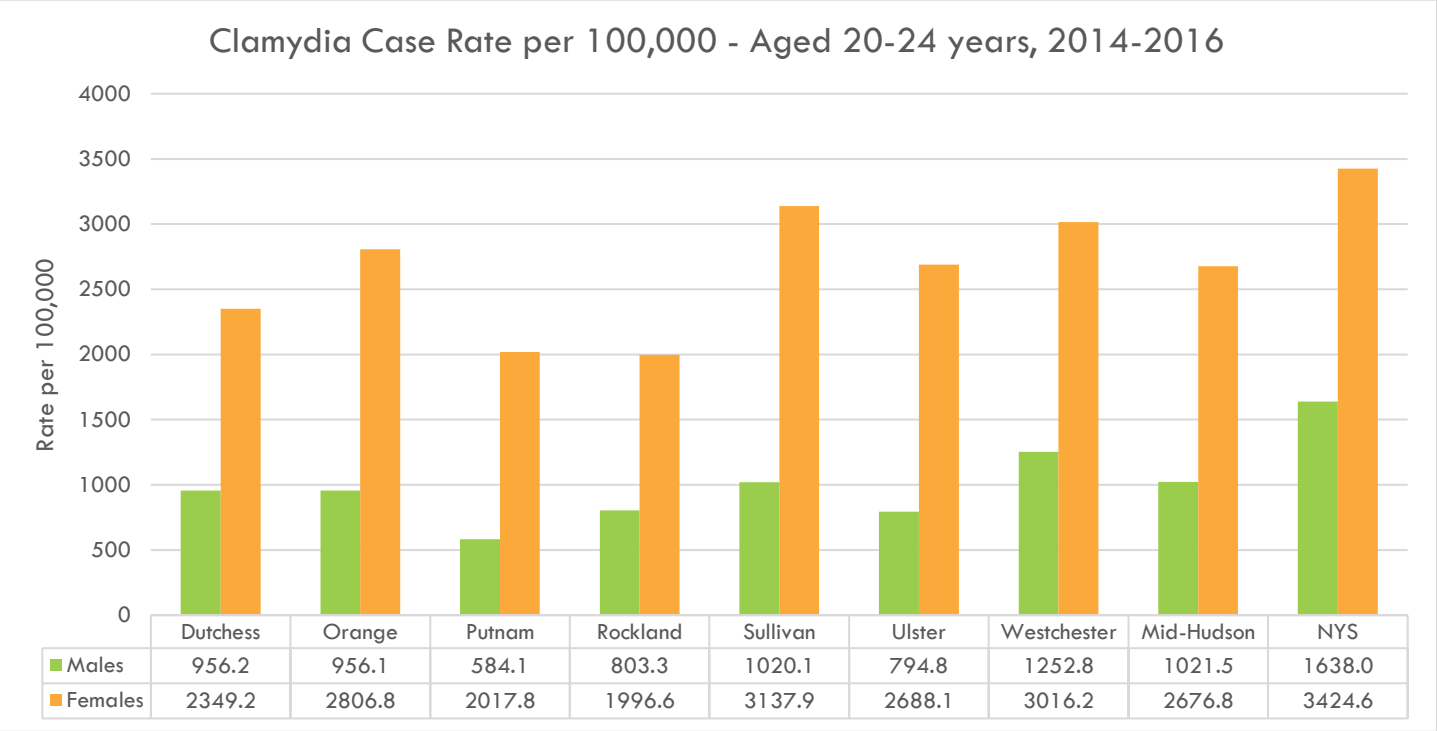


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	312.7	225.8	63.0*	222.5	887.6	162.2	162.2	941.9	554.8
2009	332.4	284.4	81.2*	240.9	919.9	234.8	234.8	1012.8	583.5
2010	345.9	359.3	89.5	285.0	1090.8	302.1	302.1	1087.6	623.3
2011	368.8	392.2	71.8*	338.3	1077.3	330.6	330.6	1132.6	637.0
2012	332.2	384.0	53.8*	375.7	959.3	362.0	362.0	1046.8	612.0
2013	336.4	358.7	91.0	376.7	746.2	398.6	398.6	903.3	576.1
2014	333.9	379.9	167.5	301.5	790.5	382.4	382.4	870.3	558.1
2015	358.7	422.5	189.9	292.6	910.1	375.9	375.9	918.6	609.2

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

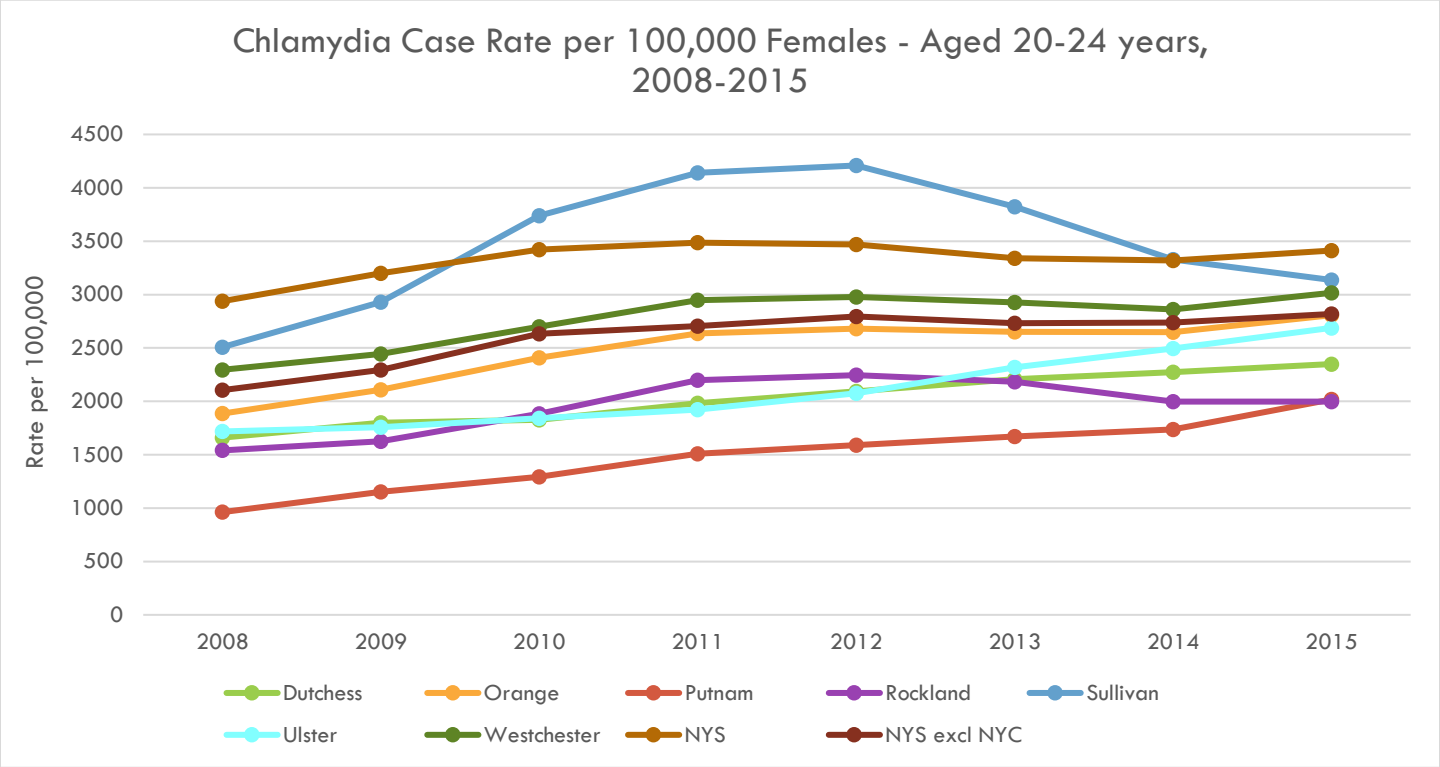
Figure 226



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Males	956.2	956.1	584.1	803.3	1020.1	794.8	1252.8	1021.5	1638.0
Females	2349.2	2806.8	2017.8	1996.6	3137.9	2688.1	3016.2	2676.8	3424.6

Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 227

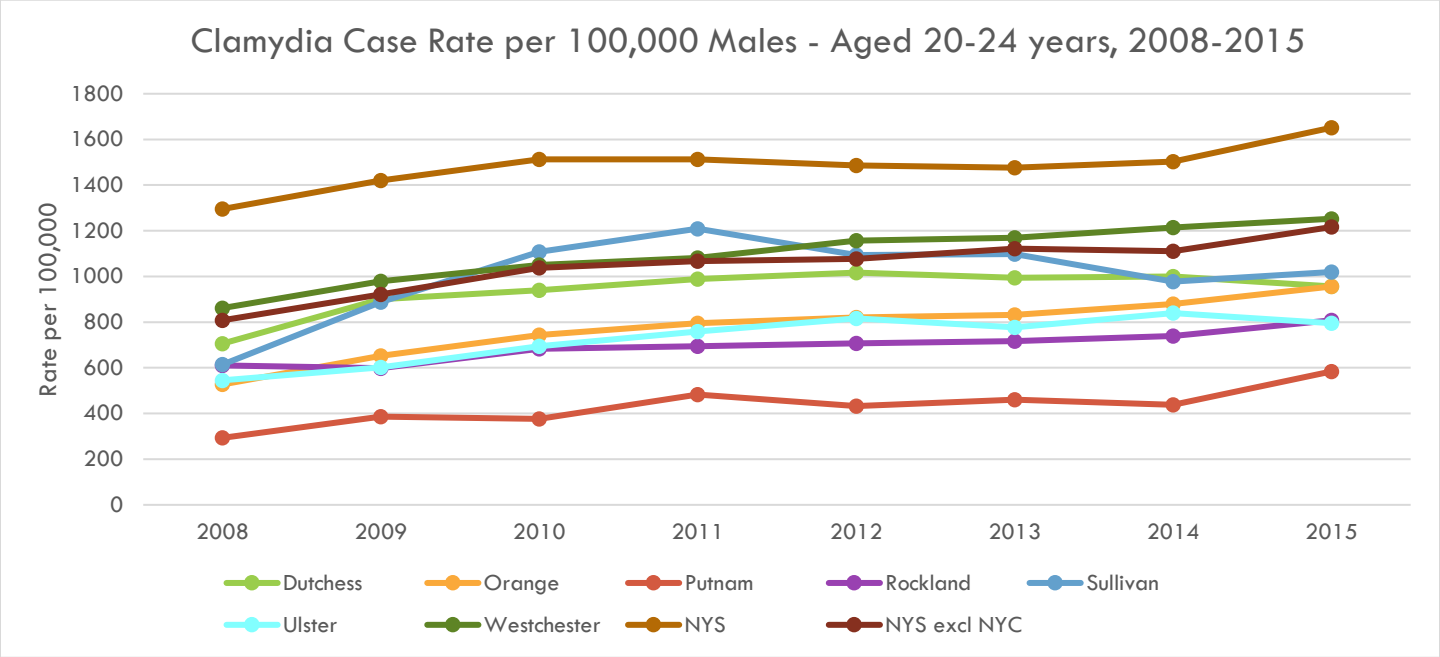


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	1659.9	1885.3	962.2	1540.5	2507.8	1717.9	2295.4	2937.9	2104.8
2009	1798.9	2109.0	1153.4	1626.0	2928.5	1758.6	2442.8	3197.9	2295.6
2010	1826.4	2408.9	1293.0	1884.6	3738.0	1841.6	2700.2	3421.1	2632.2
2011	1981.5	2635.0	1507.5	2196.8	4141.8	1924.0	2948.5	3486.1	2705.3
2012	2094.5	2681.3	1588.4	2245.0	4208.8	2075.4	2976.6	3470.2	2794.4
2013	2206.5	2652.0	1671.3	2182.4	3823.0	2317.8	2927.0	3340.8	2731.6
2014	2274.1	2648.4	1735.4	1997.9	3328.9	2494.2	2859.2	3318.2	2737.9
2015	2349.2	2806.8	2017.8	1996.6	3137.9	2688.1	3016.2	3411.1	2818.3

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 228

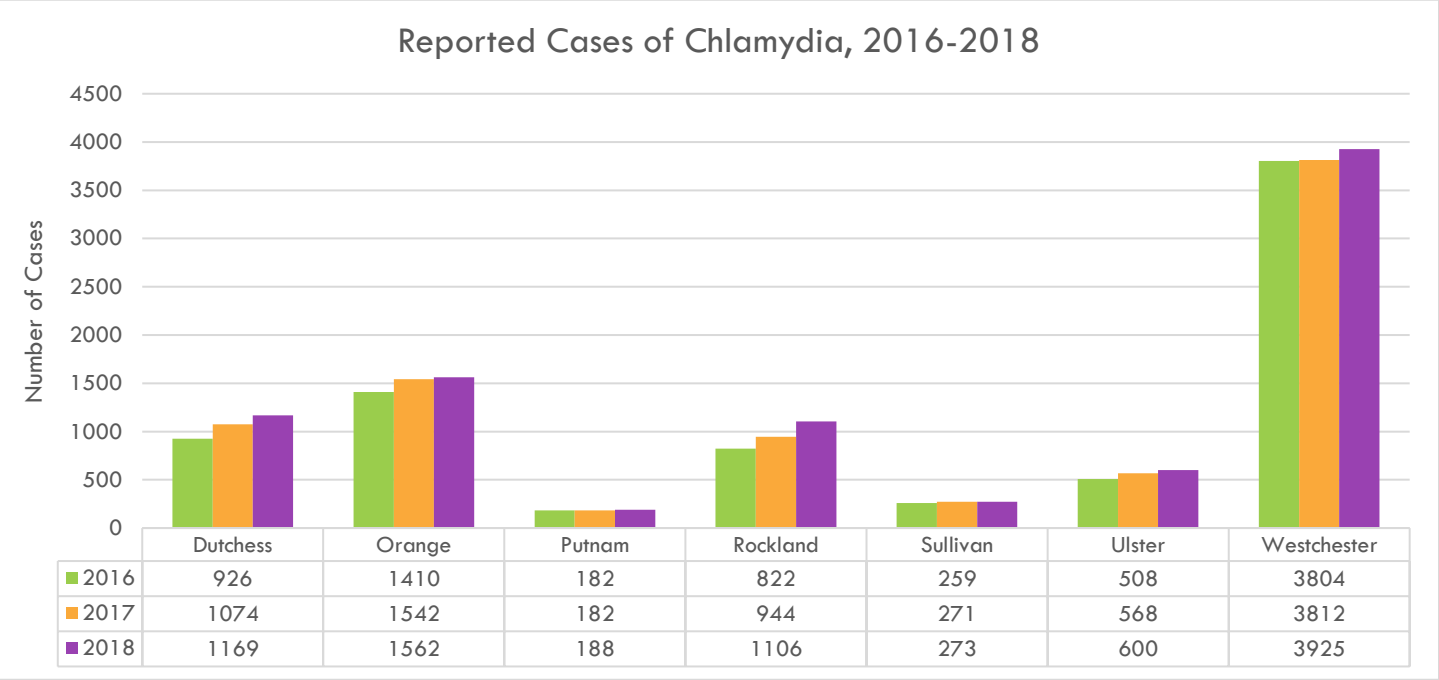


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	706.0	527.2	293.3	609.9	614.2	545.3	861.6	1295.3	808.1
2009	900.2	652.1	385.8	598.5	887.5	601.4	978.9	1420.7	921.5
2010	939.9	744.2	377.0	683.0	1108.5	693.9	1051.0	1513.3	1038.3
2011	989.4	795.6	483.4	693.9	1209.2	758.9	1081.5	1513.3	1067.3
2012	1016.9	821.0	432.4	706.6	1094.3	817.1	1157.4	1486.7	1077.5
2013	994.1	832.2	460.6	717.1	1098.2	777.1	1169.6	1476.2	1121.7
2014	1000.2	879.8	438.6	739.0	977.9	839.7	1214.3	1503.4	1110.8
2015	956.2	956.1	584.1	808.3	1020.1	794.8	1252.8	1651.2	1216.6

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 229



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester
2016	926	1410	182	822	259	508	3804
2017	1074	1542	182	944	271	568	3812
2018	1169	1562	188	1106	273	600	3925

Note: 2018 data provided by the LHDs.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

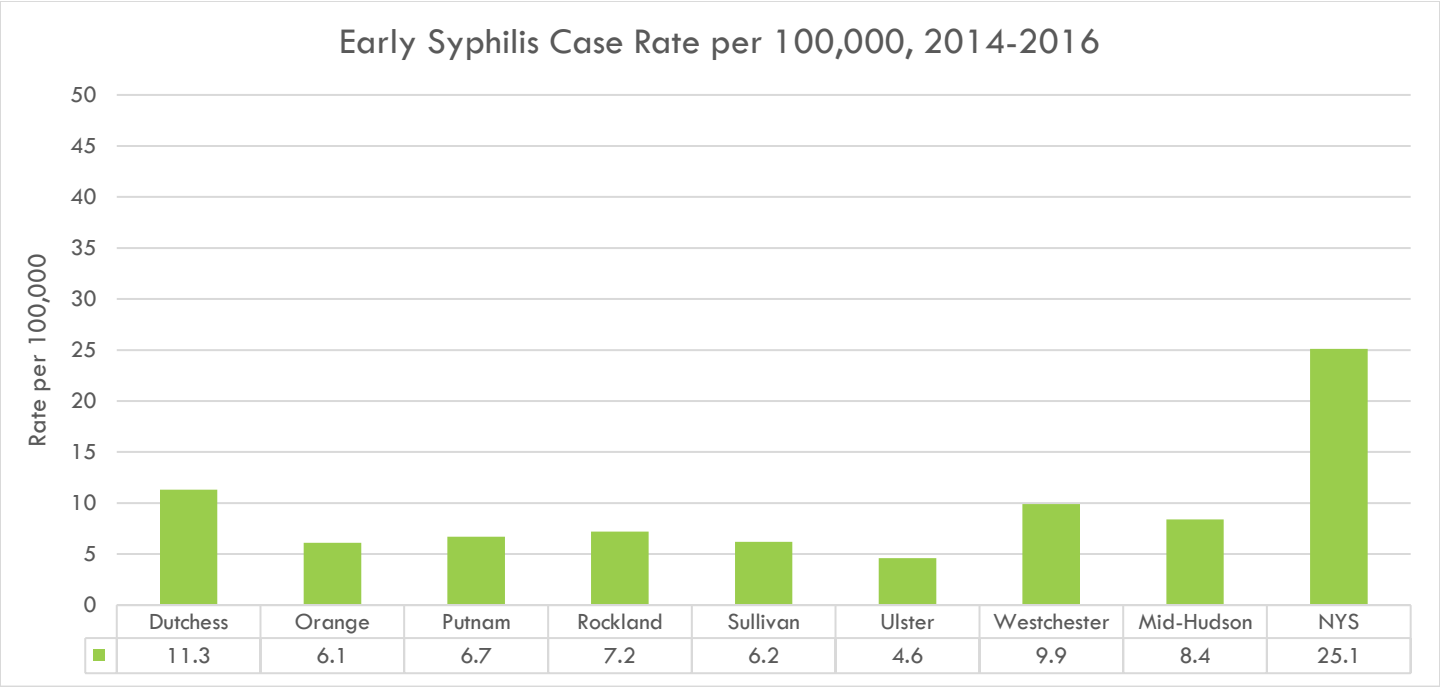
SYPHILIS

Syphilis is a curable STI that can have very serious complications when left untreated. Syphilis is spread through direct contact with a syphilis sore during vaginal, anal, or oral sex. Sores may be located on or around the penis, vagina, anus, lips, in the mouth, or in the rectum. Syphilis can also spread from pregnant women to their babies. Syphilis is divided into primary, secondary, latent, and tertiary stages.[105]

Any sexually active person can contract syphilis through unprotected vaginal, anal, or oral sex. The CDC recommends all pregnant women be tested for syphilis at their first prenatal visit and during the third trimester.[105]

Healthy People 2020 aims to reduce domestic transmission of primary and secondary syphilis among females from 1.5 new cases per 100,000 females to 1.3 new cases per 100,000 females. Additionally, it aims to reduce domestic transmission of primary and secondary syphilis among males from 7.5 new cases per 100,000 males to 6.7 new cases per 100,000 males.[106] Because this data combines male and female infections, it is not comparable to the Healthy People 2020 target. Dutchess County had the highest case rate (11.3 per 100,000 population), while Ulster County had the lowest case rate (4.6 per 100,000 population) [see Figure 230]. Only Dutchess and Westchester Counties (9.9 per 100,000 population) were above the Mid-Hudson Region rate of 8.4 cases per 100,000 population. All counties generally had an increase in cases from 2016-2018 [see Figure 232].

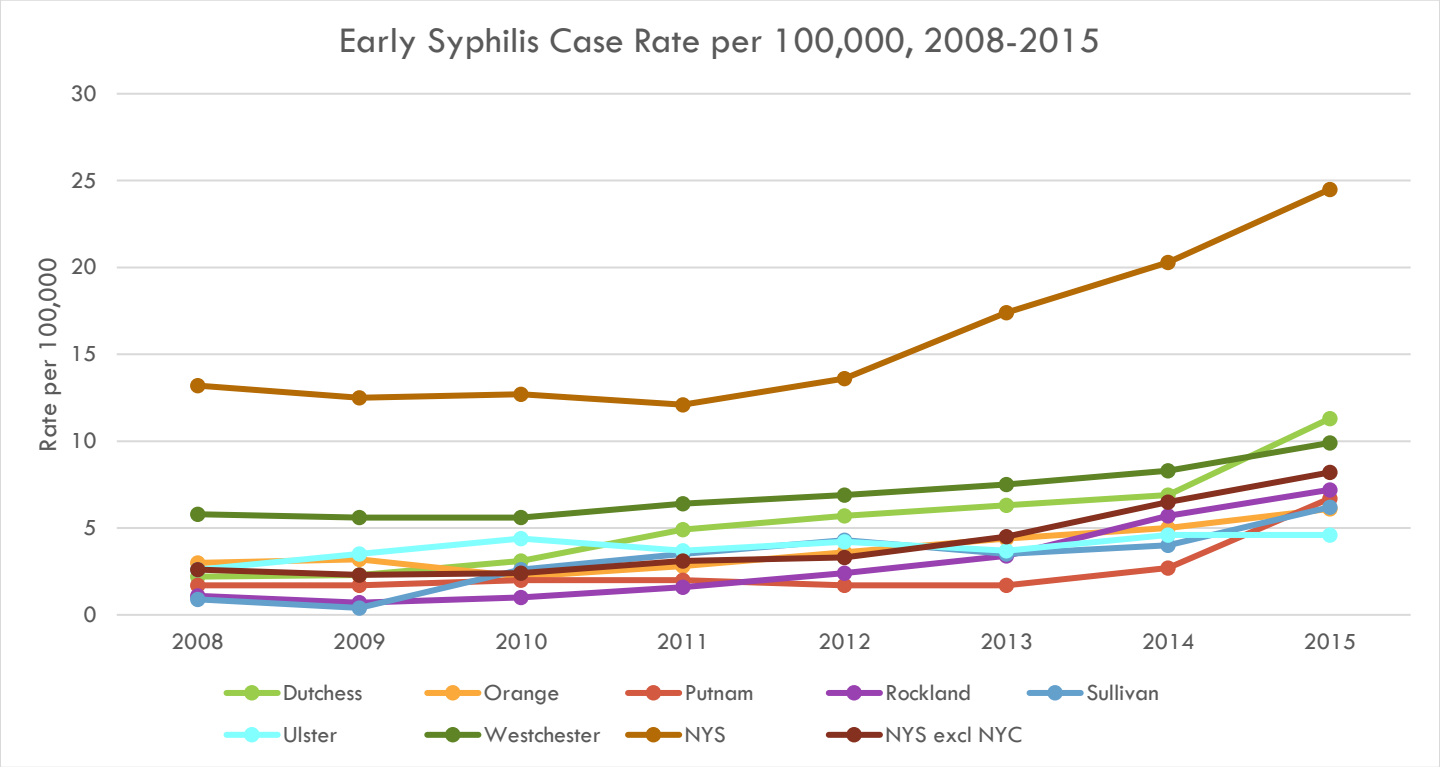
Figure 230



Source: NYSDOH Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[105] CDC, January 2019, https://www.cdc.gov/std/syphilis/stdfact-syphilis.htm, accessed June 2019
[106] Healthy People, 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases, accessed June 2019

Figure 231

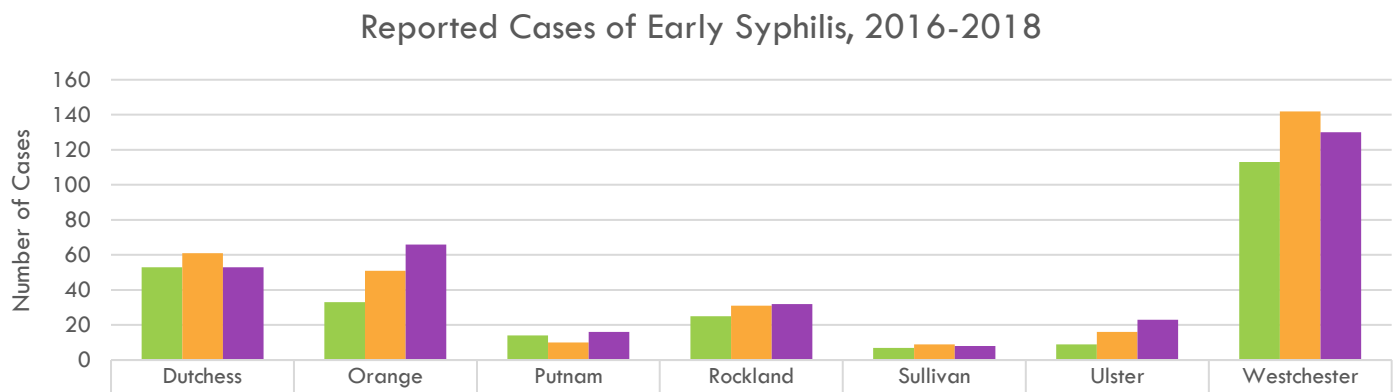


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	2.2	3.0	1.7*	1.1	0.9*	2.6	5.8	13.2	2.6
2009	2.3	3.2	1.7*	0.7*	0.4*	3.5	5.6	12.5	2.3
2010	3.1	2.2	2.0*	1.0*	2.6*	4.4	5.6	12.7	2.4
2011	4.9	2.8	2.0*	1.6	3.5*	3.7	6.4	12.1	3.1
2012	5.7	3.6	1.7*	2.4	4.3	4.2	6.9	13.6	3.3
2013	6.3	4.4	1.7*	3.4	3.5*	3.7	7.5	17.4	4.5
2014	3.9	5.0	2.7*	5.7	4.0*	4.6	8.3	20.3	6.5
2015	11.3	6.1	6.7	7.2	6.2	4.6	9.9	24.5	8.2

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: Bureau of Sexual Health and Epidemiology, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 232



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester
2016	53	33	14	25	7	9	113
2017	61	51	10	31	9	16	142
2018	53	66	16	32	8	23	130

Note: 2018 data was provided by the LHDs.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

PELVIC INFLAMMATORY DISEASE

Pelvic inflammatory disease (PID) is an infection of the female reproductive organs. It usually occurs when sexually transmitted bacteria spread from the vagina to the uterus, fallopian tubes, or ovaries.[107] PID often has no signs or symptoms, and as a result, many do not know they have it, or when they need treatment. Individuals often are unaware they have PID until they have trouble getting pregnant or develop chronic pelvic pain. While PID can be treated, treatment cannot undo the damage that has already occurred to the reproductive system. The longer it takes to get treatment, the more likely it is that complications will arise from PID. If untreated, PID complications may result in formation of scar tissue inside and outside of the fallopian tubes. This can lead to tubal blockage, ectopic pregnancy, infertility, and long-term pelvic/abdominal pain. However, once treated, it is possible to be re-infected with PID if one becomes infected with another STI. In addition, if an individual has already had PID, they have a higher risk of contracting it again.

Because PID can result in serious complications, it is a reportable disease in New York State. This means, medical professionals must report cases of PID to the NYSDOH. While PID often does not have symptoms in the early stages, if symptoms present, they often mirror other more common infections. Data regarding PID is not included as misdiagnosis often leads to inconsistent or incomplete reporting with unstable rates.[108] The rates of PID hospitalizations can be found on the New York State Community Health Indicator Reports dashboard located at: https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard

[107] CDC, January 2019, https://www.cdc.gov/std/pid/stdfact-pid.htm, accessed June 2019
[108] Journal of Sexually Transmitted Disease, November 2003, https://www.ncbi.nlm.nih.gov/pubmed/14603097/, accessed June 2019

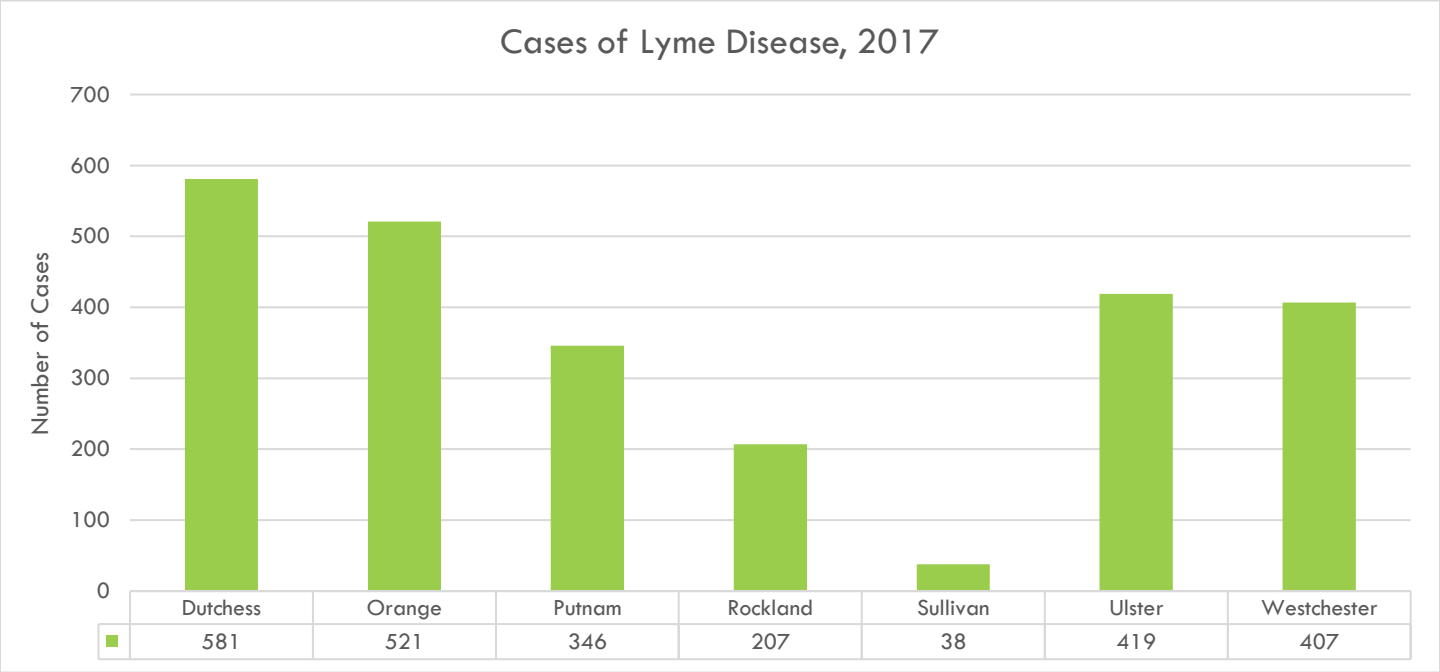
TICK-BORNE DISEASES

LYME DISEASE

Lyme disease is caused by the bacterium *Borrelia burgdorferi*, which is transmitted through the bite of infected black-legged ticks. Symptoms of Lyme disease may include fever, headache, fatigue, and a rash known as erythema migrans. Most cases of Lyme disease can be treated with antibiotics. Left untreated, Lyme disease can spread to joints, the heart, and the nervous system.[109] Lyme disease is diagnosed based on symptoms, physical findings, and exposure to infected ticks. Laboratory testing can also be helpful in diagnosing Lyme disease.

Each year, approximately 30,000 cases of Lyme disease are reported to the CDC by State Health Departments. Although the actual number of infections per year is thought to be much higher, recent estimates suggest that this number is closer to 300,000.[109] Steps to prevent Lyme disease include using insect repellent, removing ticks promptly, using pesticides, and reducing tick habitats. Dutchess and Orange Counties had the highest number of cases (581 and 521, respectively), while Sullivan County had the lowest number of cases (38). As seen in Figure 234, Putnam County had the highest case rate of Lyme disease in 2017 (349.9 per 100,000 population). The number of cases did increase in 2014 and 2017 in Dutchess County, and in 2015 for Orange County. The case rate for each county in 2017 was above that of New York State's, with the exception of Westchester County [see Figure 234].

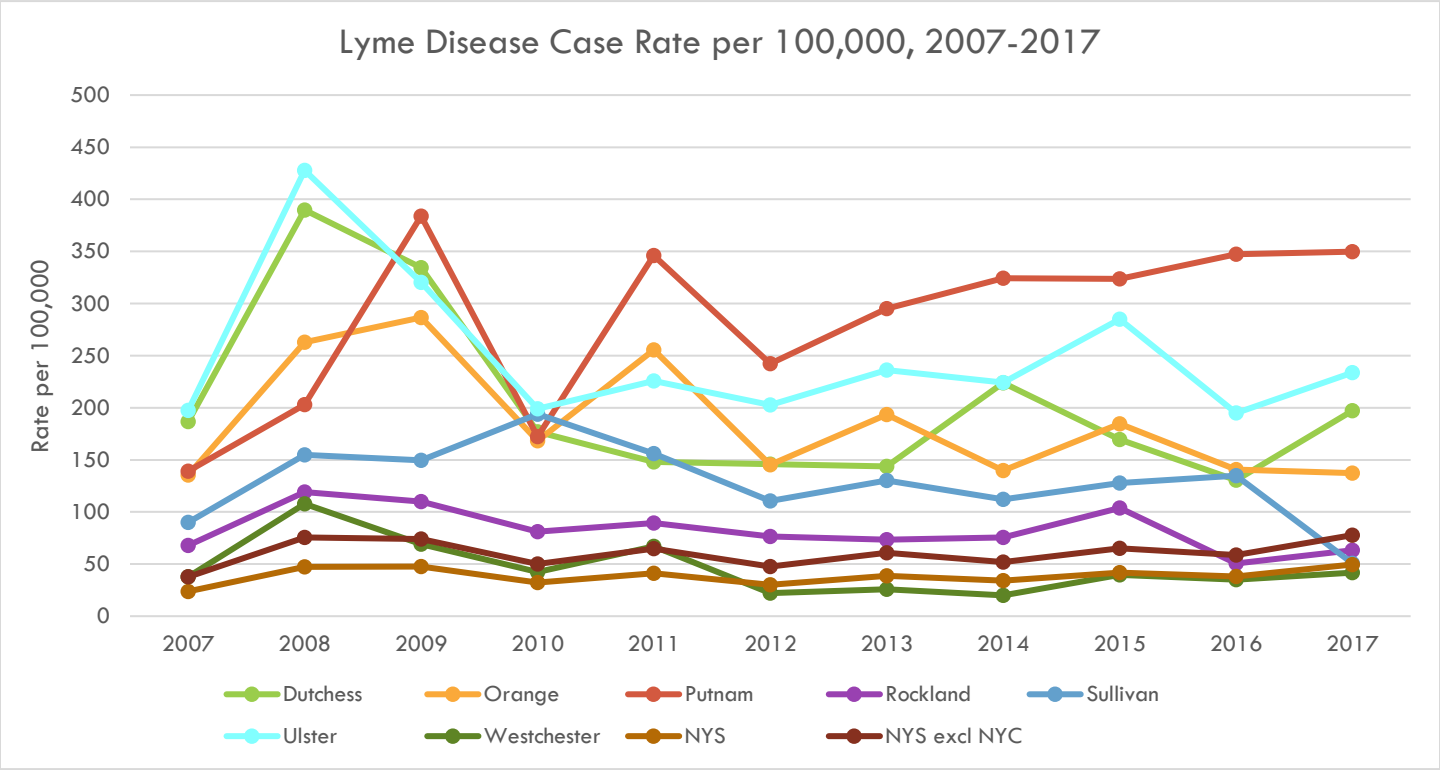
Figure 233



Note: The number of cases is determined using sentinel surveillance, which is extrapolated from samples of positive laboratory results to generate estimates of the total number of cases. Sentinel surveillance was conducted in all Mid-Hudson counties in 2017.
Source: Department of Health Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

[109] CDC, June 2019, https://www.cdc.gov/lyme/index.html, accessed July 2019

Figure 234



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	186.7	135.4	139.2	67.8	90.1	197.6	37.9	23.8	37.7
2008	389.8	262.8	203.0	119.1	154.7	427.8	107.8	47.4	75.7
2009	334.3	286.6	383.9	109.9	149.6	320.4	69.1	47.6	73.9
2010	176.8	168.2	172.3	81.0	193.9	199.0	42.3	32.3	50.1
2011	147.9	255.6	346.0	89.5	156.0	225.8	66.9	41.3	64.9
2012	146.0	145.4	242.2	76.5	110.5	202.8	22.1	30.2	47.6
2013	143.6	193.6	295.2	73.3	130.2	236.0	25.7	38.8	60.9
2014	224.0	139.8	324.2	75.7	112.2	224.3	20.0	34.0	51.9
2015	169.6	184.5	323.7	103.8	127.7	284.9	39.6	41.9	65.1
2016	130.5	140.6	347.3	50.6	134.9	194.9	35.1	38.1	58.7
2017	197.3	137.4	349.9	63.3	50.8	233.8	41.8	49.6	77.8

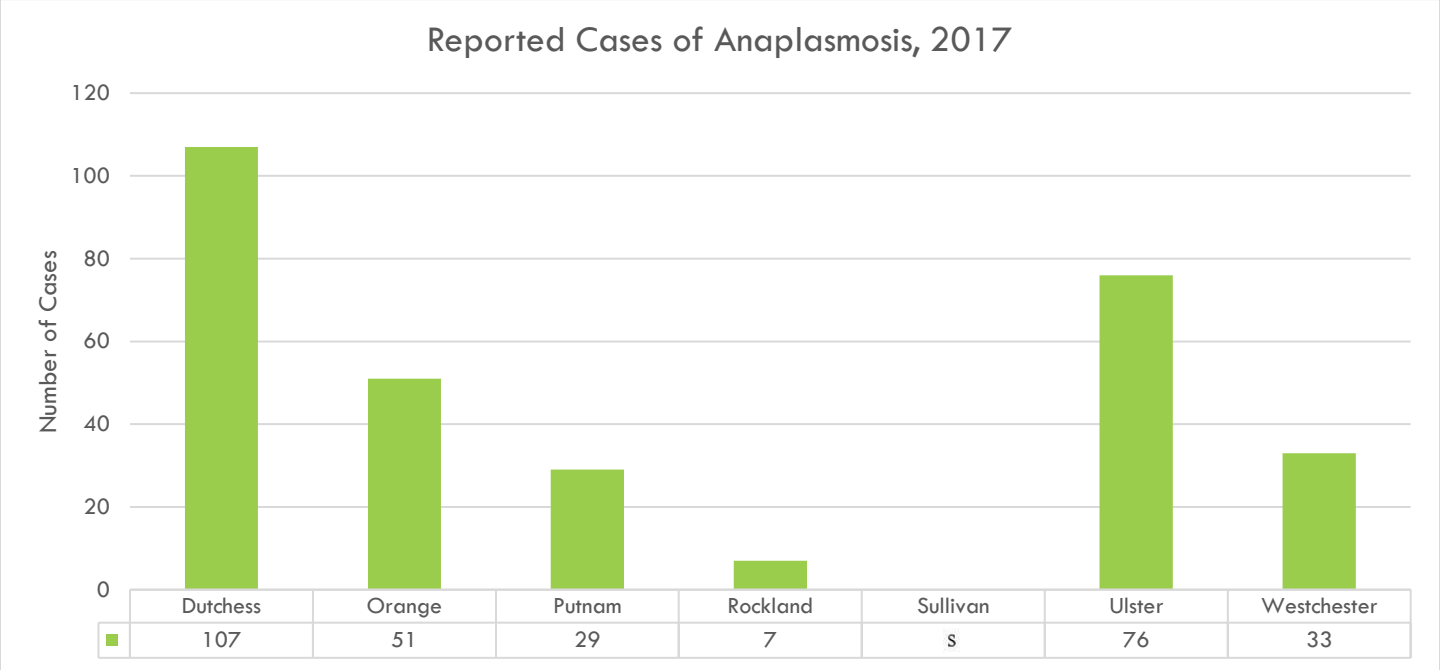
Note: The number of cases is determined using sentinel surveillance, which is extrapolated from samples of positive laboratory results to generate estimates of the total number of cases. Sentinel surveillance was conducted in all Mid-Hudson Counties in 2017.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

ANAPLASMOSIS

Anaplasmosis is a disease caused by the bacterium *Anaplasma phagocytophilum*, which is transmitted to humans via the bite of infected black-legged ticks. Early symptoms of anaplasmosis may include fever, headache, chills, and muscle aches. If left untreated, or if other medical conditions are present, anaplasmosis can cause more serious illness resulting in respiratory failure, bleeding problems, organ failure, and in rare cases, death.[110] Anaplasmosis is diagnosed based on the symptoms and blood tests. People with weakened immune systems may be at an increased risk of severe outcomes.

The number of reported anaplasmosis cases has risen, and in the U.S., it has increased from 1.4 cases per million persons in 2000 to 17.9 cases per million persons in 2017.[110] The geographic range of anaplasmosis also appears to be increasing as black-legged ticks expand in range. Vermont, Rhode Island, Minnesota, Massachusetts, Wisconsin, New Hampshire, and New York account for 90% of all reported anaplasmosis cases.[110] Cases are reported more frequently in males and in those aged 40 years and older. Dutchess County had the highest number of reported cases in 2017 (107) [see Figure 235]. The case rate of anaplasmosis has increased in most counties since 2014 [see Figure 236]. In 2017, Ulster County reported the highest rate of anaplasmosis cases as seen in Figure 236 (42.4 per 100,000 population).

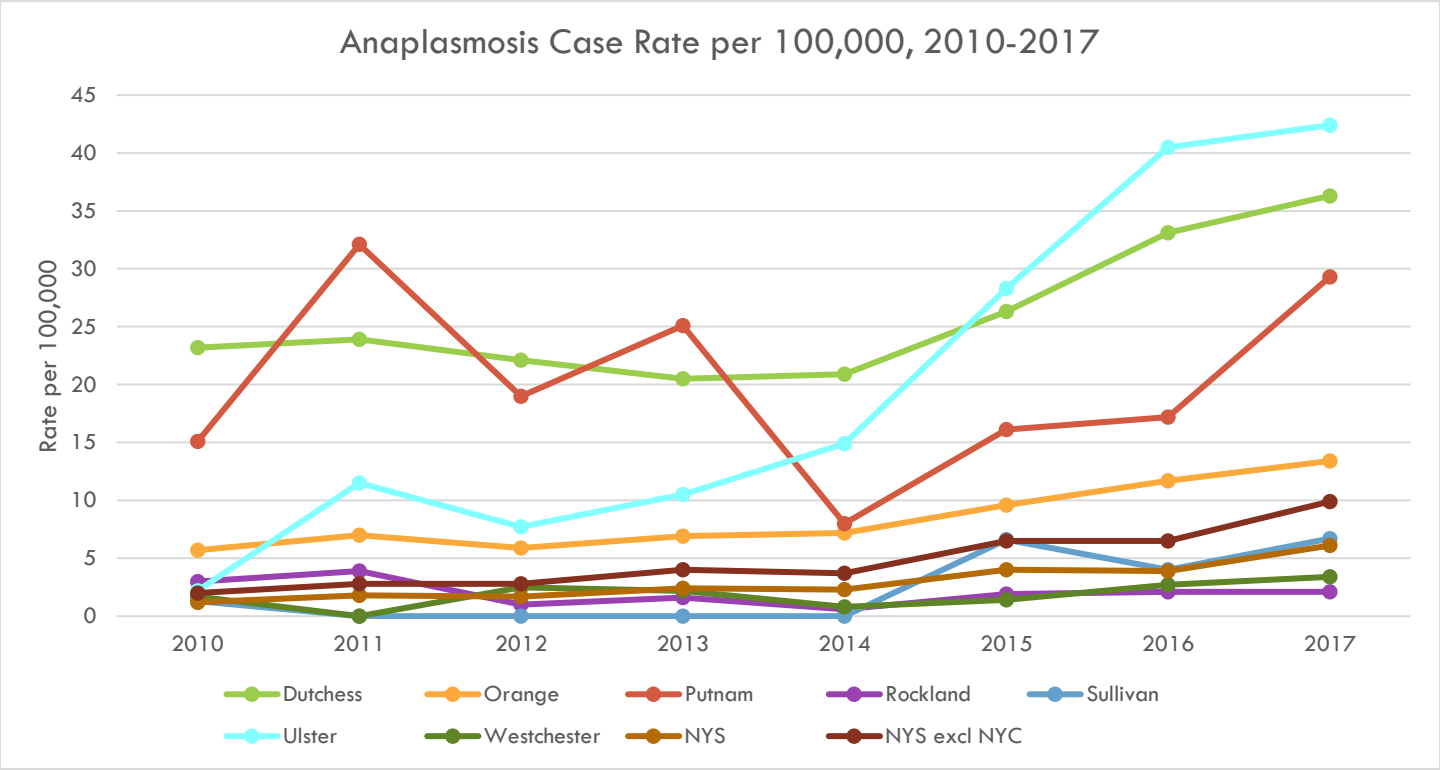
Figure 235



s: Data are suppressed.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

[110] CDC, January 2019, https://www.cdc.gov/anaplasmosis/, accessed July 2019

Figure 236



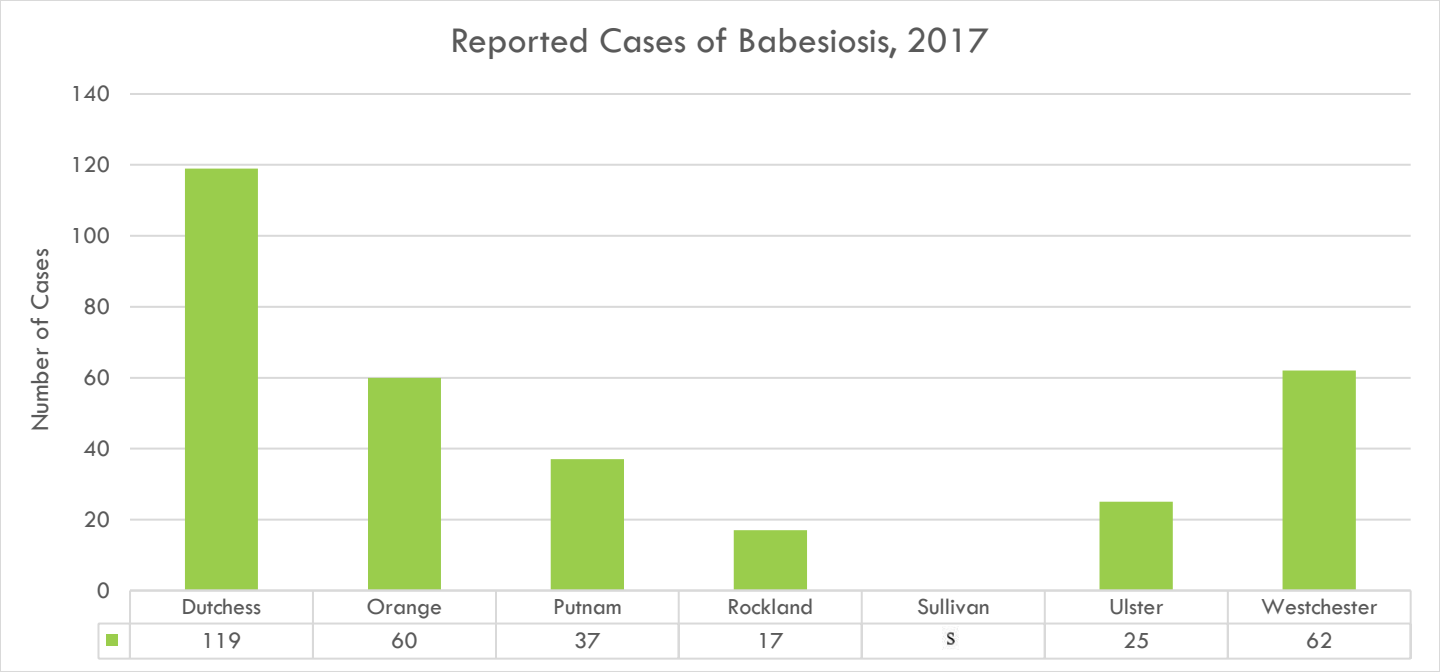
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2010	23.2	5.7	15.1	3.0	1.3	2.2	1.7	1.2	2.0
2011	23.9	7.0	32.1	3.9	0.0	11.5	0.0	1.8	2.8
2012	22.1	5.9	19.0	1.0	0.0	7.7	2.5	1.7	2.8
2013	20.5	6.9	25.1	1.6	0.0	10.5	2.2	2.4	4.0
2014	20.9	7.2	8.0	0.6	0.0	14.9	0.8	2.3	3.7
2015	26.3	9.6	16.1	1.9	6.6	28.3	1.4	4.0	6.5
2016	33.1	11.7	17.2	2.1	4.0	40.5	2.7	3.9	6.5
2017	36.3	13.4	29.3	2.1	6.7	42.4	3.4	6.1	9.9

Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

BABESIOSIS

Babesiosis is caused by the parasite *Babesia microti* that infects red blood cells and is spread by black-legged ticks. Tick-borne transmission is most common in the northeast and upper midwest of the U.S., and usually peaks during warmer months.[111] Many individuals infected with babesiosis do not experience any symptoms, but treatment is available for those who do. In those with symptoms, babesiosis is usually diagnosed by examining blood specimens to search for *Bebesia microti* parasites in the red blood cells. Dutchess County had the highest number of reported cases (119) [see Figure 237]. Since 2012, the rate of babesiosis has been shifting upwards in the Region, especially in Dutchess and Putnam Counties [see Figure 238].

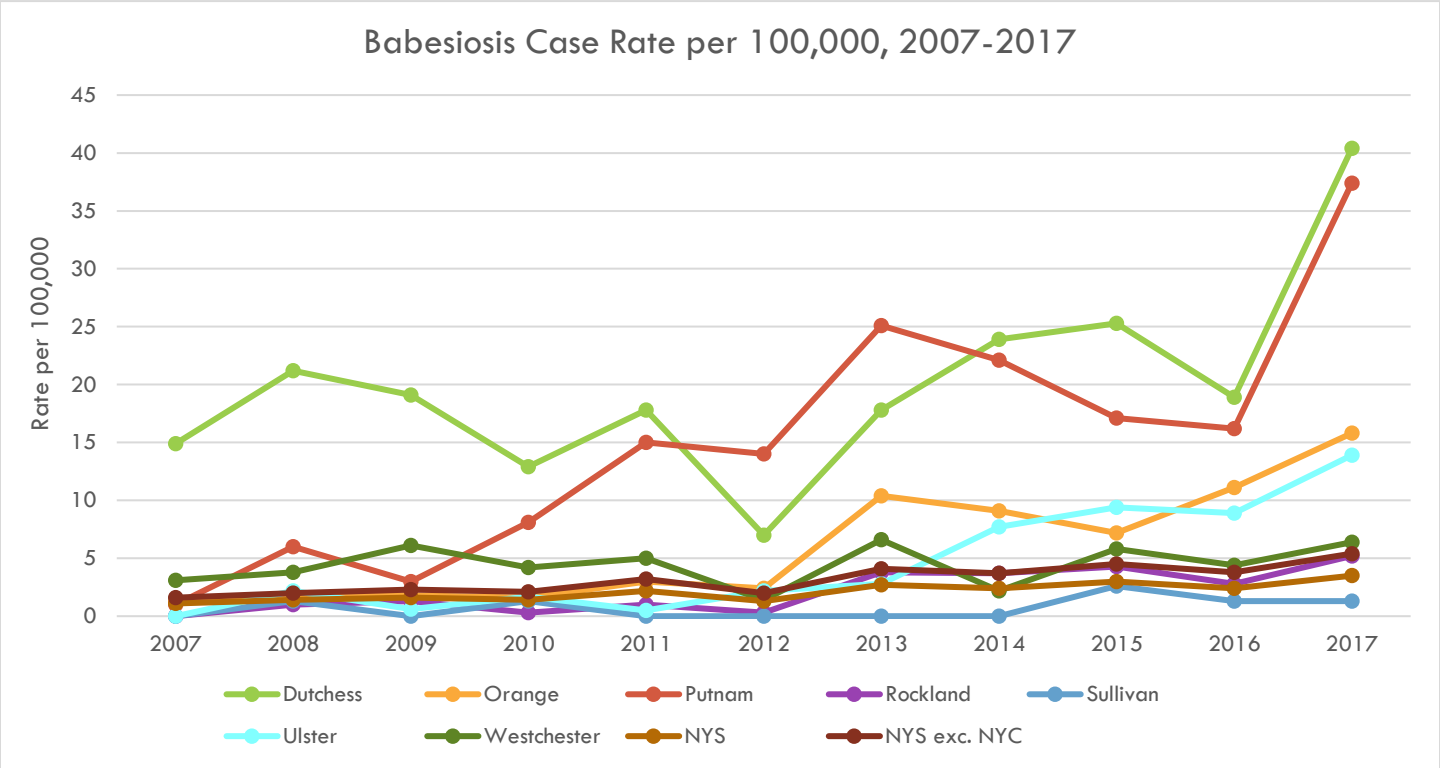
Figure 237



s: Data are suppressed.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

[111] CDC, May 2018, https://www.cdc.gov/parasites/babesiosis/, accessed July 2019

Figure 238



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2007	14.9	1.3	1.0	0.0	0.0	0.0	3.1	1.1	1.6
2008	21.2	1.9	6.0	1.0	1.3	2.2	3.8	1.4	2.0
2009	19.1	1.8	3.0	1.3	0.0	0.6	6.1	1.6	2.3
2010	12.9	1.6	8.1	0.3	1.3	1.7	4.2	1.4	2.1
2011	17.8	3.0	15.0	1.0	0.0	0.5	5.0	2.2	3.2
2012	7.0	2.4	14.0	0.3	0.0	2.2	1.4	1.3	2.0
2013	17.8	10.4	25.1	3.8	0.0	2.8	6.6	2.7	4.1
2014	23.9	9.1	22.1	3.7	0.0	7.7	2.2	2.4	3.7
2015	25.3	7.2	17.1	4.3	2.6	9.4	5.8	3.0	4.5
2016	18.9	11.1	16.2	2.8	1.3	8.9	4.4	2.4	3.8
2017	40.4	15.8	37.4	5.2	1.3	13.9	6.4	3.5	5.4

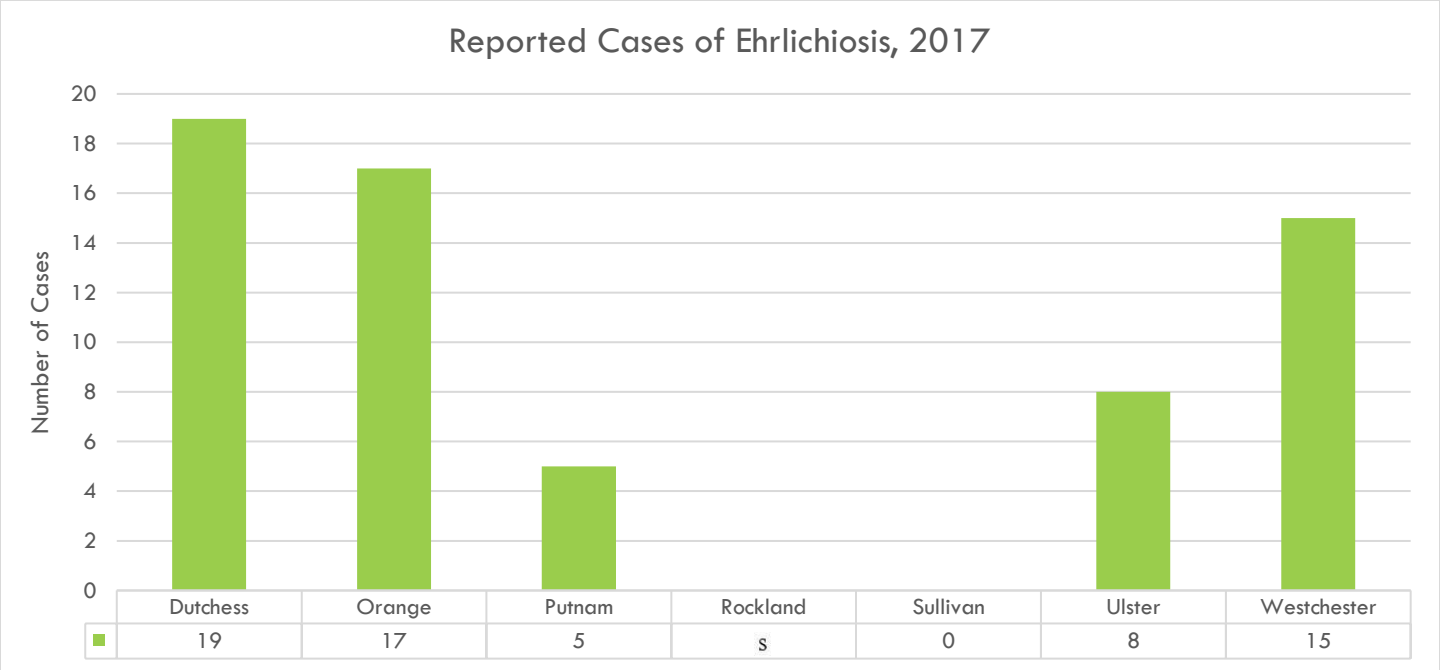
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

EHRLICHIOSIS

Ehrlichiosis includes the diseases caused by the bacteria *Ehrlichia chaffeenis, E. ewingii,* or *E. muris eauclairensis*. Ehrlichiosis is spread to humans primarily through the bite of infected lone star and black-legged ticks. People infected with ehrlichiosis often experience fever, chills, headache, muscle aches, and sometimes, an upset stomach.[112] Although infection can occur any month of the year, most reported cases occur during the summer months.[112] Geographically, ehrlichiosis is spread from the east coast to the west toward Texas. Cases are more frequently reported in men than women, and in people aged 60-69 years.[112] People with compromised immune systems may be at an increased risk for severe diseases.

Dutchess and Orange Counties reported the highest numbers of cases (19 and 17, respectively), while Sullivan County reported no cases [see Figure 239]. Dutchess County had the highest ehrlichiosis case rate in 2017, and it has been moving upward since 2014 in most counties. Putnam and Orange Counties have variations, while there is a rate decrease in Sullivan County [see Figure 240].

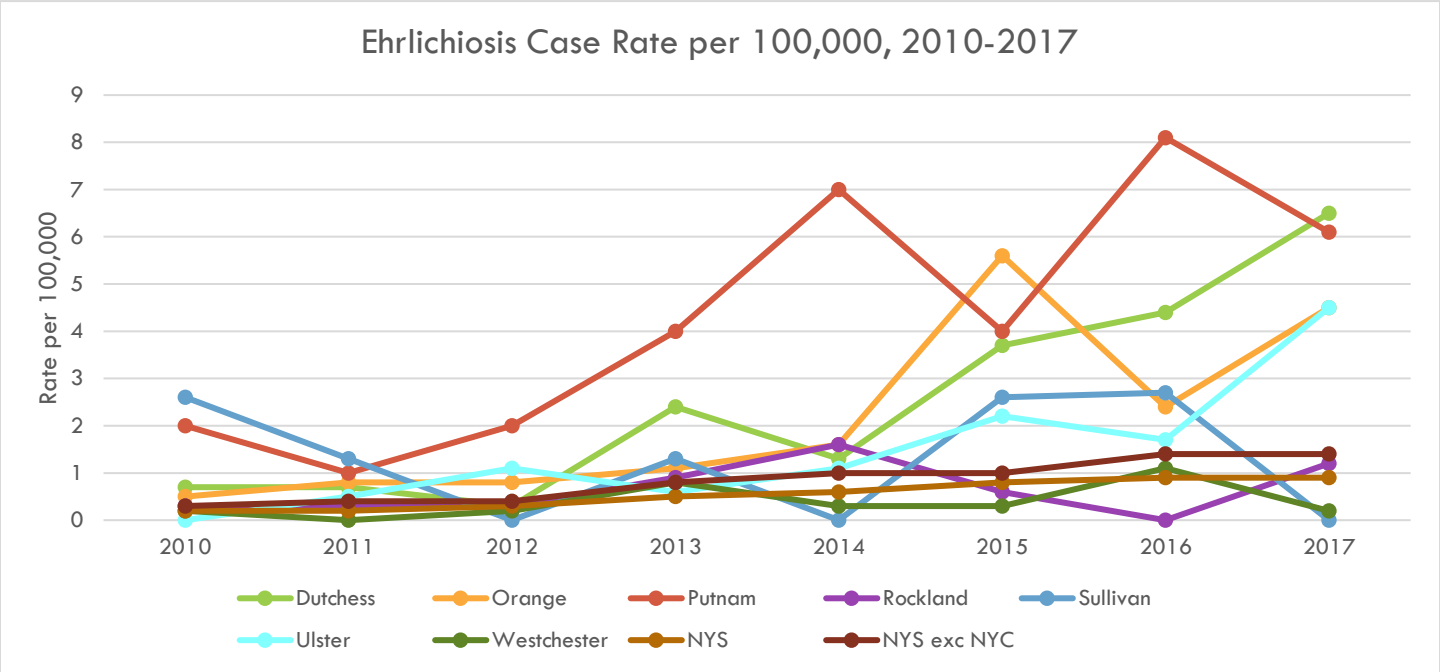
Figure 239



s: Data are suppressed.
Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

[112] CDC, January 2019, https://www.cdc.gov/ehrlichiosis/, accessed July 2019

Figure 240



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2010	0.7	0.5	2.0	0.3	2.6	0.0	0.2	0.2	0.3
2011	0.7	0.8	1.0	0.3	1.3	0.5	0.0	0.2	0.4
2012	0.3	0.8	2.0	0.3	0.0	1.1	0.2	0.3	0.4
2013	2.4	1.1	4.0	0.9	1.3	0.6	0.8	0.5	0.8
2014	1.3	1.6	7.0	1.6	0.0	1.1	0.3	0.6	1.0
2015	3.7	5.6	4.0	0.6	2.6	2.2	0.3	0.8	1.0
2016	4.4	2.4	8.1	0.0	2.7	1.7	1.1	0.9	1.4
2017	6.5	4.5	6.1	1.2	0.0	4.5	0.2	0.9	1.4

Source: NYSDOH Communicable Disease Annual Reports
https://health.ny.gov/statistics/diseases/communicable/

RABIES

Rabies is a fatal, but preventable disease of the central nervous system that can be spread to people and pets that are bitten or scratched by another animal infected with rabies. In the U.S., rabies is found in wild animals, including bats, skunks, raccoons, and foxes. In other countries, rabies is still commonly found in dogs; however, most rabies cases are caused by dog bites.[113] After a possible rabies exposure, appropriate medical care and administration of rabies post-exposure prophylaxis are critical, as the virus can cause disease in the brain and result in death. In 2017, Putnam County had the highest percentage of domestic animals that tested positive for rabies (7%), while Rockland had the highest percentage of wild species that tested positive (12%). In the Mid-Hudson Region, 3% of domestic animals tested were positive for rabies, while 7% of wild species tested were positive [see Table 26, Table 27]. The number of people in the Mid-Hudson Region receiving post-exposure prophylaxis was generally stable between 2010-2013. However, this rate spiked in 2014, which was attributed to an increase in human-bat contact in Ulster County [see Figure 241].

[113] CDC, June 2019, https://www.cdc.gov/rabies/index.html, accessed July 2019

Table 26

Animal Rabies Testing of Domestic Species, 2017			
County	**Total Domestic Animals Tested**	**Total Domestic Animals Positive**	**Percent Positive**
Dutchess	45	0	0%
Orange	79	4	5%
Putnam	28	2	7%
Rockland	32	2	6%
Sullivan	33	0	0%
Ulster	52	3	6%
Westchester	122	2	2%
Mid-Hudson Region	391	13	3%

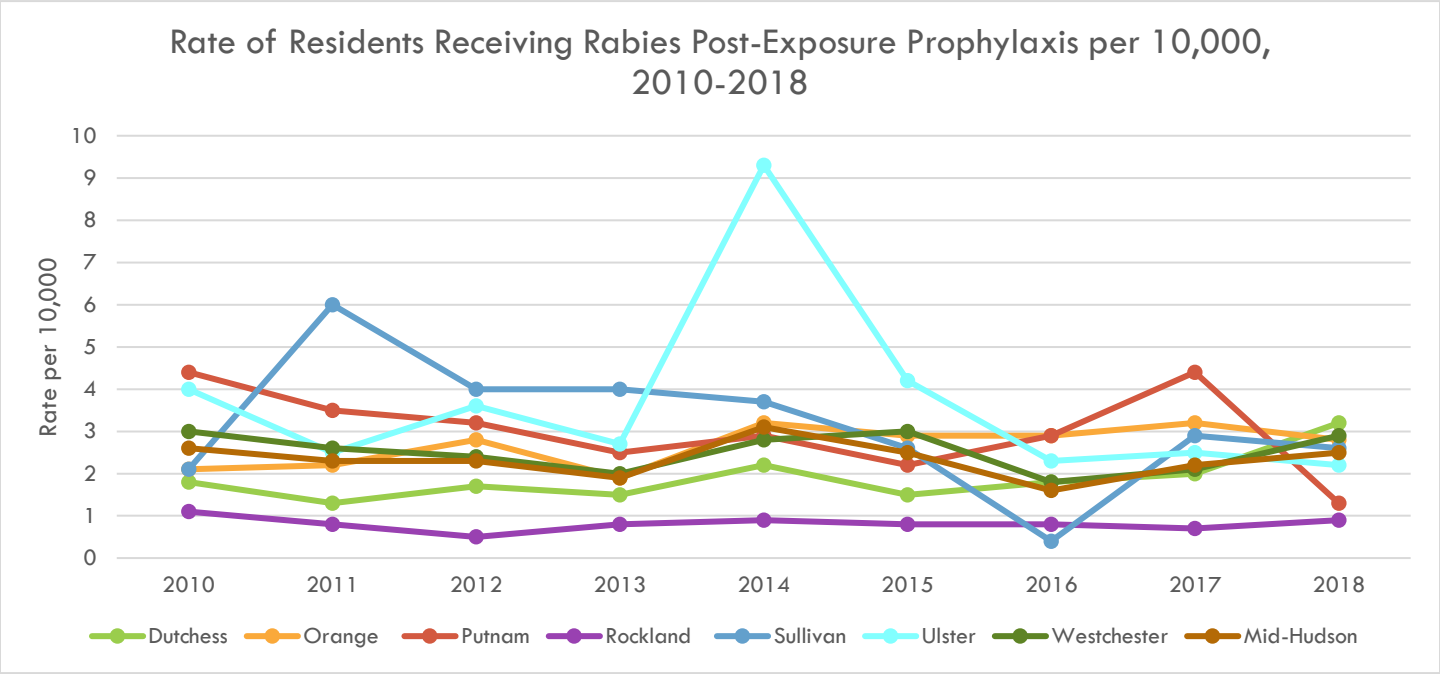
Note: Domestic animals include dogs, cats, horses, domestic rabbits, and sheep.
Source: NYSDOH Department of Health Rabies Laboratory, 2017
https://www.wadsworth.org/programs/id/rabies/reports

Table 27

Animal Rabies Testing of Wild Species, 2017			
County	**Total Wild Species Tested**	**Total Wild Species Positive**	**Percent Positive**
Dutchess	69	5	7%
Orange	56	5	9%
Putnam	113	12	11%
Rockland	50	6	12%
Sullivan	20	2	10%
Ulster	128	10	8%
Westchester	379	19	5%
Mid-Hudson Region	815	59	7%

Note: Wild species include bats, raccoons, skunks, bears, beavers, deer, foxes, squirrels, woodchucks, and rodents.
Source: NYSDOH Department of Health Rabies Laboratory, 2017
https://www.wadsworth.org/programs/id/rabies/reports

Figure 241



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson
2010	1.8	1.3	1.7	1.5	2.2	1.5	1.8	2.0
2011	2.1	2.2	2.8	1.9	3.2	2.9	2.9	3.2
2012	4.4	3.5	3.2	2.5	2.9	2.2	2.9	4.4
2013	1.1	0.8	0.5	0.8	0.9	0.8	0.8	0.7
2014	2.1	6.0	4.0	4.0	3.7	0.4	0.4	2.9
2015	4.0	2.5	3.6	2.7	9.3	2.3	2.3	2.5
2016	3.0	2.6	2.4	2.0	2.8	1.8	1.8	2.1
2017	2.6	2.3	2.3	1.9	3.1	1.6	1.6	2.2
2018	1.8	1.3	1.7	1.5	2.2	1.8	1.8	2.0

Note: Data were provided by LHDs.
Source: NYSDOH Department of Health Bureau of Communicable Disease Control
https://www.health.ny.gov/diseases/communicable/zoonoses/rabies/

CLOSTRIDIUM DIFFICILE

Hospital acquired infections (HAI) cause significant complications in health care facilities. One common HAI is *Clostridium difficile* (C. diff), a bacteria that can cause symptoms ranging from diarrhea to life-threatening colon inflammation.[114] This is usually the result of side effects from taking antibiotics. While C. diff is often a HAI acquired in health care settings, it can also be acquired in the community. Most cases of C. diff occur in people aged 65 years and older, who take antibiotics and receive medical care; people staying in hospitals and nursing homes for a long period of time; people with weakened immune systems; and people who have had previous C. diff infection. Symptoms of C. diff may start within a few days of infection or several weeks after taking antibiotics. Symptoms include diarrhea, fever, stomach tenderness, loss of appetite, and nausea. C. diff is easily spread from person-to-person, and it is a major health threat.

Many HAIs, such as C. diff, are preventable. Recent studies have suggested that implementing infection prevention practices can lead to up to a 70% reduction in HAIs.[115] Healthy People 2020 objectives were developed to measure the progress towards reducing the incidence of certain HAIs, such as C. Diff.

Hospital rates in New York State can be found here:
https://www.health.ny.gov/statistics/facilities/hospital/hospital_acquired_infections/

REPRODUCTIVE HEALTH

COUNTY ZIP CODE PERINATAL PROFILE

Perinatal Profiles contain data regarding total births, adverse birth outcomes, prenatal care, Medicaid/self-pay births, and teen pregnancy, by county and zip code.

New York State County/Zip Code Perinatal Profiles can be found at:
https://www.health.ny.gov/statistics/chac/perinatal/county/2014-2016/

PRENATAL CARE

Prenatal care is the health care received from medical providers during pregnancy, including checkups, physicals, and prenatal testing. Getting early and regular prenatal care in the first trimester can help keep mothers and their babies healthy, as it lets medical providers identify and treat health problems early. Of the mothers who do not get prenatal care, their babies are three times more likely to have a low birth weight and five times more likely to die.[116] During their first two trimesters, mothers should have prenatal visits every four to six weeks. After the first two trimesters, mothers should schedule prenatal visits every two to three weeks, until week 36. After week 36, mothers should have a prenatal visit every week.

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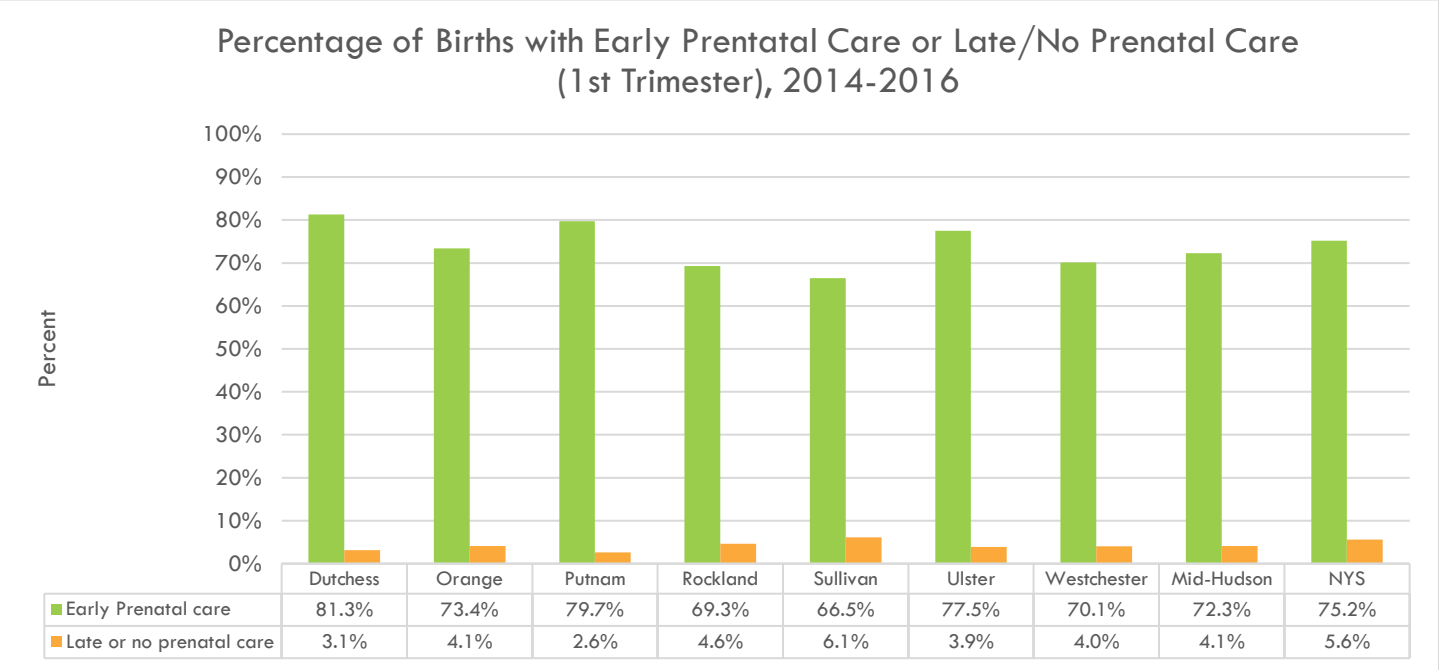
[114] Mayo Clinic, June 2019, https://www.mayoclinic.org/diseases-conditions/c-difficile/symptoms-causes/syc-20351691, accessed June 2019

[115] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/healthcare-associated-infections, accessed July 2019

[116] Office on Women's Health, April 2019, https://www.womenshealth.gov/a-z-topics/prenatal-care, accessed July 2019

Healthy People 2020 aims to increase the proportion of pregnant women who receive early and adequate prenatal care. Their objective is to increase the percentage of pregnant women who receive prenatal care, beginning in the first trimester, to 77.9%.[117] The Mid-Hudson Region fell below this target, with 72.3% of women receiving early prenatal care in the first trimester [see Figure 242]. This percentage was highest in Dutchess County (81.3%) and lowest in Sullivan County (66.5%). In Sullivan County, 6.1% of pregnant women received late or no prenatal care, compared to 5.6% of women in New York State that received late or no prenatal care.

Figure 242



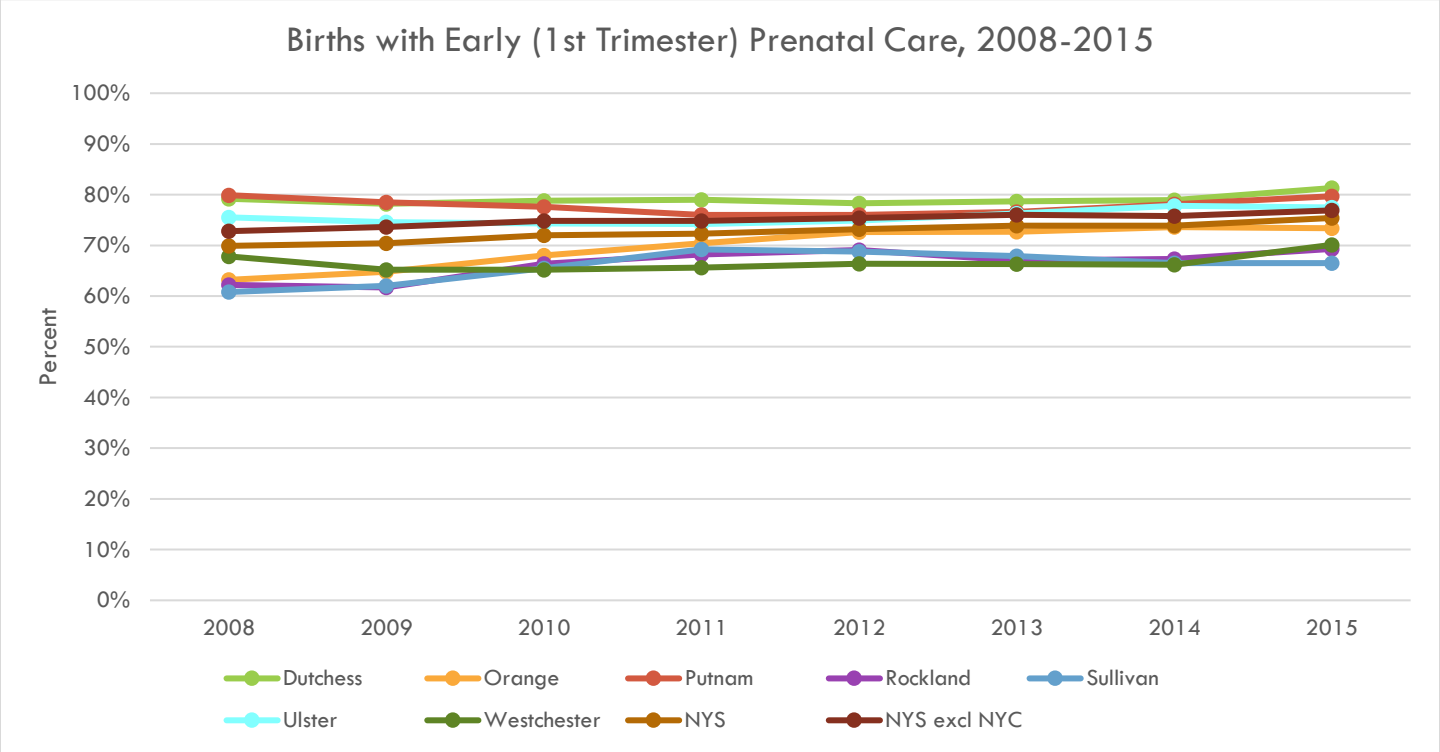
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Early Prenatal care	81.3%	73.4%	79.7%	69.3%	66.5%	77.5%	70.1%	72.3%	75.2%
Late or no prenatal care	3.1%	4.1%	2.6%	4.6%	6.1%	3.9%	4.0%	4.1%	5.6%

Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[117] Healthy People 2020. July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health, accessed July 2019

From 2008-2015, there were no marked changes in the percentage of women who receive early, late, or no prenatal care in the Mid-Hudson Region [see Figure 243, Figure 244].

Figure 243

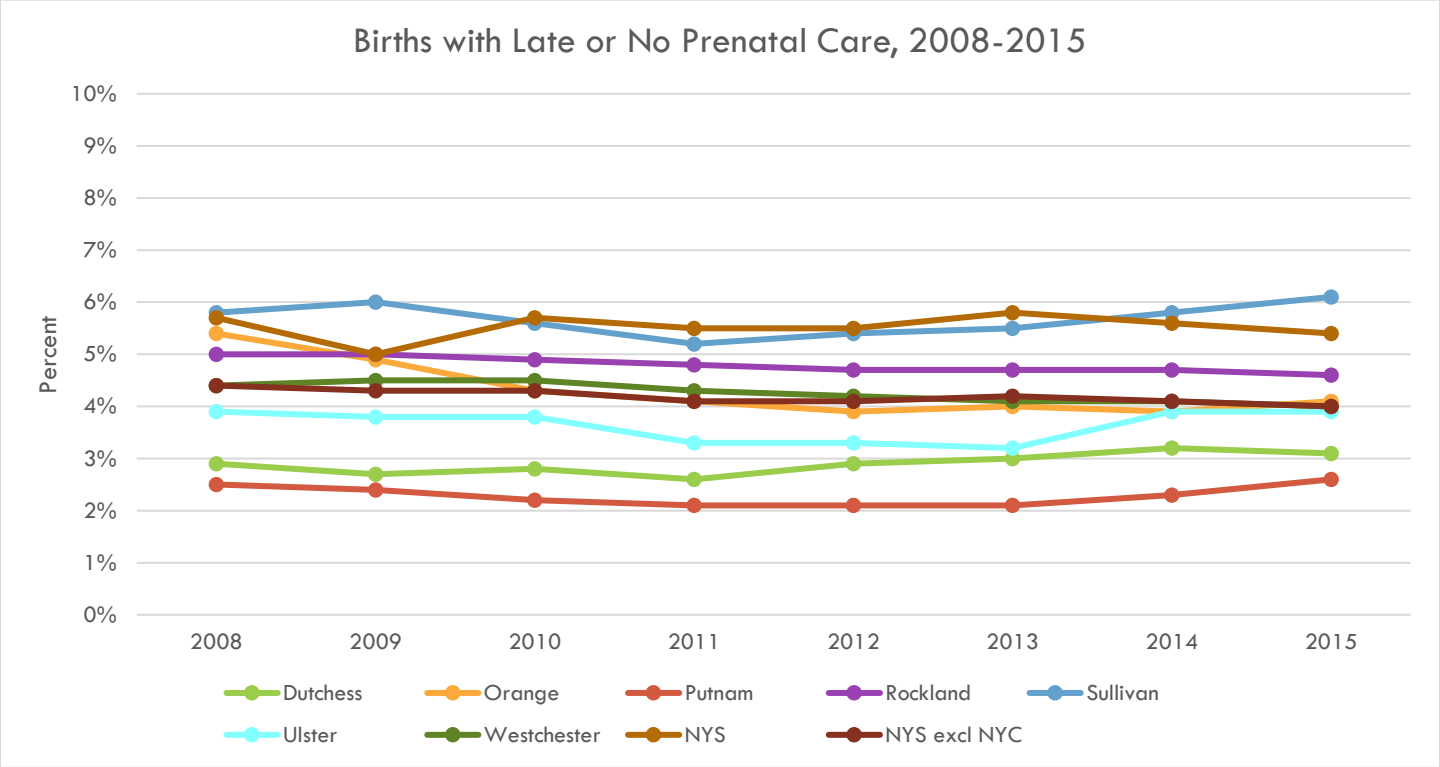


Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	79.2%	63.2%	79.9%	62.2%	60.8%	75.5%	67.8%	69.9%	72.8%
2009	78.2%	64.8%	78.5%	61.7%	62.0%	74.6%	65.2%	70.4%	73.6%
2010	78.8%	68.0%	77.6%	66.4%	65.5%	74.3%	65.2%	72.0%	74.8%
2011	79.0%	70.4%	76.0%	68.2%	69.2%	74.2%	65.6%	72.3%	74.8%
2012	78.3%	72.6%	76.0%	69.1%	68.8%	74.9%	66.4%	73.2%	75.4%
2013	78.7%	72.7%	76.6%	67.0%	67.9%	76.3%	66.3%	73.9%	76.0%
2014	78.9%	73.6%	78.1%	67.3%	66.5%	77.8%	66.2%	73.9%	75.8%
2015	81.3%	73.4%	79.7%	69.3%	66.5%	77.5%	70.1%	75.4%	76.9%

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Figure 244



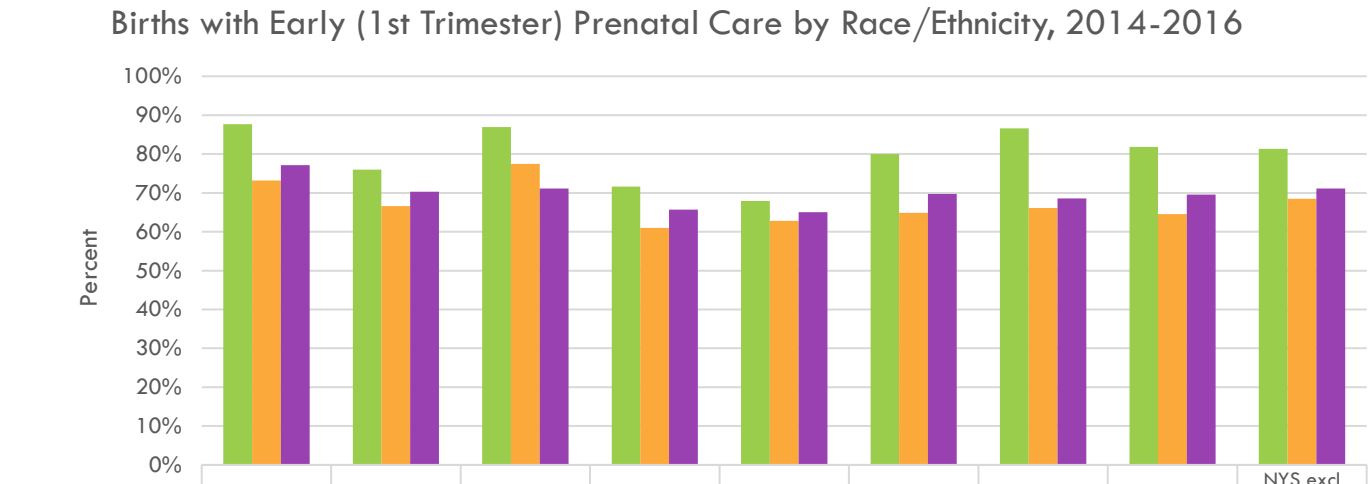
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	2.9%	5.4%	2.5%	5.0%	5.8%	3.9%	4.4%	5.7%	4.4%
2009	2.7%	4.9%	2.4%	5.0%	6.0%	3.8%	4.5%	5.0%	4.3%
2010	2.8%	4.3%	2.2%	4.9%	5.6%	3.8%	4.5%	5.7%	4.3%
2011	2.6%	4.1%	2.1%	4.8%	5.2%	3.3%	4.3%	5.5%	4.1%
2012	2.9%	3.9%	2.1%	4.7%	5.4%	3.3%	4.2%	5.5%	4.1%
2013	3.0%	4.0%	2.1%	4.7%	5.5%	3.2%	4.1%	5.8%	4.2%
2014	3.2%	3.9%	2.3%	4.7%	5.8%	3.9%	4.1%	5.6%	4.1%
2015	3.1%	4.1%	2.6%	4.6%	6.1%	3.9%	4.0%	5.4%	4.0%

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

There are racial and ethnic disparities surrounding prenatal care in the Mid-Hudson Region. Non-Hispanic White women had the highest percentage of early prenatal care in every county. Non-Hispanic Black and Hispanic women had slightly lower percentages of early prenatal care [see Figure 245].

Figure 245



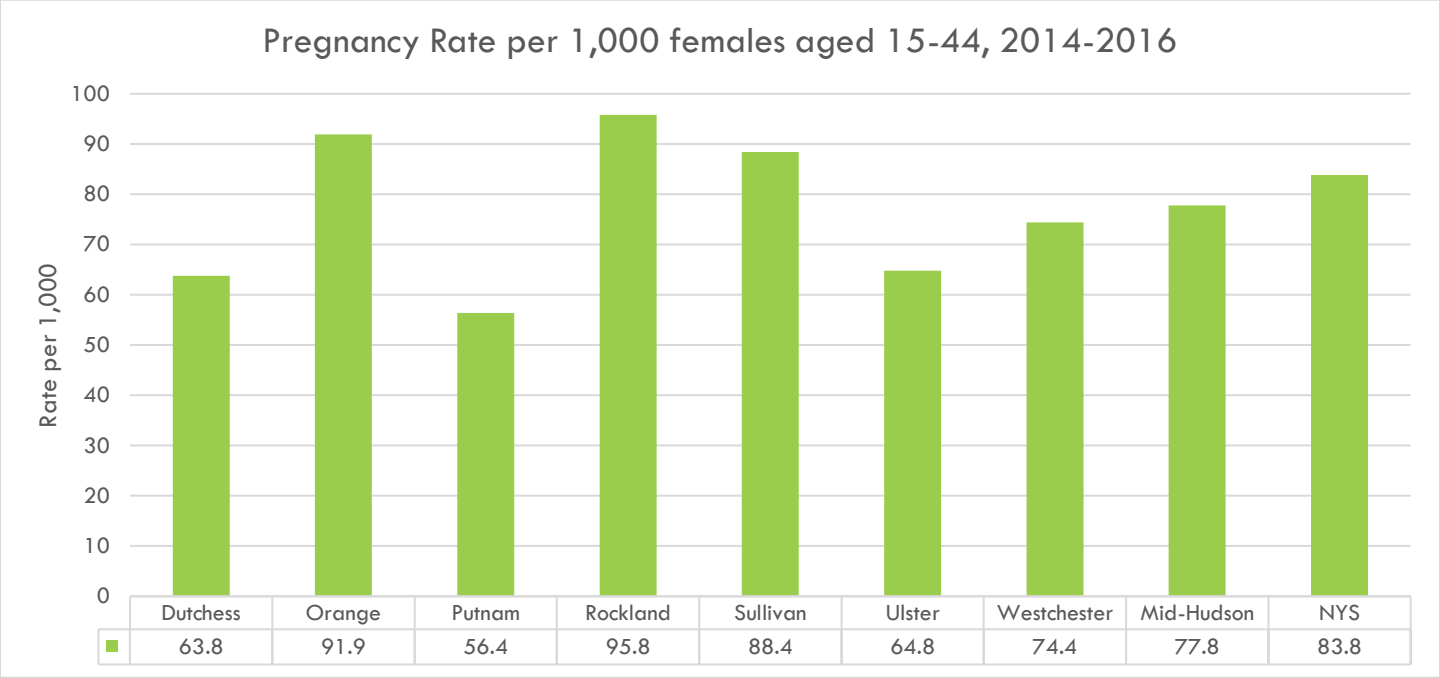
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	87.7%	76.0%	86.9%	71.6%	67.9%	80.0%	86.6%	81.8%	81.3%
Non-Hispanic Black	73.2%	66.6%	77.5%	61.0%	62.8%	64.9%	66.1%	64.5%	68.5%
Hispanic	77.1%	70.3%	71.1%	65.7%	65.0%	69.7%	68.6%	69.6%	71.1%

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2019
https://www.health.ny.gov/statistics/community/minority/county/

ALL PREGNANCIES BY AGE GROUP

Among women aged 15-44 years, the pregnancy rate in the Mid-Hudson Region was 77.8 per 1,000 females, which was lower than New York State (83.8 per 1,000 females). Rockland County had the highest pregnancy rate (95.8 per 1,000 females), followed by Orange County (91.9 per 1,000 females). The lowest pregnancy rate was in Putnam County (56.4 per 1,000 females) [see Figure 246].

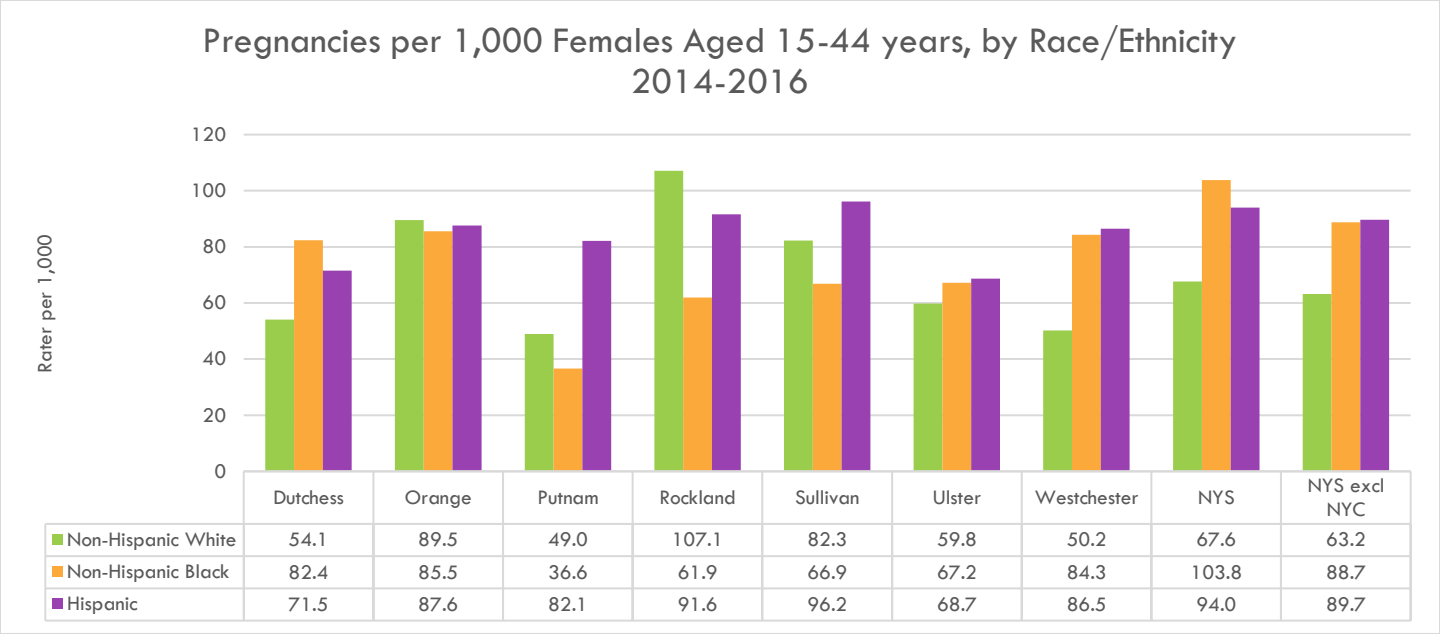
Figure 246



Source: NYSDOH Vital Statistics as of October 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

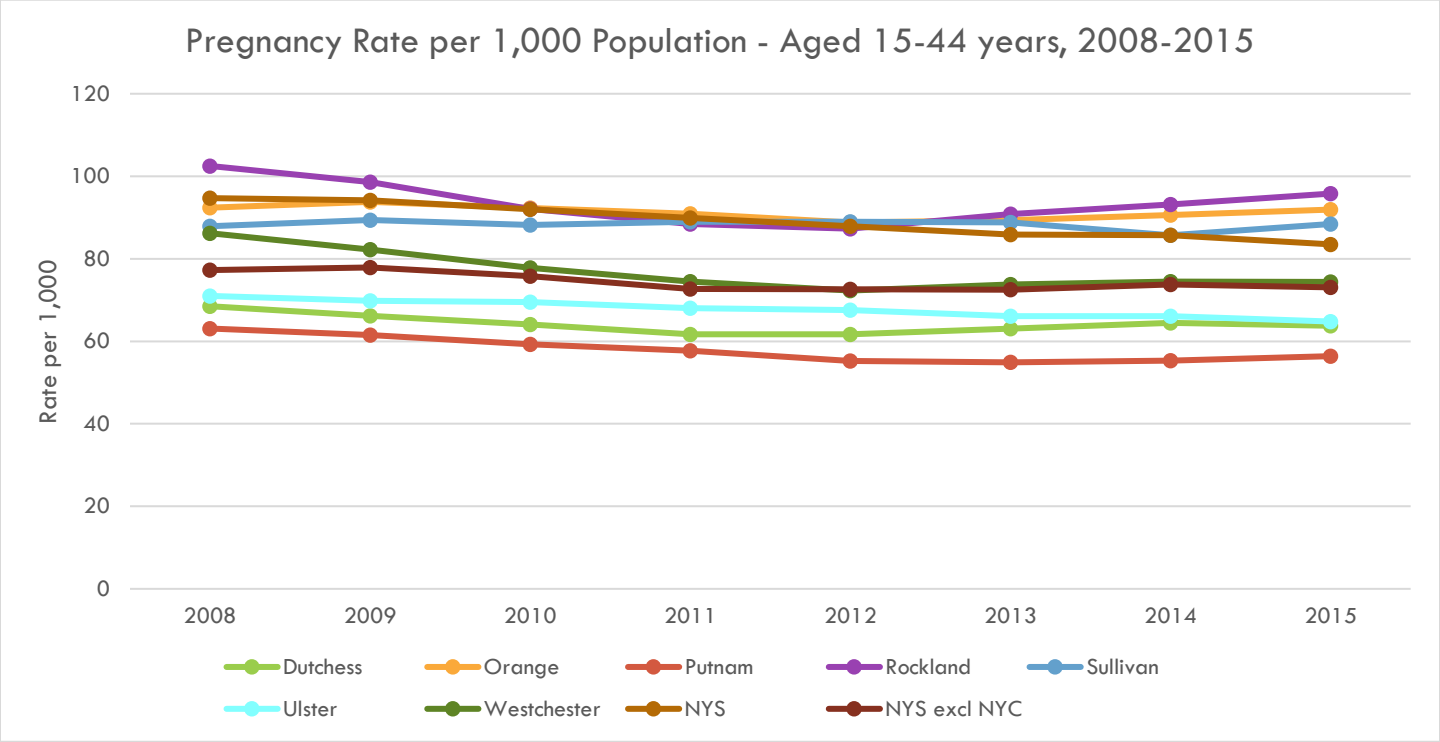
Among women aged 15-44 years, the pregnancy rate varied by race/ethnicity in the Mid-Hudson Region. Non-Hispanic White women had the highest pregnancy rates in Rockland and Orange Counties, while having the lowest rates in Westchester, Ulster, and Dutchess Counties, as well as New York State. Non-Hispanic Black women had the highest pregnancy rates in Dutchess County and in New York State, while Hispanic women had the highest pregnancy rates in Putnam, Sullivan, Ulster, and Westchester Counties.

Figure 247



Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2019
https://www.health.ny.gov/statistics/community/minority/county/

Figure 248



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

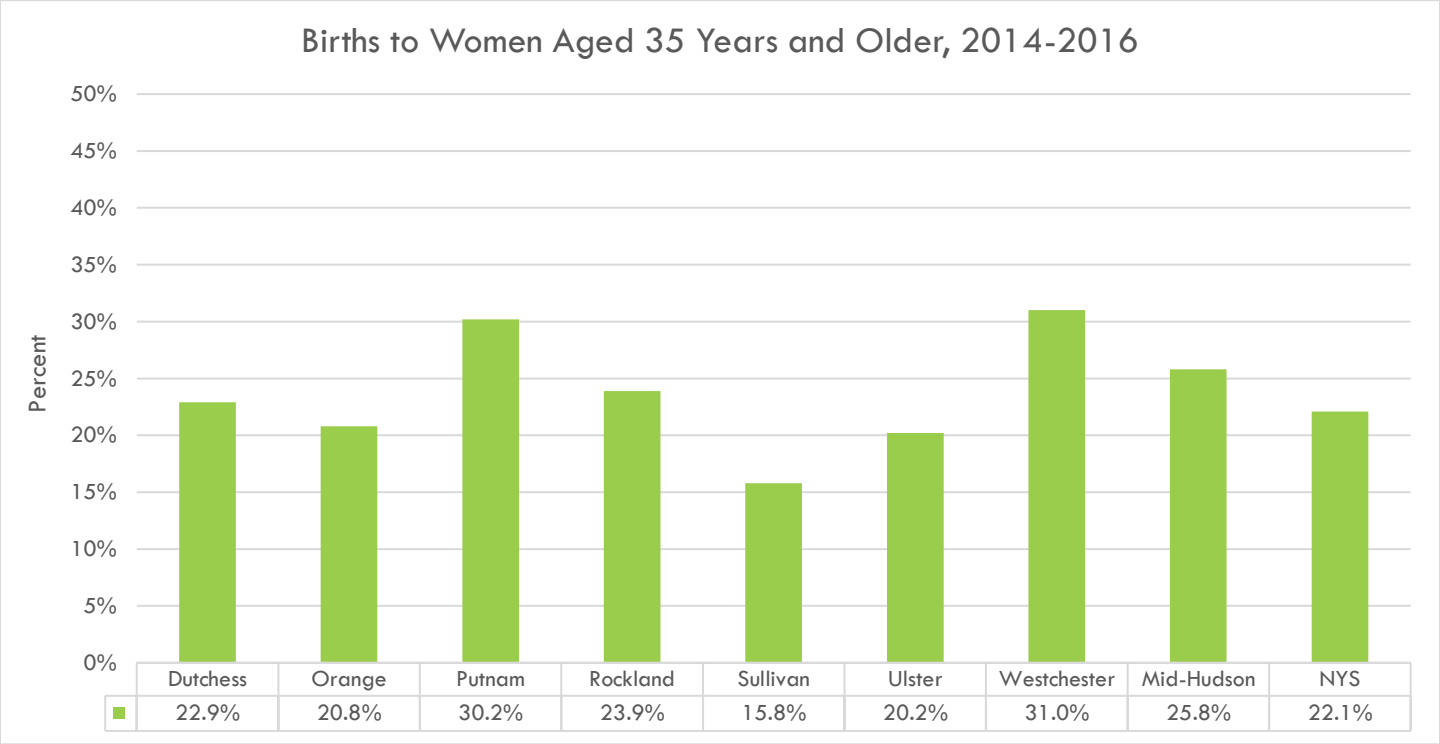
	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	68.5	92.4	63.1	102.5	87.9	71.0	86.2	94.7	77.3
2009	66.2	93.8	61.5	98.6	89.4	69.8	82.2	94.2	77.9
2010	64.1	92.3	59.3	92.1	88.2	69.5	77.8	92.0	75.8
2011	61.7	90.9	57.7	88.4	89.0	68.0	74.5	89.9	72.7
2012	61.7	88.8	55.2	87.3	89.0	67.6	72.3	87.9	72.6
2013	63.1	89.4	54.9	90.8	88.8	66.1	73.8	85.9	72.5
2014	64.5	90.6	55.3	93.2	85.7	66.1	74.5	85.7	73.8
2015	63.8	91.9	56.4	95.8	88.4	64.8	74.4	83.5	73.1

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

BIRTHS TO WOMEN AGED 35 YEARS AND OLDER

Pregnant women aged 35 years and older are at a higher risk for certain complications or becoming pregnant with multiples.[118] Those over the age of 35 may also have a harder time getting pregnant, requiring fertility treatments. Women aged 35 years and older, who become pregnant, may be more likely to develop health conditions, such as gestational diabetes and preeclampsia. These health conditions can cause problems during pregnancy, including premature birth, low birthweight, birth defects such as Down syndrome, miscarriage, stillbirth, and needing a cesarean section (C-section). Those aged 35 years and older are recommended to have additional prenatal testing done to assess whether their baby is at risk for certain birth defects. In the Mid-Hudson Region, 25.8% of births were to women aged 35 years and older. Westchester had the highest percentage of births (31.0%), while Sullivan had the lowest percentage of births (15.8%) [see Figure 249].

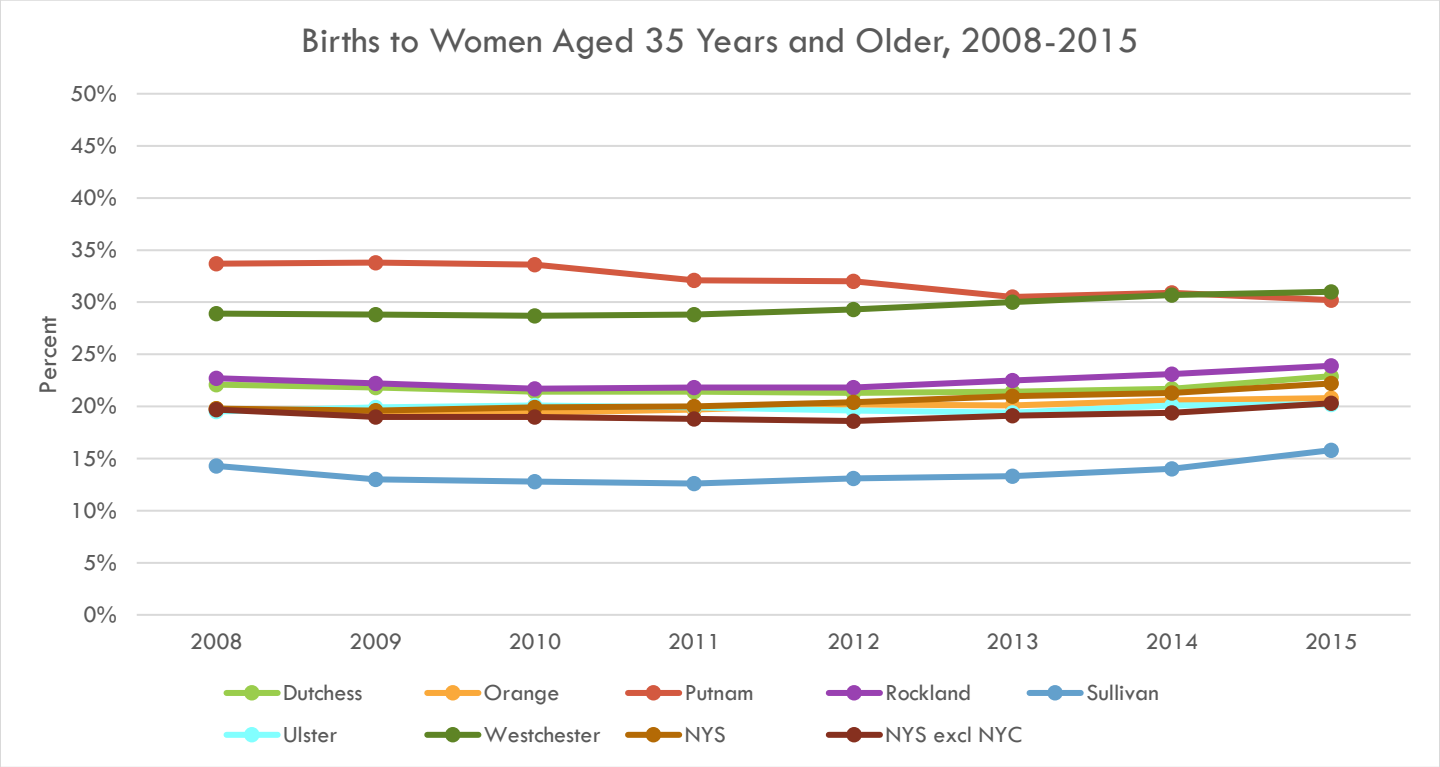
Figure 249



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[118] March of Dimes, April 2016, https://www.marchofdimes.org/complications/pregnancy-after-age-35.aspx accessed July 2019

Figure 250



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	22.1%	19.8%	33.7%	22.7%	14.3%	19.5%	28.9%	19.8%	19.7%
2009	21.8%	19.4%	33.8%	22.2%	13.0%	19.9%	28.8%	19.6%	19.0%
2010	21.4%	19.4%	33.6%	21.7%	12.8%	20.1%	28.7%	19.9%	19.0%
2011	21.4%	19.7%	32.1%	21.8%	12.6%	19.9%	28.8%	20.0%	18.8%
2012	21.3%	20.2%	32.0%	21.8%	13.1%	19.6%	29.3%	20.4%	18.6%
2013	21.4%	20.1%	30.5%	22.5%	13.3%	19.4%	30.0%	21.0%	19.1%
2014	21.7%	20.6%	30.9%	23.1%	14.0%	20.1%	30.7%	21.3%	19.4%
2015	22.9%	20.8%	30.2%	23.9%	15.8%	20.2%	31.0%	22.2%	20.3%

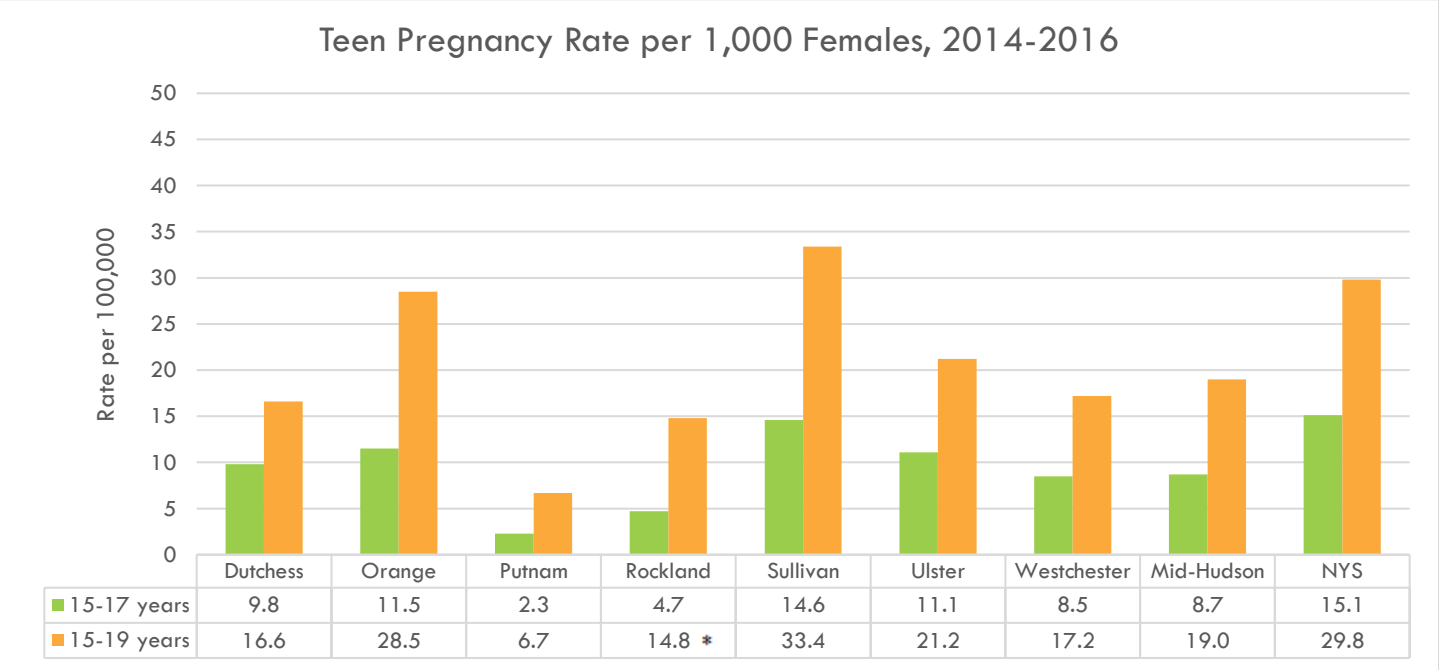
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

ADOLESCENT PREGNANCY

Teen pregnancy is currently at historic lows in New York State, and progress is being made nationwide.[119] Evidence suggests that this decline in New York State may be attributable to teens abstaining from sexual activity, and more sexually active teens are using birth control. Despite this progress, the teen pregnancy rate in the U.S. is substantially higher than any other western industrialized nation. Poorer socioeconomic status conditions, such as lower education and lower income level, may contribute to higher rates of teen pregnancy. Teens in child welfare systems are also more likely to experience teen pregnancy. Teen pregnancy is a significant contributor to high school dropout rates. In the U.S., 50% of teen mothers graduate high school by age 22, while 90% of women, who did not give birth during adolescence, received a high school diploma. The children of teenage mothers are more likely to have lower school achievement and drop out of high school; more health problems; become incarcerated at some point during adolescence; give birth as a teenager; and experience unemployment as an adult.[119]

The rate of teen pregnancy was highest in teens aged 15-19 years compared to teens aged 15-17 years in the Mid-Hudson Region (19.0 vs 8.7 per 1,000 females). Additionally, the overall rate for teens aged 15-19 years for the Mid-Hudson Region was lower than New York State (29.8 per 1,000 females). Sullivan County had the highest pregnancy rate among teens aged 15-19 years in the Mid-Hudson Region (33.4 per 1,000 females) [see Figure 251]. This rate has been decreasing statewide from 2008-2015 [see Figure 252].

Figure 251

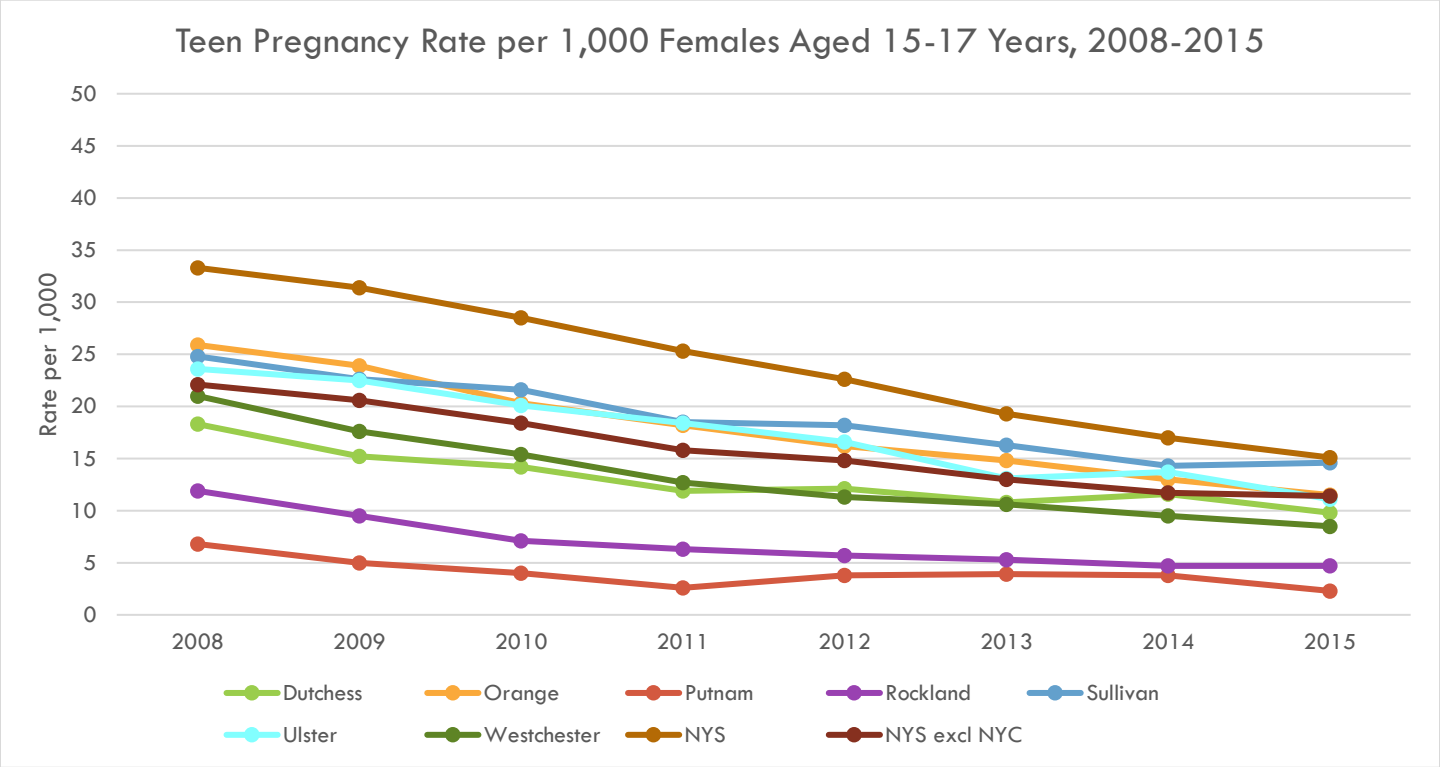


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
15-17 years	9.8	11.5	2.3	4.7	14.6	11.1	8.5	8.7	15.1
15-19 years	16.6	28.5	6.7	14.8 *	33.4	21.2	17.2	19.0	29.8

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[119] CDC, March 2019, https://www.cdc.gov/teenpregnancy/about/index.htm, accessed July 2019

Figure 252



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

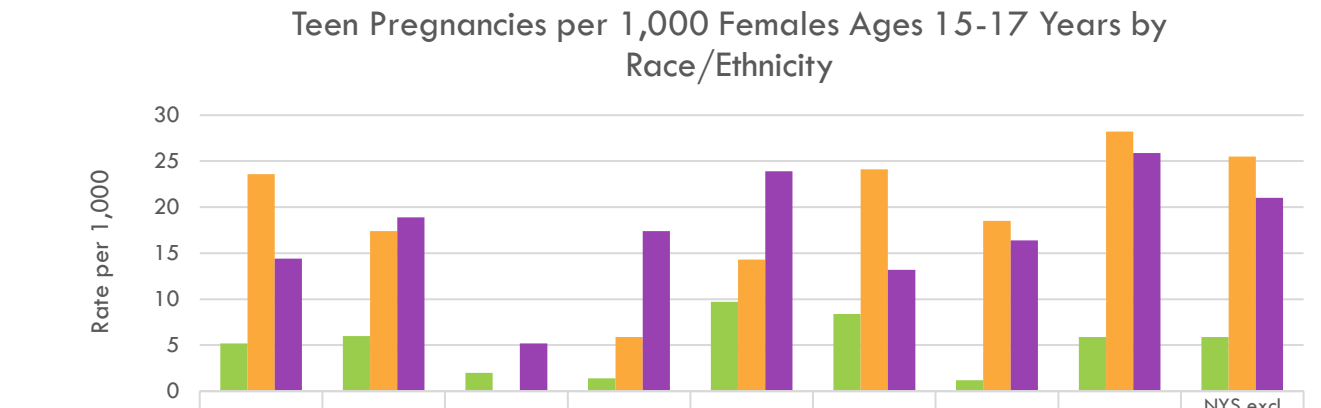
	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	18.3	25.9	6.8	11.9	24.8	23.6	21.0	33.3	22.1
2009	15.2	23.9	5.0	9.5	22.6	22.5	17.6	31.4	20.6
2010	14.2	20.3	4.0	7.1	21.6	20.1	15.4	28.5	18.4
2011	11.9	18.2	2.6	6.3	18.5	18.4	12.7	25.3	15.8
2012	12.1	16.2	3.8	5.7	18.2	16.6	11.3	22.6	14.8
2013	10.8	14.8	3.9	5.3	16.3	13.1	10.6	19.3	13.0
2014	11.6	13.0	3.8	4.7	14.3	13.7	9.5	17.0	11.7
2015	9.8	11.5	2.3	4.7	14.6	11.1	8.5	15.1	11.4

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

There are racial/ethnic disparities in teen pregnancy, with non-Hispanic Black teens experiencing the highest rates of teen pregnancy in Dutchess, Ulster, and Westchester Counties, as well as in New York State. Hispanic teens had the highest teen pregnancy rates in Orange, Rockland, and Sullivan Counties. Non-Hispanic White teens experienced the lowest rates of teen pregnancy in the Mid-Hudson Region, as well as in New York State. These rates are below Healthy People 2020's target of reducing pregnancies among adolescent females aged 15-17 years to 36.2 pregnancies per 1,000 adolescent females.[120]

[120] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning/objectives, accessed July 2019

Figure 253



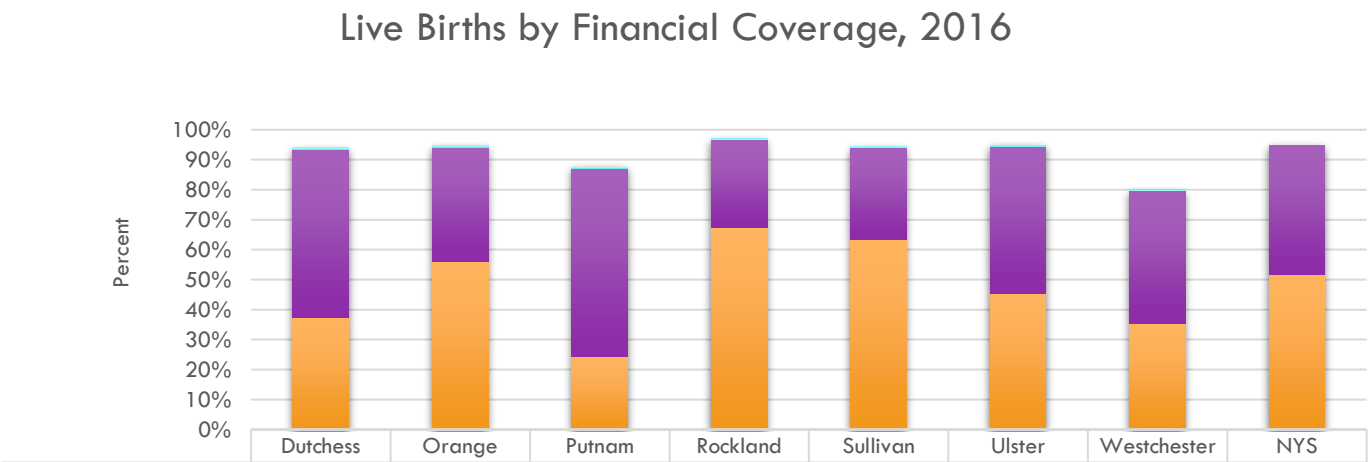
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	5.2	6.0	2.0 *	1.4	9.7 *	8.4	1.2	5.9	5.9
Non-Hispanic Black	23.6	17.4	0.0 *	5.9	14.3	24.1	18.5	28.2	25.5
Hispanic	14.4	18.9	5.2	17.4	23.9	13.2	16.4	25.9	21.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2019
https://www.health.ny.gov/statistics/community/minority/county/

SELF-PAY OR MEDICAID BIRTHS / PREGNANCIES

Most births in the Mid-Hudson Region were covered by private insurance or Medicaid. In 2016, a majority of the births in Dutchess, Putnam, Ulster, and Westchester were covered by private insurance, while Medicaid was used more frequently to cover births in Orange, Rockland, and Sullivan Counties. In New York State, slightly more births were covered by Medicaid than private insurance. Additionally, a very small percentage of births in each county were self-pay.

Figure 254



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS
Self-Pay Births	0.6%	0.6%	0.4%	0.4%	0.5%	0.3%	0.3%	0.0%
Private Insurance Births	56.2%	38.2%	63.0%	29.3%	30.7%	49.1%	44.4%	43.3%
Medicaid Births	37.3%	56.0%	24.2%	67.3%	63.3%	45.4%	35.3%	51.6%

Note: Other forms of coverage not shown include Indian Health, CHAMPUS, Other, and Not Stated.
Source: NYSDOH Vital Statistics, 2018 https://www.health.ny.gov/statistics/vital_statistics/2016/table13.htm

ADVERSE BIRTH OUTCOMES

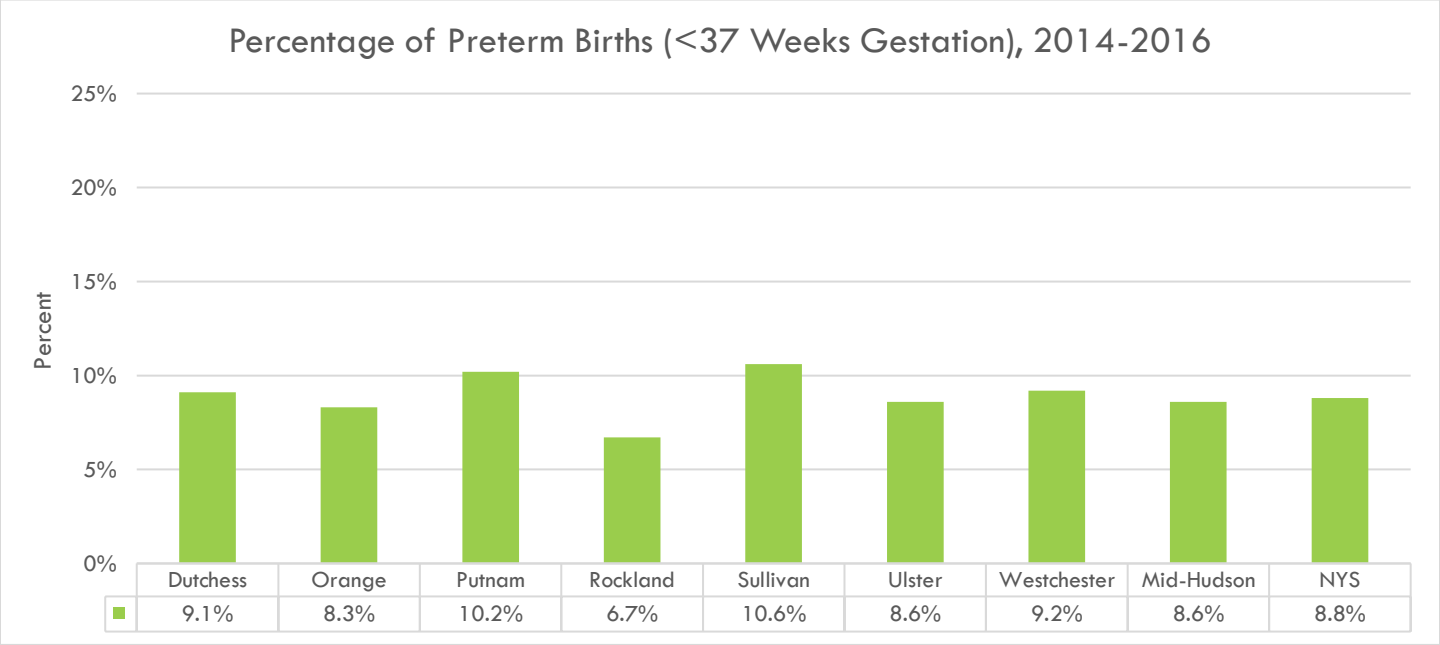
PRETERM BIRTHS

Preterm birth is when a mother gives birth to a baby more than three weeks before its due date. Preterm babies, especially those born very early, often have medical complications. While these complications may vary, typically the more premature a baby is, the higher the risk for complications.[121] Risk factors for premature birth include pregnancy with twins, triplets, or other multiples; conceiving through in vitro fertilization; smoking cigarettes or using illicit drugs; certain infections, especially those of the amniotic fluid and lower genital tract; certain chronic conditions, such as high blood pressure or diabetes; stressful life events; physical injury or trauma; and an interval of less than six months between pregnancies. Non-Hispanic Black women are more likely to experience premature birth than women of other races or ethnicities.

Short-term complications of premature birth may include problems with the blood, heart, brain, gastrointestinal system, and immune system. Additionally, there may be further complications with breathing, metabolism, and temperature control. Long-term complications of premature birth may include vision, hearing, dental, behavioral, and psychological problems. Additionally, complications may include cerebral palsy, impaired learning, and other chronic health issues.[121]

Healthy People 2020 set an objective to reduce the total amount of preterm births to 9.4%. The Mid-Hudson Region met this target, with 8.6% of births being preterm [see Figure 255]. Rockland County had the lowest percentage of preterm births (6.7%), while Sullivan and Putnam Counties had the highest percentages of preterm birth and did not meet the Healthy People 2020 target (10.6% and 10.2, respectively) [see Figure 255]. The percentage of preterm births has generally been decreasing over time, but increased slightly in some counties between 2014-2015 [see Figure 256].

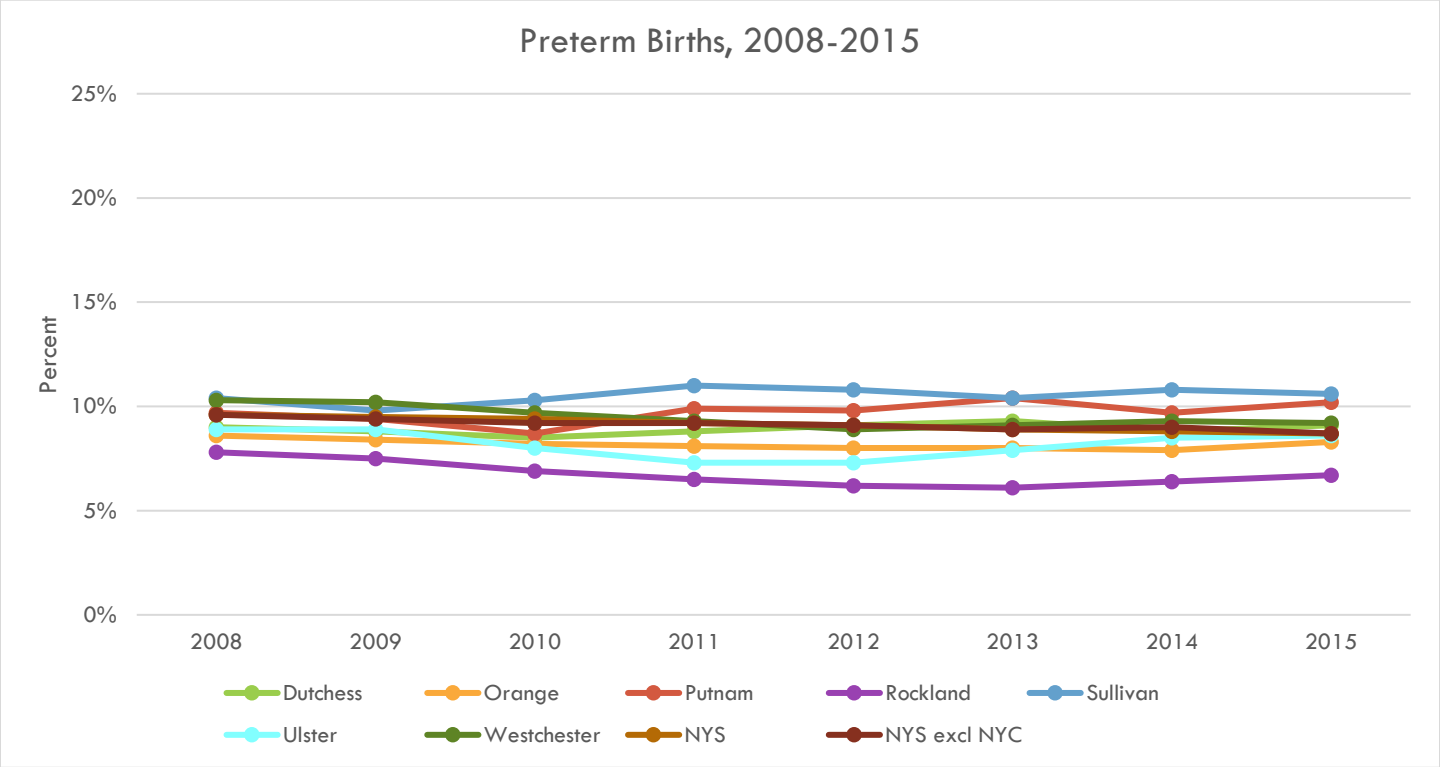
Figure 255



Source: NYSDOH Vital Statistics as of October 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[121] Mayo Clinic, December 2017, https://www.mayoclinic.org/diseases-conditions/premature-birth/symptoms-causes/syc-20376730, accessed July 2019

Figure 256



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	9.0%	8.6%	9.7%	7.8%	10.4%	8.9%	10.3%	9.6%	9.6%
2009	8.8%	8.4%	9.4%	7.5%	9.8%	8.9%	10.2%	9.5%	9.4%
2010	8.5%	8.2%	8.7%	6.9%	10.3%	8.0%	9.7%	9.4%	9.2%
2011	8.8%	8.1%	9.9%	6.5%	11.0%	7.3%	9.3%	9.2%	9.2%
2012	9.1%	8.0%	9.8%	6.2%	10.8%	7.3%	8.9%	9.1%	9.1%
2013	9.3%	8.0%	10.4%	6.1%	10.4%	7.9%	9.1%	8.9%	8.9%
2014	8.8%	7.9%	9.7%	6.4%	10.8%	8.5%	9.3%	8.8%	9.0%
2015	9.1%	8.3%	10.2%	6.7%	10.6%	8.6%	9.2%	8.7%	8.7%

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
**: Fewer than 10 events in the numerator, therefore the percentage is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

LOW BIRTHWEIGHT BIRTHS

Low birthweight describes babies born weighing less than 2.5 kg (5 pounds 8 ounces). Over 8% of all births in the U.S. are low birthweight, and this percentage is increasing.[122] This is thought to be a result of an increased number of babies born prematurely in multiples. The primary cause of low birthweight is preterm birth. Preterm birth means a baby has less time in the mother's uterus to grow and gain weight.

[122] Children's Hospital of Philadelphia, https://www.chop.edu/conditions-diseases/low-birthweight, accessed July 2019

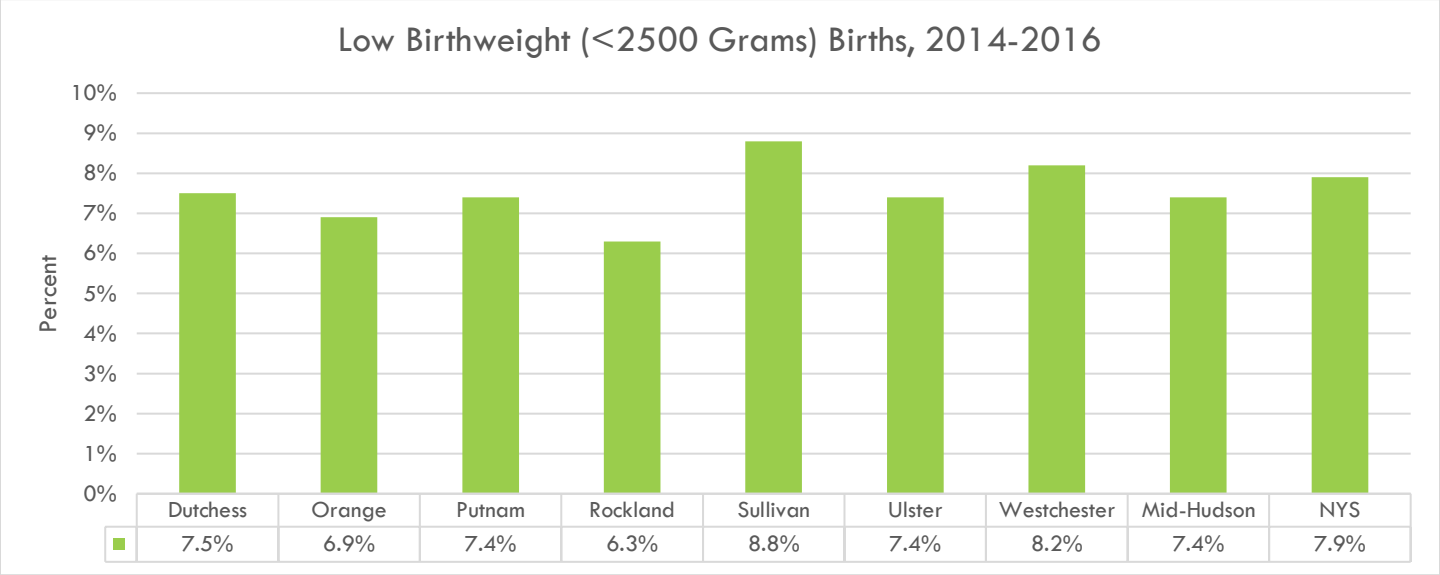
Another cause of low birthweight is intrauterine growth restriction (IUGR). IUGR occurs when a baby does not grow adequately during pregnancy due to problems with the placenta, the mother's health, or the baby's condition. Babies with IUGR may be born at full term, but still have a low birthweight.

There are different risk factors that can contribute to a baby being born with low birthweight. Non-Hispanic Black babies are two times more likely to have low birthweight than non-Hispanic White babies. Babies born to teen mothers have a higher risk of having a low birthweight as well. Babies born in multiples are at an increased risk for low birthweight because they are often preterm. The health of the mother may also contribute to risk of low birthweight due to the mother's exposure to alcohol, cigarettes, and illicit drugs. Babies born to mothers of low socioeconomic status are also at a higher risk of being born with low birthweight due to poor nutrition, inadequate prenatal care, and pregnancy complications.[123]

Babies with low birthweight have a higher risk of complications. They may have a harder time eating, gaining weight, controlling their body temperature, and fighting infections. Because many babies with low birthweight are also premature, it can be difficult to tell which problems are due to the premature birth and which problems are due to low birthweight.[123] Generally, the lower the birthweight, the greater the risk for complications.

Healthy People 2020 has set a target of no more than 7.8% of births resulting in low birthweight. New York State was just above this target (7.9%), while the Mid-Hudson Region was just below this target (7.4%) [see Figure 257]. Sullivan and Westchester Counties were the only counties that did not meet the Healthy People 2020 target (8.8% and 8.2%, respectively). Over time, there has not been considerable change in the percentage of low birthweight births from 2008-2015 [see Figure 257].

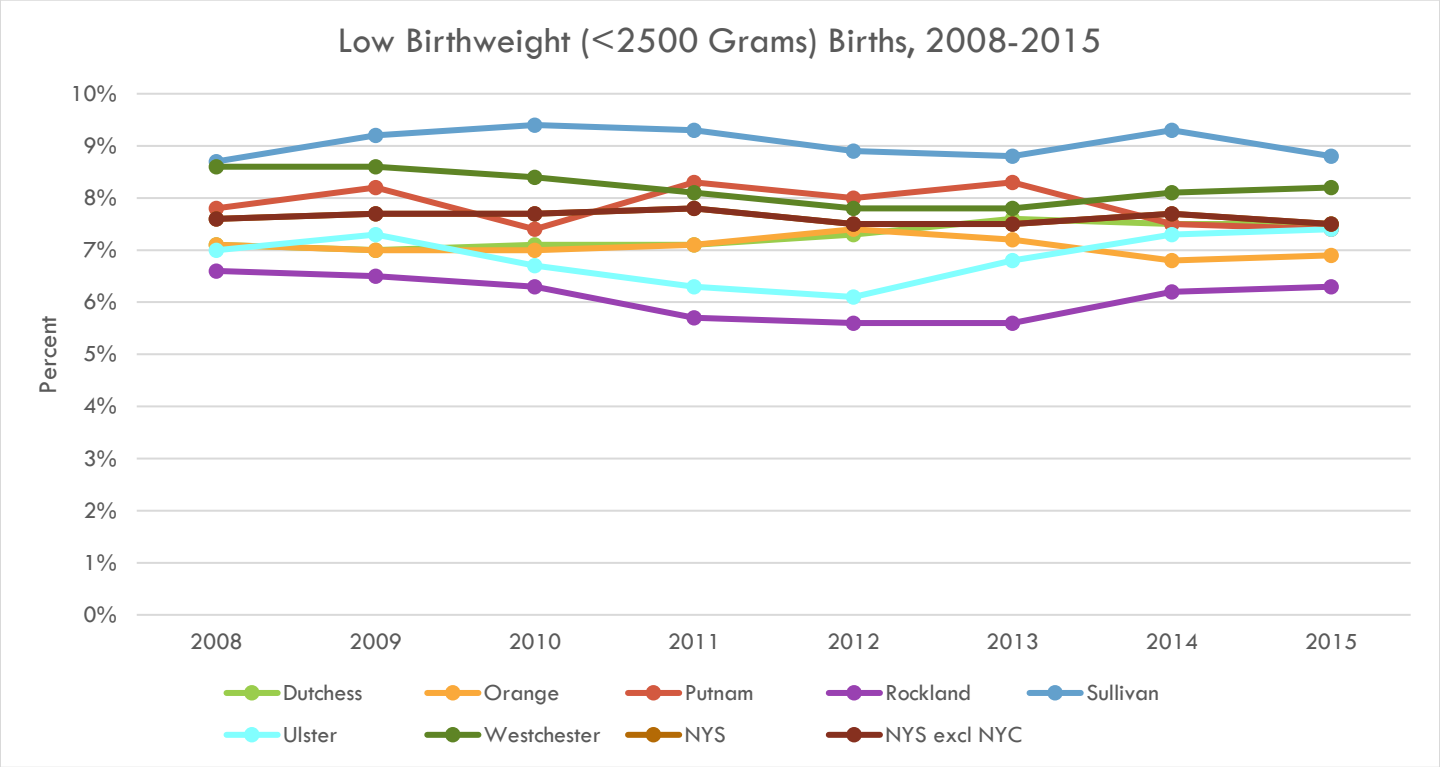
Figure 257



Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[123] Children's Hospital of Philadelphia, https://www.chop.edu/conditions-diseases/low-birthweight, accessed July 2019

Figure 258



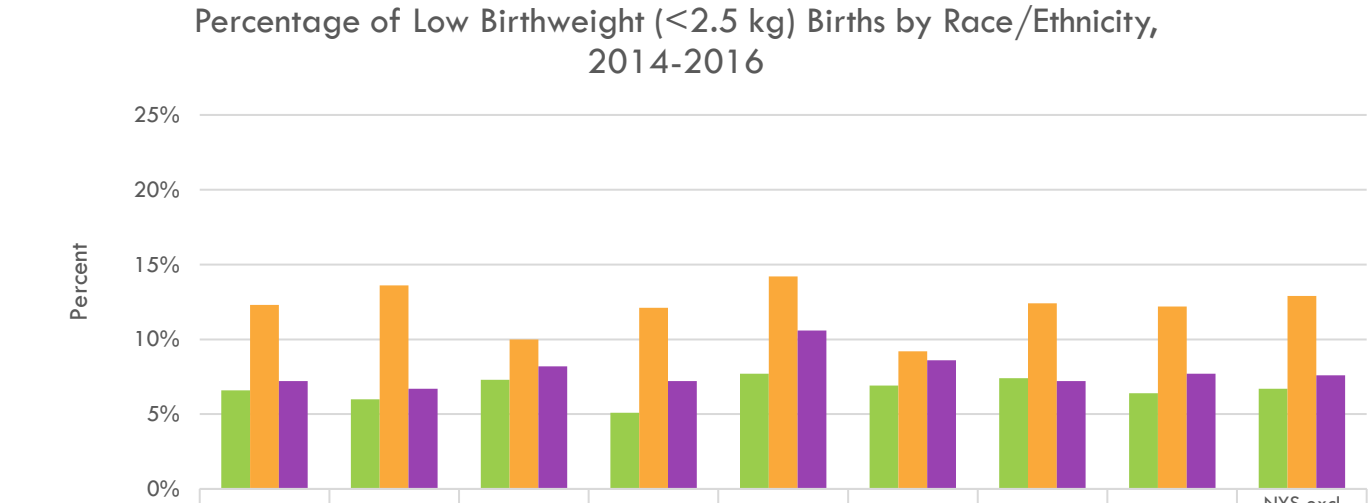
Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	7.1%	7.1%	7.8%	6.6%	8.7%	7.0%	8.6%	7.6%	7.1%
2009	7.0%	7.0%	8.2%	6.5%	9.2%	7.3%	8.6%	7.7%	7.0%
2010	7.1%	7.0%	7.4%	6.3%	9.4%	6.7%	8.4%	7.7%	7.1%
2011	7.1%	7.1%	8.3%	5.7%	9.3%	6.3%	8.1%	7.8%	7.1%
2012	7.3%	7.4%	8.0%	5.6%	8.9%	6.1%	7.8%	7.5%	7.3%
2013	7.6%	7.2%	8.3%	5.6%	8.8%	6.8%	7.8%	7.5%	7.6%
2014	7.5%	6.8%	7.5%	6.2%	9.3%	7.3%	8.1%	7.7%	7.5%
2015	7.5%	6.9%	7.4%	6.3%	8.8%	7.4%	8.2%	7.5%	7.5%

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

There are also disparities in race/ethnicity regarding low birthweight births. In the Mid-Hudson Region, non-Hispanic Black women consistently had higher percentages of pregnancies resulting in low birthweight births, followed by Hispanic women, with the exception of Westchester County [see Figure 259].

Figure 259



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	6.6%	6.0%	7.3%	5.1%	7.7%	6.9%	7.4%	6.4%	6.7%
Non-Hispanic Black	12.3%	13.6%	10.0%	12.1%	14.2%	9.2%	12.4%	12.2%	12.9%
Hispanic	7.2%	6.7%	8.2%	7.2%	10.6%	8.6%	7.2%	7.7%	7.6%

: Fewer than 10 events in the denominator, therefore the percentage is unstable.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2019
https://www.health.ny.gov/statistics/community/minority/county/

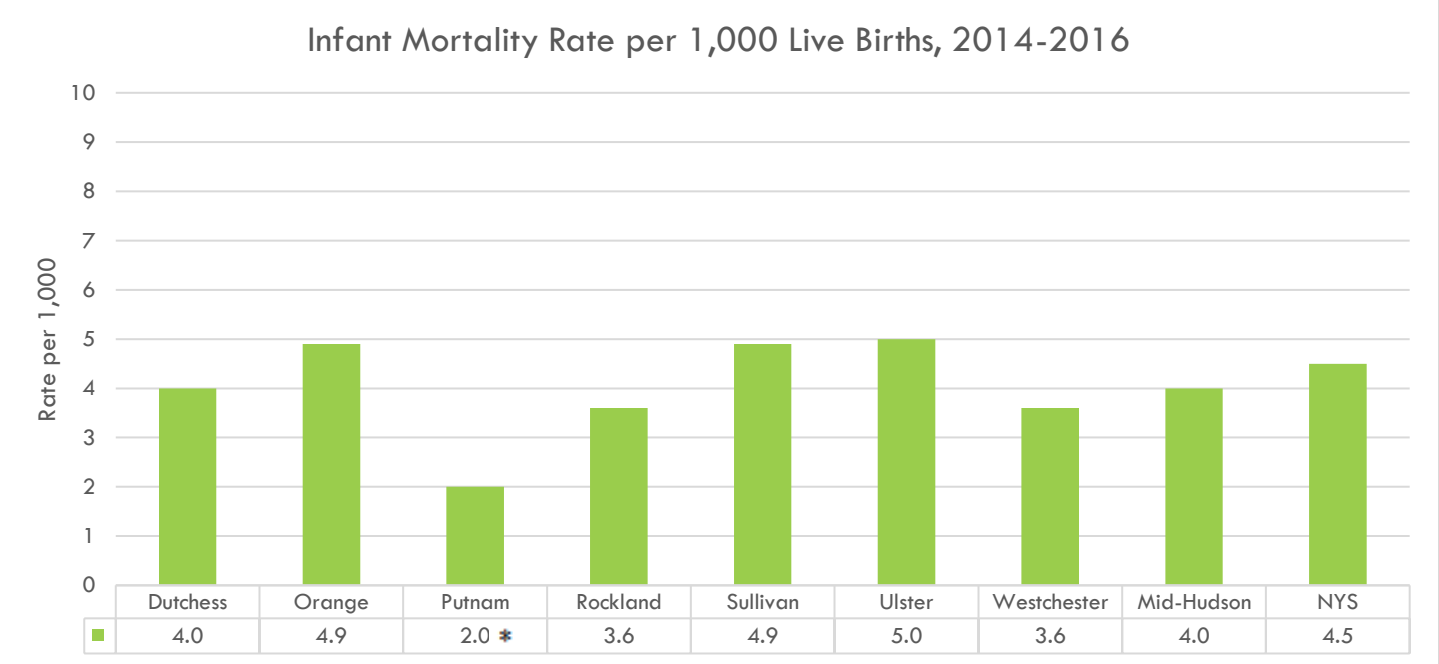
INFANT MORTALITY

Infant mortality is the death of an infant before their first birthday. It is an important indicator of both maternal and infant health, as well as the overall health of a society.[124] The five leading causes of infant mortality in the U.S. in 2017 were birth defects; preterm birth and low birthweight; maternal pregnancy complications; Sudden Infant Death Syndrome (SIDS); and injuries.

One of Healthy People 2020's objectives was to reduce the rate of all infant deaths to no more than six infant deaths per 1,000 live births.[125] The risk of infant mortality can be reduced by increasing access to quality preconception, prenatal, and interconception care. Infant health is influenced by sociodemographic and behavioral variables, such as education, family income, and breastfeeding, but it is also associated with the physical and mental health of an infant's parents and caregivers.

New York State had reached the goal set by Healthy People 2020 with 4.5 infant deaths per 1,000 live births. The rate for the Mid-Hudson Region is slightly lower at 4.0 deaths per 1,000 live births [see Figure 260]. Ulster County had the highest infant mortality rate (5.0 per 1,000 live births) followed closely by Orange and Sullivan Counties (both are 4.9 per 1,000 live births). Putnam County had the lowest infant mortality rate in the Region (2.0 per 1,000 live births) [see Figure 260].

Figure 260



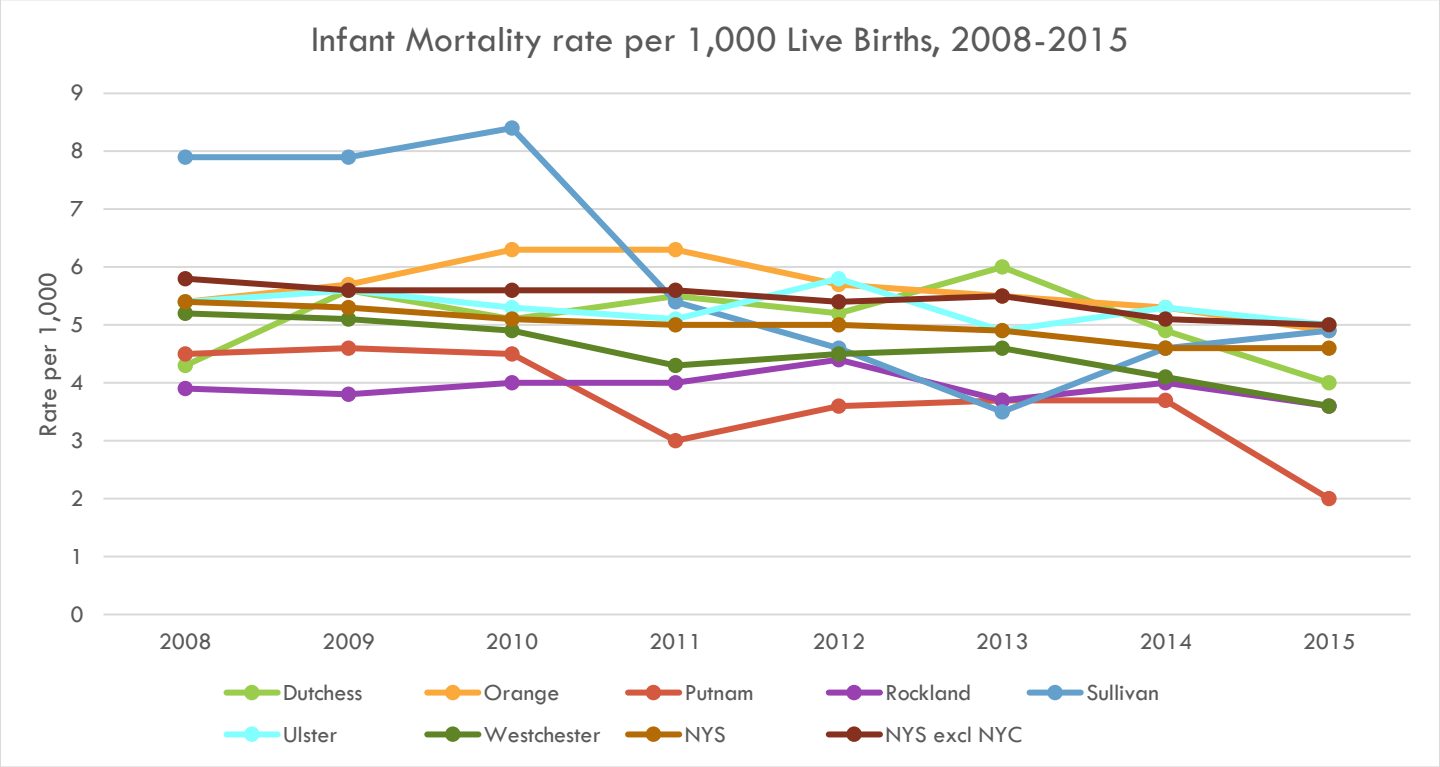
*: *Fewer than 10 events in the denominator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[124] CDC, March 2019, https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm, accessed July 2019

[125] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives, accessed July 2019

Racial and ethnic disparities in mortality and morbidity occurs in both mothers and infants; specifically, maternal morbidity and infant mortality, which is highest for non-Hispanic Black individuals. Sullivan's infant mortality rate was significantly higher than the rest of the Region from 2008-2010, but fell in 2011 and continued to decrease along with the rest of the Region [see Figure 261].

Figure 261



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	4.3	5.4	4.5	3.9	7.9	5.4	5.2	5.4	5.8
2009	5.6	5.7	4.6	3.8	7.9	5.6	5.1	5.3	5.6
2010	5.1	6.3	4.5	4.0	8.4	5.3	4.9	5.1	5.6
2011	5.5	6.3	3.0	4.0	5.4	5.1	4.3	5.0	5.6
2012	5.2	5.7	3.6	4.4	4.6	5.8	4.5	5.0	5.4
2013	6.0	5.5	3.7	3.7	3.5	4.9	4.6	4.9	5.5
2014	4.9	5.3	3.7	4.0	4.6	5.3	4.1	4.6	5.1
2015	4.0	4.9	2.0	3.6	4.9	5.0	3.6	4.6	5.0

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

UNINTENDED PREGNANCY

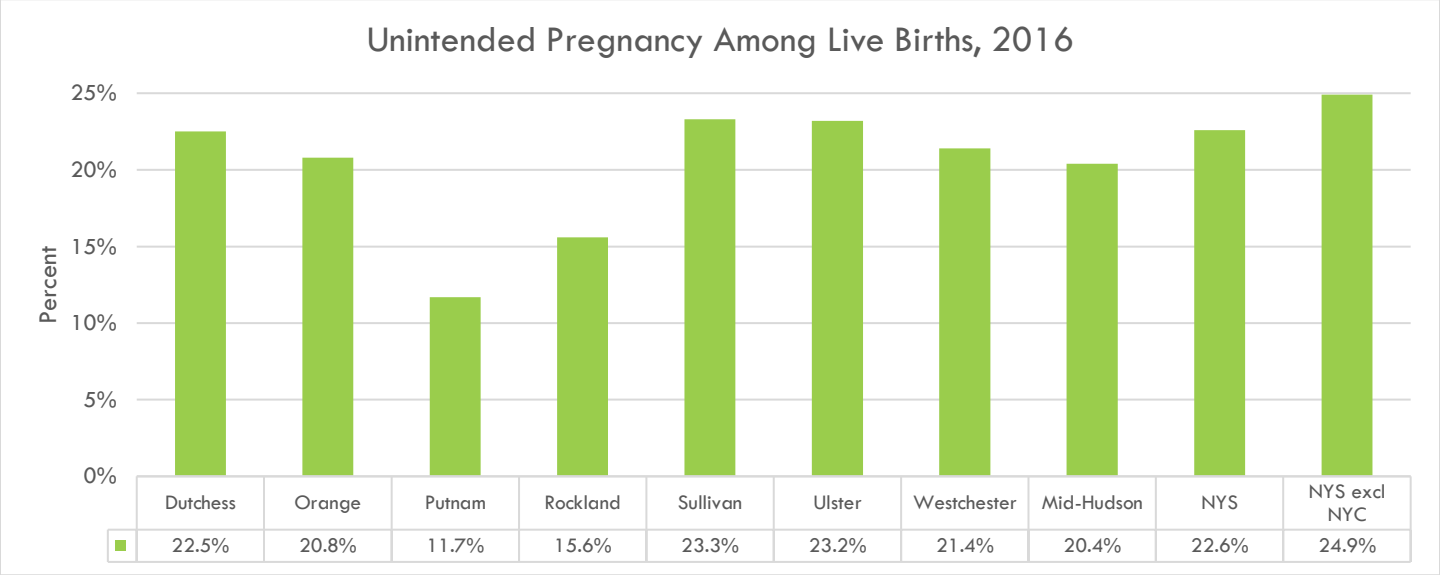
An unintended pregnancy is a pregnancy that is reported to be either unwanted or mistimed.[126] Unintended pregnancy is an important indicator in better understanding the fertility of populations and the unmet needs for contraception and family planning. Unintended pregnancy often results from not using contraception; inconsistent use of contraception; or incorrect use of effective contraceptive methods.[126]

[126] CDC, January 2015, https://www.cdc.gov/reproductivehealth/unintendedpregnancy/index.htm, accessed July 2019

Unintended pregnancy is associated with increased risk for both the pregnant woman and the baby. If a pregnancy is unplanned before conception, a mother may not be in optimal health for that pregnancy. For example, if they were intending to become pregnant, they may have stopped using tobacco, drugs, or alcohol. Unintended pregnancy is also associated with delays in prenatal care; reduced likelihood of breastfeeding; increased risk of maternal depression; and increased risk of physical violence during pregnancy.[127] The unintended pregnancy rate in the U.S. is significantly higher than the rate in many other developed countries. Half of those pregnancies are unplanned.[128] Unintended pregnancy rates are highest among low-income women, women aged 18-24 years, women living with their partners, and women of color. Rates of unplanned pregnancy tend to be lowest among higher-income women, White women, college graduates, and women who are married. Nationally, 42% of unintended pregnancies in 2011 ended in abortion, while 58% led to birth, with the exception of miscarriages. In 2015, publicly funded family planning services assisted with the prevention of nearly two million unintended pregnancies. This includes an estimated 440,000 teen pregnancies.[128] Family planning services can help women avoid unintended pregnancies, as well as other negative reproductive health outcomes, such as STIs, cervical cancer, and infertility.

Healthy People 2020 aims to increase the percentage of pregnancies that are intended to 56%.[128] However, this indicator is not compatible with measuring unplanned pregnancies among live births, as it does not include pregnancies ended in abortion or miscarriage. Among live births in the Mid-Hudson Region, 20.4% resulted from unintended pregnancies. Sullivan and Ulster Counties had the highest percentage of unintended pregnancies among live births (23.3% and 23.2%), while Putnam County had the lowest percentage of unintended pregnancies (11.7%) [see Figure 262]. Unintended pregnancy has generally decreased in the Region over time along with the rest of New York State [see Figure 263].

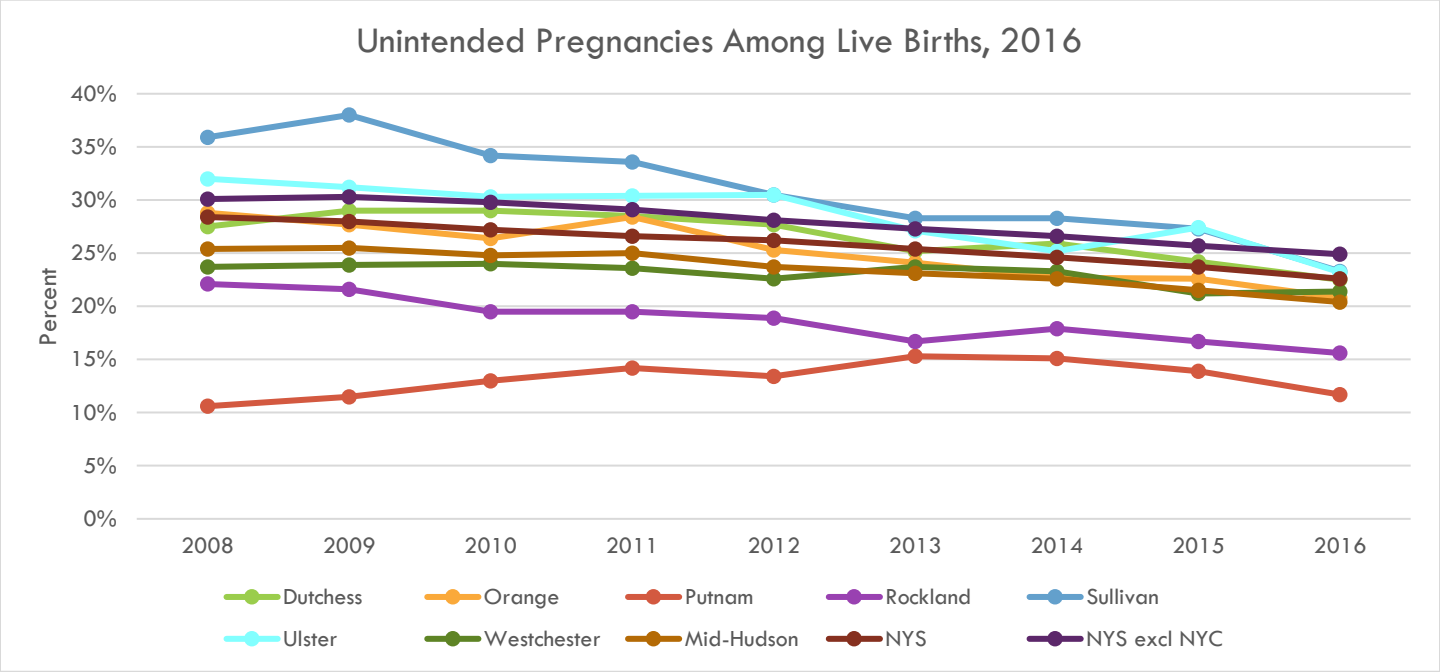
Figure 262



Source: NYSDOH Vital Records, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

[127] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning, accessed July 2019
[128] Guttmacher Institute, January 2019, https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states, accessed July 2019

Figure 263



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

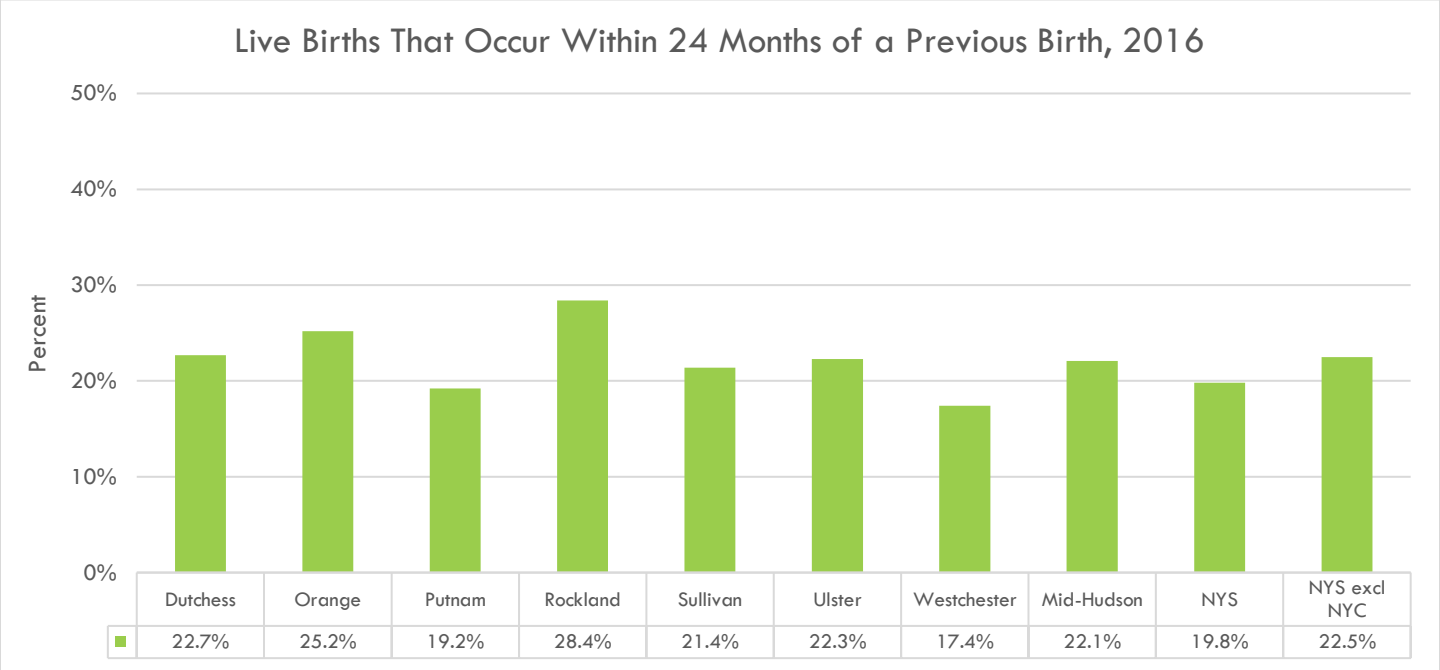
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
2008	27.5%	28.8%	10.6%	22.1%	35.9%	32.0%	23.7%	25.4%	28.4%	30.1%
2009	29.0%	27.7%	11.5%	21.6%	38.0%	31.3%	23.9%	25.5%	28.0%	30.3%
2010	29.0%	26.4%	13.0%	19.5%	34.2%	30.3%	24.0%	24.8%	27.2%	29.8%
2011	28.5%	28.4%	14.2%	19.5%	33.6%	30.4%	23.6%	25.0%	26.6%	29.1%
2012	27.7%	25.3%	13.4%	18.9%	30.5%	30.5%	22.6%	23.7%	26.2%	28.1%
2013	25.2%	24.1%	15.3%	16.7%	28.3%	27.1%	23.7%	23.1%	25.4%	27.3%
2014	25.9%	22.7%	15.1%	17.9%	28.3%	25.2%	23.3%	22.6%	24.6%	26.6%
2015	24.2%	22.6%	13.9%	16.7%	27.3%	27.4%	21.2%	21.5%	23.7%	25.7%
2016	22.5%	20.8%	11.7%	15.6%	23.3%	23.2%	21.4%	20.4%	22.6%	24.9%

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Records, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

LIVE BIRTHS WITHIN 24 MONTHS OF PREGNANCY

Adequate timing and spacing between pregnancies helps women and families make more informed decisions about delaying, spacing, or limiting their pregnancies to achieve the healthiest outcomes for the whole family.[129] Evidence has revealed that the length of the interval between one birth and the next pregnancy is directly associated with the risk of infant, child, and maternal mortality. The shorter the interval between live birth and next pregnancy, the higher the risk.[129] Additionally, pregnancies that are closely spaced or that occur in adolescents younger than 18 years, are at higher risk. These risks include preterm birth, low birthweight babies, anemia, and potentially debilitating complications, such as obstetric fistula in mothers. The World Health Organization recommends waiting at least 24 months after a live birth and waiting six months after a miscarriage or abortion before attempting the next pregnancy. Another recommendation includes delaying the first pregnancy until at least 18 years of age.[129] Healthy People 2020 uses 18 months as ideal spacing between pregnancies. Therefore, this data cannot be compared to Healthy People 2020's objectives.[130] In the Mid-Hudson Region, 22.1% of live births occurred within 24 months of a previous pregnancy. Rockland County had the highest percentage of women who gave birth within 24 months of a previous pregnancy (28.4%), while Westchester County had the lowest percentage (17.4%) [see Figure 264].

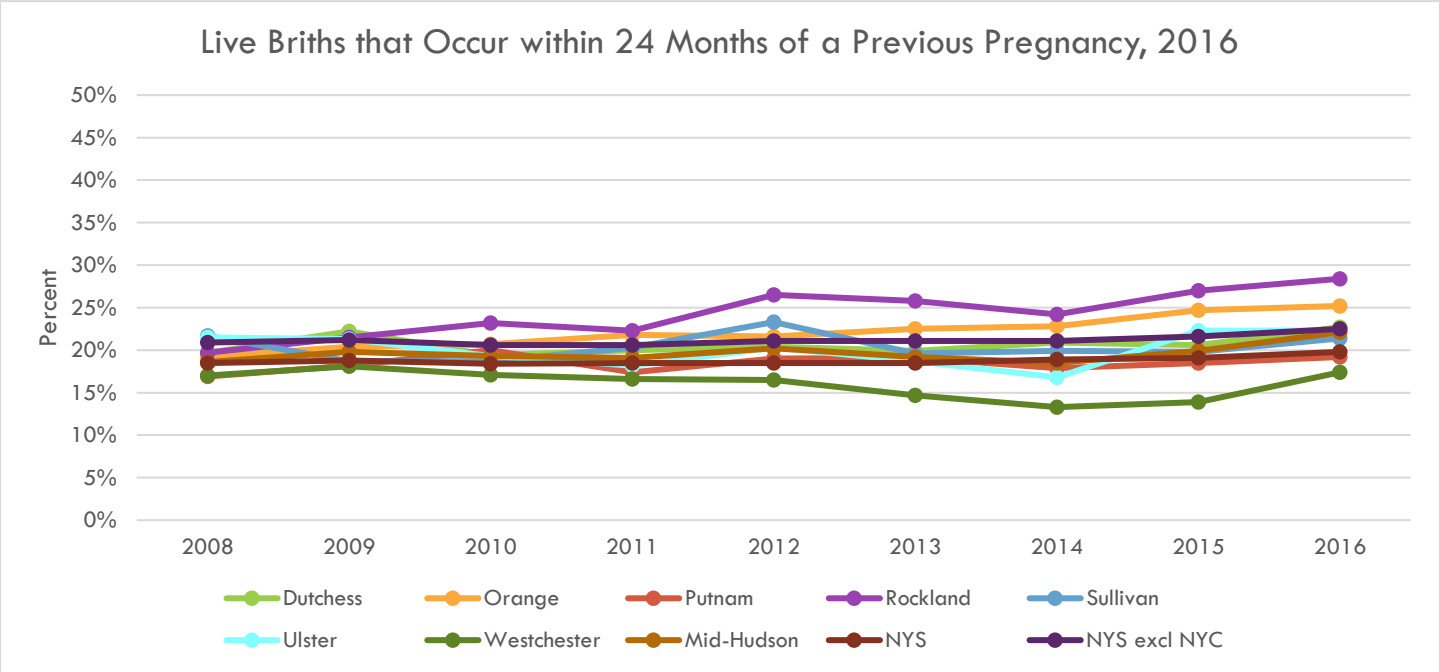
Figure 264



Source: NYSDOH Vital Records, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

[129] Knowledge for Health, February 2018, https://www.k4health.org/topics/healthy-timing-spacing-pregnancy-htsp, accessed July 2019
[130] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/family-planning/objectives, accessed July 2019

Figure 265



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
2008	19.7%	19.2%	16.9%	19.7%	21.7%	21.5%	17.0%	18.6%	18.5%	20.9%
2009	22.2%	20.4%	18.2%	21.5%	18.7%	21.3%	18.1%	19.8%	18.8%	21.2%
2010	19.4%	20.7%	20.0%	23.2%	18.7%	19.3%	17.1%	19.3%	18.4%	20.6%
2011	20.0%	21.8%	17.4%	22.3%	20.3%	18.2%	16.6%	19.1%	18.5%	20.6%
2012	20.4%	21.6%	19.0%	26.5%	23.3%	20.3%	16.5%	20.2%	18.5%	21.1%
2013	19.9%	22.5%	19.1%	25.8%	19.6%	18.7%	14.7%	19.2%	18.5%	21.1%
2014	20.9%	22.8%	17.9%	24.2%	19.9%	16.8%	13.3%	18.5%	18.9%	21.1%
2015	20.6%	24.7%	18.5%	27.0%	19.8%	22.3%	13.9%	19.9%	19.1%	21.6%
2016	22.7%	25.2%	19.2%	28.4%	21.4%	22.3%	17.4%	22.1%	19.8%	22.5%

Source: NYSDOH Vital Records, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

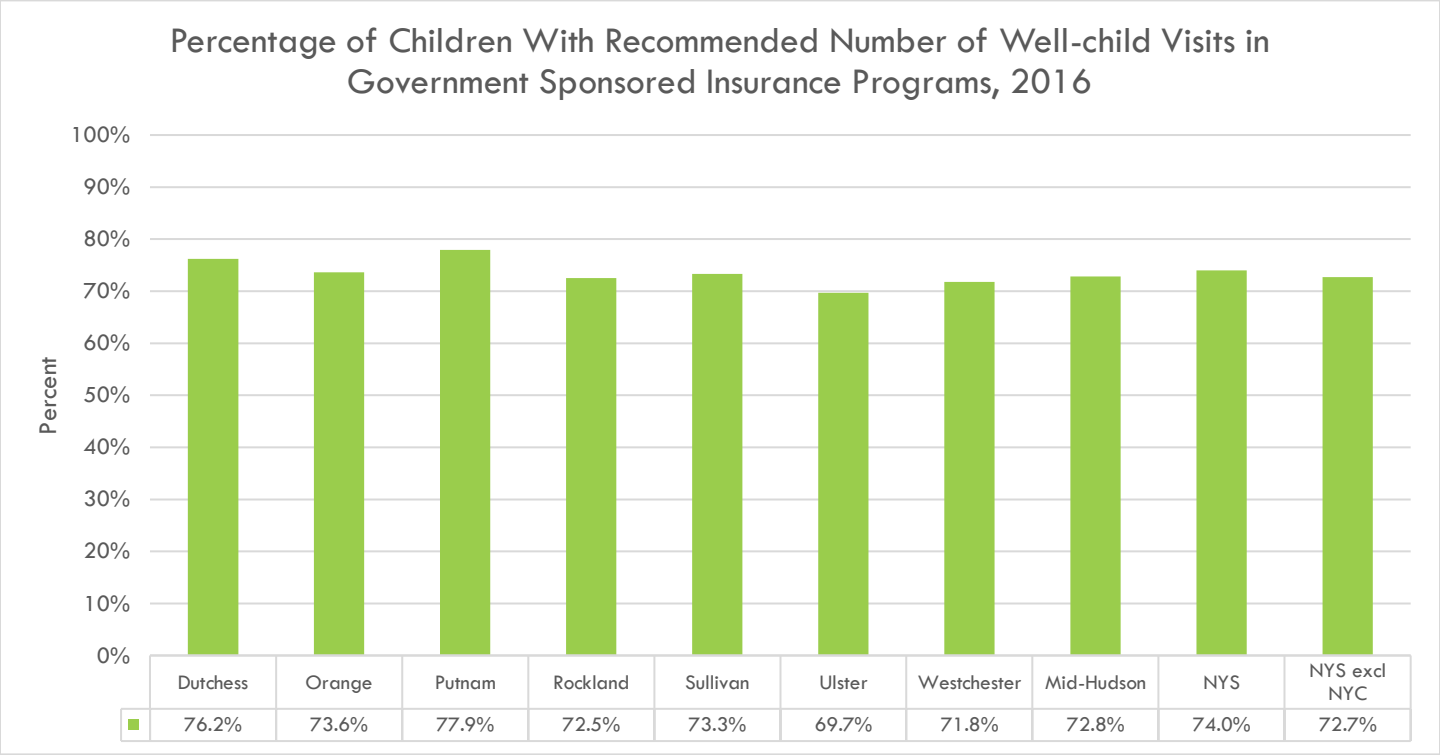
WELL-CHILD VISITS

Childhood is a time of rapid growth and change. During this time, well-child visits to the pediatrician are important for tracking a child's growth and development. These visits typically begin a few days after birth and continue until age 18. In order to find or prevent problems, well-child visits should include a physical exam, which assesses the child's growth and development. In addition to physical development, medical providers also assess cognitive, emotional, and social development. During these visits, guardians should receive information regarding sleep, safety, childhood diseases, and what to expect as the child grows. The medical provider will also pay special attention to how a child is growing compared to typical development milestones. This is done by measuring a child's height, weight, and head circumference. Well-child visits are also a good time to discuss family relationship issues, school, illness prevention, health and safety issues, and access to community services. During teenage years, these visits give adolescents an opportunity to take steps towards independence and responsibility over their own health behaviors.

Adolescent visits provide an opportunity for teenagers to address important questions, including substance use, sexual behavior, and mental health concerns.[131] Other aspects of a well-child visit may include checking blood pressure level, vision and hearing tests, blood work, and immunizations.

In 2016, 74% of children in government sponsored insurance programs received the recommended number of well-child visits in New York State. This was slightly higher than the Mid-Hudson Region, where 72.8% of children received the recommended number of well-child visits [see Figure 266]. Putnam County had the highest percentage of children who received the recommended number of well-child visits (77.9%), while Ulster County had the lowest (69.7%). Between 2010-2016, there has not been considerable change in the percentage of children who receive the recommended number of well-child visits in New York State [see Figure 267].

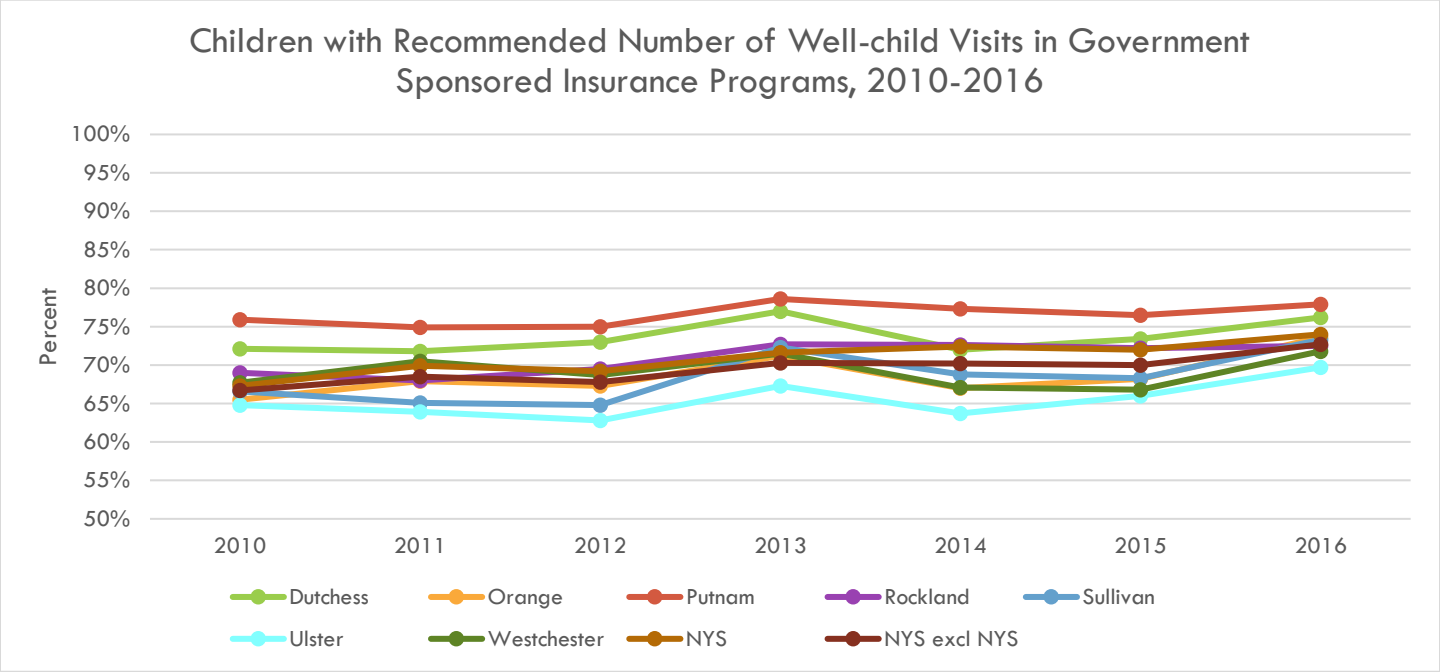
Figure 266



Source: NYSDOH Office of Quality and Patient Safety, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

[131] Journal of the American Medical Association, November 2017, https://jamanetwork.com/journals/jamapediatrics/fullarticle/2661144, accessed July 2019

Figure 267



Note: Y-axis does not begin at zero in order to clearly display trend lines.

	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYS
2010	72.1%	65.5%	75.9%	69.0%	66.6%	64.8%	67.7%	67.3%	66.7%
2011	71.8%	67.9%	74.9%	68.0%	65.1%	63.9%	70.5%	69.9%	68.5%
2012	73.0%	67.3%	75.0%	69.5%	64.8%	62.8%	68.7%	69.2%	67.8%
2013	77.0%	71.2%	78.6%	72.7%	72.3%	67.3%	71.5%	71.6%	70.3%
2014	72.0%	67.0%	77.3%	72.6%	68.8%	63.7%	67.1%	72.4%	70.2%
2015	73.4%	68.2%	76.5%	72.2%	68.3%	66.0%	66.8%	72.0%	70.0%
2016	76.2%	73.6%	77.9%	72.5%	73.3%	69.7%	71.8%	74.0%	72.7%

Source: NYSDOH Office of Quality and Patient Safety, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-_2024/

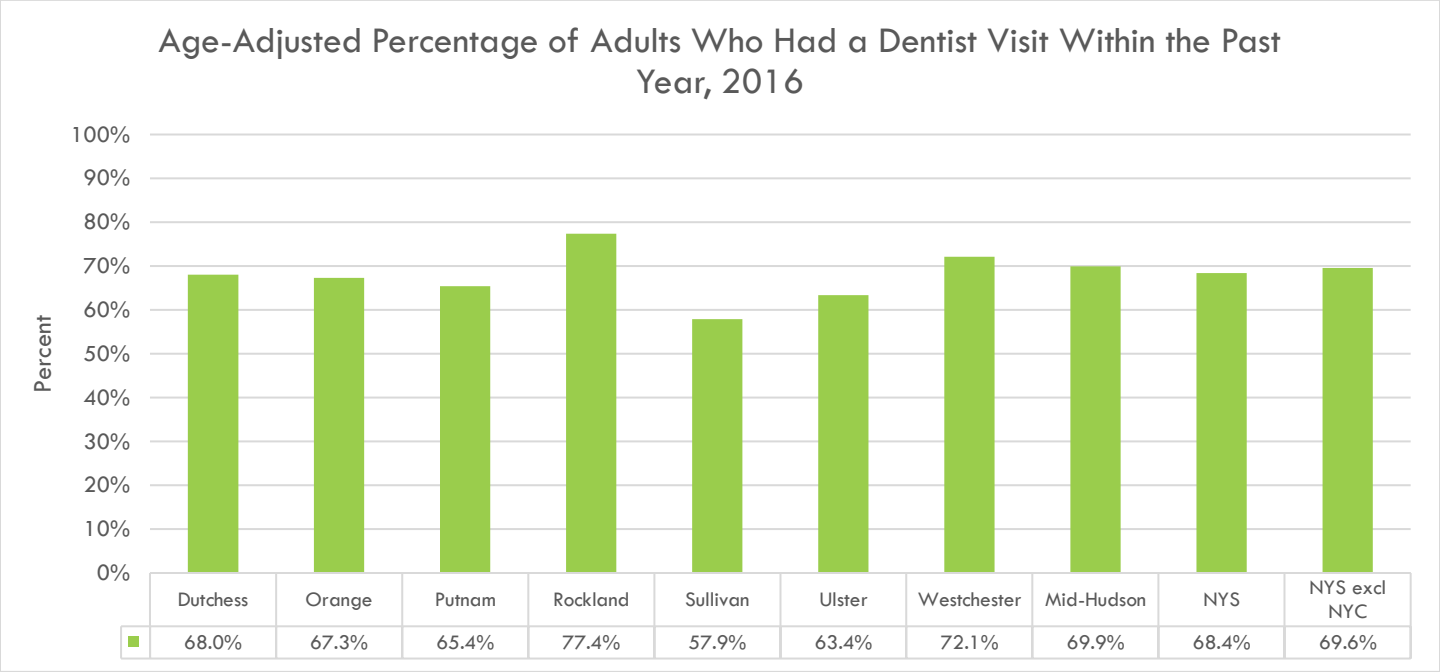
ORAL HEALTH

Good oral health is an important part of attaining optimal overall health. It enhances a person's ability to speak, smile, chew, taste, and make facial expressions. Oral diseases include mouth issues, such as caries (also known as cavities or tooth decay) and gum disease. Poor oral health has been linked to chronic diseases, such as diabetes. It has also been linked to lifestyle behaviors, including tobacco use and eating and drinking substances that have high sugar content. In the U.S., more than 80% of adults by the age of 34 have had at least one cavity in their lifetime.[132] According to the CDC, the U.S. spends more than $124 billion per year on dental care.[132]

The most common barriers to achieving good oral health include cost, geographic location, and poor health literacy.[133] It is important that communities are educated about the importance of having good oral health and are able to access more affordable services.

In order to combat poor oral health, people are encouraged to have a dental visit at least once a year for a routine checkup and cleaning. In 2016, there was a slightly higher percentage of adults who had a dental visit within the past year in the Mid-Hudson Region (69.9%), compared to New York State (68.4%) and New York State excluding New York City (69.6%). Of the seven counties in the Mid-Hudson Region, Rockland County had the highest percentage of adults visiting the dentist (77.4%), and Sullivan County had the lowest percentage (57.9%) [see Figure 268].

Figure 268



Source: NYSDOH Expanded Behavioral Risk Factor Surveillance System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Dental care is harder to access for those who are low-income and cannot afford comprehensive dental coverage. In fact, low-income adults in the U.S. were 40% less likely to have had a dental visit in the past 12 months

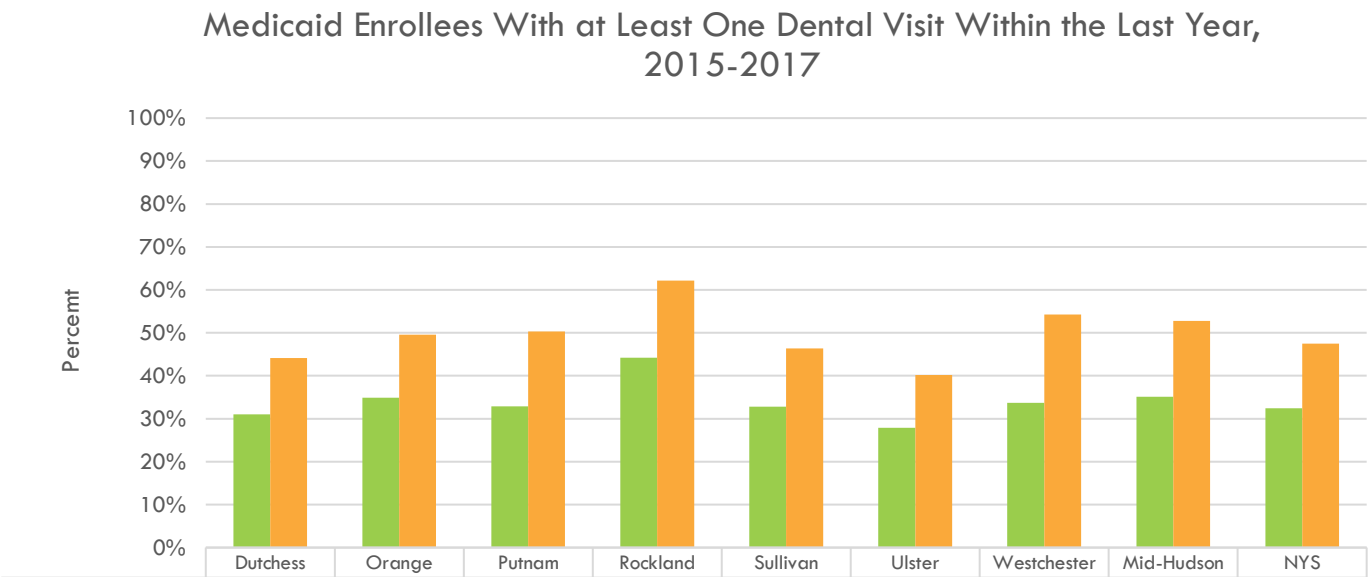
[132] CDC, June 2019, https://www.cdc.gov/oralhealth/basics/index.html, accessed July 2019

[133] American Dental Association, April 2012, https://www.ada.org/~/media/ADA/Publications/ADA%20News/Files/7170_Breaking_Down_Barriers_Role_of_Finance.pdf?la=en, accessed July 2019

compared to those who were not low-income.[134] This includes people enrolled in Medicaid insurance, where general health care coverage is limited, compared to those with private or other forms of insurance. Even in New York, where Medicaid covers essential dental services, it is difficult to locate dentists who accept Medicaid coverage.[135]

Compared to the overall population of Medicaid enrollees, those aged 2-20 years were more likely to visit their dentist within the last year. The Mid-Hudson Region had a higher percentage of all Medicaid enrollees who have had a dentist visit within the past year compared to New York State (35.1% vs 32.4%, respectively). Of the seven counties, Rockland County had the highest percentage of younger enrollees visiting their dentist (62.2%) [see Figure 269]. In general, dental visits for Medicaid enrollees have steadily increased throughout each county in the Mid-Hudson Region and New York State from 2008 to 2017.[136]

Figure 269



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
All Enrollees	31.0%	34.9%	32.9%	44.2%	32.8%	27.9%	33.7%	35.1%	32.4%
Enrollees Aged 2-20	44.1%	49.6%	50.3%	62.2%	46.4%	40.2%	54.3%	52.8%	47.5%

Source: NYSDOH Medicaid Program, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

In order to prevent long-term dental damage, it is essential to instill good hygiene habits during childhood. Compared to children who have good oral health, those with poor oral health are more likely to miss school and have lower grades in their classes.[137] Figure 270 shows a number of health indicators that have been used to assess the oral health of 3rd grade children from 2009-2011. This data shows that Sullivan County had the highest percentage of children with caries experience and untreated caries compared to the other seven counties in the Mid-Hudson Region (59.2% and 52.8%, respectively).

Dental sealant, which is a thin plastic covering placed on the chewing surfaces of teeth, can help prevent tooth decay, especially in younger children.[137] According to Figure 270, Westchester County had the highest

[134] Center for Health Care Strategies, Inc., February 2015, https://www.integration.samhsa.gov/clinical-practice/Adult-Oral-Health-Fact-Sheet_21915.pdf, accessed July 2019

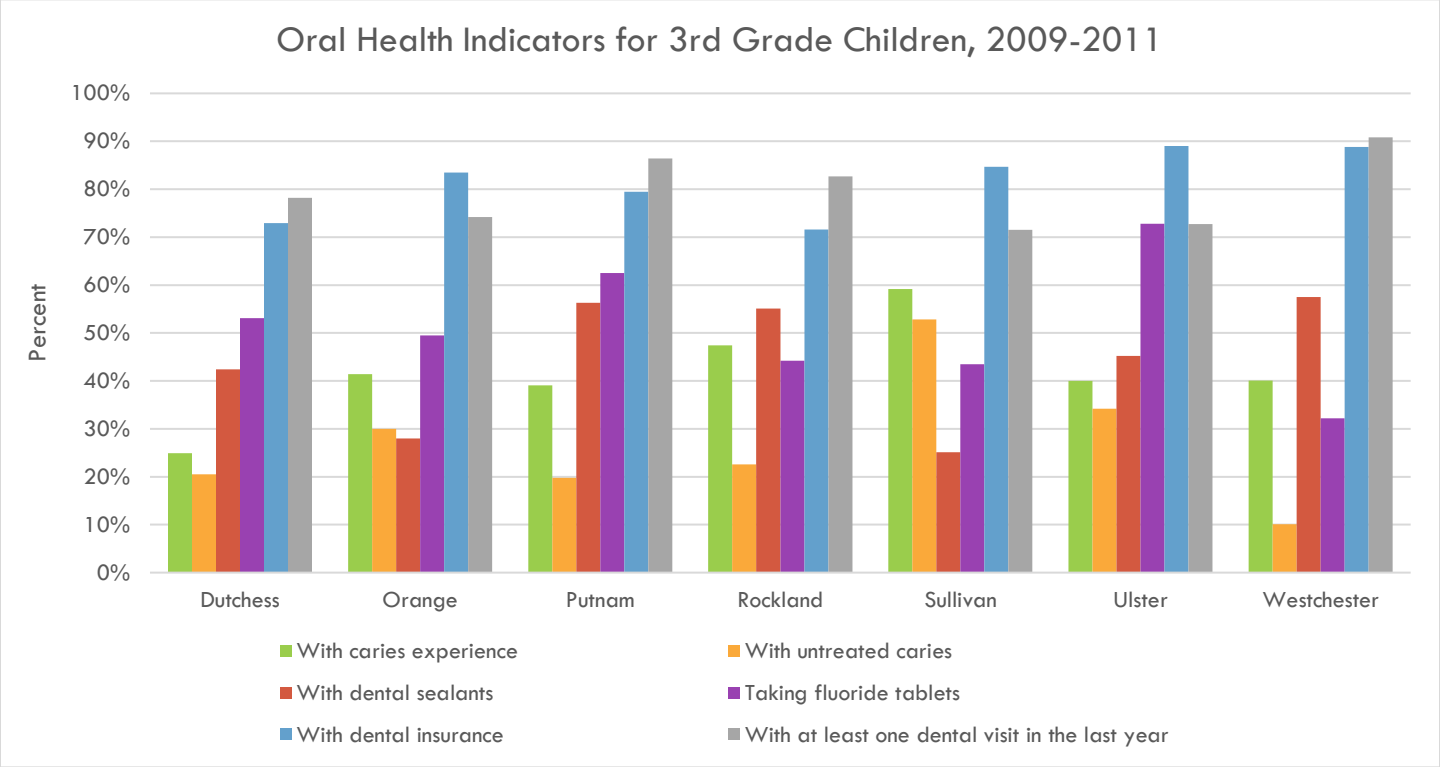
[135] American Journal of Public Health, October 2016, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5024364/, accessed July 2019

[136] NYSDOH Community Health Indicator Reports, June 2018, https://www.health.ny.gov/statistics/chac/indicators/index.htm, accessed July 2019

[137] CDC, June 2019, https://www.cdc.gov/oralhealth/basics/index.html, accessed July 2019

percentage of 3rd grade children with dental sealants (57.5%), while Sullivan County only had 25.1% of 3rd grade children with dental sealants. In regard to dental insurance, Rockland County had the lowest percentage of children covered (71.6%). Sullivan County had the lowest percentage of children with at least one dental visit in the last year at 71.5%, while Westchester County had the highest percentage at 90.8%.

Figure 270



	With caries experience (%)	With untreated caries (%)	With dental sealants (%)	Taking fluoride tablets (%)	With dental insurance (%)	With at least one dental visit in the last year (%)
Dutchess	24.9%	20.5%	42.4%	53.1%	72.9%	78.2%
Orange	41.4%	30.0%	28.0%	49.5%	83.5%	74.2%
Putnam	39.1%	19.8%	56.3%	62.5%	79.5%	86.4%
Rockland	47.4%	22.6%	55.1%	44.2%	71.6%	82.7%
Sullivan	59.2%	52.8%	25.1%	43.5%	84.7%	71.5%
Ulster	40.0%	34.2%	45.2%	72.8%	89.0%	72.7%
Westchester	40.1%	10.1%	57.5%	32.2%	88.8%	90.8%

Source: NYSDOH Bureau of Dental Health, 2012
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Oral health has fortunately improved over the years due to community water fluoridation, which helps 7 out of 10 Americans who get water through the public water systems.[138] Information on fluoridation of the water supply in the Mid-Hudson Region counties and New York State can be found on page 61.

[138] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health, accessed July 2019

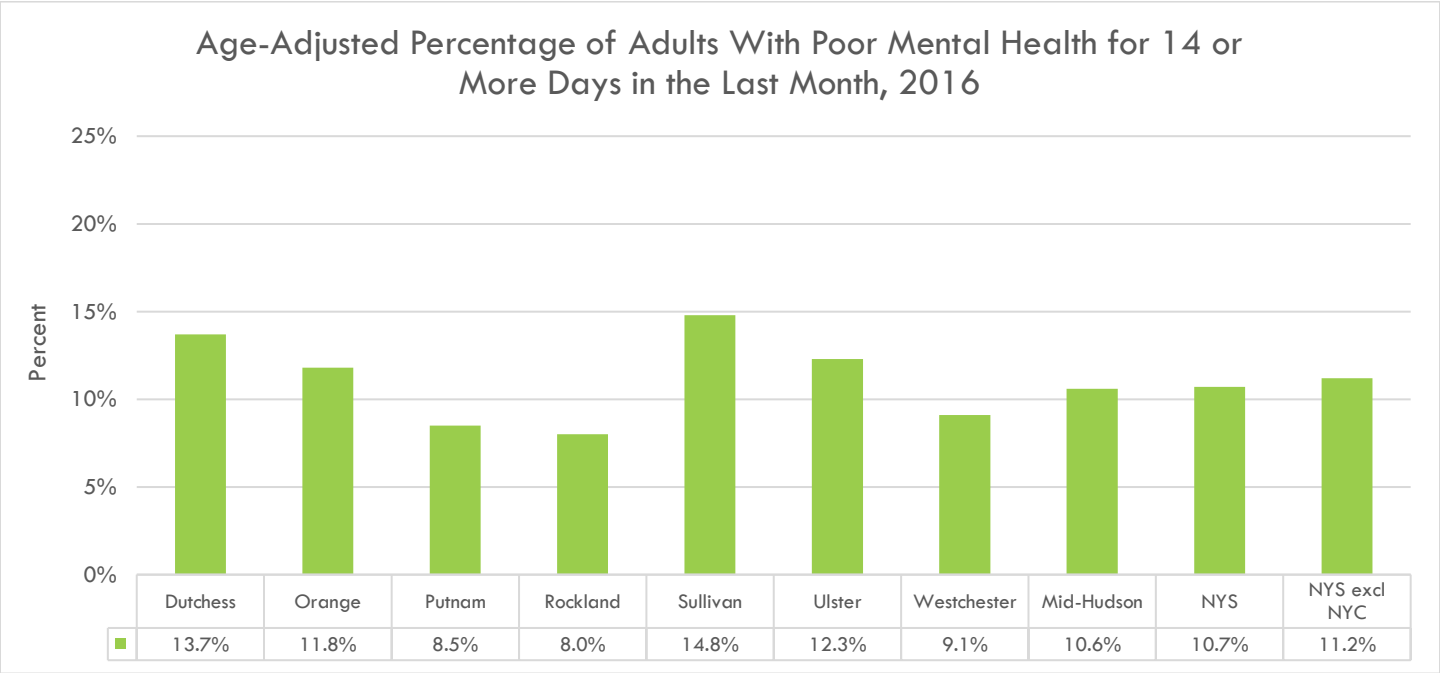
BEHAVIORAL HEALTH

MENTAL HEALTH

Health is an all-encompassing term that not only involves the physical well-being of an individual, but also his or her mental wellness. The World Health Organization (WHO) defines health as a "state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."[139] There are many factors that contribute to a person's mental health, including daily habits, traumatic life events, family history of mental illness, and substance use. Almost 1 in 5 people in the U.S. are affected by some type of mental, emotional, or behavioral disorder (MEB), such as depression or substance use.[140] Poor mental health can affect all aspects of an individual's life, including family, school, and work. It is a major economic burden for the U.S., costing $193.2 billion in lost earnings annually due to serious mental illnesses.[141] Mental health and physical health are closely connected, and it is therefore important to address the issues surrounding mental health in the community.

When looking at Figure 271, the percentage of adults who reported poor mental health for 14 or more days in 2016 was highest in Sullivan County (14.8%), while the lowest percentage was in Rockland County (8.0%). Overall, the percentage of adults who report poor mental in the Mid-Hudson Region was similar to that of New York State (10.6% and 10.7%, respectively).

Figure 271



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/

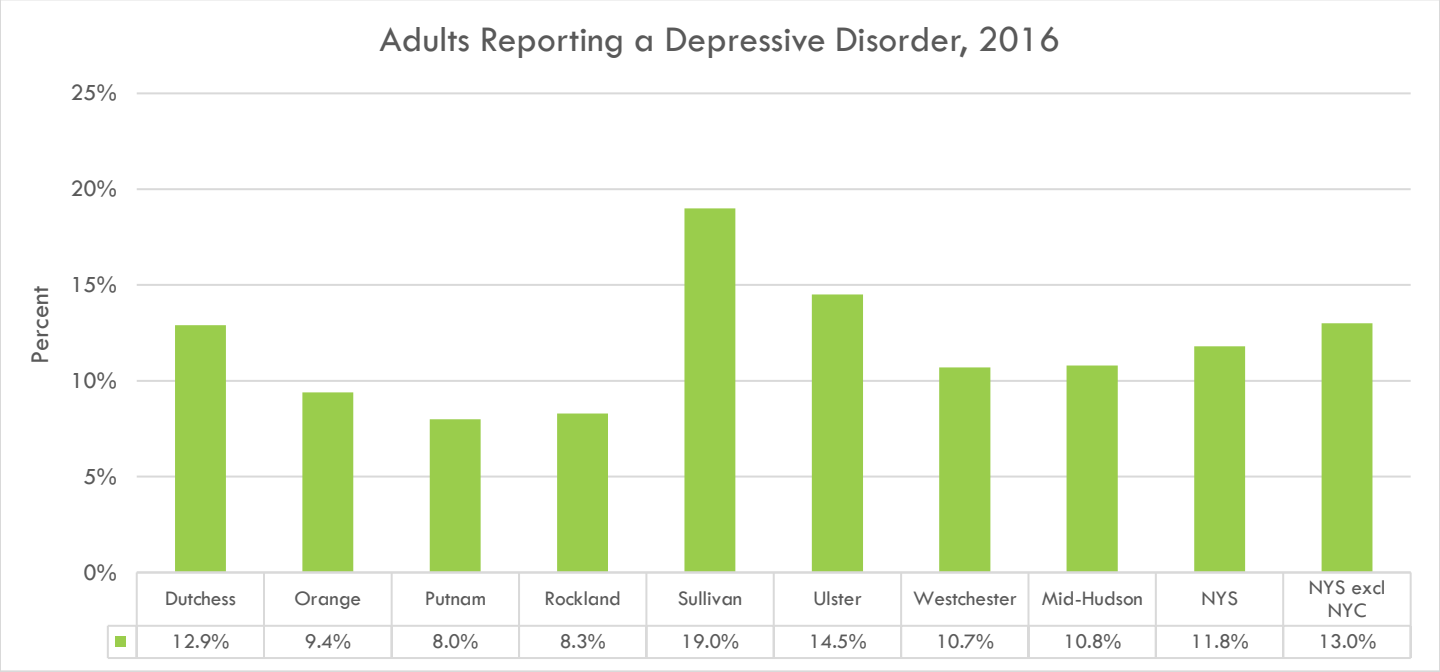
[139] World Health Organization, 2019, https://www.who.int/about/who-we-are/constitution, accessed July 2019

[140] NYS Prevention Agenda 2019-2024, April 2019, https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/wb.htm, accessed July 2019

[141] National Alliance on Mental Illness, 2019, https://www.nami.org/learn-more/mental-health-by-the-numbers, accessed July 2019

One of the major disorders that can lead to poor mental health is depression. This is a mood disorder that causes a constant feeling of sadness or lack of interest in performing any life activities. When looking at the percentage of people reporting a depressive disorder in 2016, the highest percentage was seen in Sullivan County (19.0%) and the lowest in Putnam County (8.0%) [see Figure 272].

Figure 272



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

SUBSTANCE USE

Substance use refers to the recurrent use of substances, such as nicotine, alcohol, and/or opioids. Drug addiction, also called substance use disorder, can affect a person's brain and behavior, and interfere with meeting responsibilities at school, work, or at home. It increases the risk of social, physical, and mental health problems. These include teenage pregnancy, HIV/AIDS, STIs, domestic violence, crime, homicide, and suicide.[142] According to the National Survey on Drug Use and Health (NSDUH), 19.7 million Americans (aged 12 years and older) battled a substance use disorder in 2017.[143]

TOBACCO & VAPING

Tobacco use leads to diseases that cause harm to almost every organ in the body. Smoking is the leading cause of preventable death in the U.S., costing the nation $170 billion annually to manage and treat.[144] Tobacco contains nicotine, which is a chemical substance that can lead to addiction. More than 16 million Americans are living with a disease that is caused by smoking, some of which include cancer (specifically lung cancer), heart disease, stroke, diabetes, and COPD.[144] Table 28 shows the increased risk that smoking can have on the incidence and mortality of certain diseases.[144]

[142] Healthy People 2020, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse, accessed July 2019

[143] American Addiction Centers, July 2019, https://americanaddictioncenters.org/rehab-guide/addiction-statistics, accessed July 2019

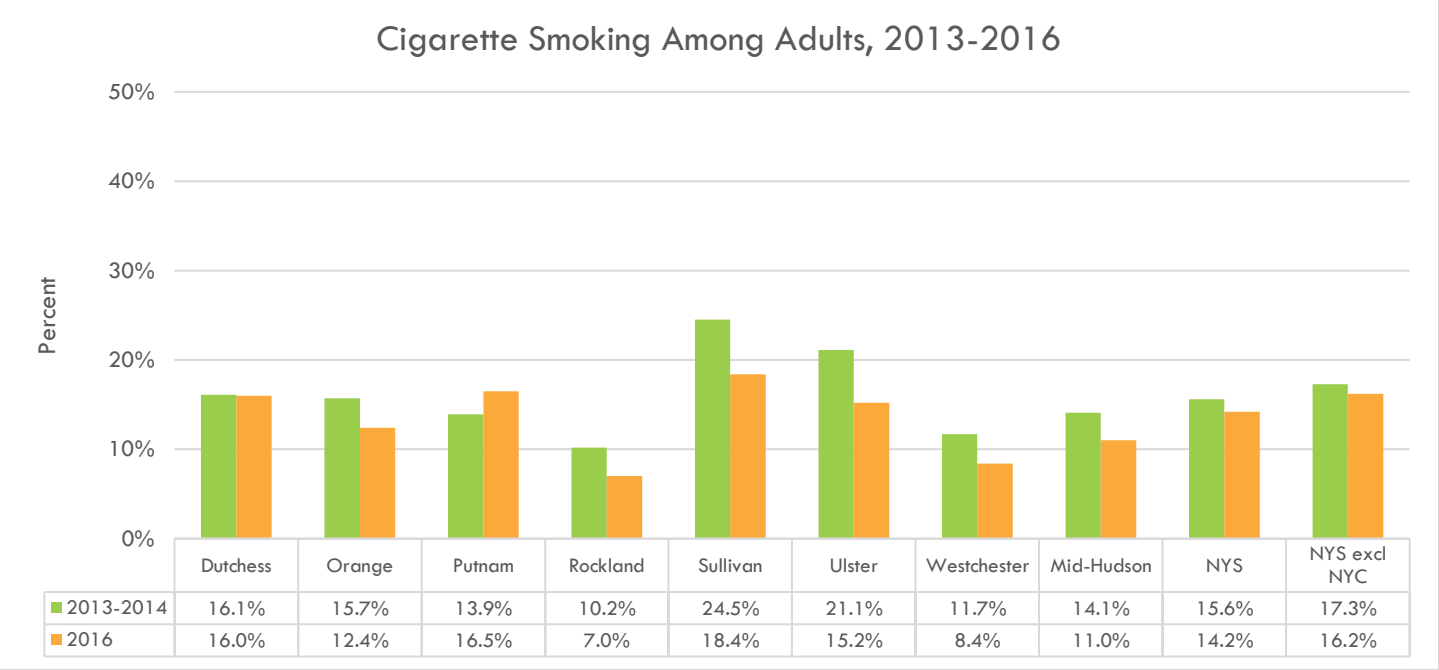
[144] CDC, February 2018, https://www.cdc.gov/tobacco/data_statistics, accessed July 2019

Table 28

Increased Risk of Disease Incidence From Smoking	
Disease	**Risk Increase**
Coronary Heart Disease Incidence	2-4 times
Stroke Incidence	2-4 times
Lung Cancer Incidence (Male)	25 times
Lung Cancer Incidence (Female)	25.7 times

When comparing the percentage of adults who smoked cigarettes from 2013-2014 to 2016, the percentage of those who smoked decreased in almost every county in the Mid-Hudson Region (with the exception of Putnam County), New York State, and New York State excluding New York City. In 2016, Sullivan County had the highest percentage of adults smoking cigarettes, and Rockland County had the lowest percentage (18.4% and 7.0%, respectively). The Healthy People 2020 goal was to reduce cigarette smoking among adults to 12.0%. Most counties have not met this target, with the exception of Rockland and Westchester Counties, as well as the Mid-Hudson Region as a whole.

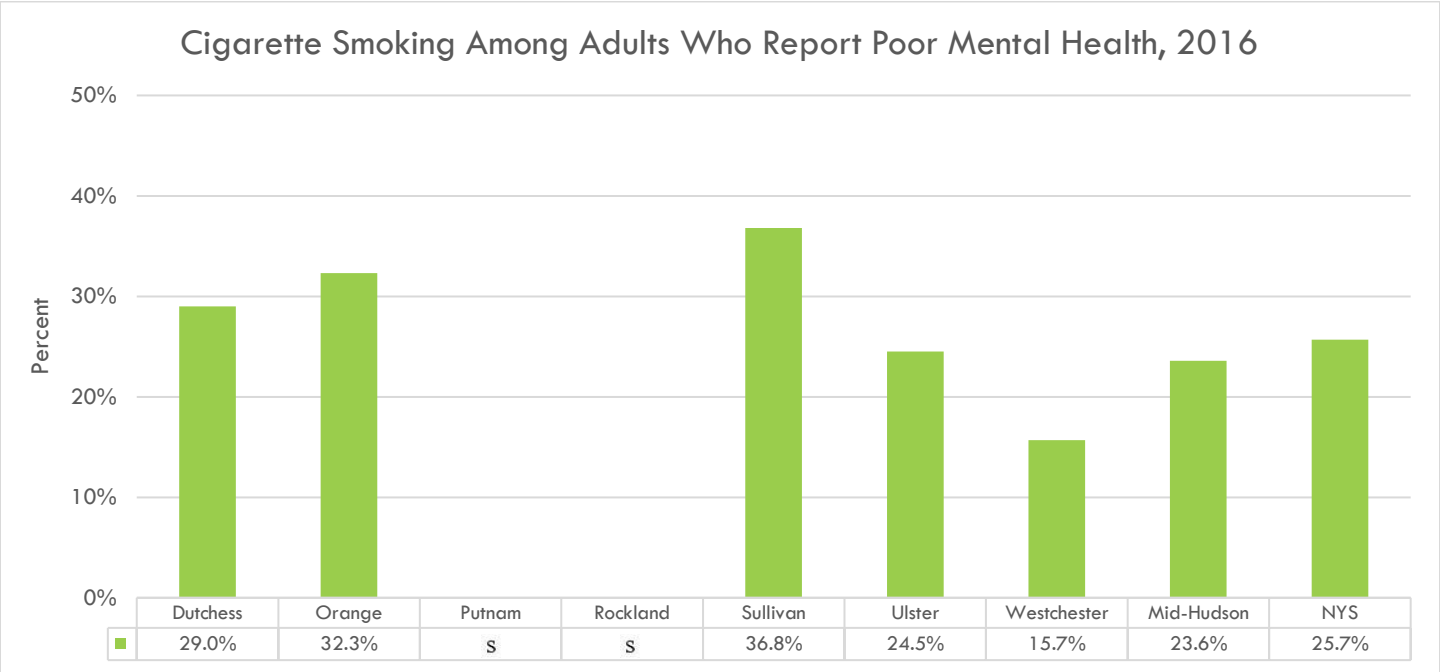
Figure 273



Source: NYSDOH Behavioral Risk Factor Surveillance System, 2018
NYS Prevention Agenda 2019-2024 Dashboard: https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/

In 2016, the rates of cigarette smoking were higher among adults who reported poor mental health than those who did not report mental health issues. In Sullivan County, there was a higher percentage of cigarette smoking among adults who report poor mental health compared to those who do not (36.8% vs 18.4%) [compare Figure 273 and Figure 274]. Similar trends were seen across all counties in the Mid-Hudson Region and New York State.

Figure 274



s: Rates suppressed due to small sample size.
Note: All county rates are unreliable due to large standard error.
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

Although tobacco use seems to be decreasing over time, the use of electronic vapor products, or vaping, has become widely popular over the past few years. Electronic vapor products (electronic cigarettes or e-cigarettes, vaping pens, hookah pens, etc.) were originally created to provide alternative products for those who were looking to quit smoking cigarettes. However, it has become a new trend among young adults. According to the NYSDOH, the use of e-cigarettes among high school youth increased from 10.5% to 27.4% from 2014-2018, which is almost a 160% increase over the past four years.[145]

Although most vaping products do not contain tobacco, they can contain other harmful substances, one of which is nicotine. For example, one product that many teens are now frequently using is the JUUL. The JUUL resembles a USB drive that can be recharged via USB port. JUULpods are changeable cartridges that contain a salt-based nicotine e-liquid that come in different flavors.[146] Each JUULpod contains roughly the same amount of nicotine that is found in a pack of cigarettes.[146] According to a study published by Truth Initiative, 63% of JUUL users who are between the ages of 15 and 24 were unaware that the JUUL contains nicotine.[147]

[145] New York State Department of Health, January 2019, https://www.health.ny.gov/prevention/tobacco_control/reports/statshots/volume12/n1_electronic_sig_use_increase.pdf, accessed July 2019

[146]American Academy of Family Physicians, 2017, https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/juuling-fact-sheet-patient.pdf, accessed July 2019

[147] Truth Initiative, April 2018, https://truthinitiative.org/research-resources/emerging-tobacco-products/juul-e-cigarette-craze-highlights-why-flavored-tobacco, accessed July 2019

Research has also shown that youth who smoke tobacco products started with a flavored product, such as the JUUL.[148] These products act as a gateway to experimenting with more harmful products, such as traditional cigarettes. It is important that parents and teachers become involved in preventing their kids from becoming dependent on electronic vaping products. Please contact your local health department for data and information related to each specific county.

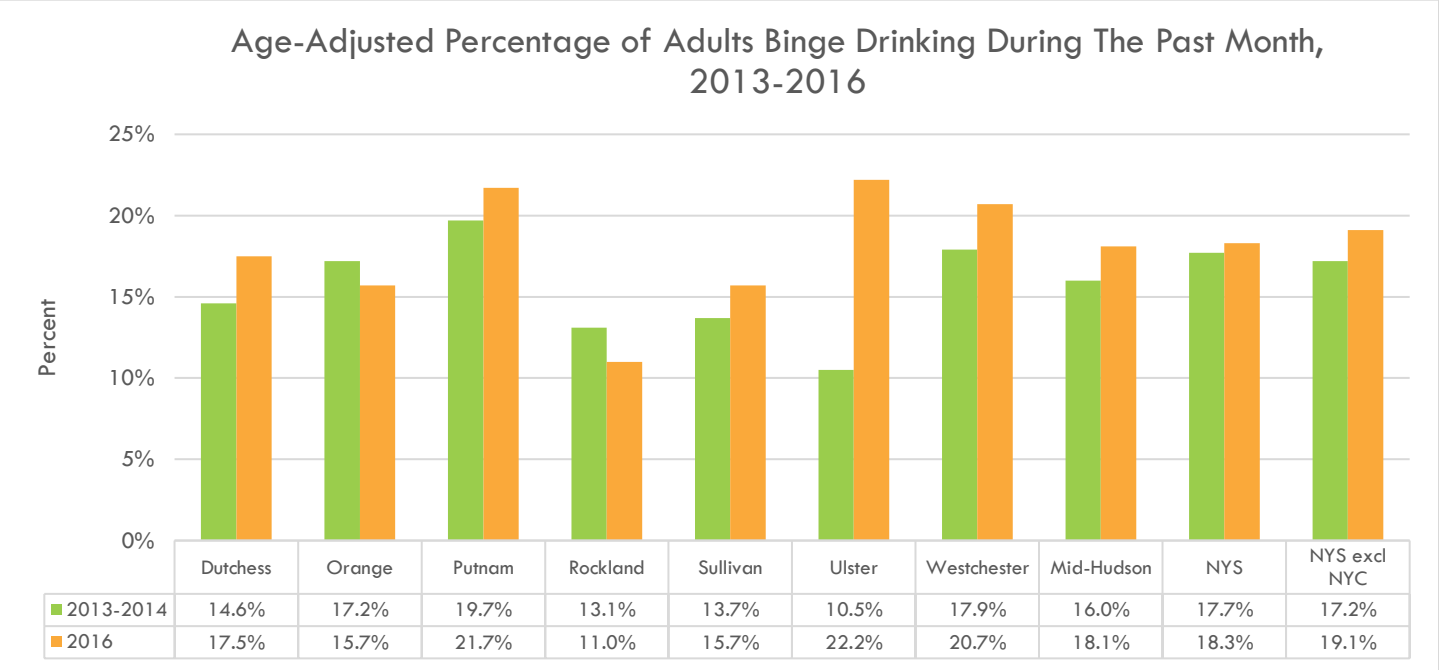
For more information, please visit CDC's *Electronic Cigarette* page (https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm). For more information on how to quit smoking, call 1-800-QUIT-NOW or visit https://smokefree.gov/.

ALCOHOL

Excessive alcohol use has led to almost 88,000 deaths in the U.S. annually. Binge drinking, which is when women have four or more drinks or men have five or more drinks on one occasion, is responsible for more than 50% of these deaths.[149] Binge drinking is more common among younger adults between the ages of 18 and 34; people with an income greater than $75,000; and people with higher educational levels. However, binge drinkers with lower incomes and educational levels have more occasions of binge drinking per year.[149]

Binge drinking has increased in almost every county in the Mid-Hudson Region, as well as New York State and New York State excluding New York City from 2013-2014 to 2016, with the exception of Orange and Rockland Counties. Ulster County had the highest percentage of adults binge drinking in 2016 at 22.2%, and Rockland County had the lowest percentage at 11.0%.

Figure 275



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
2013-2014	14.6%	17.2%	19.7%	13.1%	13.7%	10.5%	17.9%	16.0%	17.7%	17.2%
2016	17.5%	15.7%	21.7%	11.0%	15.7%	22.2%	20.7%	18.1%	18.3%	19.1%

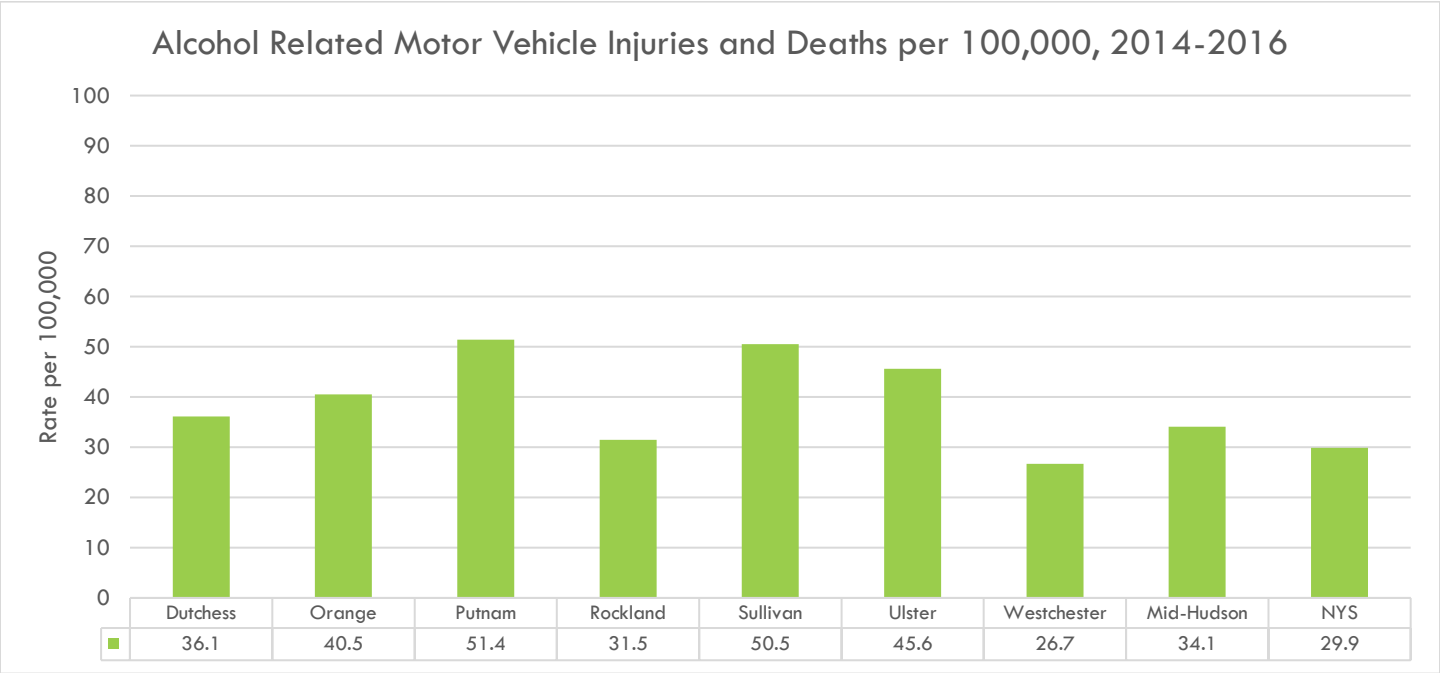
Source: NYSDOH Behavioral Risk Factor Surveillance System, 2016
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[148] Nicotine and Tobacco Research, May 2016, https://academic.oup.com/ntr/article/18/5/739/2510915, accessed July 2019

[149] CDC, October 2018, https://www.cdc.gov/alcohol/fact-sheets/caffeine-and-alcohol.htm, accessed July 2019

Binge drinking can lead to many different health and social problems, including unintentional motor vehicle accidents. In 2016, 28% of traffic related deaths in the U.S. were due to alcohol-impaired driving.[150] In the Mid-Hudson Region, Putnam County had the highest rate of alcohol-related motor vehicle injuries and deaths, and Westchester County had the lowest rate (51.4 and 26.7 per 100,000 population, respectively) [see Figure 276]. Overall, the Mid-Hudson Region had a higher rate of alcohol-related motor vehicle injuries and deaths compared to New York State (34.1 vs 29.9 per 100,000 population). Rates have generally decreased since 2007 across all counties (data available on NYS CHIRS).

Figure 276



Source: NYS Department of Motor Vehicles, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

OPIOID USE

Opioids are a class of drugs that include illicit drugs, such as heroin; synthetic opioids, such as fentanyl; and prescription pain relievers, such as oxycodone, hydrocodone, and morphine. According to the CDC, in 2017, 68% of drug overdoses involved an opioid, and the amount of overdose deaths involving an opioid was six times higher than in 1999.[151] The financial costs of management, treatment, and lost productivity due to misuse of illicit drugs, prescription drugs, and alcohol was estimated at $442 billion in 2012.[152]

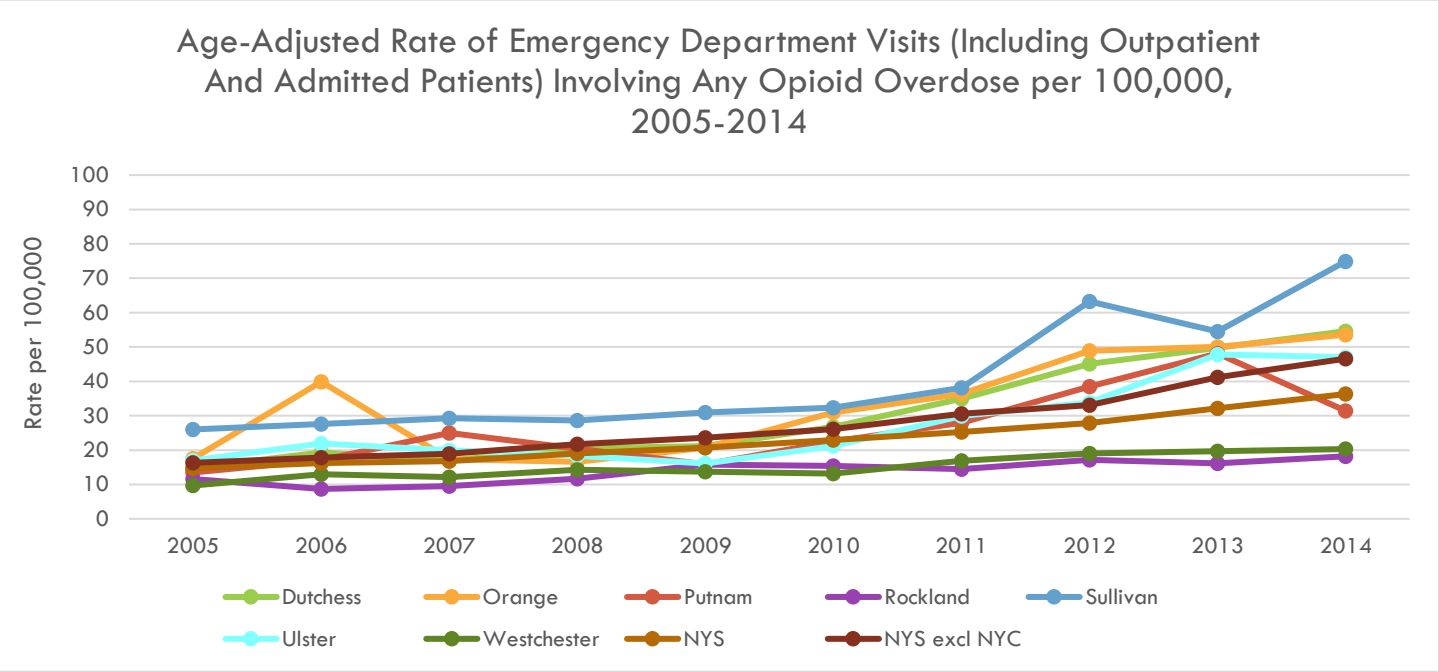
From 2005-2014, the ED visit rates for overdoses involving any opioid has steadily increased over time in all seven counties in the Mid-Hudson Region, as well as New York State and New York State excluding New York City [see Figure 277].

[150] CDC, March 2019, https://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-drv_factsheet.html, July 2019

[151] CDC, December 2018, https://www.cdc.gov/drugoverdose/epidemic/index.html, accessed July 2019

[152] NYS Prevention Agenda 2019-2024, April 2019, https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/wb.htm, accessed July 2019

Figure 277

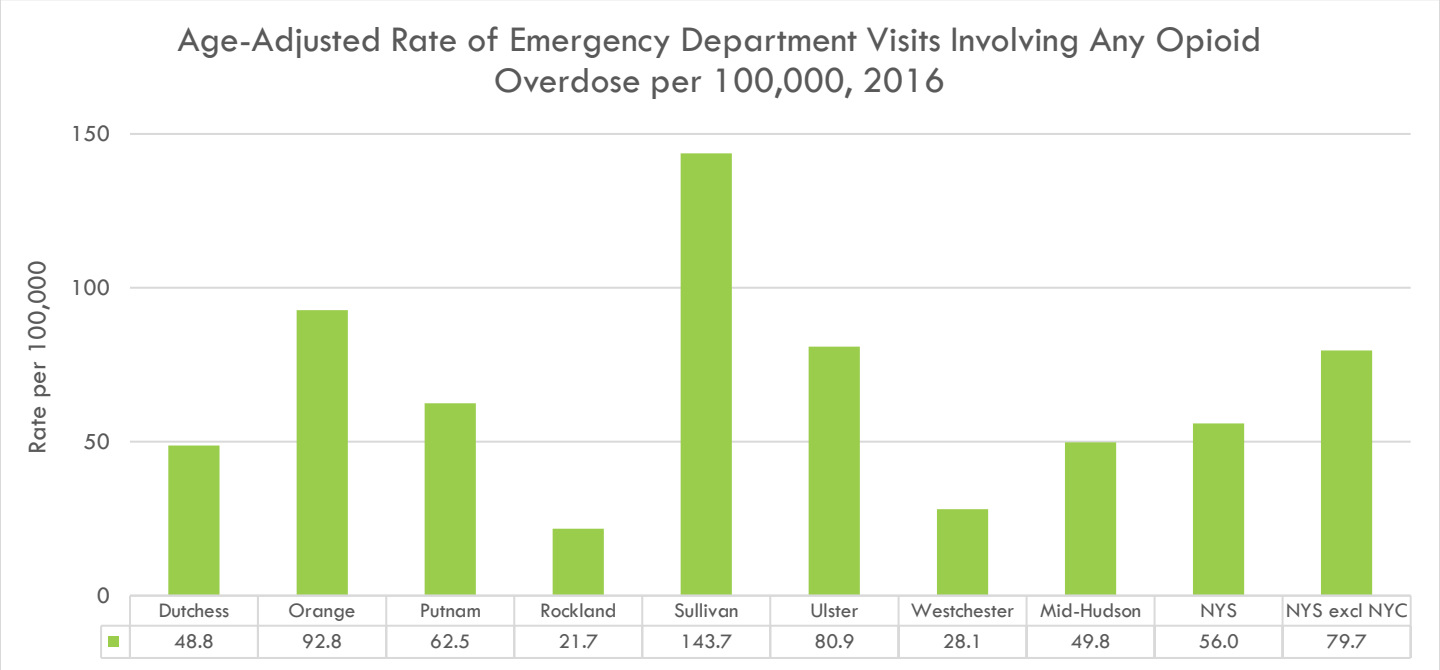


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2005	14.8	17.5	13.5	11.6	26.0	17.0	9.7	14.7	16.3
2006	19.3	39.9	17.1	8.7	27.6	21.9	13.0	16.2	17.8
2007	17.0	17.4	25.0	9.5	29.3	20.0	12.1	16.8	18.9
2008	20.5	16.6	20.4	11.7	28.6	18.4	14.3	19.0	21.7
2009	21.2	20.7	15.9	15.8	30.9	16.1	13.7	20.7	23.6
2010	26.8	30.9	22.5	15.4	32.3	21.2	13.2	22.9	26.1
2011	34.9	36.3	28.0	14.5	38.1	29.9	16.9	25.3	30.6
2012	45.1	48.9	38.5	17.2	63.2	33.8	19.0	27.9	33.1
2013	49.7	50.0	48.1	16.1	54.5	47.8	19.7	32.2	41.2
2014	54.6	53.6	31.4	18.2	74.9	47.0	20.3	36.3	46.6

Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid/

When looking at recent data from 2016 in Figure 278, Sullivan County had the highest ED visit rate at 143.7 per 100,000 population, which is more than three times the rate in the Mid-Hudson Region (49.8 per 100,000 population).

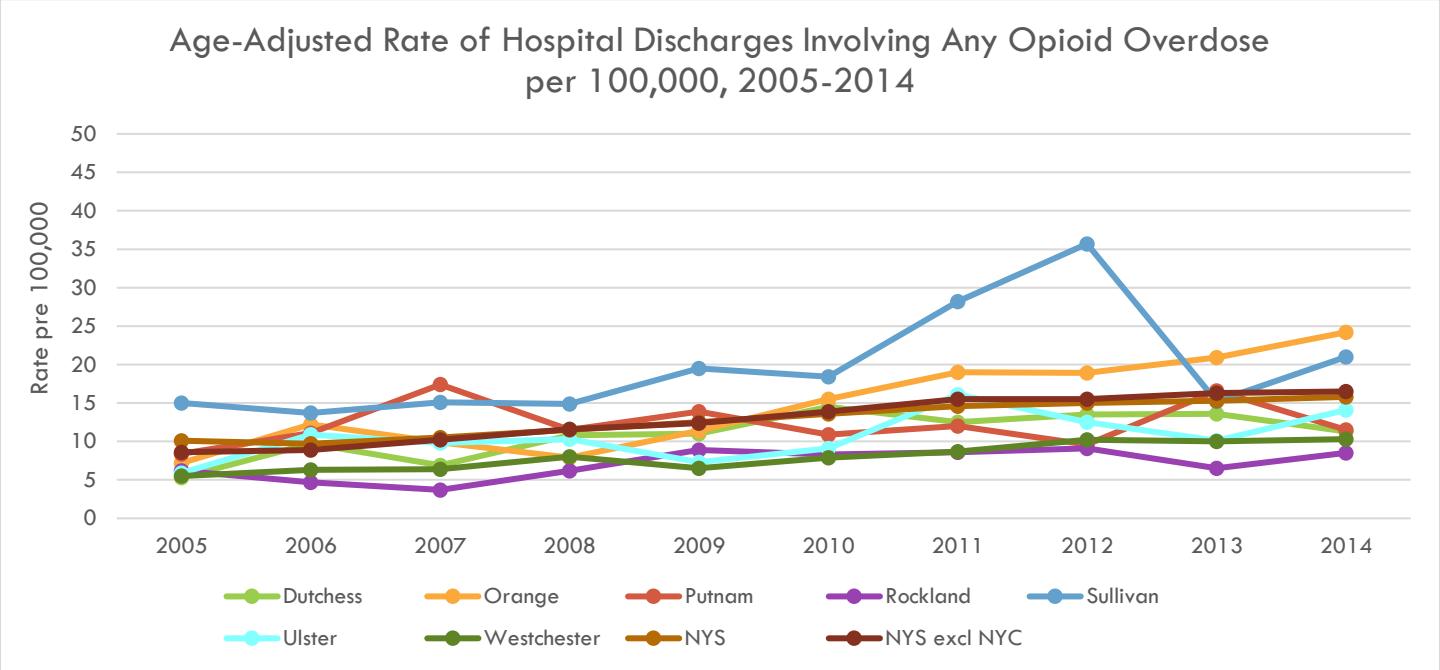
Figure 278



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid/

Hospital discharges involving any opioid overdose have generally increased over time, with some minor fluctuations in each county at different time periods [Figure 279].

Figure 279

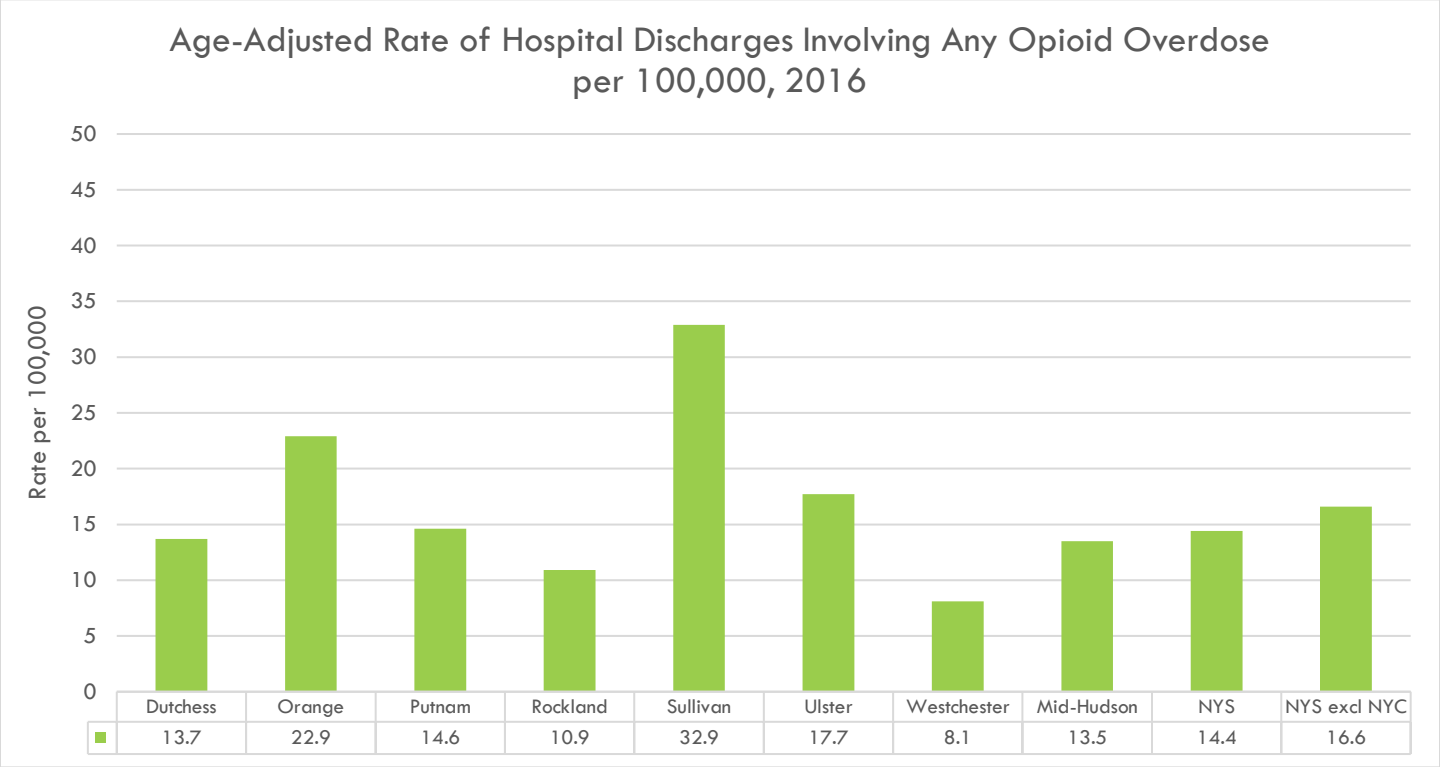


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2005	5.3	7.2	8.4*	6.2	15.0	5.9	5.5	10.1	8.6
2006	9.7	12.2	11.1	4.7	13.7	10.9	6.3	9.7	8.9
2007	6.9	9.9	17.4	3.7	15.1	9.8	6.4	10.5	10.2
2008	10.8	7.9	11.5	6.2	14.9	10.3	8.0	11.5	11.6
2009	11.0	11.4	13.9	8.9	19.5	7.3	6.5	12.5	12.4
2010	14.5	15.5	10.9	8.3	18.4	9.1	7.9	13.6	13.9
2011	12.5	19.0	12.0	8.6	28.2	16.1	8.7	14.6	15.5
2012	13.5	18.9	9.6	9.1	35.7	12.5	10.2	15.0	15.5
2013	13.6	20.9	16.6	6.5	15.2	10.1	10.0	15.3	16.3
2014	11.3	24.2	11.5	8.5	21.0	14.1	10.3	15.8	16.5

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid/

When looking at current data from 2016, Sullivan County had the highest rate of hospital discharges involving any opioid, and Westchester County had the lowest rate (32.9 and 8.1 per 100,000 population, respectively) [see Figure 280]. The Mid-Hudson Region had slightly lower rates than New York State and New York State excluding New York City (13.5 vs 14.4 and 16.6 per 100,000 population, respectively).

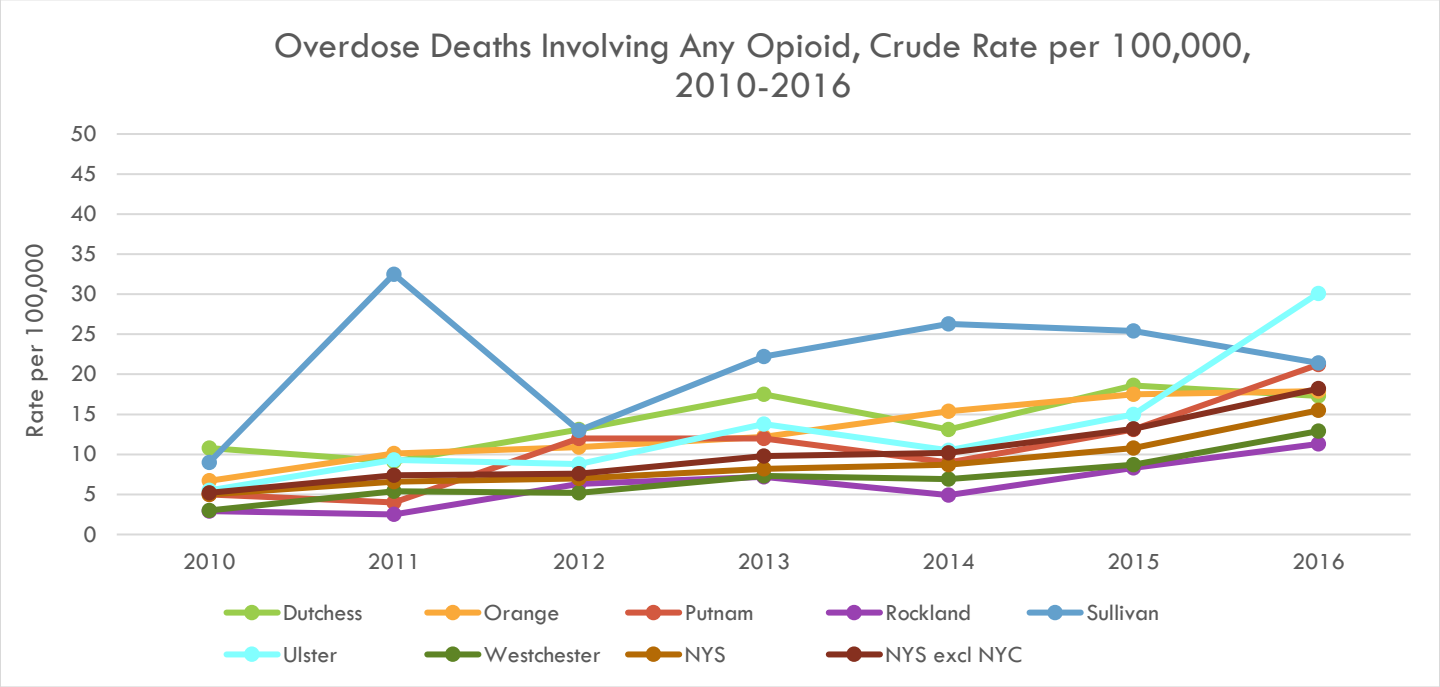
Figure 280



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid/

When looking at the rate of overdose deaths involving any opioid from 2010-2016, it has steadily increased across each county in the Mid-Hudson Region, as well as New York State and New York State excluding New York City. In 2016, the highest rate was seen in Ulster County, and the lowest rate was seen in Rockland County (30.1 and 11.3 per 100,000 population, respectively) [see Figure 281].

Figure 281

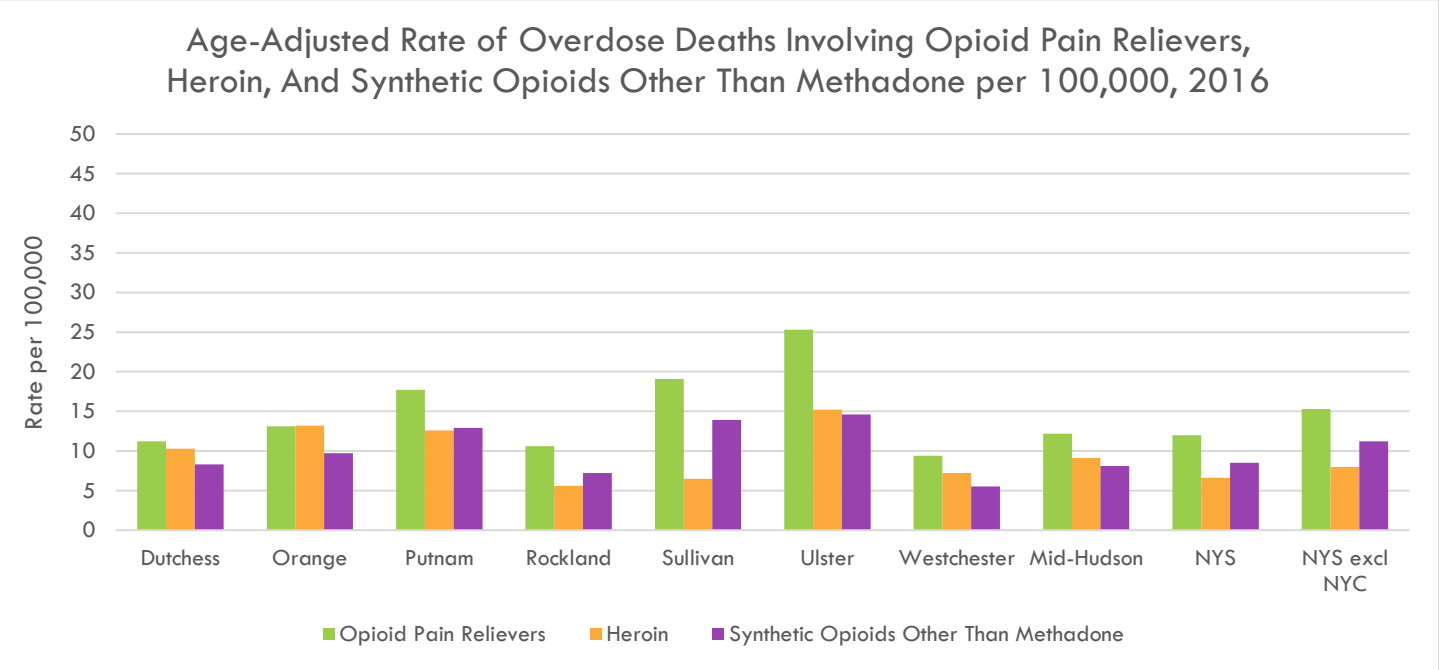


	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2010	10.8	6.7	5.0*	2.9	9.0	5.5	3.0	5.0	5.2
2011	9.1	10.1	4.0*	2.5	32.5	9.3	5.4	6.6	7.4
2012	13.1	10.9	12.0	6.3	13.0	8.8	5.2	7.0	7.6
2013	17.5	12.2	12.0	7.2	22.2	13.8	7.3	8.2	9.8
2014	13.1	15.4	9.0*	4.9	26.3	10.5	6.9	8.7	10.2
2015	18.6	17.5	13.1	8.3	25.4	15.0	8.7	10.8	13.2
2016	17.3	17.9	21.2	11.3	21.4	30.1	12.9	15.5	18.2

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid/

Figure 282 shows the rate of overdose deaths in 2016 stratified by the type of opioid used. The highest rate of overdose deaths was caused by opioid pain relievers in most counties, with the exception of Orange County. In this county, the rate of overdose deaths caused by heroin was relatively similar to deaths caused by opioid pain relievers (13.2 and 13.1 per 100,000 population, respectively).

Figure 282

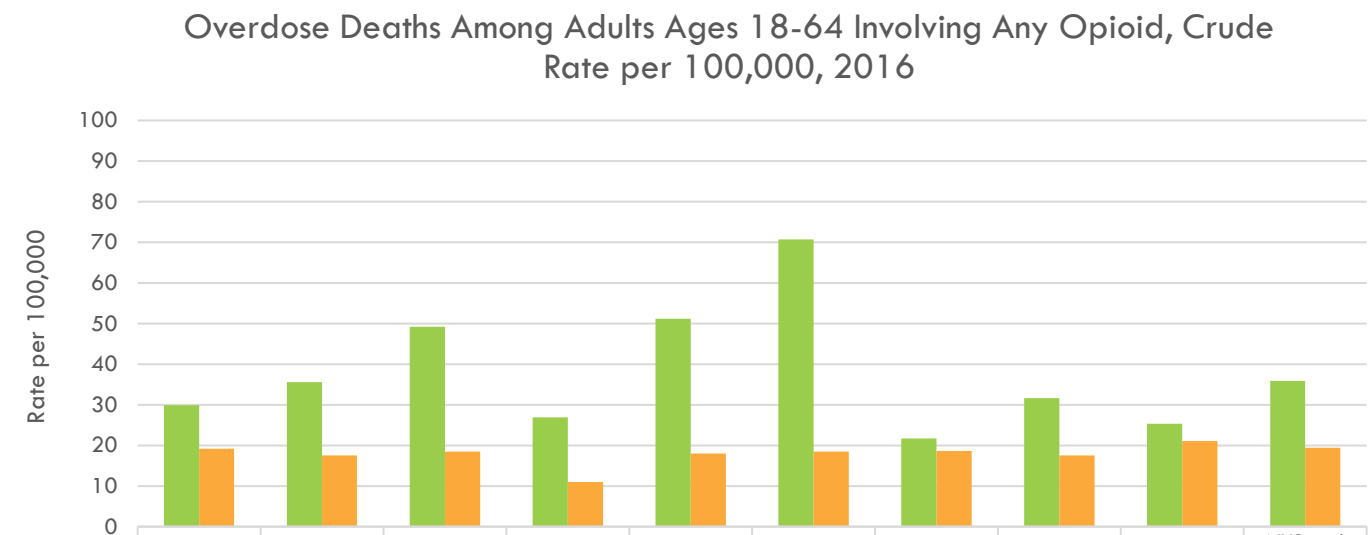


	Opioid Pain Relievers	Heroin	Synthetic Opioids Other Than Methadone
Dutchess	11.2	10.3	8.3
Orange	13.1	13.2	9.7
Putnam	17.7	12.6	12.9
Rockland	10.6	5.6	7.2
Sullivan	19.1	6.5*	13.9*
Ulster	25.3	15.2	14.6
Westchester	9.4	7.2	5.5
Mid-Hudson	12.2	9.1	8.1
NYS	12.0	6.6	8.5
NYS excl NYC	15.3	8.0	11.2

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Note: Opioid pain relievers include illicitly produced opioids such as fentanyl.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

When overdose deaths are stratified by age, the rate of overdose death was higher among adults aged 18-44 years compared to those aged 45-64 years across all three types of overdose deaths (any opioid, heroin, and opioid pain relievers) [see Figure 283, Figure 284, and Figure 285]. Ulster County had highest rates of overdose death among adults aged 18-44 years caused by all three types (70.7, 37.0, and 50.5 per 100,000 population, respectively),

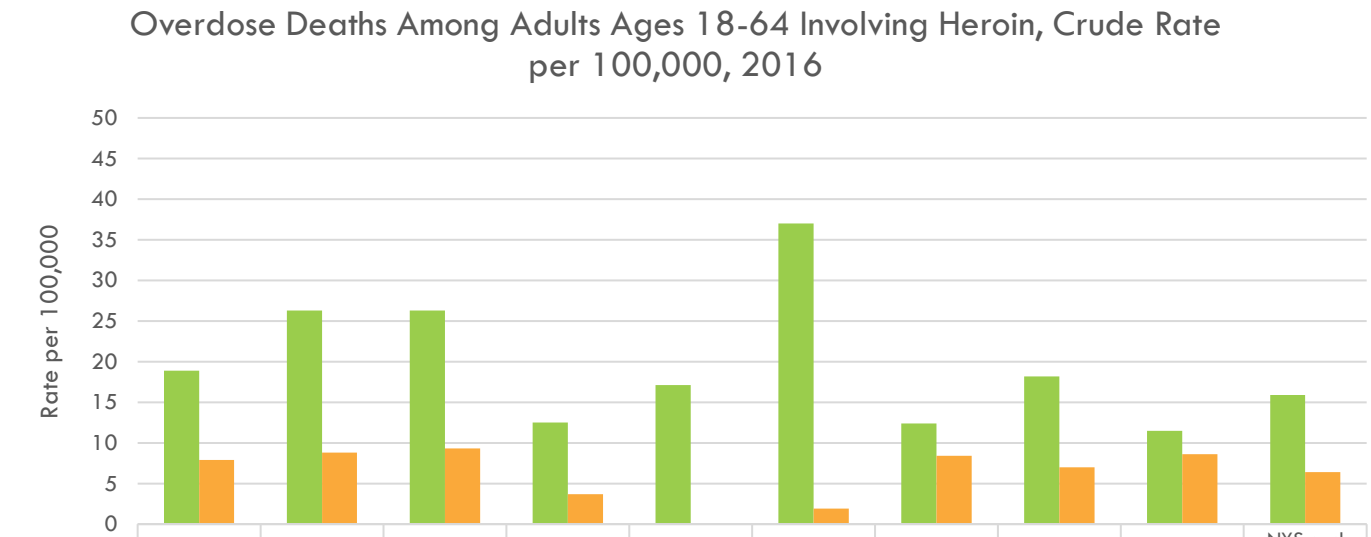
Figure 283



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
18-44 years	29.9	35.6	49.2	26.9	51.2	70.7	21.7	31.6	25.3	35.9
45-64 years	19.2	17.5	18.5 *	11.0 *	18.0 *	18.5	18.6	17.5	21.1	19.4

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

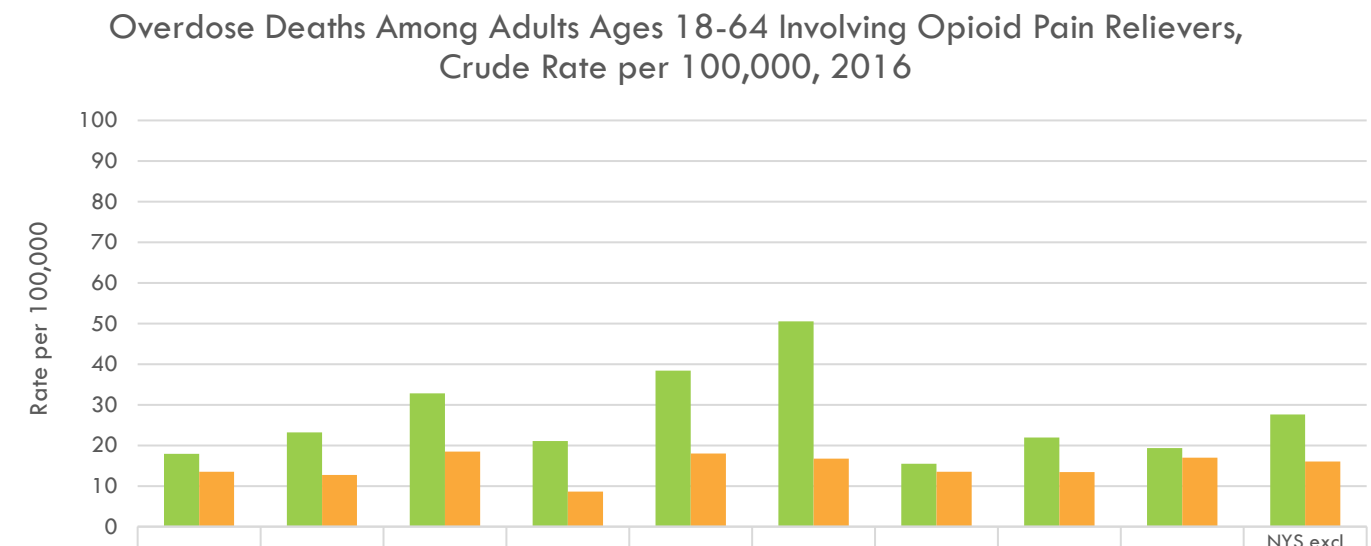
Figure 284



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
18-44 years	18.9	26.3	26.3 *	12.5	17.1 *	37.0	12.4	18.2	11.5	15.9
45-64 years	7.9 *	8.8 *	9.3 *	3.7 *	0.0 *	1.9 *	8.4	7.0	8.6	6.4

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

Figure 285



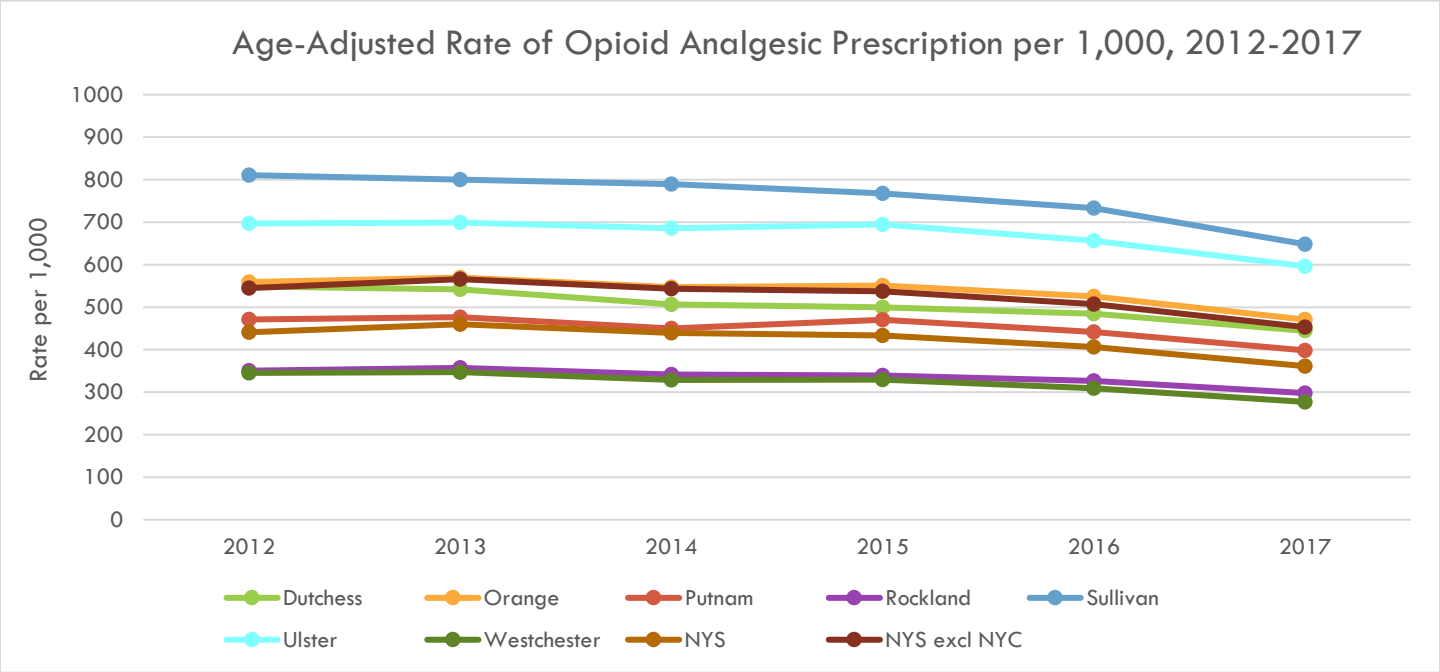
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
18-44 years	17.9	23.2	32.8	21.1	38.4 *	50.5	15.5	21.9	19.3	27.6
45-64 years	13.5	12.7	18.5 *	8.6 *	18.0 *	16.7 *	13.5	13.4	17.0	16.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Note: Opioid pain relievers include illicitly produced opioids such as fentanyl.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

The misuse of opioid drugs continues to rise in New York State, and the government is working to combat this epidemic. Some methods for doing this include improving opioid prescribing practices; increasing education, training, and distribution of Naloxone (an overdose reversal drug); and increasing access to medication-assisted treatment.[153]

From 2012-2017, prescription rates for opioid analgesics (pain relievers) have generally decreased across each county in the Mid-Hudson Region, as well as New York State and New York State excluding New York City. In 2017, Sullivan County had the highest opioid analgesic prescription rate, and Westchester County had the lowest rate (648.2 and 277.2 per 1,000 population, respectively) [Figure 286].

Figure 286



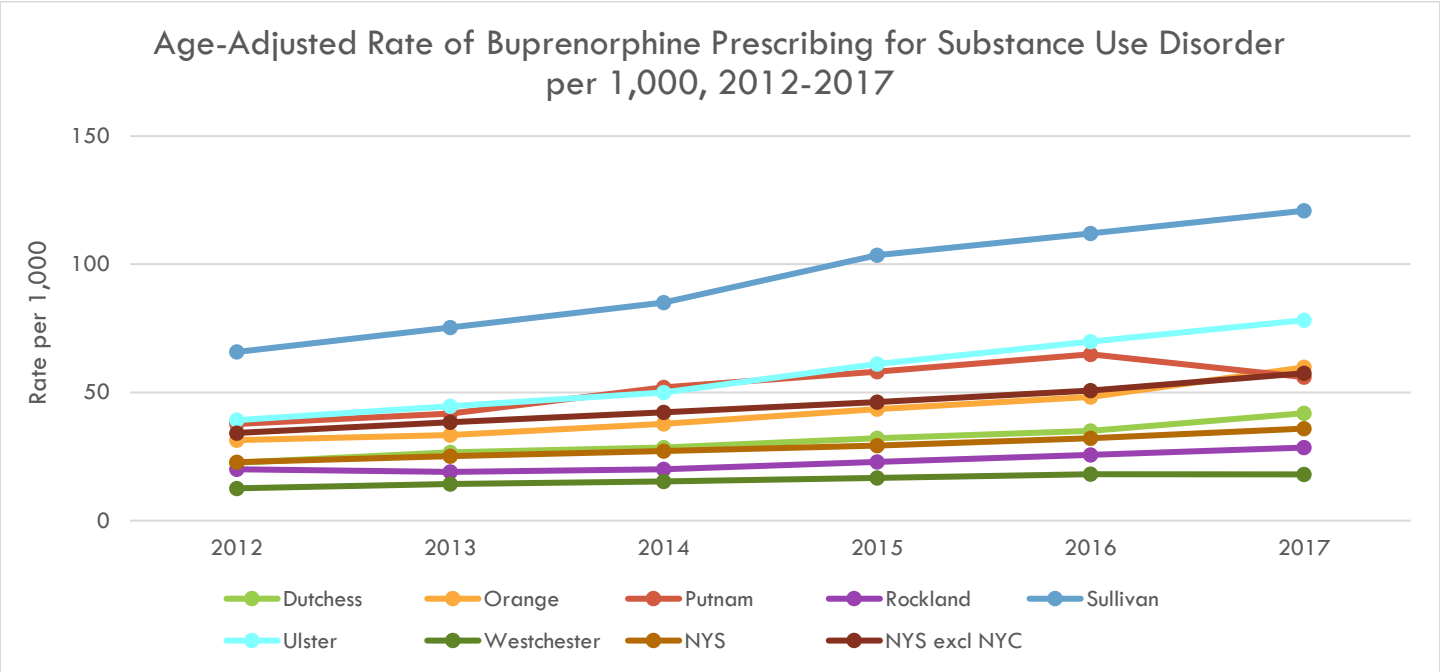
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2012	548.8	559.3	471.4	351.0	810.6	697.0	345.4	440.9	544.8
2013	541.7	569.6	476.5	357.2	800.1	699.0	347.3	459.9	566.0
2014	506.3	547.1	449.8	341.4	789.6	685.4	328.7	439.2	543.1
2015	499.4	551.0	470.3	339.3	767.6	695.0	329.7	433.3	537.5
2016	484.5	525.7	441.9	326.8	733.3	656.3	309.2	406.3	507.0
2017	444.5	470.9	398.4	298.0	648.2	596.3	277.2	361.3	453.1

Source: NYS Prescription Monitoring Program (PMP), 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

[153] National Institute on Drug Abuse, January 2018, https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction, accessed July 2019

Buprenorphine is an opioid used to treat opioid addiction. It helps diminish the effects of withdrawal symptoms and lowers the risk of misuse. The opioid effects of buprenorphine increase with each dose until they level off, even when dosage increases.[154] From 2012 to 2017, the prescription rate of buprenorphine for substance use disorder has generally increased across each county, as well as New York State [Figure 287]. In 2017, Sullivan County had highest buprenorphine prescription rate, and Westchester County had the lowest rate (120.9 and 18.0 per 1,000 population, respectively).

Figure 287



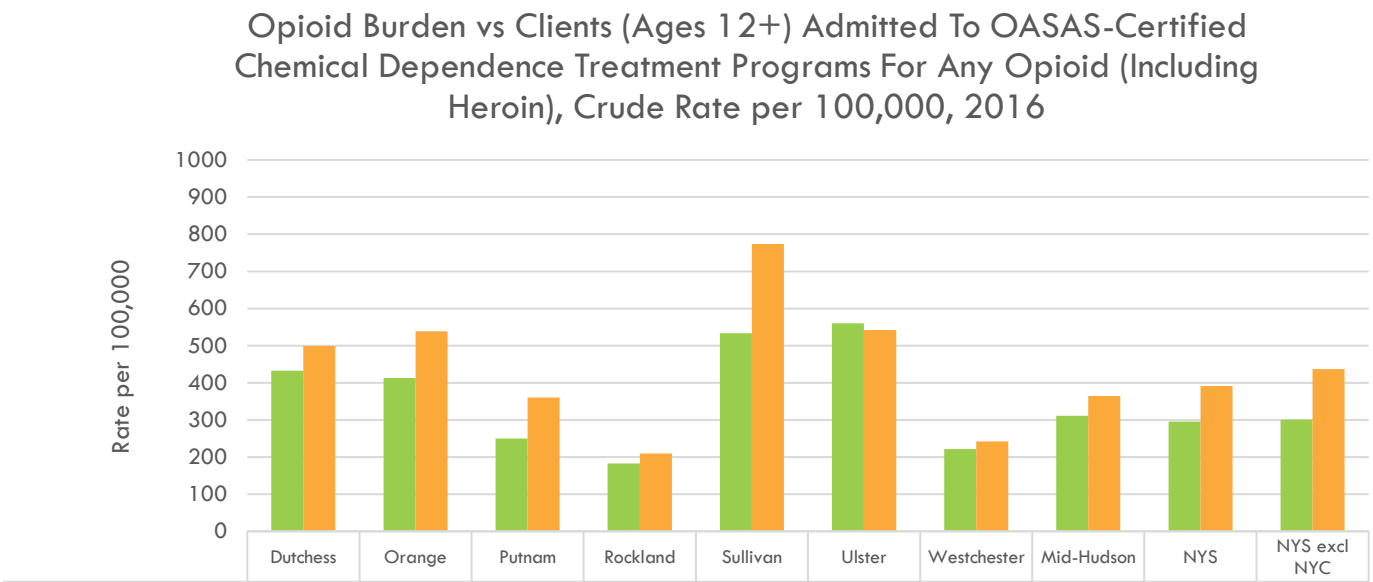
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
2012	22.6	31.4	37.7	20.0	65.8	39.2	12.6	22.8	34.2
2013	26.6	33.4	41.8	19.0	75.3	44.6	14.3	25.2	38.4
2014	28.5	37.8	52.0	20.0	85.1	50.0	15.3	27.2	42.3
2015	32.2	43.5	58.1	22.9	103.5	61.1	16.7	29.3	46.2
2016	35.0	48.3	64.9	25.7	112.1	69.9	18.1	32.1	50.8
2017	41.9	59.8	56.0	28.5	120.9	78.2	18.0	35.9	57.5

Source: NYS Prescription Monitoring Program (PMP), 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

[154] Substance Abuse and Mental Health Services Administration, May 2019, https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine, accessed July 2019

New York State has identified the opioid burden at the state and county level. Opioid burden includes outpatient ED visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, and unspecified use; and opioid overdose deaths. Of the seven counties in the Mid-Hudson Region, the opioid burden was highest in Ulster County and lowest in Rockland County (559.6 and 182.4 per 100,000 population). However, there were many people enrolled in chemical dependence treatment programs offered by the Office of Alcoholism and Substance Abuse Services (OASAS). Sullivan County had the highest rate of people enrolled in OASAS programs (773.5 per 100,000 population) [see Figure 288].

Figure 288



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS	NYS excl NYC
Opioid Burden	432.6	413.0	249.7	182.4	533.4	559.6	221.3	311.1	295.9	300.3
Clients in OASAS Programs	498.7	538.7	360.2	209.1	773.5	542.3	242.2	364.8	391.5	436.5

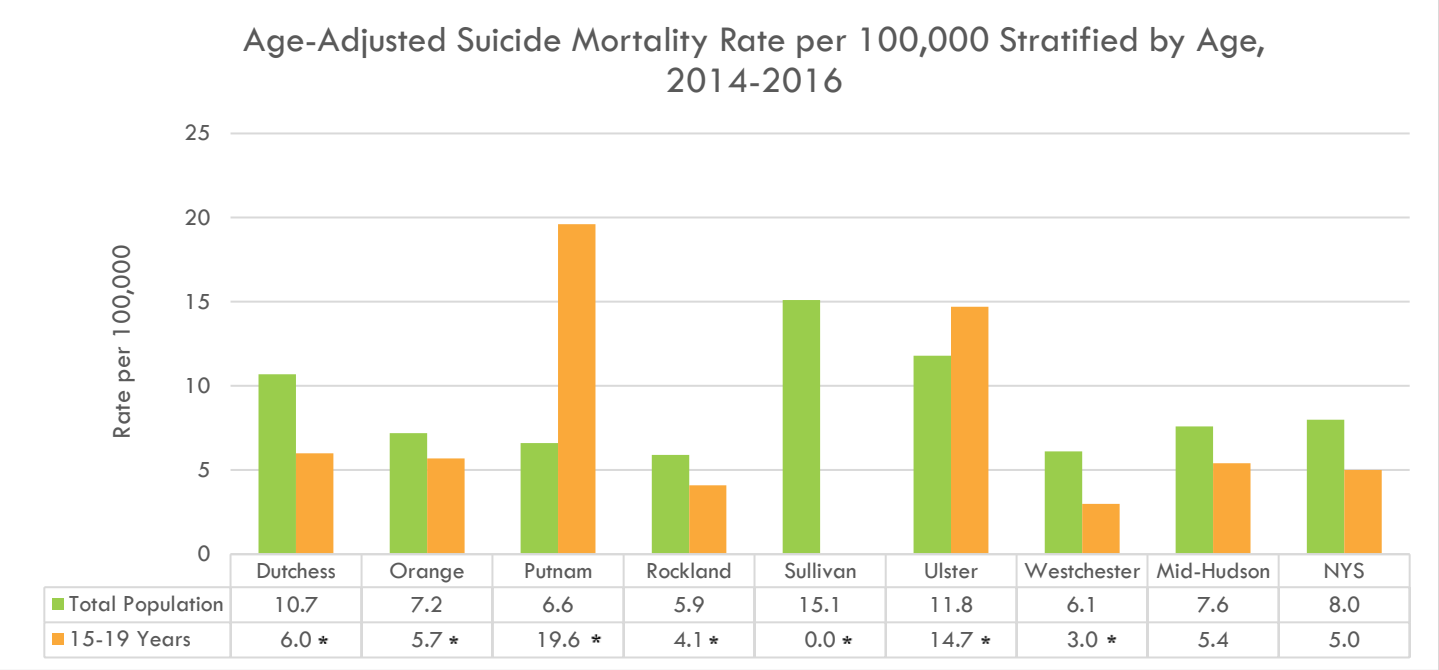
Source: NYSDOH Vital Statistics, Statewide Planning and Research Cooperative System, and OASAS data, 2018
NYSDOH Opioid Data Dashboard: https://www.health.ny.gov/statistics/opioid

SUICIDE

In the U.S., suicide is a serious health problem. It is associated with several risk factors, including those who have experienced bullying, sexual violence, and child abuse. In 2016, 9.8 million American adults considered attempting suicide, and 1.3 million died by suicide.[155] Protective factors, such as connectedness with family and friends, as well as access to health care services, can help prevent suicide.

Healthy People 2020 set the goal to reduce suicide rates to 10.2 suicides per 100,000 population. Most counties met this target, with the exception of Sullivan, Ulster, and Dutchess Counties (15.1, 11.8, and 10.7 per 100,000 population, respectively [see Figure 289]. Suicide among young adults is a public health concern, especially in Putnam County, where suicide mortality rates among teenagers aged 15-19 years was 19.6 per 100,000 population (note that the rate is unstable).

Figure 289



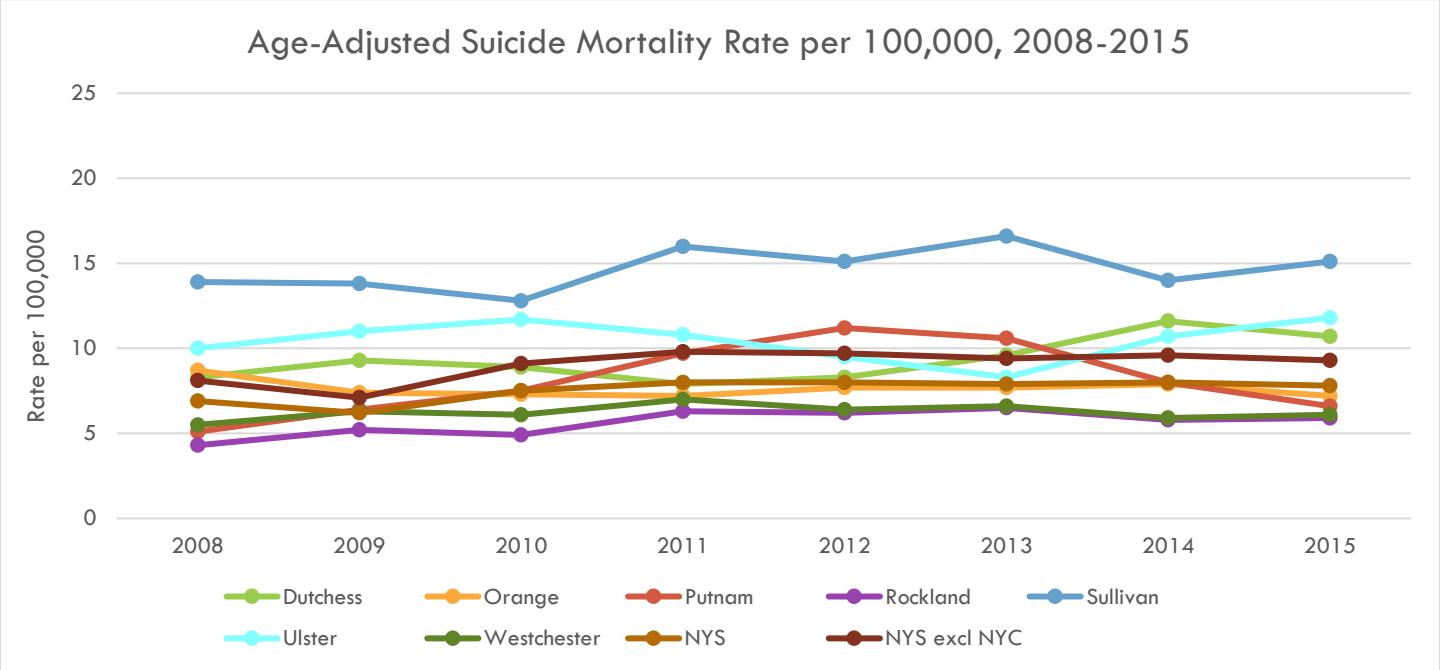
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson	NYS
Total Population	10.7	7.2	6.6	5.9	15.1	11.8	6.1	7.6	8.0
15-19 Years	6.0 *	5.7 *	19.6 *	4.1 *	0.0 *	14.7 *	3.0 *	5.4	5.0

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[155] CDC, September 2018, https://www.cdc.gov/violenceprevention/suicide/fastfact.html, accessed July 2019

In general, suicide mortality rates have increased across each county (with the exception of Orange County) and New York State from 2008-2015, with fluctuations within each county during different time periods [see Figure 290].

Figure 290



Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC are graphed above.

	Three-Year Average							Single-Year	
	Dutchess	**Orange**	**Putnam**	**Rockland**	**Sullivan**	**Ulster**	**Westchester**	**NYS**	**NYS excl NYC**
2008	8.3	8.7	5.1	4.3	13.9	10.0	5.5	6.9	8.1
2009	9.3	7.4	6.4	5.2	13.8	11.0	6.3	6.2	7.1
2010	8.9	7.3	7.5	4.9	12.8	11.7	6.1	7.5	9.1
2011	7.9	7.2	9.7	6.3	16.0	10.8	7.0	8.0	9.8
2012	8.3	7.7	11.2	6.2	15.1	9.5	6.4	8.0	9.7
2013	9.6	7.7	10.6	6.5	16.6	8.3	6.6	7.9	9.4
2014	11.6	7.9	8.0	5.8	14.0	10.7	5.9	8.0	9.6
2015	10.7	7.2	6.6	5.9	15.1	11.8	6.1	7.8	9.3

Note: Three-year averages for counties and single-year estimates for NYS and NYS excl NYC were used.
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

For immediate help, contact the National Suicide Prevention Lifeline at 1-800-273-8255 or visit https://suicidepreventionlifeline.org/ for more information.

CHILD HEALTH

Preventive health care is important across all age groups. However, it is especially important for children and adolescents to help them avoid preventable diseases and maintain good health throughout the course of their lives. According to the U.S. Census Bureau, 5.8% of the population in the Mid-Hudson Region is under five years old, and 20.1% of the population is aged between 5-19 years.[156] Further demographic information on the child and adolescent population at the county and state level can be found on page 26.

Children are at risk for developing certain diseases, some of which include ambulatory care sensitive (ACS) conditions. These are conditions where the use of the ED is thought to be avoidable by focusing on interventions in primary care.[157] Some ACS conditions include asthma, otitis media, gastroenteritis, and pneumonia.

ASTHMA

Asthma is caused by airway restriction in the lungs, resulting in difficulty breathing, wheezing, chest tightness, and coughing. It is a condition commonly found among children, but it can be managed and treated with medical care. [See page 142].

OTITIS MEDIA

Otitis media is an infection that occurs in the middle ear and is most commonly diagnosed in children. Even though antibiotics are typically used to clear the infection, some children are prone to having chronic ear infections. This can lead to other consequences, such as antibiotic resistance, surgery, and hearing loss. Common symptoms of otitis media include ear pain; tugging or pulling at the ear; crying more than usual; trouble hearing; fever; and drainage from the ear.[158]

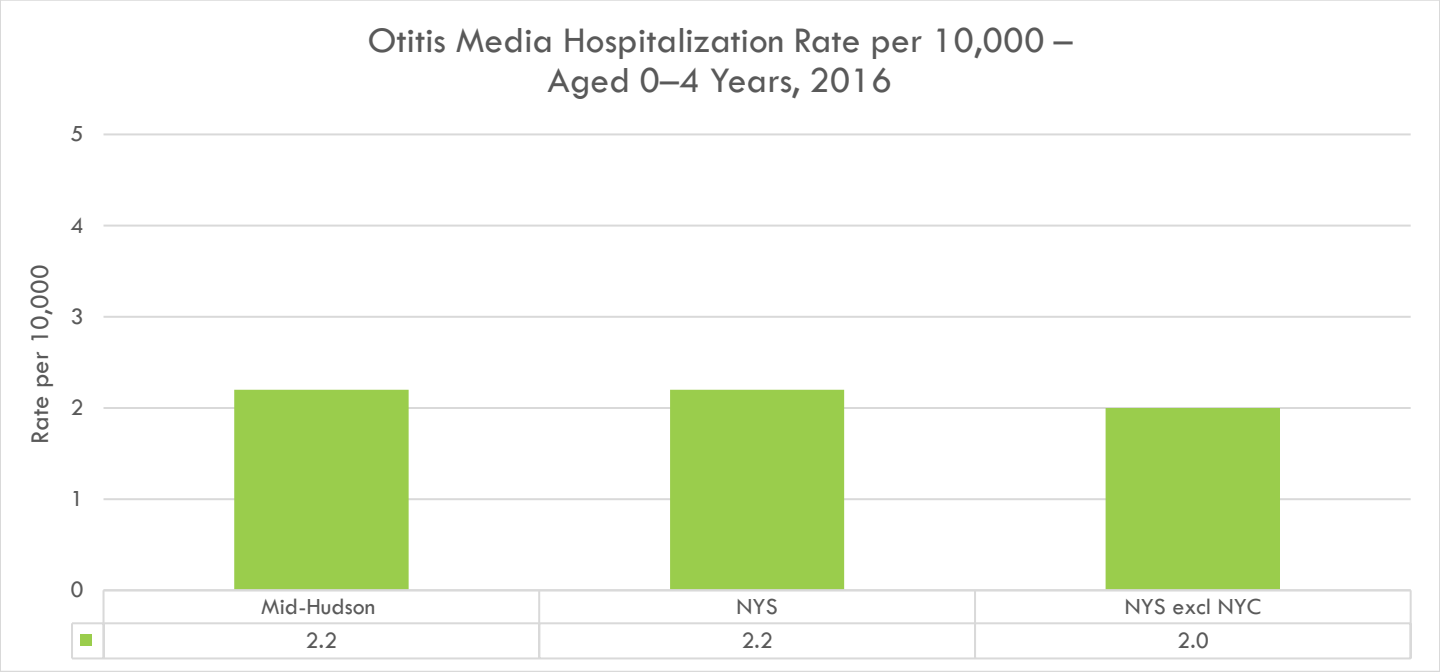
In 2016, the hospitalization rates for otitis media for children aged 0-4 years for most of the Mid-Hudson Region counties were unstable or did not meet reporting criteria. However, when comparing the Mid-Hudson Region to New York State and New York State excluding New York City, hospitalization rates were relatively the same [see Figure 291].

[156] U.S. Census Bureau: American Community Survey, 2018, https://www.census.gov, accessed July 2019

[157] The Journal of Pediatrics, March 2018, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5826824/, accessed July 2019

[158] Mayo Clinic, May 2019, https://www.mayoclinic.org/diseases-conditions/ear-infections/symptoms-causes/syc-20351616, accessed July 2019

Figure 291



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

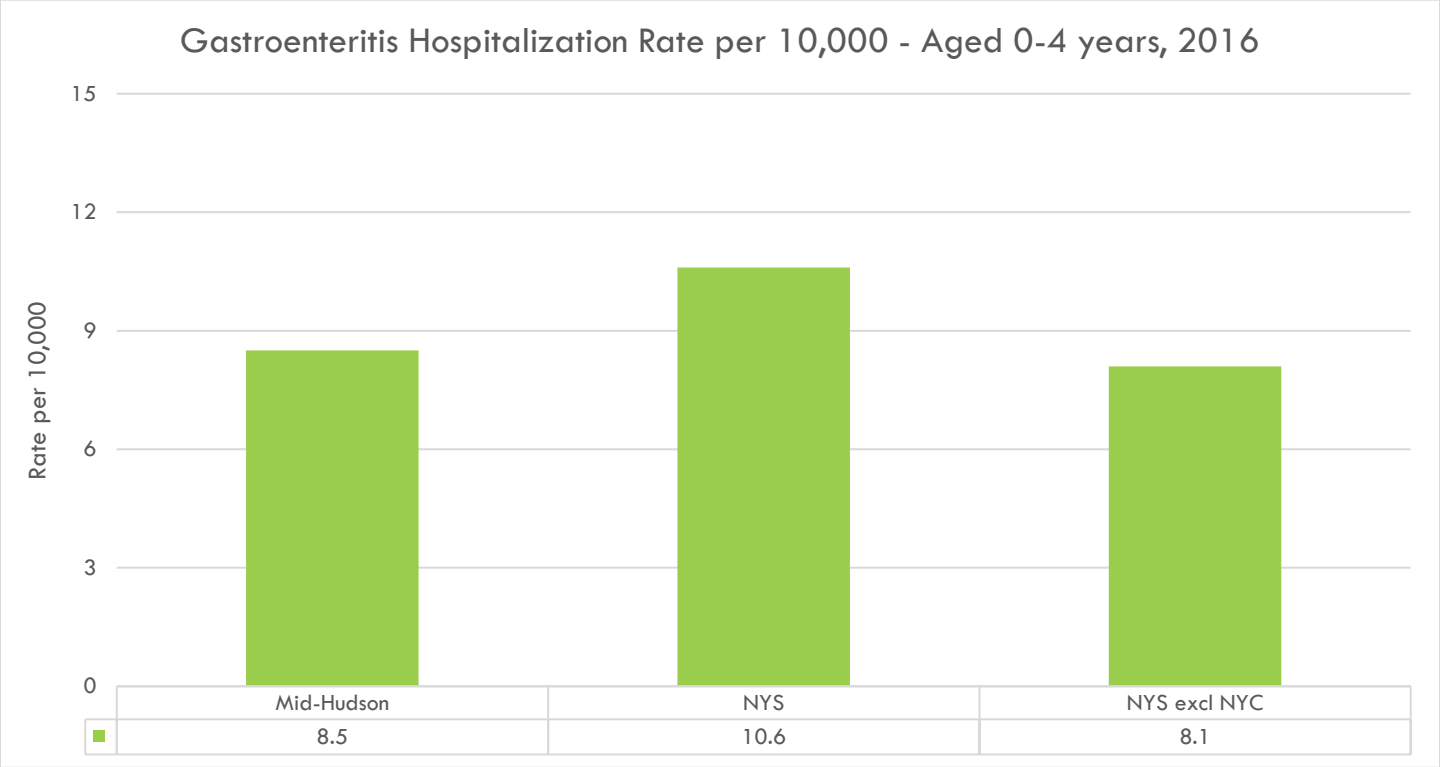
GASTROENTERITIS

Gastroenteritis is an intestinal infection that can affect children starting at a young age. It is typically a viral infection that causes fever, watery diarrhea, nausea, vomiting, and abdominal pain.[159] Viral infections are generally spread through contact with someone infected with the disease or by ingesting substances contaminated with the infection. Children are especially at risk at day care centers or at schools, as they can encounter other infected classmates.

In 2016, the hospitalization rates of gastroenteritis for children aged 0-4 years for most of the Mid-Hudson Region counties are unstable or did not meet reporting criteria. New York State had a slightly higher hospitalization rate compared to the Mid-Hudson Region and New York State excluding New York City [see Figure 292].

[159] Mayo Clinic, October 2018, https://www.mayoclinic.org/diseases-conditions/viral-gastroenteritis/symptoms-causes/syc-20378847, accessed July 2019

Figure 292



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

PNEUMONIA

Pneumonia is an infection that causes inflammation in the air sacs in one or both lungs. Pneumonia can be caused by bacteria, viruses, or fungi. It can lead to serious consequences in young children, as well as people over the age of 65. Symptoms of pneumonia include fever, cough, chest pain, and shortness of breath. Hospitalization, tobacco use, or having a weakened immune system can put people at a greater risk of developing pneumonia.[160]

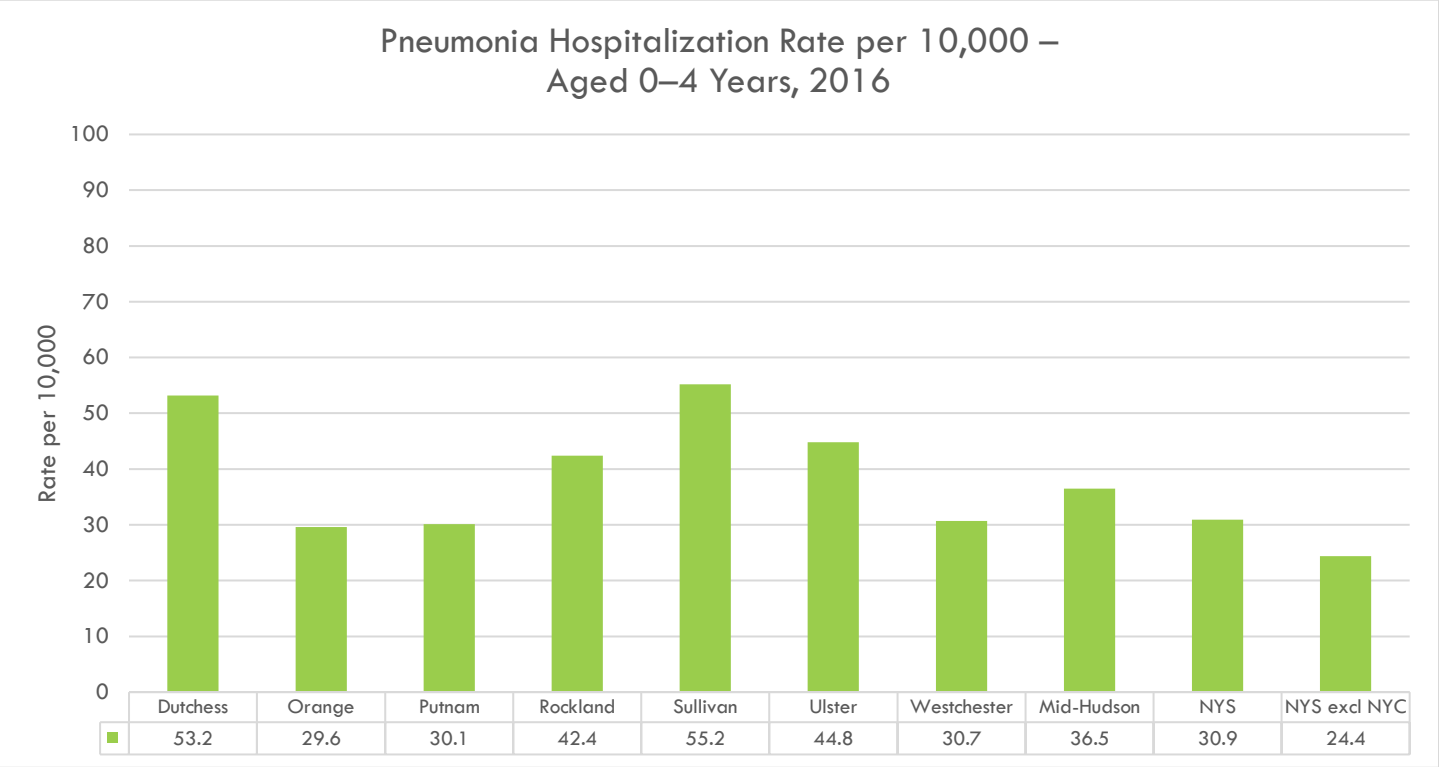
When looking at pneumonia hospitalization rates in 2016 among children aged 0-4 years, the Mid-Hudson Region had a higher rate compared to New York State and New York State excluding New York City (36.5 vs 30.9 and 24.4 per 10,000 population, respectively) [see Figure 293]. Sullivan and Dutchess Counties led in hospitalization rates compared to the other seven counties (55.2 and 53.2 per 10,000 population, respectively). From 2007 to 2014, there was a general decline in hospitalization rates in all 7 counties, with the exception of Dutchess County, where rates stayed relatively the same.[161]

It is important that children be vaccinated to prevent pneumococcal infection. For more information about vaccination rates, please see page 204.

[160] Mayo Clinic, March 2018, https://www.mayoclinic.org/diseases-conditions/pneumonia/symptoms-causes/syc-20354204, accessed July 2019

[161] NYSDOH Community Health Indicator Reports, June 2018, https://www.health.ny.gov/statistics/chac/indicators/index.htm, accessed July 2019

Figure 293



Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

ENVIRONMENTAL INDICATORS

SAFETY

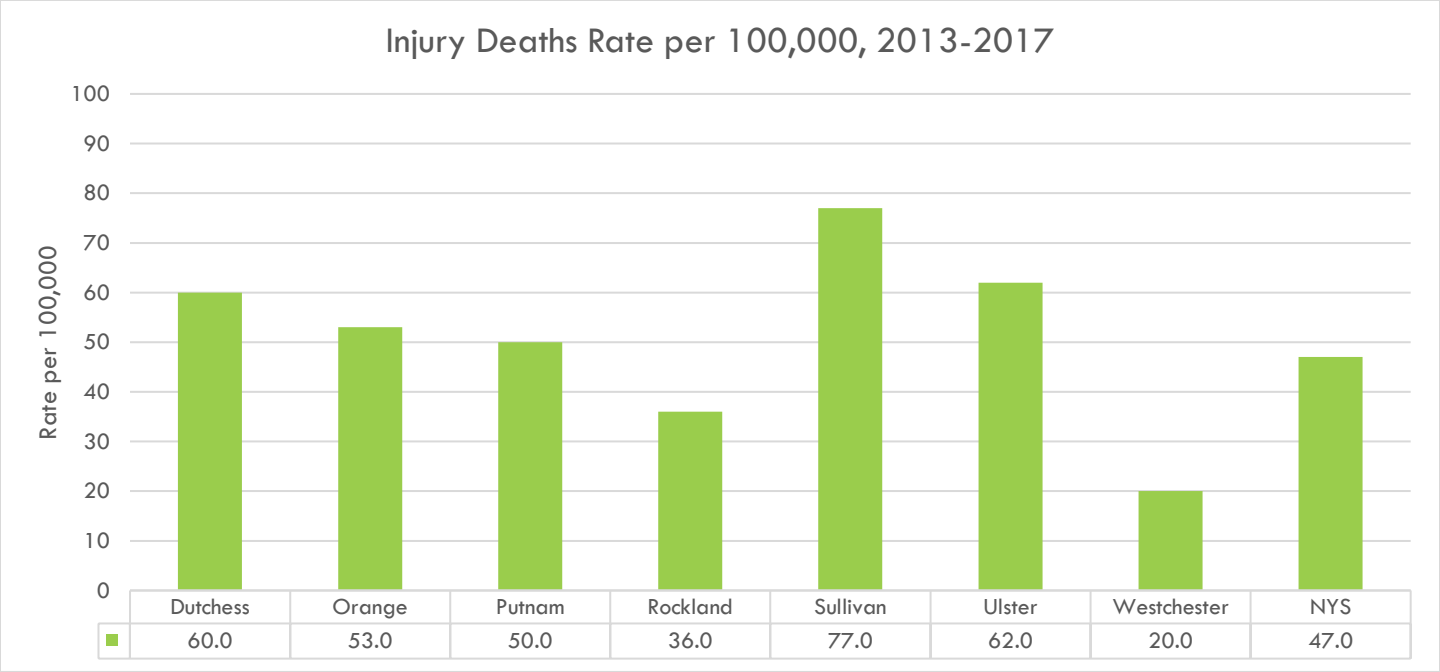
INJURY

Injury is one of the leading causes of death in New York State, killing more than 7,250 New Yorkers each year. For New Yorkers aged 1-44 years, injury is the number one cause of death. According to the NYSDOH, "Injuries occur in predictable patterns, with recognizable risk factors, and among identifiable populations."[162] Beyond death, consequences from injuries include financial burden, disability, poor mental health, and lost productivity.[163] Injury is often broken out into two categories: intrapersonal violence and unintentional injuries.

Intrapersonal violence can include homicide, sexual assault, and suicide [see page 287 for more information about suicide]. Unintentional injury can include traffic injuries, falls, drownings, and poisonings.

Sullivan County had the highest rate of injury deaths in the Mid-Hudson Region (77.0 per 100,000 population), while Westchester County had the lowest rate of injury deaths (20.0 per 100,000 population) [see Figure 294].

Figure 294



Source: CDC WONDER Mortality Data, 2013-2017
https://www.countyhealthrankings.org/app/new-york/2019/measure/factors/135/datasource

[162] NYS Department of Health, September 2017, https://www.health.ny.gov/prevention/injury_prevention/, accessed June 2019

[163] Office of Disease Prevention and Health Promotion, July 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/injury-and-violence-prevention, accessed 2019

POISONINGS

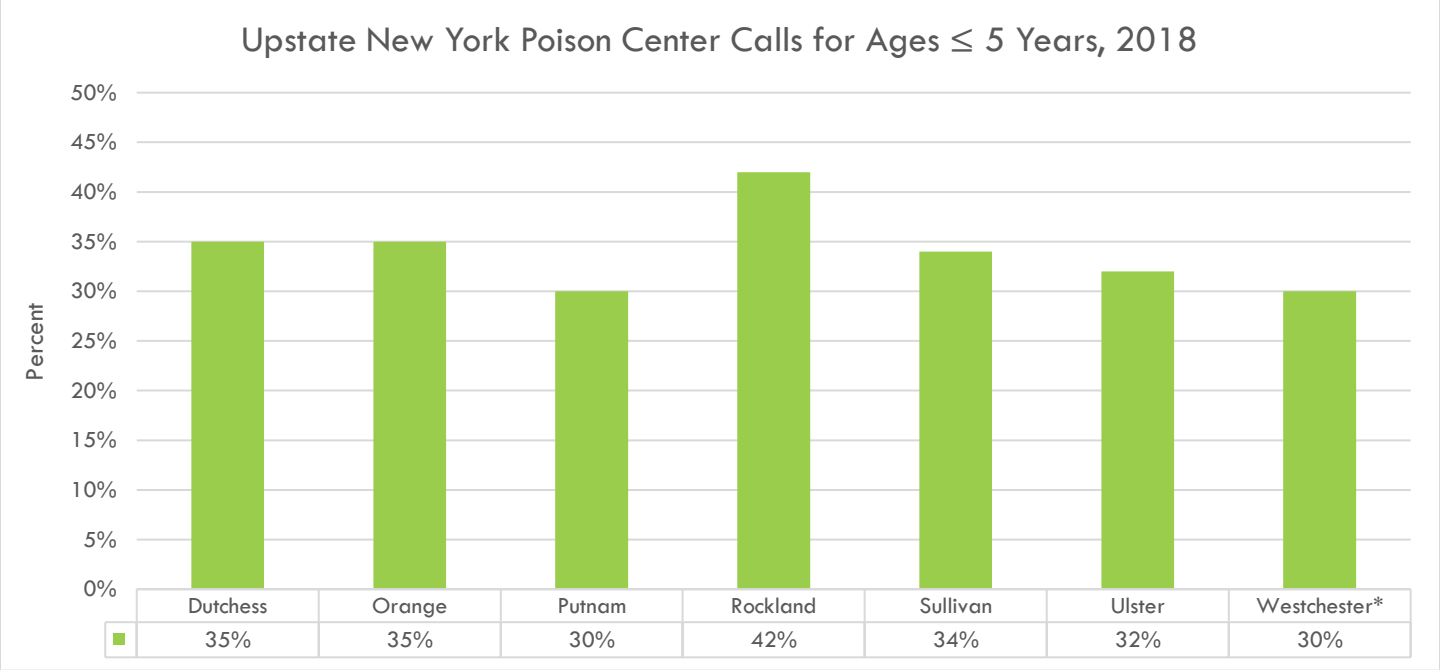
According to the CDC, poisoning is the leading cause of injury death in the U.S., with well over two million calls to poison centers nationwide, having surpassed motor vehicle injury since 2008. An unintentional poisoning occurs when a person taking or giving too much of a substance did not mean to cause harm. It includes drug overdoses, inadvertent ingestion of drugs or chemicals, and exposure to environmental substances.[164,165]

According to data from the upstate New York and the New York City poison centers, potential poisoning calls from the general public and health care facilities in New York State surpassed 100,000 calls in 2018. Poison centers manage cases from all age groups, as well as a vast array of poisoning agents, from medication to drugs of abuse. A high rate of calls pertain to children aged five years and under, a population not responsible for managing their own environment. Reflective of these data, most of these calls were managed at home without an unnecessary visit to an emergency care facility, reducing health care costs in New York State [see Figure 295 and Figure 296].

The Upstate New York Poison Center covers 54 counties in upstate New York. The New York City Poison Center services New York City, Long Island, and Westchester County. Dialing 1-800-222-2111 will put you in touch with the poison center in your area.

Information below reflects data from the Upstate New York Poison Center and the New York City Poison Center, as well as from the National Poison Data System.

Figure 295

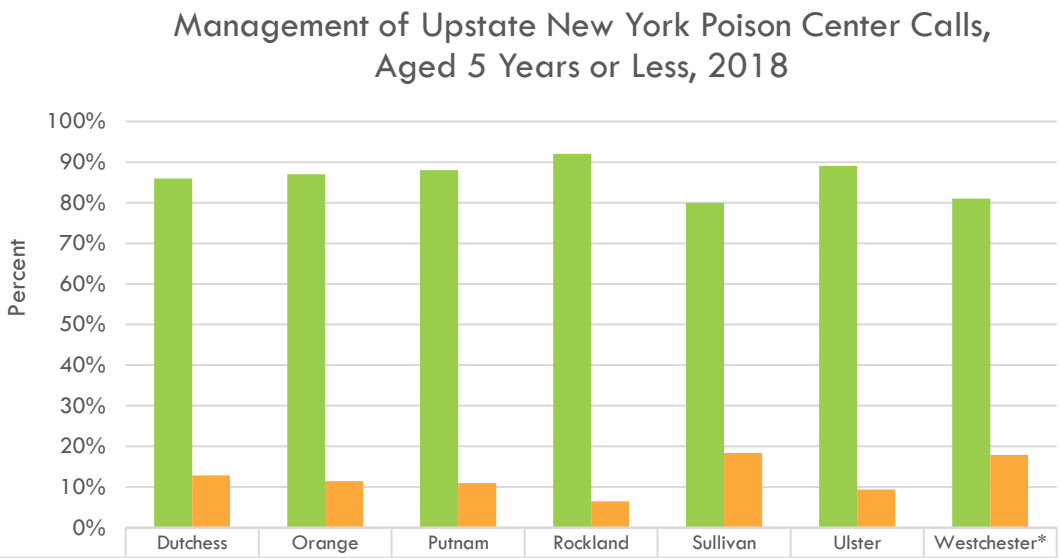


**Note: Data for Westchester provided by NYC Poison Center.*
Source: Upstate New York Poison Center, 2018
https://www.poison.org/poison-statistics-national

[164] National Safety Council, 2019, https://www.nsc.org/home-safety/safety-topics/other-poisons, accessed July 2019

[165] CDC, November 2015, https://www.cdc.gov/homeandrecreationalsafety/poisoning/index.html, accessed July 2019

Figure 296



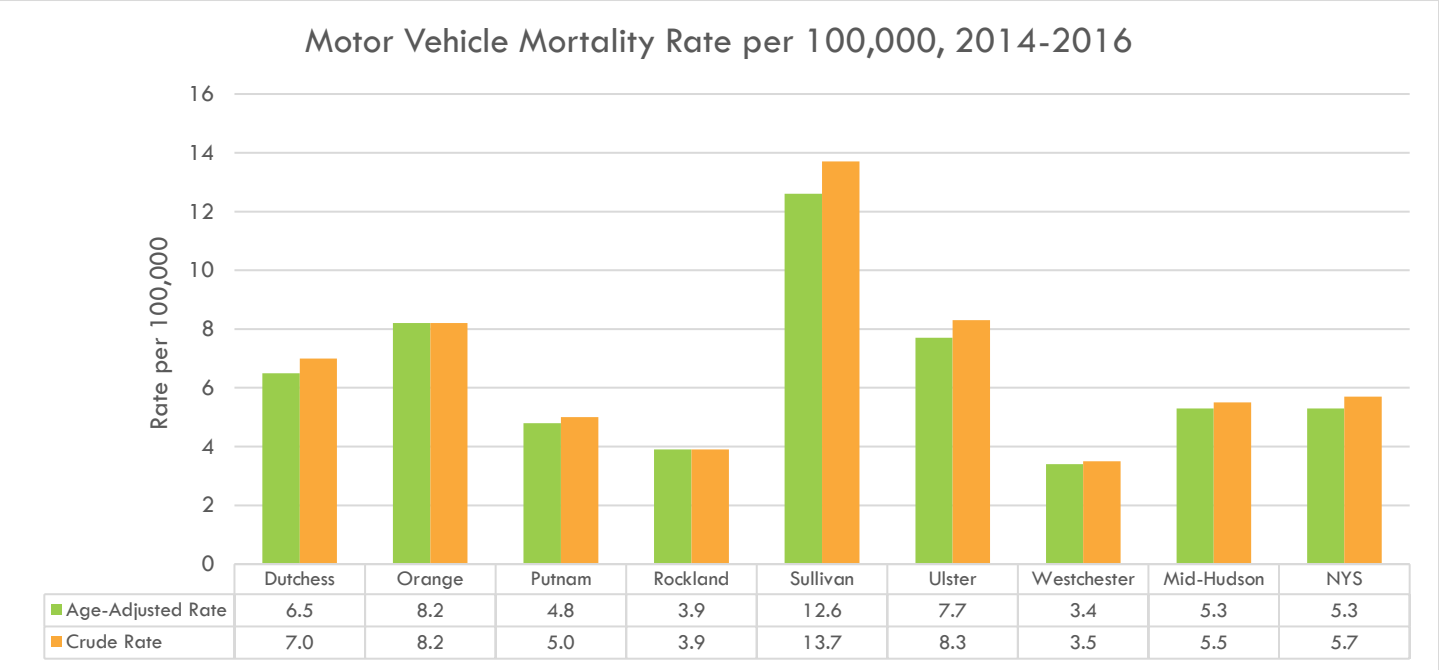
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester*
% of calls ages ≤ 5 managed at home with PC service	86%	87%	88%	92%	80%	89%	81%
% of calls managed in ED or other ages ≤ 5	13%	11%	11%	6%	18%	9%	18%

**Note: Data for Westchester provided by NYC Poison Center.*
Source: Upstate New York Poison Center, 2018
https://www.poison.org/poison-statistics-national

MOTOR VEHICLE ACCIDENTS

Motor Vehicle accidents are one of the leading causes of injury deaths for all age groups. According to the CDC, for every one person killed in a motor vehicle crash, eight people are hospitalized, and 99 people are treated and released from emergency departments (EDs).[166] Sullivan County had the highest rate of motor vehicle mortality in the Mid-Hudson Region at a crude-rate of13.7 per 100,000 . Sullivan County was also the only county that fell above the Healthy People 2020 goal of reducing motor vehicle crash-related deaths to 12.4 deaths per 100,000 population. Westchester County had the lowest motor vehicle mortality rate at 3.5 per 100,000 [see Figure 297].

Figure 297



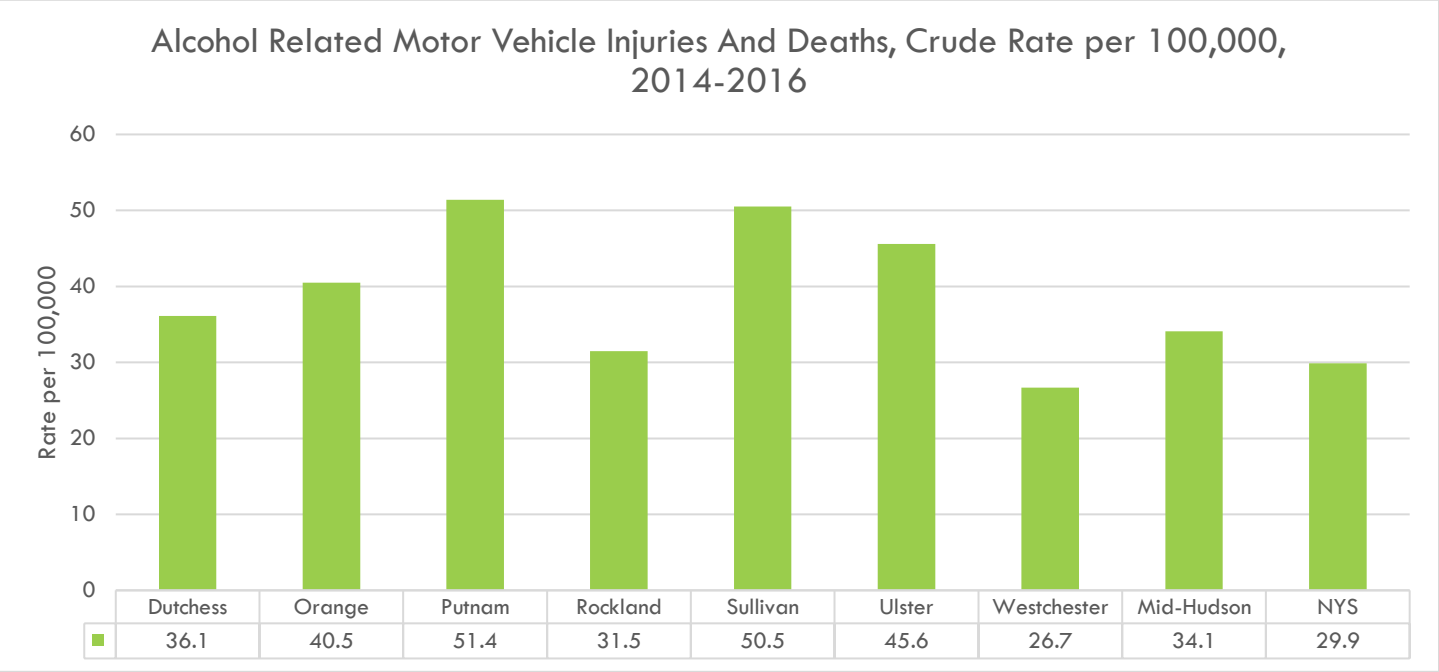
Source: NYSDOH Vital Statistics, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

Major risk factors for motor vehicle crash related deaths include drunk driving, speeding, and not using seat belts. Alcohol-related fatalities accounted for 25% of total crash fatalities in New York State. Those aged 21-29 years account for the largest proportion of drivers in alcohol related fatal and personal injury crashes.[167] In the Mid-Hudson Region, Putnam County had the highest rate of motor alcohol-related vehicle injuries and deaths at a rate of 51.4 per 100,000 population, while Westchester had the lowest rate at 26.7 per 100,000 population [see Figure 298].

[166] CDC, February 2019, https://www.cdc.gov/motorvehiclesafety/index.html, accessed June 2019

[167] Institute for Traffic Safety Management and Research, October 2018, https://www.itsmr.org/wp-content/uploads/2018/11/Alcohol-Crashes-2013-2017FINAL-Oct-2018.pdf, accessed June 2019

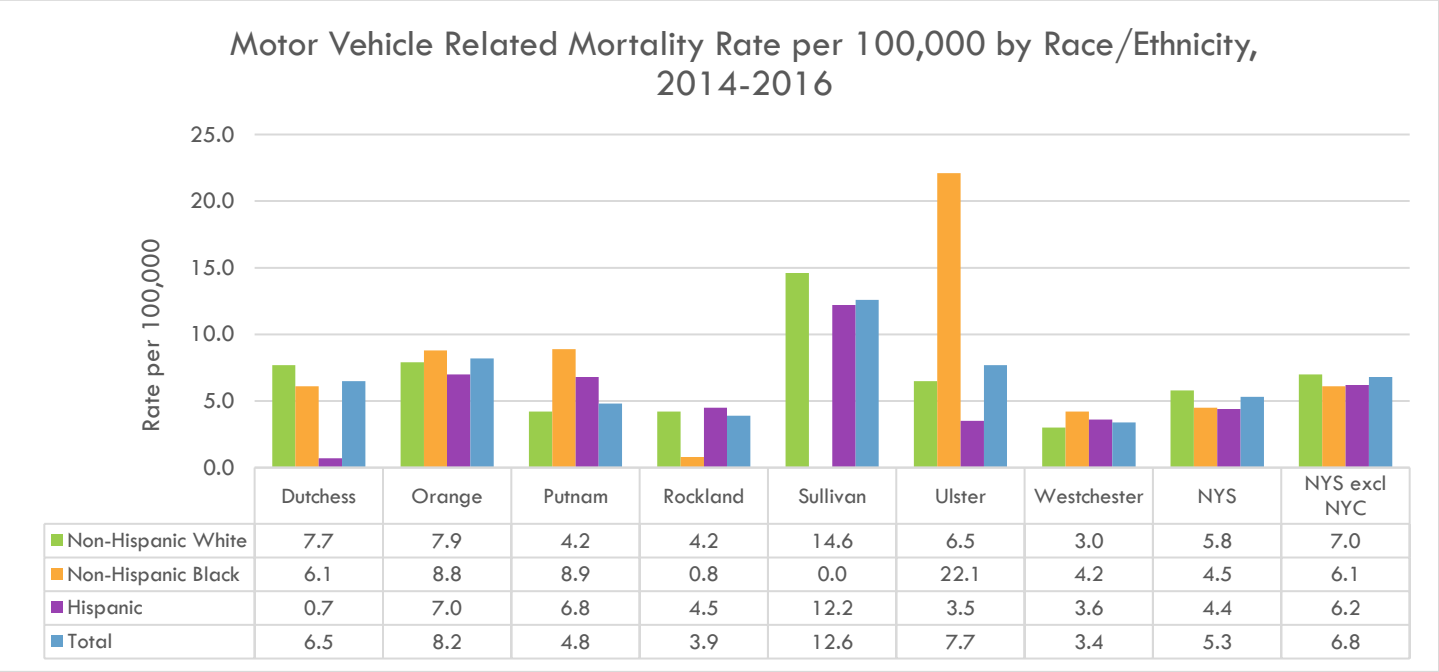
Figure 298



Source: NYS Department of Motor Vehicles Data, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

According to Figure 299, the non-Hispanic Black population in Ulster County had the highest motor vehicle mortality rate in the Region. The demographic with the lowest motor vehicle mortality rate was the non-Hispanic Black population in Sullivan County.

Figure 299



	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	7.7	7.9	4.2	4.2	14.6	6.5	3.0	5.8	7.0
Non-Hispanic Black	6.1	8.8	8.9	0.8	0.0	22.1	4.2	4.5	6.1
Hispanic	0.7	7.0	6.8	4.5	12.2	3.5	3.6	4.4	6.2
Total	6.5	8.2	4.8	3.9	12.6	7.7	3.4	5.3	6.8

Source: NYSDOH Vital Statistics, 2018
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

FALLS

Falls account for a significant risk of injury for all age groups. Older adults aged 65 years and older are at the greatest risk for falls with more than one out of four experiencing a fall each year.

Consequences of falls: [168]

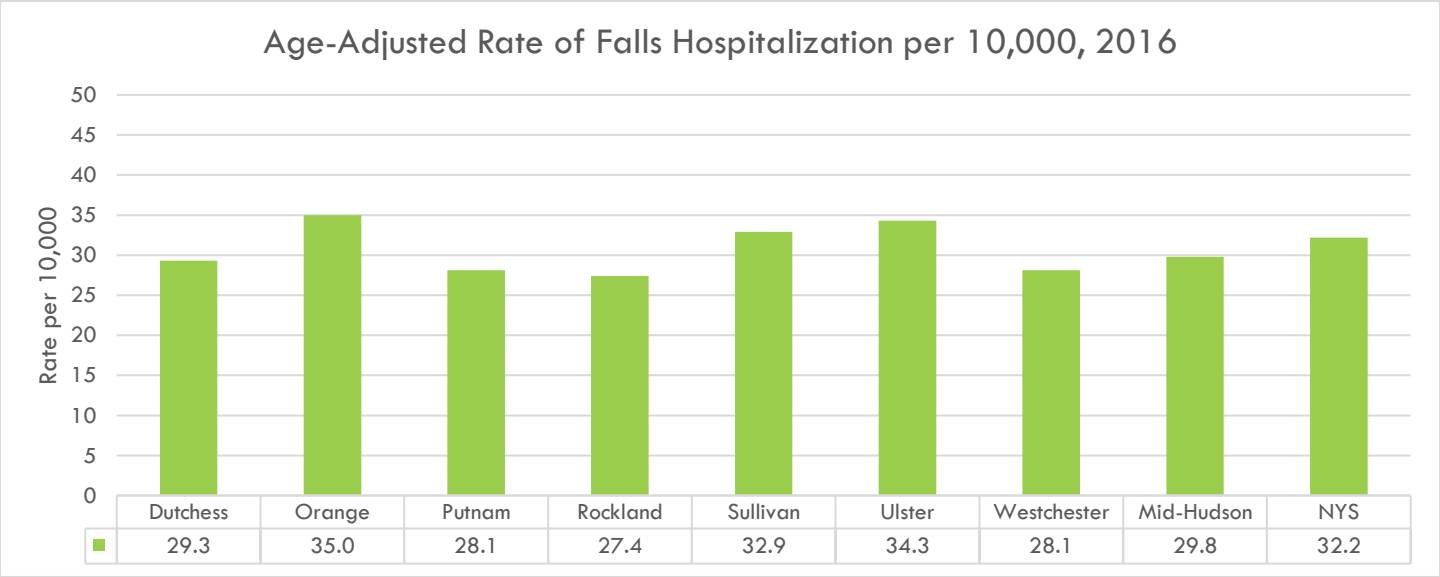
- Cause 95% of hip fractures
- Cause fear, which can lead to decreased physical activity
- Commonly cause traumatic brain injury
- Account for $50 billion in medical costs, 75% of which were covered by Medicare and Medicaid

Risk factors:[168]

- Lower body weakness
- Certain medications
- Poor vision
- Environmental hazards, such as broken steps, throw-rugs, and clutter
- Vitamin D deficiency

In the Mid-Hudson Region, Orange County had the highest rate of falls hospitalizations (35 per 10,000 population), while Rockland County had the lowest rate at 27.4 per 10,000 population. As a whole, the Mid-Hudson Region fell below the New York State average. Ulster, Sullivan, and Orange Counties however, were above the New York State average for this measure [see Figure 300].

Figure 300



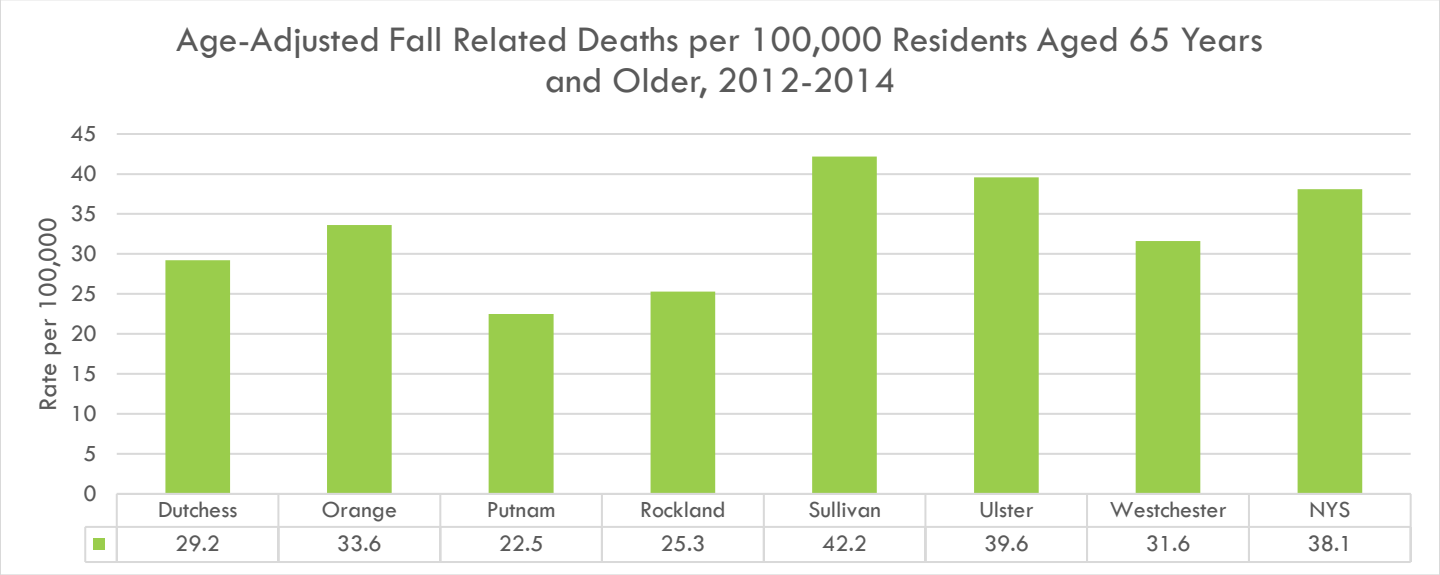
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

[168] CDC, February 2017, https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html, accessed 2019

The Healthy People 2020 target aims to reduce the rate of deaths due to falls for those aged 65 and older to 47.0 per 100,000 population. Currently, New York State, the Mid-Hudson Region, and every county in the Region fall below the target [see Figure 301].

The county with the highest fall related deaths for residents aged 65 years and older was Sullivan County, with a rate of 42.2 per 100,000 population (note this rate is unstable). The county with the lowest fall rate for this demographic was Putnam County, with a rate of 22.5 per 100,000 population (note that this rate is unstable). The counties with the highest and lowest stable rates were Ulster County and Rockland County, respectively [see Figure 301].

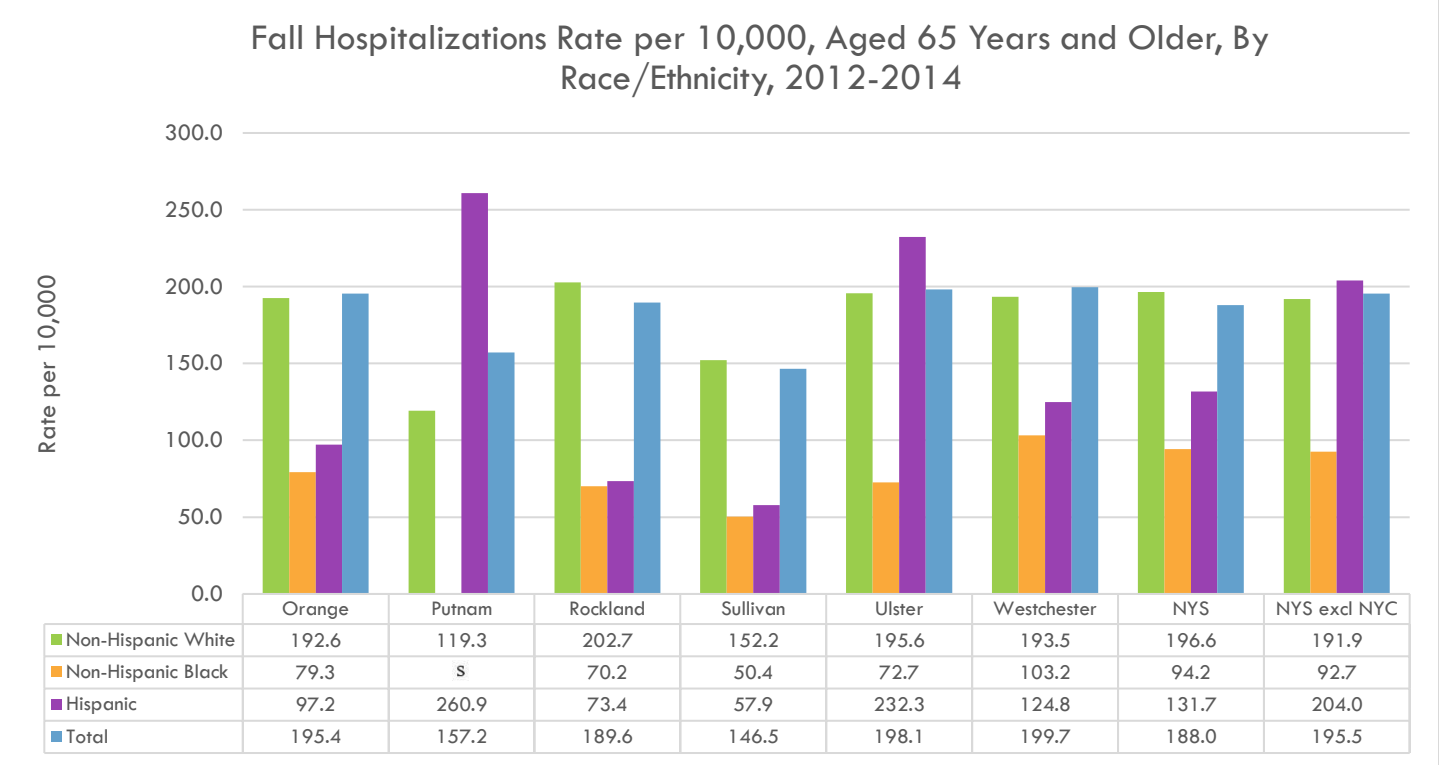
Figure 301



** Rates calculated using frequencies of less than 20 (three year total) are unstable.*
Source: NYSDOH Bureau of Occupational Health and Injury Prevention, 2012-2014
https://www.health.ny.gov/statistics/prevention/injury_prevention/docs/falls_deaths65+county.pdf

When broken down by race/ethnicity, the Hispanic population in Putnam County had the highest rate of fall related hospitalizations in the Region at 260.9 per 100,000 population. The Non-Hispanic Black population in Sullivan County had the lowest rate at 50.4 per 100,000 population [see Figure 302].

Figure 302



	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	NYS	NYS excl NYC
Non-Hispanic White	192.6	119.3	202.7	152.2	195.6	193.5	196.6	191.9
Non-Hispanic Black	79.3	s	70.2	50.4	72.7	103.2	94.2	92.7
Hispanic	97.2	260.9	73.4	57.9	232.3	124.8	131.7	204.0
Total	195.4	157.2	189.6	146.5	198.1	199.7	188.0	195.5

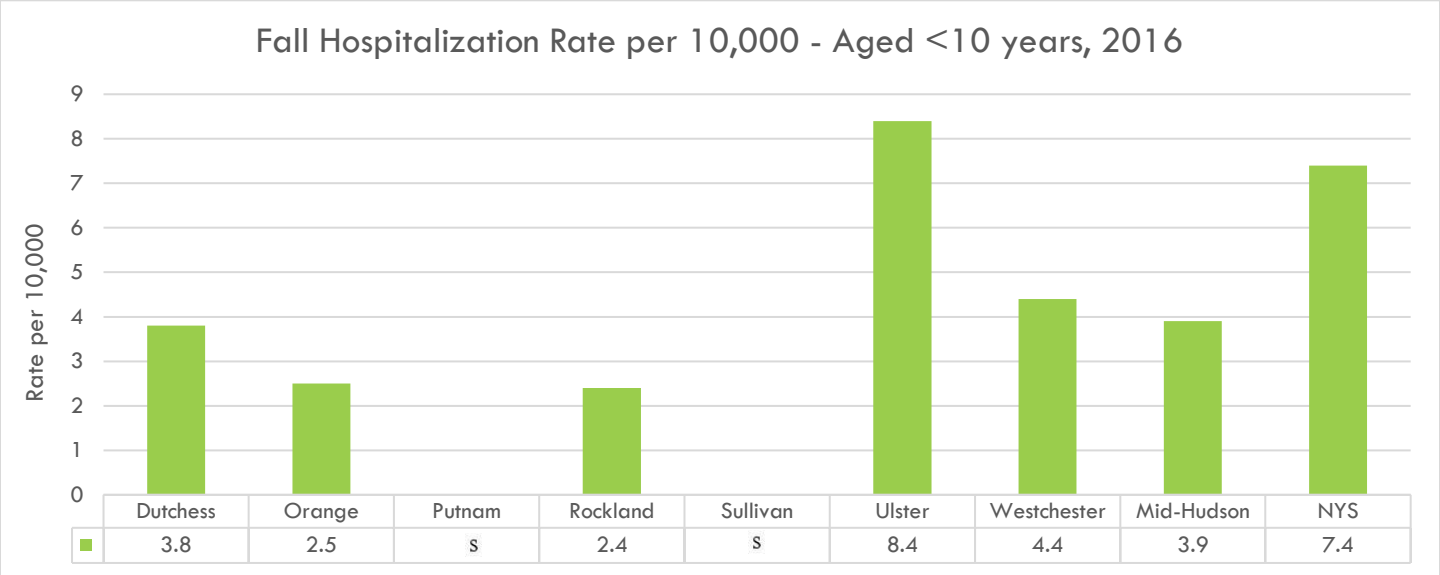
Note: Dutchess County is not shown as data either did not meet the criteria for statistical reliability or data quality, or data is not available.
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH County Health Indicators by Race/Ethnicity (CHIRE): https://www.health.ny.gov/statistics/community/minority/county/index.htm

YOUNG CHILDREN

For children aged 0-14 years, falls are the number one cause of hospitalized injury.[169] Fall related injuries for this age range are commonly connected to playground and sports activities.

For those aged 10 years and younger, Rockland County had the lowest rate of fall hospitalizations in the Mid-Hudson Region at 2.4 per 10,000 population. Ulster County had the highest rate of fall hospitalizations in the Region at 8.4 per 10,000 population. This is more than double the rate for the Mid-Hudson Region as a whole (3.9 per 10,000 population). The New York State average for this measure was 7.4 per 10,000 population. The only county that fell above this rate in the Region was Ulster County [see Figure 303].

Figure 303



s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: NYSDOH Statewide Planning and Research Cooperative System, 2017
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

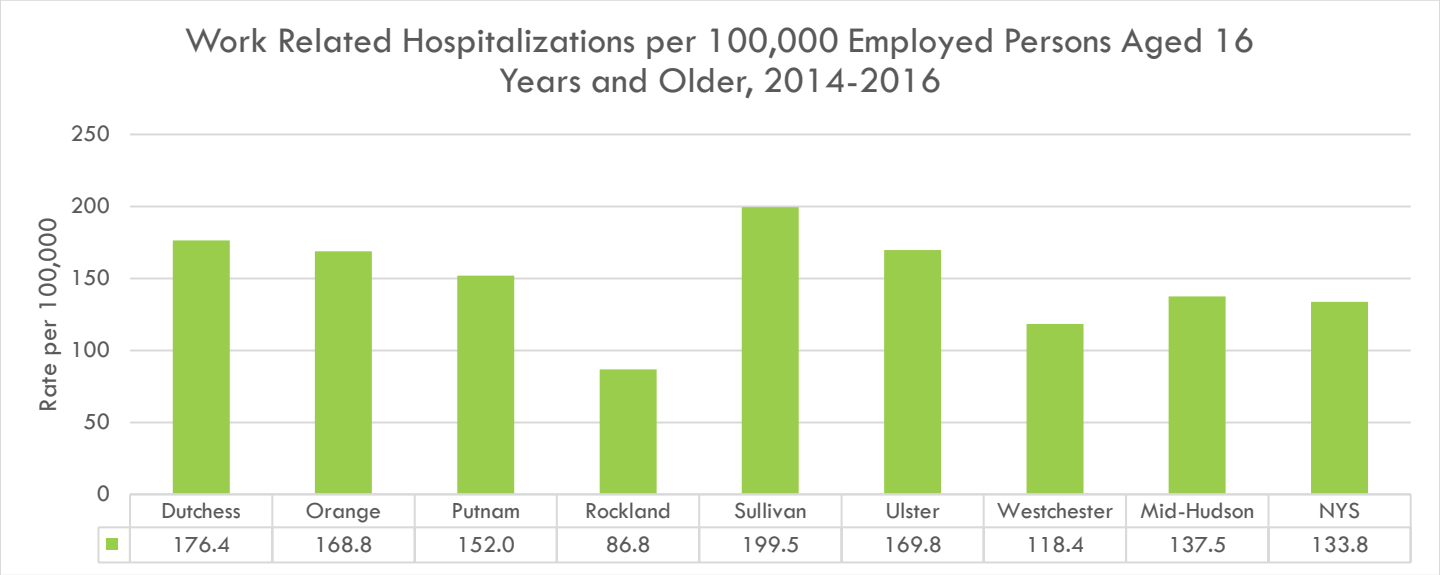
WORKPLACE INJURIES/ACCIDENTS

According to the National Safety Council, the three leading causes of work related injuries include overexertion and bodily reaction; contact with objects and equipment; and slips, trips and falls. These account for 85% of all nonfatal injuries.[170] Injuries in the workplace lead to missed days of work, as well as direct costs to businesses. Construction, agriculture, public safety, and health care are high-risk industries for injury in the workplace.[171]

From 2014 to 2016, Sullivan County had the highest rate of work related hospitalizations at 199.5 per 100,000 population. This was more than double that of Rockland County, which had the lowest rate at 86.8 per 100,000 population. As a whole, the Mid-Hudson Region had a slightly higher hospitalization rate than New York State (137.5 versus 133.8 per 100,000 population, respectively) [see Figure 304].

[169] Children's Safety Network, February 2016, https://www.childrenssafetynetwork.org/infographics/falls-hospitalizations, accessed June 2019
[170] National Safety Council, 2017, https://injuryfacts.nsc.org/work/work-overview/top-work-related-injury-causes/, accessed June 2019
[171] CDC, December 2018, https://www.cdc.gov/niosh/programs/ti/burdenandneed.html, accessed June 2019

Figure 304



Source: NYSDOH Statewide Planning and Research Cooperative System, 2018
NYSDOH Community Health Indicator Reports (CHIRS): https://www.health.ny.gov/statistics/chac/indicators/index.htm

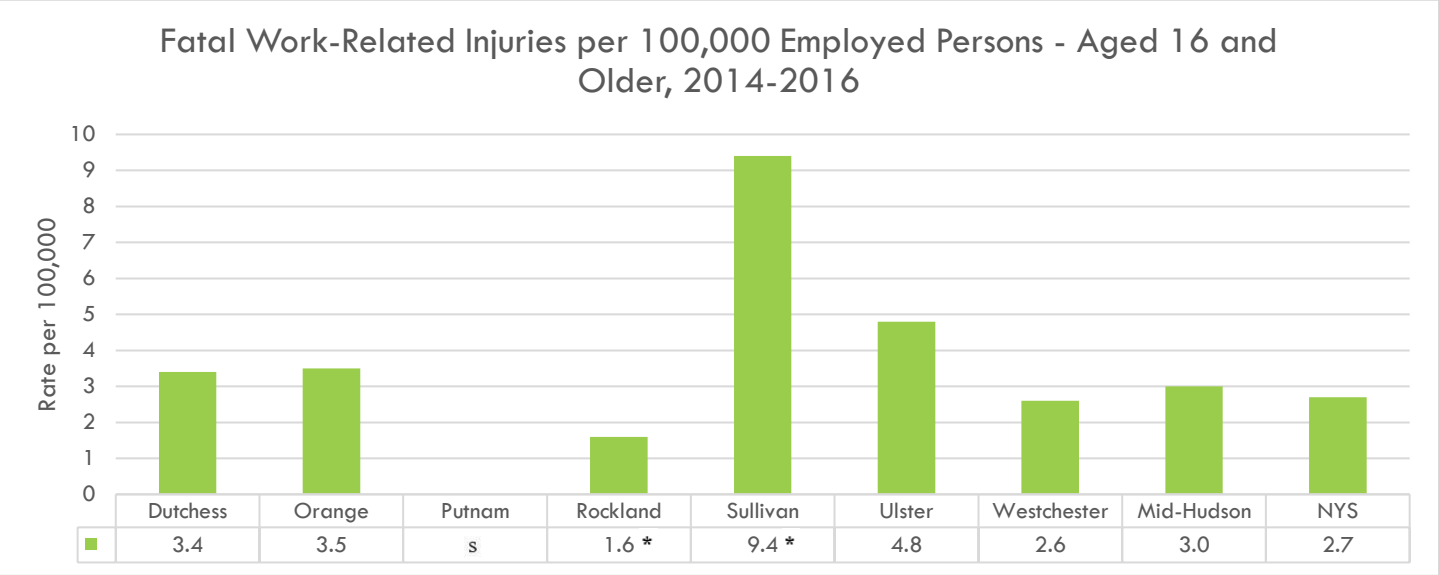
Data concerning work related injuries and fatalities can be used to assess and compare risks to certain groups of workers. Nationally, men make up a significantly larger share of workplace fatalities than women. In 2016, men had a fatal work injury rate of 5.8 per 100,000 full time equivalent hours compared to women who had a rate of 0.6. The largest portion of fatal injury events for men were caused by roadway incidents. Homicide made up the largest proportion of fatal injury events for women, the majority of which were committed by a relative or domestic partner.[172]

Nationally, disparities can also be seen between age groups. In 2016, the largest number of fatal work injuries came from those aged 45-64 years. However, workers aged 65 years and older had the highest rate or fatal injuries comparted to other age groups. Fatal occupational injuries by selected characteristics in New York State can be viewed on the Bureau of Labor and Statistics website:
https://www.bls.gov/iif/oshwc/cfoi/tgs/2017/iiffw69.htm

For those aged 16 and older, Sullivan County had the highest rate of fatal work related injuries at 9.4 per 100,000 population (note this rate is unstable). Rockland County had the lowest rate at 1.6 per 100,000 population (note this rate is unstable). The counties with the highest and lowest stable rates for this measure were Ulster and Westchester respectively. The rate of fatal work-related injuries for the Mid-Hudson Region (3.0 per 100,000 population) was slightly higher than that of New York State (2.7 per 100,000 population) [see Figure 305].

[172] Bureau of Labor Statistics, 2017, https://www.bls.gov/iif/oshwc/cfoi/cfch0015.pdf, accessed June 2019

Figure 305



*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: Bureau of Occupational Health and Injury Prevention, 2018
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=sh

DOMESTIC VIOLENCE/ INTRAPERSONAL VIOLENCE

Intimate partner violence, or domestic violence, refers to physical, sexual, or psychological harm caused by a current or former partner, or a spouse.[173] Intimate partner violence can have both physical and mental health consequences. It has been linked to PTSD, depression, and traumatic brain injury. It is also associated with increased vulnerability to STIs and HIV due to forced intercourse or stress. Those who have experienced intimate partner violence are also thought to engage in risky behaviors, such as binge drinking and smoking.[174] Intimate partner violence also threatens the economic stability of victims.[174] Victims lose workdays and can face job loss due to consequences of abuse. Also, abusers often use finances as a tool to control their partner by controlling their money.

New York State has a Domestic and Sexual Violence Hotline (1-800-942-6906), which serves as a resource for victims of domestic and sexual violence, professionals, and those who are concerned for others. Outside of New York City and Long Island, which accounted for 56% of the volume of calls, the counties with the highest volume of calls to the hotline were the following: Albany County (17%), Erie County (14%), Westchester County (10%), Orange County (9%), Monroe County (4%), Dutchess County (4%), and Schenectady County (4%).[175]

[173] CDC, October 2018, https://www.cdc.gov/violenceprevention/intimatepartnerviolence/index.html, accessed June 2019

[174] National Coalition Against Domestic Violence, 2019, https://ncadv.org/statistics, accessed June 2019

[175] Office for the Prevention of Domestic Violence, 2017, https://opdv.ny.gov/help/hotline/data/hotlinedata2017.pdf, accessed June 2019

Domestic violence victim counts from the New York State Division of Criminal Justice Services include reports of aggravated assault, simple assault, sex offense, and violations of an order of protection perpetrated by intimate partners [see Figure 306].

Figure 306

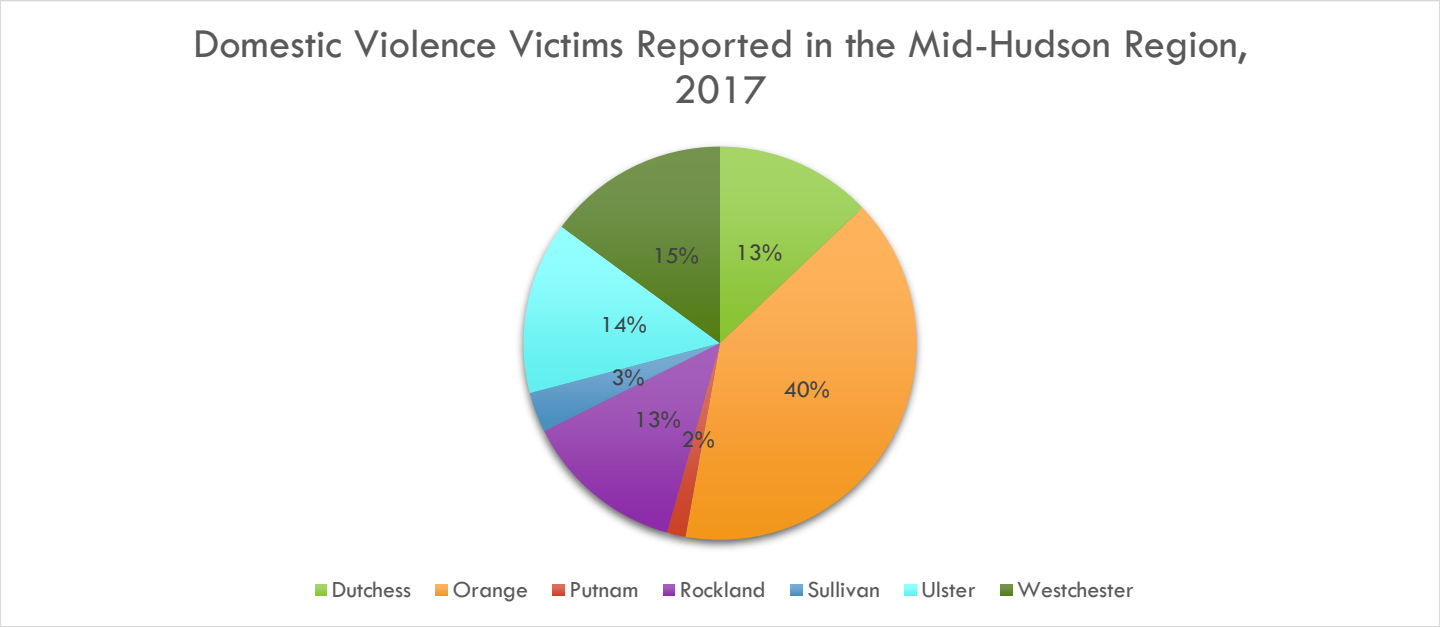


Table 29

Domestic Violence Victims Reported in the Mid-Hudson Region, 2017								
	Dutchess	Orange	Putnam	Rockland	Sullivan	Ulster	Westchester	Mid-Hudson Total
Count	481	1489	57	495	123	529	556	3,730

Source: NYS Division of Criminal Justice Services
https://www.criminaljustice.ny.gov/crimnet/ojsa/domesticviolence2017/index.htm

COUNTY HEALTH SUMMARIES

DUTCHESS COUNTY HEALTH SUMMARY

Dutchess County is in the center of the Hudson Valley, midway between New York City and New York State's capital, Albany. Dutchess County is bordered by Columbia County to the north and Putnam County to the south. The western border includes 30 miles of Hudson River shoreline with Connecticut, forming the eastern border. Dutchess County is 825 square miles, made up of 30 municipalities, consisting of 20 towns, eight villages, and two cities, Poughkeepsie (the county seat) and the city of Beacon. The southwestern region of Dutchess County is the most densely populated part of the County and includes the cities of Beacon and Poughkeepsie. The rest of the County is predominantly suburban and rural. Dutchess County has a population of almost 300,000, with a majority of residents aged 35-64 years. In Dutchess County, 43% of adult residents are estimated to have a chronic health condition, and 10.5% of adults report having poor physical health (Mid-Hudson Region Community Health Survey, 2019 & BRFSS, 2016). 15% of adult Dutchess County residents are estimated to have a mental health condition or substance or alcohol use disorder, while 13.7% of adults report having poor mental health (Mid-Hudson Region Community Health Survey, 2019 & BRFSS, 2016).

AREAS OF FOCUS

In Dutchess County, there is a strong need to focus on factors of chronic disease, mental health, and behavioral health. 43% of Dutchess County adults are estimated to have a chronic health condition, including (but not limited to) hypertension, diabetes, high cholesterol, asthma, arthritis or obesity. Those with a mental health condition, including (but not limited to) depression, anxiety, mood disorder, or substance or alcohol use disorder, are also more likely to have a chronic health condition than those without. Due to the interrelatedness of both physical and mental well-being, it is important to focus not only on physical health, but on mental health as well. Within both sectors, there are several disparities that exist, mainly between the more urban-suburban western side of the County and the rural eastern side, between non-Hispanic White residents and non-Hispanic Black and Hispanic residents, and between those who have multiple health conditions and those who do not. These disparities can be seen in the rates of preventable hospitalizations, premature death, opioid overdose, and reported poor mental health. In order to combat these issues, it is important that the residents of Dutchess County have the confidence and support from sufficient, competent health providers to manage their health.

Areas of focus should include (but not be limited to):

- Preventable Hospitalizations for Chronic Conditions
- Cardiovascular Disease
- Obesity
- Poor Mental Health
- Opioid Overdose
- Behavioral Health, including diet/exercise, smoking, alcohol & drug use

EMERGING ISSUES

While not affecting as a large a population as the issues mentioned above, STI rates are increasing in Dutchess County. Although numbers are small, Dutchess County (with other counties in the Hudson Valley) is seeing a significant increase in the rate of primary and secondary syphilis, especially amongst individuals with an HIV diagnosis. The rates of chlamydia and gonorrhea infection are also noted to be elevated in recent years. Similarly, as aforementioned, these increases can be tied to behavioral health practices.

When reviewing communicable diseases, it is important to address the preventive immunity that vaccines can provide. With recent outbreaks of vaccine preventable disease in the Hudson Valley, it is critical to emphasize the maintenance of immunity through the recommended vaccine schedule for both children and adults.

Additionally, as seen in the U.S. and New York State, the rate of suicide deaths has been increasing steadily within Dutchess County. This reflects the poor mental health of Dutchess County residents and the need for stronger mental and behavioral health resources, such as providers and services, as well as a need for increased social capital.

Emerging issues include:

- STIs- Syphilis, Chlamydia, Gonorrhea
- Immunizations
- Suicide

COMMUNITY SURVEY DATA POINTS OF NOTE

- About half (54%) of Dutchess County respondents who reported having a mental health condition said that they visited a mental health provider within the last year. There is a disparity between the western and eastern sides of the County, with fewer residents in the rural eastern side of the County reporting visiting providers (58% western, 40% eastern).
- The most common reason for people not going to either a physical or mental health provider within the last year was they "chose not to go", followed by "not having enough money" or "insurance to see a provider." However, the proportion of Dutchess County residents who "chose not to go" to a provider was smaller than that of the Mid-Hudson Region.
- Of those with a mental health condition, those on the rural eastern side reported being less confident than those on the western side in managing their mental health condition. A disparity also exists between non-Hispanic White and non-Hispanic Black or Hispanic residents, with non-Hispanic White residents reporting more confidence in their ability to manage their mental health condition.
- Those on the eastern side of the County reported that there is not sufficient mental health providers and that they were less likely to get where they needed to using public transportation.
- The proportion of Dutchess County residents reporting chronic or mental health conditions is similar to that of the Mid-Hudson Region.

ASSETS AND RESOURCES

Through the CHA Collaborative between HealtheConnections and the LHDs of the Hudson Valley, a Mid-Hudson Region Community Health Survey was conducted to assess various topics related to health and priorities put forward by New York State, including healthy aging, health across all policies, and items from the Prevention Agenda. In addition to the Mid-Hudson Region Community Health Survey, focus groups with providers that serve underrepresented populations were held. These focus groups consisted of agencies that provide services, such as mental health support, vocational programs, or household resources to individuals belonging to LGTBQ, low-income, veteran, senior, homeless, or other niche populations. The purpose of the focus groups was to collect information on the issues specific to individuals who may be dealing with more complex health issues than the general population.

A summary of the results of the Mid-Hudson Region Community Health Survey and the provider focus groups was disseminated at an annual Community Health Improvement Plan (CHIP) Forum. The Forum partners in the current CHIP, as well as members of committees associated with the Dutchess County Department of Behavioral & Community Health (DBCH), including (but not limited to) representatives from national associations, local county departments, hospital and health care systems, local universities, non-governmental organizations, non-profit advocacy groups, and the general public. The Forum also included break-out sessions consisting of different topic areas aligned with the NYS Prevention Agenda, where participants discussed the results of the Survey and focus groups. Additionally, they brainstormed initiatives that they would like to take in the next CHIP cycle (2019-2021). Through collaboration with CHIP partners, workgroups operate to close the gap on health disparities in the County and Region. Current initiatives include work addressing obesity, tobacco use, suicide, and drug use. Working with various county departments and non-county partners allows for a broad, "health in all policies" approach to the issues addressed in the CHA and CHIP.

EFFORTS MOVING FORWARD

To address and improve community health, the DBCH will submit a CHIP at the end of 2019. Based on the NYS Prevention Agenda, the Plan will outline the priority and focus areas for the next three years. It will also include interventions, appropriate process, and outcome metrics. To develop the Plan, an internal review committee of various DBCH staff from a variety of disciplines will review the CHA and determine the priority areas. With the selection of the priority areas, workgroups with community partners related to those areas will be convened or created (if a novel priority area is selected). The workgroups are then charged with selecting the focuses within the priority areas. Upon selection of the focus areas, interventions with baseline measures, process measures, and outcome measures will be developed. With the CHA completed in Summer 2019, we anticipate the selection of the priority areas, focus areas, interventions, and measures in Fall 2019.

ORANGE COUNTY HEALTH SUMMARY

Orange County is located in the southeastern area of New York State, bounded on the east by the Hudson River and on the west by the Delaware River. It is located approximately 40 miles north of New York City with 40 municipalities and approximately 378,174 residents in 2017. Of Orange County residents, 50.1% are male, 68.5% are non-Hispanic White, 9.7% are non-Hispanic Black and 19.7% are Hispanic. Orange County is a mix of urban, suburban, farmland and rural areas. 24.0% of the population resides in rural areas, twice the average of New York State. Agriculture is a leading industry in Orange County and constitutes more than half of the County's open space. The availability of multiple modes of transportation, including bus, train and major highways, allow residents to travel to New York City, New Jersey, and Southern New York State for employment. Orange County also contains New York Stewart International Airport in Newburgh, NY and West Point Military Academy in Highland Falls, NY. At first glance, Orange County appears to be an affluent suburban community that enjoys a median household income above the New York State average ($75,146 vs. $62,765, respectively); a smaller percentage of individuals living below the poverty line (12.2% vs. 15.1% respectively); a smaller unemployment rate (5.6% vs. 6.6%, respectively); and boasts a higher percentage of high school graduates as compared to New York State (89.6% and 86.1%, respectively). However, aggregate county data are misleading and masks the disparities within the County. The urban areas of Orange County are characterized by severe socioeconomic and health inequities, with one-third of the population living below the poverty line and residing in the three major cities (Newburgh, Middletown, and Port Jervis).

AREAS OF FOCUS

Heart disease and cancer are the leading causes of death and leading causes of premature death (death before age 75) by a large margin. Obesity is a leading contributor to these top causes of death, as well as diabetes, stroke, and hypertension, all of which can lead to premature death. According to 2016 BRFSS data, nearly 70% of Orange County adults are either overweight or obese. Data from 2016-2018 show that 36.8% of school-aged children and adolescents are overweight or obese. Over the past ten years, the rates of obesity have continually grown, as well as the subsequent morbidity of cardiovascular disease, prediabetes, and hypertension.

STIs are on the rise in Orange County. There has been a 75% increase in the average number of newly diagnosed HIV cases in Orange County from 17.2 per year (2011-2015) to 26.3 per year (2016-2018). Chlamydia rates among both males and females from 2014-2016 are higher in Orange County than rates in the Mid-Hudson Region, and have steadily increased or remained the same from 2011-2013 to 2014-2016. Additionally, Orange County had its first fetal demise in 2019 from congenital syphilis in over 25 years.

Other health areas where Orange County is worse than New York State or getting worse since the last assessment include:

- Overdose deaths due to opioid and heroin use
- Premature births among non-Hispanic Black women and Hispanic women
- Preventable adult hospitalizations
- Youth-reported alcohol and electronic vaping product use
- Unintended pregnancy among non-Hispanic Black women and Hispanic women

EMERGING ISSUES

- STIs, including chlamydia, syphilis, and HIV
- Opioid burden, including hospitalizations, overdoses, and deaths
- Youth-reported electronic vaping product use
- Prediabetes among adults

COMMUNITY SURVEY DATA POINTS OF NOTE

As part of the Community Health Assessment Process, the Orange County Department of Health (OCDOH) participated in the Mid-Hudson Region Community Health Survey, in partnership with the six other Mid-Hudson Region local health departments, HealtheConnections, and area hospitals, to collect data on 850 residents to help better characterize the needs of the community. Below are data points of note:

- 81% of Orange County respondents reported that accessible and convenient transportation was “very important” or “somewhat important” to them
- 80% of Orange County respondents reported that people may have a hard time finding a quality place to live due to the high cost of living
- 39% of Orange County respondents living in rural areas reported that places in Orange County did not feel safe vs. 54% of Orange County respondents living in urban zip codes

- 27% of Orange County respondents with <$25K yearly income reported experiencing a mental health condition or substance or alcohol use disorder compared to 14% of total Orange County respondents
- 28% of Orange County respondents with <$25K yearly income reported that in the past 12 months, they or any other member of their household has been unable to get food compared to 11% of total Orange County respondents
- 35% of Orange County respondents with <$25K yearly income reported that in the past 12 months, they or any other member of their household has been unable to get medicine compared to 14% of total Orange County respondents

ASSETS AND RESOURCES

OCDOH has strong community partnerships with hundreds of organizations serving its residents, including five area hospitals, federally qualified health care centers, private medical providers, local two-year and four-year colleges, a medical school, community-based organizations, and regional organizations serving a broad variety of community needs. OCDOH has established multiple coalitions, including Healthy Orange, the Maternal and Infant Community Health Collaborative, Orange County Health Disparities Initiative Planning Committee, and the Orange County Cancer Screening Collaborative, in addition to co-leading and participating on a large number of countywide coalitions, such as Changing the Orange County Addiction Treatment Ecosystem, WELCOME Orange, and the Resilience Project. These coalition partners will be mobilized to address the health areas of focus and emerging issues for the CHA/CHIP 2019-2021 cycle.

EFFORTS MOVING FORWARD

In addition to participating in the Mid-Hudson Region Community Health Survey, a service provider survey and subsequent focus group were conducted in March 2019, in partnership with the Joint Membership of Health and Community Agencies (JMHCA), to collect data on underrepresented populations, including low-income, veterans, persons experiencing homelessness, the aging population, LGBTQ community, and people with a mental health diagnosis or those with a substance use disorder. 41 responses were collected and three underlying issues that impact the health of the populations served by their agencies were identified as follows: 1) Access to affordable, decent and safe house; 2) Access to affordable, reliable public and personal transportation; and 3) Access to mental health providers.

OCDOH also created a Community Health Assessment Data Review Guide, as a review of 140 of the most current secondary data indicators available, stratified by the NYSDOH Prevention Agenda Areas for Orange County and New York State. Where available, trends from the previous year and comparison data from New York State were included. This document is available on the County website and was provided at the Orange County Health Summit on June 4, 2019. Over 100 partners, including hospitals, health care providers, community-based organizations, and academia, were in attendance to review the most current data; select the two Prevention Agenda Priorities for the 2019-2021 Community Health Improvement Plan (CHIP); and discuss both assets and barriers to addressing the two selected priority areas. Participants signed up to participate in ongoing strategic planning and implementation efforts for the 2019-2021 CHIP cycle. Each focus area chosen will have a corresponding workgroup co-led by OCDOH and area hospital staff. These workgroups will report out at the larger yearly Orange County Health Summit to share the ongoing efforts of the CHIP to other workgroups and the community.

PUTNAM COUNTY HEALTH SUMMARY

Putnam County is located approximately 58 miles north of New York City on the eastern side of the Hudson River, and is a diverse mix of rural, farmland, and many reservoirs. The County is bordered by Connecticut to its east, the Hudson River to its west, Dutchess County to its north, and Westchester County to its south. According to the *American Community Survey*, Putnam County is ranked as one of the top 25 most affluent counties in the U.S. based on median household income. Putnam County is 246 square miles, which includes six towns and three villages, and does not contain any cities. The County is also home to Clarence Fahnestock State Park, which spans 22 square miles (14,000 acres), and makes up almost 9% of the County's land mass. Putnam County has six public school districts. It does not contain any institutions of higher education located within its borders.

AREAS OF FOCUS

Similar to the U.S. and New York State, Putnam County has an aging population. As part of the Health Across All Policies model, the local public health system reviewed aging from a system level perspective. Using data, hospitalizations due to falls is a health issue particularly for those aged 65 years and older.

In Putnam County, youth data is gathered by the Communities That Care Coalition with the Prevention Needs Assessment (PNA). This longitudinal data is showing increasing reports of depressive symptoms in 8th-12th grade students, with 42.0% of students reporting this in 2018.

Alcohol consumption, binge drinking in particular, is an ongoing issue in Putnam County. Rates in adults remain higher than the Mid-Hudson Region and New York State. Data from the PNA show that student alcohol consumption and binge drinking are decreasing.

Reports of STIs are increasing. In some instances, the rates exceed New York State, which is historically not the case.

Areas to focus efforts are:

- Binge drinking prevention
- Fall prevention
- Mental health promotion
- Physical activity promotion
- Smoking and vaping prevention

EMERGING ISSUES

Alzheimer's disease is a leading cause of death in the U.S., and deaths related to this disease have been increasing over the past 16 years. Since this disease mostly affects older adults, it is of great concern due to the aging population in Putnam County. Those with Alzheimer's disease require constant care, as the disease progresses, and this places a great burden on caregivers and the health care system.

E-cigarettes are the most commonly used tobacco products by kids. The Putnam County PNA data show that cigarette usage in their lifetime, and in the past 30 days, have been steadily declining.

Unfortunately, a quarter (28.6%) of students reported using e-cigarettes in their lifetime, and nearly a quarter (23.0%) reported e-cigarette use in the past 30 days. This is especially concerning, since most e-cigarettes contain nicotine, which can be addictive and can harm brain development in adolescents.

STIs are very common infections that can be prevented. The number of new cases being diagnosed has been increasing in both the U.S. and New York State. Putnam County has also seen a significant increase in STIs. These infections do not always cause symptoms, so it is possible to be infected and not know. Proper testing and treatment are essential to diagnosis and treatment (in some instances). Some infections are not curable, but treatment of symptoms is possible.

Emerging areas to focus efforts:

- Alzheimer's Disease
- E-cigarette Usage
- STIs

COMMUNITY SURVEY DATA POINTS OF NOTE

As part of the Mobilizing for Action through Planning and Partnerships (MAPP) process, an online Community Themes and Strengths (CTS) assessment is conducted with residents. Community strengths were identified as quality education for children, access to health care, local police, fire, and rescue services. To improve quality of life, focus should be placed on:

- Access to affordable housing
- More adequate public transportation
- More jobs and a healthier economy

A main focus of the survey is identifying the most important health issues. For the past six years, the issues listed below that continue to be the main health issues in Putnam County:

- Drug abuse (prescription and illegal)
- Alcohol abuse
- Mental health (depression, anxiety and stress)
- Mental illness (serious and persistent)

Unlike the convenience sample used in the CTS survey, the Mid-Hudson Region Community Survey was an opportunity to sample residents in a more scientific manner.

- Transportation was identified as an issue for residents getting to where they need to go. This was a greater issue on the western side of the County and in households with a veteran.
- In comparison to the Mid-Hudson Region, Putnam County had more residents report having ever smoked at least 100 cigarettes in their lifetime. For those that reported smoking in their lifetime and currently smoke, this was a greater issue for those on the eastern side of the County households with a disabled family member.
- Alcohol and binge drinking were reported at a greater level than the Mid-Hudson Region. It was a greater issue for those on the western side of the County, in males and in households with a disabled family member.

ASSETS AND RESOURCES

As part of the MAPP process, representatives of the local public health system are included in two assessments: the National Public Health Performance Standards and the Forces of Change Assessment. Both are used to identify assets and resources that can be mobilized as part of the community health improvement process.

Putnam County has strong community partnerships due to its small size, with only one hospital, and familiarity within community organizations. There are focused coalitions and workgroups that meet regularly; gather data; identify gaps in services; develop plans for improvement; and evaluate implementation and success.

The Forces of Change Assessment is initially conducted at the annual Public Health Summit as a brainstorming session. The information is then shared with specific coalitions or workgroups. Partners work to identify forces, such as trends, factors, or events, which will affect the health and quality of life of residents and the local public health system. These forces may be social, economic, political/legal, technological/scientific, environmental, or ethical in nature. The goal is to look for possible threats and opportunities.

As part of the Health Across All Policies discussion, transportation limitations of a suburban/rural community were discussed. Transportation impacts all residents, especially the aging population, who is unable to access health care due to lack of transportation options. Partners identified the use of technology and telehealth as a resource to reach older patients, who are having issues accessing health care. A complete listing is included in the Putnam County CHA and CHIP.

EFFORTS MOVING FORWARD

The Putnam County DOH utilizes the MAPP community-driven strategic planning process that relies on partnership and collaboration. This process involves the work of many community partners, including the Communities That Care Coalition, Fall Prevention Task Force, Live Healthy Putnam Coalition, Mental Health Provider Group, the Suicide Prevention Task Force, and Putnam Hospital Center's Community Health Needs Committee. Each organization or coalition brings a particular agenda and strength to the CHIP collaboration. All work together with the ultimate goal to improve the health of the community.

The MAPP process uses four unique assessments to determine community priorities: Community Themes and Strengths, Community Health Status, Local Public Health System, and Forces of Change. These assessments inform the development of the CHIP. More than 85 organizations participated in these assessments, and greater than 600 Putnam County residents responded to the community asset survey. Through the MAPP process, data is used to identify health issues.

The Putnam County DOH and Putnam Hospital Center conduct an annual Public Health Summit. The Summit is a key part of the strategic planning process, where partners from all priority areas review data and work together to identify health priorities for the CHIP and the CSP. Coalitions and workgroups meet during the summer to identify the focus areas. The Prevention Agenda is used as a guide to identify evidence-based interventions for implementation. The final CHA, CHIP, and CSP are submitted to the NYSDOH in December of 2019.

ROCKLAND COUNTY HEALTH SUMMARY

Rockland is the smallest county by land area and third most dense in the State, outside of the five boroughs of New York City. It is home to an increasingly diverse population, with the third largest proportion of Hispanic residents, and the highest percentages of non-English speakers, Asians, and Jewish residents in the Region. The County population has shown steady growth annually, with the largest percentage increases observed in those 15 years and younger and those aged 50 years and older. In its entirety, the data for Rockland reflects a comparatively healthy county, as has been demonstrated in the annual Robert Wood Johnson Foundation County Health Rankings. Rockland County has regularly placed among the top three counties for overall health outcomes in New York since 2013. However, through the process of this Regional CHA, gaps were identified among unique sub-segments of the population. Specialized attention in several health focus areas is necessary to advance wellness and improve general health conditions throughout the County.

AREAS OF FOCUS

The greatest influence on overall morbidity and mortality among Rockland residents continues to be chronic illnesses, as has been the case for many years. A wide variety of factors play a role in the occurrence of these conditions, and it is an expressed goal among county health partners to address the core issues driving the current trends. For instance, the rate of childhood and adolescent obesity has reportedly been worsening in Rockland in the last few years. Additionally, there is a clear disparity along racial and ethnic lines for broad conditions, such as diabetes, stroke, and asthma, when it comes to the ratios of preventable hospitalizations and premature deaths between non-Hispanic White residents and those that are either non-Hispanic Black or Hispanic. Broader programs to reduce the impact of heart disease, diabetes, stroke and cancer are planned during this health improvement cycle to decrease the continuous influence of these conditions. The interventions are being developed to reach these special populations with culturally tailored programs, such as innovative school-based wellness enhancements, multi-lingual disease prevention, and self-management classes. Other areas that currently require attention with the same culturally sensitive lens are:

- Poor access and availability of mental health providers
- Increased rates of STIs (Chlamydia, Gonorrhea, Syphilis)
- Evidence of perinatal inequities by race/ethnicity (preterm birth and low birth weight infants)
- Poor cancer screening rates

EMERGING ISSUES

Certain health concerns in the Region have advanced rapidly in the last couple of years, progressing even faster than the data reviewed for this assessment can properly reflect due to reporting lag times. The community provider surveys in Rockland emphasized concerns around growing inequities with respect to mental health and substance use disorders. Data reviewed around this issue is either several years old, does not exist, and/or does not reflect the true impact being reported. Another emerging problem with a similar data deficiency is the increased incidence of vaccine preventable diseases in Rockland County residents. Suboptimal immunization rates in schools and among pediatric providers has unfortunately led to recent increases in vaccine preventable disease outbreaks. Community partners are working together to minimize the incidence and prevalence of these illnesses going forward.

Some of the specific issues recognized are:

- Rise in opioid related hospitalizations and deaths
- Increase in usage of e-tobacco products among youth
- Multiple outbreaks of vaccine preventable diseases (measles, pertussis, etc.)
- Increase in the rate of suicides

COMMUNITY SURVEY DATA POINTS OF NOTE

- Most of the 812 respondents completing the Mid-Hudson Region Community Health Survey reported that Rockland is a safe location to live, a good place to age, has an adequate transportation system, and has sufficient mental health providers available.
- The Survey also noted that the high cost of living is a major concern, and that hospital EDs are being utilized because of not having a regular primary care provider.
- The provider level survey gave partially conflicting results when compared to the Mid-Hudson Region Community Health Survey.
- Community service organizations were most concerned about minimal access to mental health providers; difficulties associated with public and private transportation; and a lack of affordable/nutritious food options available within all communities.
- A majority of the 67 participants identified that the leading barriers to care are minimal public knowledge about existing resources, lack of health literacy among community providers, and substance use issues.

ASSETS AND RESOURCES

Rockland is a resource rich county, considering that it is so dense and in the heart of the New York metropolitan area. The local stakeholders in the County have historically been eager, focused, and engaged. This was clearly demonstrated in the assessment process for this document. It is expected that this level of involvement will continue, possibly even increase, through 2021 and beyond. In order to affect change in the County, a coalition of organizations has mobilized to develop and employ a wide array of interventions. Plans are in place to primarily utilize facilities and staff at Bon Secours Good Samaritan Hospital, Montefiore Nyack Hospital, and Rockland County Department of Health to support the community health improvement strategies. Assistance in these efforts is also expected from the Federally Qualified Health Centers (Hudson River Health Care and Refuah), other county departments (Mental Health, Youth Bureau, Office of the Aging, Social Services, and Planning), as well as from the various community based organizations that have assisted in developing this assessment. Several active village collectives (notably the Spring Valley Collaborative, the Haverstraw Collaborative, and the Western Ramapo Collaborative) meet regularly in Rockland and provide opportunities for community-based networking, intervention deployment, and resident level feedback. A variety of smaller cultural associations also exists in the County. Increasing inclusivity of these groups to better support the health needs of the entire population is an expressed goal in this improvement cycle.

All of the organizations mentioned above were instrumental in conducting this assessment, as they were the partners who provided critical input during the community health focus groups. Their feedback on the factors most influencing health and the leading barriers to care at the neighborhood level allowed for a unique health perspective. The survey of those groups provided a means to gather information on sub-populations that are typically underrepresented in random digit dial surveys, such as the one conducted by Sienna College in 2018.

Following the primary data collection phase, secondary data sources were reviewed and analyzed. The pertinent findings were then delivered at a Community Health Priorities Forum in June of 2019. The public and community organizations were invited and asked to participate in a selection process for the determination of the highest priority prevention agenda areas to focus interventions within Rockland through 2021.

EFFORTS MOVING FORWARD

During the Community Health Priority Selection Forum, it was determined by an open vote that Rockland partners will be focusing on the "Preventing Chronic Diseases and the Promoting Well-Being" and "Preventing Mental and Substance Use Disorders" Prevention Agenda priority areas. The detailed Community Health Improvement Plan (CHIP) follows this assessment and contains higher level details, but a couple of the key activities planned at the time of this assessment are:

- The continuation of the Creating Healthy Schools and Communities (CHSC) grant work, with the expansion of additional comprehensive physical activity programs that support sustainable local school wellness activities.
- Development and support of a wider selection of multi-cultural, multi-lingual chronic disease prevention and self-management programs to be delivered in novel community locations across the County.
- Use of grant funding to increase the availability and access to medication-assisted treatment (MAT), mainly Buprenorphine, among a variety of Rockland County medical providers.
- Establishment of a new CHIP tracking process to increase effectiveness and accountability of collaborating organizations. Two CHIP workgroups will form and meet regularly to report on and track progress, which will enhance the efficacy of all interventions.

SULLIVAN COUNTY HEALTH SUMMARY

For more information, please contact the Sullivan County Public Health Services Department.

ULSTER COUNTY HEALTH SUMMARY

Ulster County is located in the southeast part of New York State, south of Albany and immediately west of the Hudson River. According to the U.S. Census Bureau, the County has a total area of 1,161 square miles, which is approximately the size of the State of Rhode Island. Much of Ulster County can be characterized as suburban and semi-rural, with only one major urban area, the city of Kingston, which is located in the eastern central portion of the County, and encompasses just 7.4 square miles of the County's total area. Ulster County is part of the Kingston Metropolitan Statistical Area.

According to the latest estimates available from the U.S. Census Bureau, Ulster County's population was 180,129 in 2017. The total number of households was 69,662, and approximately 33% of residents commute to employment outside the County.

AREAS OF FOCUS

The data point to several areas of focus for Ulster County. Ulster County has a high percentage of school-age children who are overweight or obese. The highest percentage is among middle and high school children, and this rate continues to increase.

Ulster County has the highest incidence of cardiovascular disease in the Region and versus New York State, including high mortality rates.

Ulster County's suicide mortality rate is exceeded only by one other county in the Region, and continues to be significantly higher than the Region and New York State.

Other areas of concern:

- Diabetes mortality and hospitalization rates are high, even though the incidence rate is among the lowest in the Region.
- Teen pregnancy rate for the non-Hispanic Black population is nearly three times that of the non-Hispanic White population, and more than twice the overall rate, in spite of overall falling rates.
- According to the Mid-Hudson Regional Community Health Survey, 83% of people said it was "completely true" or "somewhat true" that it is difficult to find a quality place to live due to the high cost of housing. The provider focus group also confirmed that this is a top issue affecting the people of Ulster County.
- The provider focus group indicated that public transportation is also a major issue, affecting geographically isolated people and making it difficult for people to get to the services they need.
- Cigarette smoking is prevalent among people who report poor mental health.
- Infant mortality rate is the highest in the Region, and higher than Healthy People 2020 goal.
- Infant mortality rate for non-Hispanic Black population is nearly three times that of non-Hispanic White population, and more than twice the overall rate.

EMERGING ISSUES

In Ulster County, the data show a surge in binge drinking, going from 10.5% of adults reporting binge drinking in 2013-2014, to more than double that at 22.2% in 2016. Ulster County continues to show the highest rates of binge drinking compared to the Region and New York State.

Although cigarette use has been decreasing over time, the use of electronic vapor products, also known as e-cigarettes, has increased dramatically. Ulster County is monitoring the use of vaping, especially among the young people of the County. According to the NYSDOH, the use of e-cigarettes among high school youth increased 160% over the past 4 years.

Authorities in Ulster County have recently been focusing attention on the increasing incidence of opioid-related overdoses and deaths. Overdoses have more than doubled in the most recent five-year span measured. Overdose deaths have increased 447% since 2010, and most deaths occur in those aged 18-44 years.

COMMUNITY SURVEY DATA POINTS OF NOTE

As part of the CHA process, the Ulster County Department of Health and Mental Health (UCDOH-MH) participated in the Mid-Hudson Region Community Health Survey, in partnership with the six other Mid-Hudson local health departments, HealtheConnections and area hospitals, to collect data on 802 residents to help better characterize the needs of the community.

Below are data points of note:

- 88% of residents making less than $25,000 per year responded "completely true" or "somewhat true" to the statement, "People may have a hard time finding a quality place to live due to the high cost of housing."
- 33% of urban residents answered "completely true" to the statement, "People can get to where then need using public transportation" versus 15% of rural residents responding "completely true."
- 54% of those making less than $24,000 have visited a dentist for a routine checkup in the 12 months versus 70% of Ulster County residents.
- 58% of those that reported that they have experienced a mental health condition or substance use disorder said that they had not visited a mental health provider in the past 12 months.
- 22% of rural residents when asked to rate their quality of life in their community rated it as "excellent" versus 11% of urban residents.
- 20% of respondents rated the availability of programs and activities for youth outside school hours as "poor."

In addition to participating in the Mid-Hudson Region Community Health Survey, a service provider survey and subsequent focus group were conducted in March 2019 to collect data on underrepresented populations, including low-income, veterans, persons experiencing homelessness, the aging population, LGBTQ community, and people with a mental health diagnosis or those with a substance use disorder. 25 responses were collected and three underlying issues that impact the health of the populations served by their agencies were identified as follows: 1) Access to affordable, decent and safe house; 2) Access to affordable, reliable public and personal transportation; and 3) Access to mental health providers.

UCDOH-MH also created a CHA Snap Shot and reviewed the most current secondary data indicators available from the NYSDOH Prevention Agenda areas for Ulster County and New York State. This document is available on the County website and was provided at the CHA Steering Committee Meetings for review in 2019. Over 13 partners, including hospitals, health care providers, and community-based organizations reviewed the most current data, selected the two Prevention Agenda Priorities for the 2019-2021 Community Health Improvement Plan (CHIP), and discussed both assets and barriers to addressing the two selected priority areas.

ASSETS AND RESOURCES

UCDOH-MH has strong community partnerships with hundreds of organizations serving its residents, including two area hospitals, federally qualified health care centers, private medical providers, local two-year and four-year colleges, a medical school, community-based organizations, and regional organizations serving a broad variety of community needs. UCDOH-MH has established multiple coalitions, including Healthy Ulster Council, Integrated Ulster, Human Service Coalition, SPEAK, Ulster County Opioid Prevention Task Force, and Ulster County Public Health Preparedness Task Force. In addition to participating in a large number of public health focused coalitions, UCDOH-MH also participates in Live Well Kingston, Wawarsing Council of Community Agencies, Mano-a-Mano, Bringing Agencies Together, Maternal Infant Services Network, Ulster Prevention Council, and Tobacco Free Action Communities, among others. These coalitions' partners and others will be mobilized to address the health areas of focus and emerging issues for the CHA/CHIP 2019-2021 cycle.

EFFORTS MOVING FORWARD

- Effort/Program 1: Ulster County has developed a comprehensive and integrated strategic action plan to address the opioid epidemic and has secured close to 5 million dollars in grant funding to support implementation.
- Effort/Program 2: Ulster County continues to make significant improvements in the built environment through a combination of Federal, State, and local funds. These include developing a world-class rail trail system throughout the County; pedestrian and bike friendly complete street initiatives; safe routes to schools; and others. All are designed to encourage physical activity; improve access to fresh and healthier foods; and increased social engagement to help prevent chronic diseases. This will also reduce our carbon footprint, while reducing air pollution.
- Effort/Program 3: Ulster County will continue to build on a strong foundation of tobacco prevention policy change by updating legislation and increasing the awareness of the risks of tobacco and vaping products.
- Effort/Program 4: One of the two major hospitals in Ulster County has initiated an in-depth study and prevention program to identify individuals at risk for heart disease, and work with them and their families to help prevent it.
- There are many other public health initiatives that Ulster County will be involved in to monitor and enhance the progress.

More details are available in the Ulster County CHIP.

WESTCHESTER COUNTY HEALTH SUMMARY

With an area of about 450 square miles, Westchester County is located just north of New York City. It is bordered on the west by the Hudson River, on the north by Putnam County, and on the east by the Long Island Sound and Connecticut's Fairfield County. With its six cities, 19 towns, and 23 villages, Westchester is the home to a mix of urban and suburban communities.

According to the 2012-2016 *American Community Survey*, the total population residing in Westchester is 969,229, 48.3% males and 51.7% females. Among them, 66.1% are non-Hispanic White, 14.4% non-Hispanic Black, 5.7% non-Hispanic Asian or Pacific Islander, and 10.7% are of some other race. Just under a quarter of its population is of Hispanic origin, and 26% of the population is foreign born. About one-third of the residents speak a non-English language at home.

The majority of Westchester residents over the age of 25 have received a high school diploma/GED, and almost half have attained a bachelor's degree. The overall unemployment rate is 7.1%. The median household income is estimated at $86,226.

While an affluent county in general, there are pockets of communities living in less desirable conditions. About 10% of the population lives in poverty, with higher poverty rates among the non-Hispanic Black and Hispanic populations. About 5% of the residents are living in overcrowded housing.

Rather than driving alone, 41.6% of the population uses an alternative mode of transportation for the commute to work, including carpooling, public transportation, walking, bicycling, or telecommuting.

EXISTING AND EMERGING ISSUES

Heart disease and cancer remain the leading causes of death. Chronic disease management and care, such as diabetes and obesity, require increasing health care resources. Health disparities/inequalities continue to exist. In addition, several new health issues have emerged as priorities:

- Mental health
- Suicide
- Vaping among youth
- Opioid and other substance overdose
- Increasing STIs
- Vaccine preventable diseases

COMMUNITY SURVEY DATA POINTS OF NOTE

As part of the New York State required CHA, the Westchester County Health Department (WCDH) participated in the Mid-Hudson Region Community Health Survey, in partnership with six other Mid-Hudson local health departments, HealtheConnections, and local area hospitals. Given the larger population size and a much more diversified population composition in Westchester, WCDH and Westchester local hospitals have teamed up and conducted another survey to assess county residents' health status, as well as the health status of their communities. Through online and paper distributions of the survey questionnaire in English and Spanish, a total of 2,727 Westchester County residents provided information on their personal health priorities, health care needs, their perceived community health priorities, the most needed services, as well as the largest obstacles that prevent access to care.

Although the survey respondents do not represent the general county population due to the nature of survey distributions, they have reflected what these people perceived as the top priority health issues in their communities, and what they perceived as the actions that may be most helpful to address the community health needs.

Top five priority health issues in the communities:

- Mental health
- Chronical disease screening and care for conditions, such as asthma, diabetes, cancer, & heart disease
- Food and nutrition
- Environments that promote well-being and active lifestyles
- Child and adolescent health

Top five actions helpful to improve community health:

- Affordable housing
- Mental health services
- Exercise and weight loss programs
- Access to healthier food
- Services for older adults

The survey also reveals that the respondents think the populations who need the most care are older adults, followed by teens, then young adults.

In terms of the top priority personal health issues those respondents face:

- Physical activity
- Food and nutrition
- Environments that promote well-being and active life styles
- Chronic disease screening and care for conditions, such as asthma, diabetes, cancer, and heart disease
- Mental health

ASSETS AND RESOURCES

Under the direction of the Commissioner of Health, WCDH with its dedicated professional and supporting staff works to promote health, prevent diseases, and prolong meaningful life for Westchester County residents. In addition, WCDH works closely with other Westchester County departments, local municipalities, hospitals, health care centers, and community agencies and organizations to deliver, coordinate, and promote services for residents. There are many strengths and resources existing in the community. For example, schools and many other non-traditional organizations provide important settings for the delivery of resources for education, training, and other needed assistance. All the health care providers and community-based organizations across the County are the expert resources. They are skilled at providing care, as well as fostering connections, building coalitions, and developing networks and collaborations.

EFFORTS MOVING FORWARD

Collaborating with the local hospitals and other health care agencies, WCDH hosted a Community Health Summit to obtain insight and feedback from the local community, government, health, and social service providers on the health and social needs of their clients, with over 70 attendees across health and community-based organizations participating. The summit acknowledged the strength and resources currently existing in the County; identified barriers and gaps; and developed strategies and plans to overcome such obstacles. It has proposed that future actions need to: 1) Support and leverage exiting community resources across homes, schools, churches, CBOs, etc. to address chronic diseases; 2) Address currently fragmented and inconsistent education and communication; 3) Design community awareness campaigns and messages focused on prenatal and infant care; and 4) Utilize a holistic care approach that eliminates silos across the continuum in the health care system.

LIST OF APPENDICES

A. **Mid-Hudson Region Community Health Survey**
B. **Provider Focus Group Survey**
C. **Provider Focus Group Service Populations**
D. **Siena College Institutional Review Board (IRB) Approval Letter**
E. **Map of the Mid-Hudson Region**
F. **Map of Dutchess County**
G. **Map of Orange County**
H. **Map of Putnam County**
I. **Map of Rockland County**
J. **Map of Sullivan County**
K. **Map of Ulster County**
L. **Map of Westchester County**
M. **Data Informed Opioid Response Collaborative Membership List**
N. **Workplace Wellness Workgroup Membership List**
O. **Social Determinants of Health Workgroup Membership List**
P. **Behavioral Health Workgroup Membership List**

APPENDIX A

REGIONAL COMMUNITY HEALTH ASSESSMENT SURVEY

Hello, this is _____ for the Siena College Research Institute. We are working with local health departments and hospital systems to survey Hudson Valley residents to better understand the health status and health-related values of people who live in the community.

IF NEEDED:
You've been selected at random to be included in this survey. Your individual responses are confidential and no identifiable information about you will be shared with anyone—all responses are grouped together. The questions I am going to ask you to relate to your health and to your thoughts about health-related resources in your community. Again, your responses may really help to strengthen health policies and services.

IF NEEDED:
In total, the survey takes approximately ____ minutes to complete and you may refuse to answer any question that you do not want to answer. Are you able to help us with this important project? (NOW IS ALSO A TIME TO OFFER A CALL BACK AT A SPECIFIC, REQUESTED TIME AND PHONE NUMBER)

1. Overall, would you say that the quality of life in your community is excellent, good, fair or poor?
A. Excellent
B. Good
C. Fair
D. Poor

2. What State do you live in? [If not NY or CT, terminate]

3. What County do you live in? [If not Dutchess, Orange, Rockland, Putnam, Sullivan, Ulster Westchester or Litchfield CT (?), terminate]

4. What is your zip code? _____

5. How long have you lived in _____ County?
a. Less than 1 year
b. 1-5 years
c. More than 5 years

6. I'm going to read you a series of statements that some people make about the area around where they live, that is, their community. For each, tell me if that statement is completely true of your community, somewhat true, not very true or not at all true for your community.
A. There are enough jobs that pay a living wage.
B. Most people are able to access affordable food that is healthy and nutritious.
C. People may have a hard time finding a quality place to live due to the high cost of housing.
D. Parents struggle to find affordable, high-quality childcare.
E. There are sufficient, quality mental health providers.
F. Local government and/or local health departments, do a good job keeping citizens aware of potential public health threats.
G. There are places in this community where people just don't feel safe.
H. People can get to where they need using public transportation.

7. How important is it to you that the community where you live have the following?
A. Accessible and convenient public transportation
B. Affordable public transportation
C. Well-maintained public transportation vehicles
D. Safe public transportation stops or waiting areas
E. Special transportation services for people with disabilities or older adults

8. Overall, how would you rate the community you live in as a place for people to live as they age?
A. Excellent
B. Good
C. Fair
D. Poor
E. I don't know

9. For each of the following aspect of life, please rate it as excellent, good, fair, or poor in your community. Please let me know if you simply do not know enough to say.
A. The availability of social/civic programs for seniors
B. The quality of health care services for seniors
C. The availability of programs and activities for youth outside school hours
D. The quality of information from county agencies during public emergencies, such as weather events or disease outbreaks

10. In general, how would you rate your health? Would you say that your health is excellent, good, fair or poor?
A. Excellent
B. Good
C. Fair
D. Poor

11. Have you ever been told by a doctor or other health professional that you have any chronic health condition, such as high blood pressure, diabetes, high cholesterol, asthma or arthritis?
A. Yes
B. No

12. If YES to 11--How confident are you that you can manage your physical health condition?
A. Very Confident
B. Somewhat Confident
C. Not Very Confident
D. Not at all confident

13. Mental health involves emotional, psychological and social wellbeing. How would you rate your overall mental health? Would you say that your mental health is excellent, good, fair or poor?
AS NEEDED: This includes things like hopefulness, level of anxiety and depression.
A. Excellent
B. Good
C. Fair
D. Poor

14. Have you ever experienced a mental health condition or substance or alcohol use disorder?
A. Yes

B. No

15. If YES to 14--How confident are you that you can manage your mental health condition?
A. Very Confident
B. Somewhat Confident
C. Not Very Confident
D. Not at all confident

16. Thinking back over the past 12 months, for each of the following statements I read, tell me how many days in an AVERAGE WEEK you did each. Over the past 12 months how many days in an average week did you… (responses are 0 days, 1-3 days, 4-6 days or all 7 days)
A. Ate a balanced, healthy diet
B. Exercised for 30 minutes or more a day
C. Got 7-9 hours of sleep in a night

17. On an average day, how stressed do you feel?
AS NEEDED: Stress is when someone feels tense, nervous, anxious, or can't sleep at night because their mind is troubled.
A. Not at all stressed
B. Not very stressed
C. Somewhat stressed
D. Very stressed

18. In your everyday life, how often do you feel that you have quality encounters with friends, family, and neighbors that make you feel that people care about you? (IF NEEDED: For example, talking to friends on the phone, visiting friends or family, going to church or club meetings)
A. Less than once a week
B. 1-2 times a week
C. 3-5 times a week
D. More than 5 times a week

19. Have you smoked at least 100 cigarettes in your entire life?
A. Yes
B. No

20. If YES to 19, do you now smoke cigarettes every day, some days, or not at all?
A. Everyday
B. Some days
C. Not at all

21. Pertaining to alcohol consumption, one drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the last 30 days, on the days when you drank, about how many drinks did you drink on average? [If respondent gives a range, ask for one whole number. Their best estimate is fine. If they do not drink, enter 0.]
_____ drinks

22. [If Q21>0] Considering all types of alcoholic beverages, how many times during the past 30 days did you have **X [5 for men, 4 for women]** or more drinks on an occasion?
A. _____ number of times
B. None

23. How frequently in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?
A. Never
B. Less than once per month
C. More than once per month, but less than weekly
D. More than once per week, but less than daily
E. Daily

24. In the past 12 months, have you or any other member of your household been unable to get any of the following when it was really needed? Please answer yes or no for each item.
A. Food
B. Utilities, including heat and electric
C. Medicine
D. Any health care, including dental or vision
E. Phone
F. Transportation
G. Housing
H. Childcare

25. Have you visited a primary care physician for a routine physical or checkup within the last 12 months?
A. Yes
B. No

26. If NO to question 25, in the last 12 months, were any of the following reasons that you did not visit a primary care provider for a routine physical or checkup? (SELECT ALL THAT APPLY)
A. I did not have insurance
B. I did not have enough money (prompt if needed: for things like co-payments, medications, etc)
C. I did not have transportation
D. I did not have time
E. I chose not to go
F. Other_____

27. Have you visited a dentist for a routine check-up or cleaning within the last 12 months?
A. Yes
B. No

If NO to question 27, in the last 12 months, were any of the following reasons that you did not visit a dentist for a routine check-up or cleaning? (SELECT ALL THAT APPLY)
A. I did not have insurance
B. I did not have enough money (prompt if needed: for things like co-payments, medications, etc)
C. I did not have transportation
D. I did not have time
E. I chose not to go
F. Other_____

Sometimes people visit the emergency room for medical conditions or illnesses that are not emergencies; that is, for health-related issues that may be treatable in a doctor's office.
28. Have you visited an emergency room for a medical issue that was not an *emergency* in the last 12 months?
A. Yes

B. No

29. If YES to question 28, in the last 12 months, for which of the following reasons did you visit the emergency room for a non-health emergency rather than a doctor's office? (SELECT THE BEST (1) OPTION)
A. I do not have a regular doctor/primary care doctor
B. The emergency room was more convenient because of the location
C. The emergency room was more convenient because of the cost
D. The emergency room was more convenient because of the hours of operation
E. At the time I thought it was a health-related *emergency*, though I later learned it was **NOT** an emergency

If yes to 13 (behavioral health condition)
30. Have you visited a mental health provider, such as a psychiatrist, psychologist, social worker, therapist for 1-on-1 appointments or group-sessions, etc. within the last 12 months?
A. Yes
B. No

31. If NO to question 30, in the last 12 months, were any of the following reasons that you did not visit a mental health provider? (SELECT ALL THAT APPLY)
A. I did not have insurance
B. I did not have enough money (prompt if needed: for things like co-payments, medications, etc)
C. I did not have transportation
D. I did not have time
E. I chose not to go
F. Other_____

32. How likely would you be to participate in the following types of programs aimed at improving your health? Would you be very likely, somewhat likely, not very likely or not at all likely?
A. A mobile app based program on your smart phone
B. An in person, one-on-one program
C. An in person, group program
D. An online, computer based, one-on-one program
E. An online, computer based, group program

We are just about finished. These last few questions are about you.
33. Are you Hispanic?
A. Yes
B. No

34. What is your race?
A. White
B. Black
C. Asian
D. Other

35. Do you have health insurance?
a. Yes
b. No

36. What is your source of health insurance?
a. Employer
b. Spouse/Partner's employer
c. NYS Health Insurance marketplace/Obamacare
d. Medicaid
e. Medicare
f. None
g. Other

37. What is your living arrangement? Do you…
A. Rent an apartment or home
B. Own your own
C. Other living arrangement

38. What is your employment status?
A. Employed full time
B. Employed part-time
C. Unemployed, looking for work
D. Unemployed, not looking for work
E. Retired

39. Are there children <18 living in your household?
A. Yes
B. No

40. Are you or anyone in your household a veteran or a member of active duty military service?
A. Yes
B. No

41. Do you or anyone in your household have a disability?
A. Yes
B. No

42. About how much is your total household income, before any taxes? Include your own income, as well as your spouse or partner, or any other income you may receive, such as through government benefit programs. (READ THE FOLLOWING OPTIONS)
A. Less than $25,000
B. $25,000 to $49,999
C. $50,000 to $99,999
D. $100,000 to $149,999
E. $150,000 or more

43. What is your gender?
A. Male
B. Female
C. Transgender/other gender

APPENDIX B

Stakeholder Interview Form

1. Name_____
2. Organization _____
3. Organization Website _____
4. Position_____

5. What is your service area?
   - ☐ On website

_____
_____
_____

6. Who do you serve? Please check all that apply
   - ☐ Infants and toddlers
   - ☐ Children
   - ☐ Adolescents
   - ☐ Adults
   - ☐ Seniors
   - ☐ Veterans
   - ☐ English as a second language
   - ☐ Women (services specifically for women)
   - ☐ Men (services specifically for men)
   - ☐ LGBTQ
   - ☐ Those with a substance use disorder
   - ☐ Those with a mental health diagnosis
   - ☐ People with disabilities
   - ☐ People experiencing homelessness
   - ☐ Incarcerated or recently incarcerated
   - ☐ Low income
   - ☐ General population
   - ☐ All the above

7. Thinking about the populations that you serve, what are the top 3 issues that affect health in the communities you serve?
   - ☐ Access to affordable nutritious food
   - ☐ Access to affordable, decent and safe housing
   - ☐ Access to affordable, reliable transportation
   - ☐ Access to affordable, reliable public transportation
   - ☐ Access to culturally sensitive health care providers
   - ☐ Access to affordable health insurances
   - ☐ Access to clean water and non-polluted air
   - ☐ Access to medical providers
   - ☐ Access to mental health providers
   - ☐ Access to high quality education
   - ☐ Access to specialty services/providers

8. Which of the following are the top 3 barriers to people achieving better health in the communities you serve?
   - ☐ Knowledge of existing resources
   - ☐ Geographic location – living in an urban area
   - ☐ Geographic location – living in a rural area
   - ☐ Health literacy
   - ☐ Having someone help them understand insurance
   - ☐ Having someone to help them understand their medical condition
   - ☐ Having a safe place to play and/or exercise
   - ☐ Quality of education
   - ☐ Attainment of education
   - ☐ Drug and/or alcohol use
   - ☐ Cultural Customs
   - ☐ Other (specify) _____

9. Besides lack of money, what are the underlying factors and barriers to solving the top 3 issues you identified in the communities you serve?

_____
_____
_____
_____

10. What evidence-based interventions (if any) do you use that target your populations to address the social determinants of health?

_____
_____
_____
_____

11. As we go through the following list of health issues, please rate from 1 to 5 the impact of the health issues in your service area with 1 being very little and 5 being highly impacted.

Chronic Disease (e.g. heart disease, diabetes, asthma, obesity, cancer, etc.)

(Very Little) 1 2 3 4 5 (Highly Impacted)

Health Disparities

(Very Little) 1 2 3 4 5 (Highly Impacted)

Mental Health and Substance Use Issues

(Very Little) 1 2 3 4 5 (Highly Impacted)

Maternal and Child Health issues

(Very Little) 1 2 3 4 5 (Highly Impacted)

Environmental Factors (e.g. built environment, air/water quality, injuries, falls, food safety)

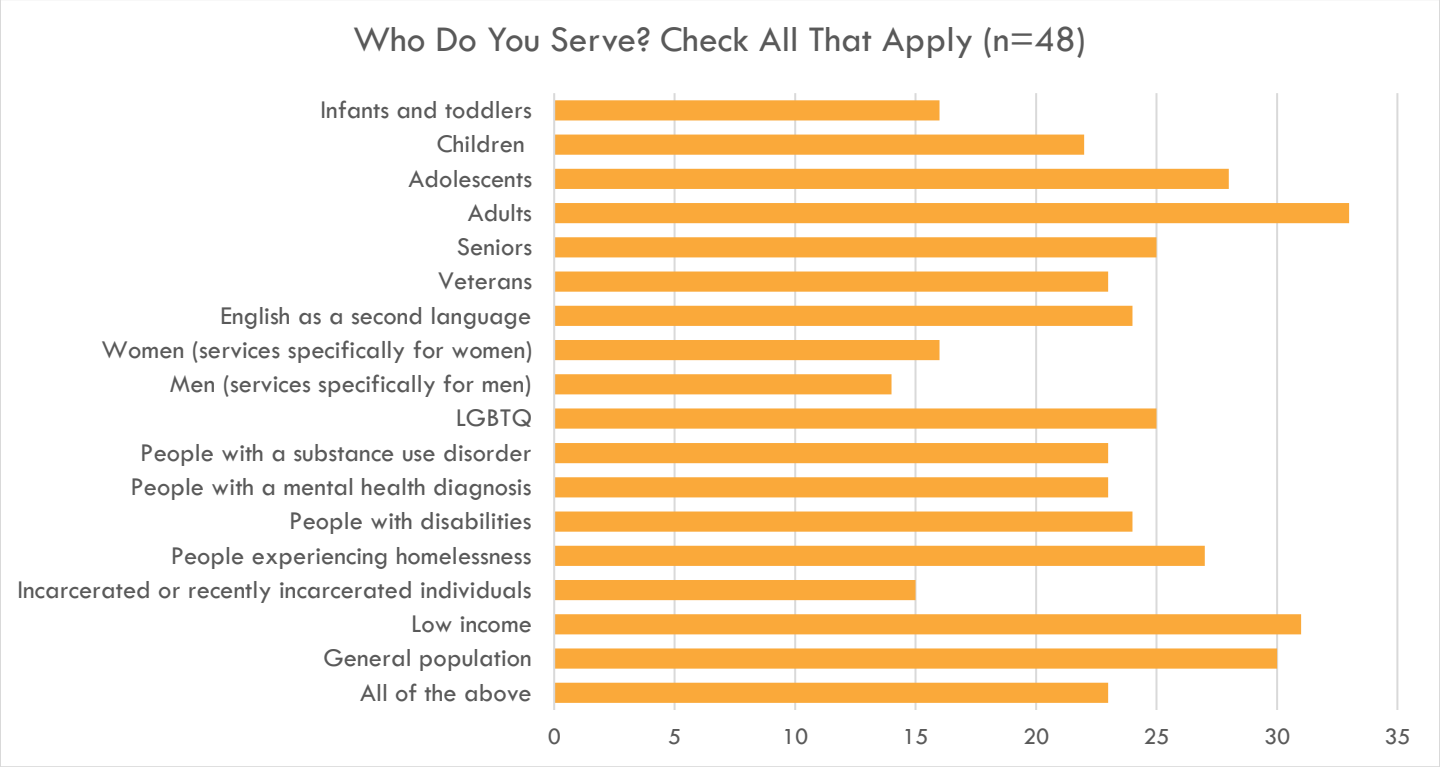
(Very Little) 1 2 3 4 5 (Highly Impacted)

Prevent Communicable diseases (e.g. sexually transmitted infections, hepatitis C, HIV, vaccine preventable disease, hospital acquired infections, etc.)

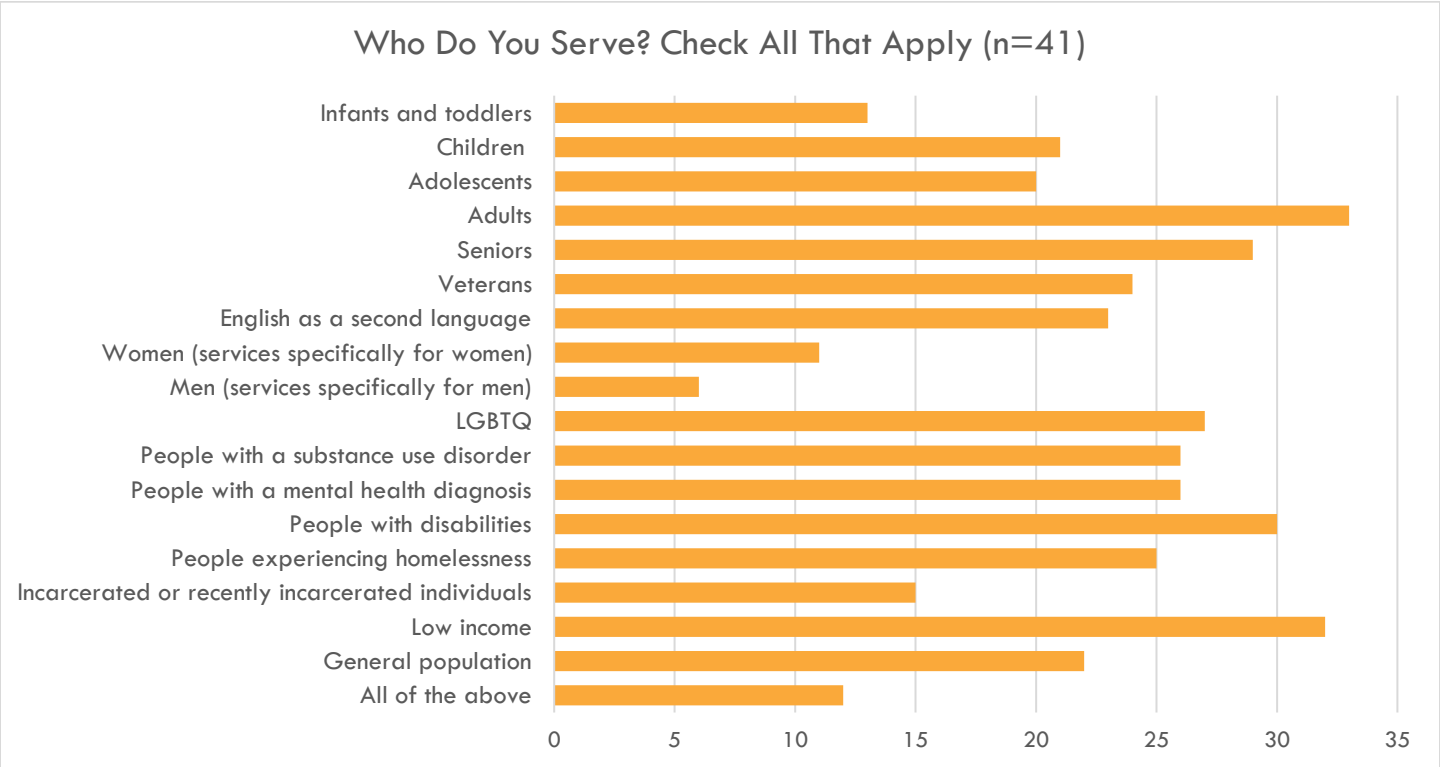
(Very Little) 1 2 3 4 5 (Highly Impacted)

APPENDIX C

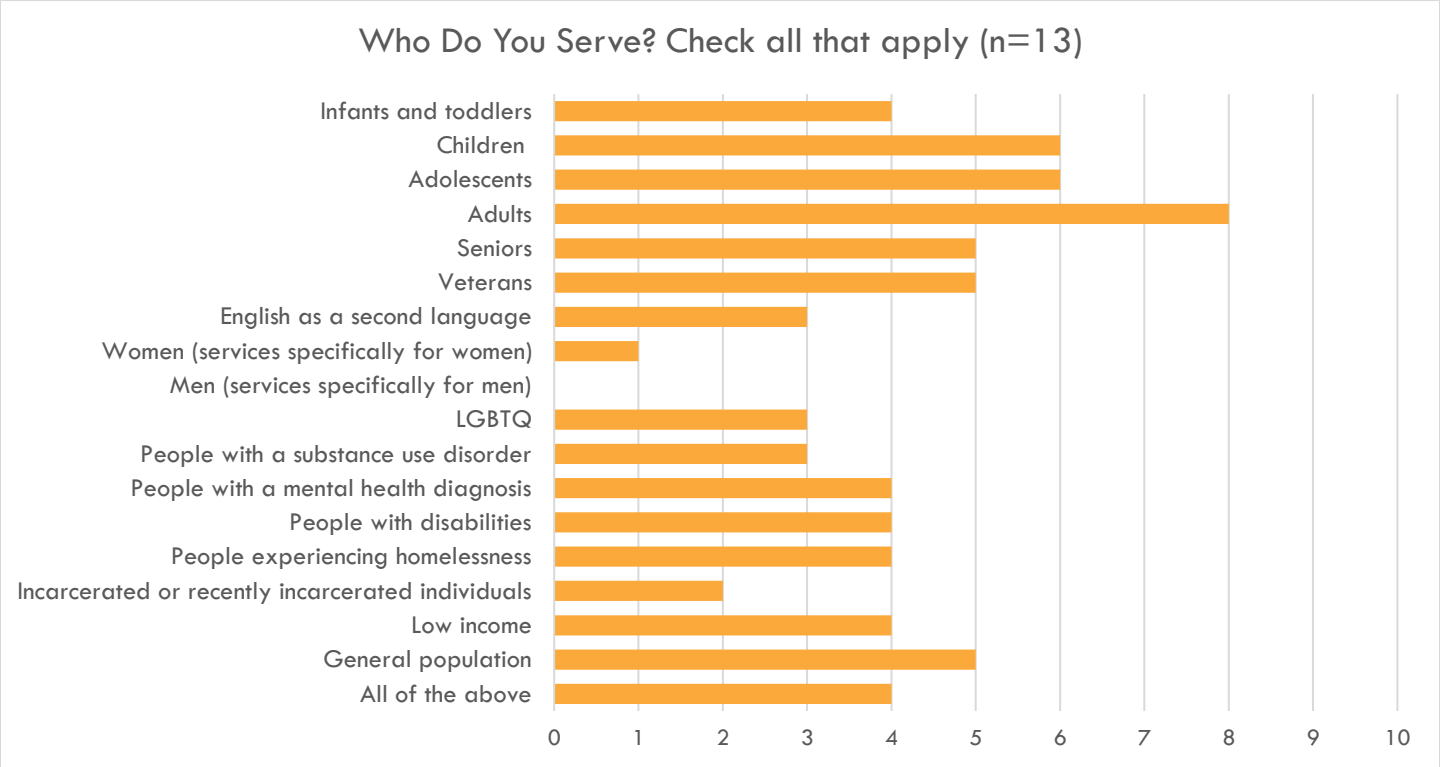
DUTCHESS COUNTY



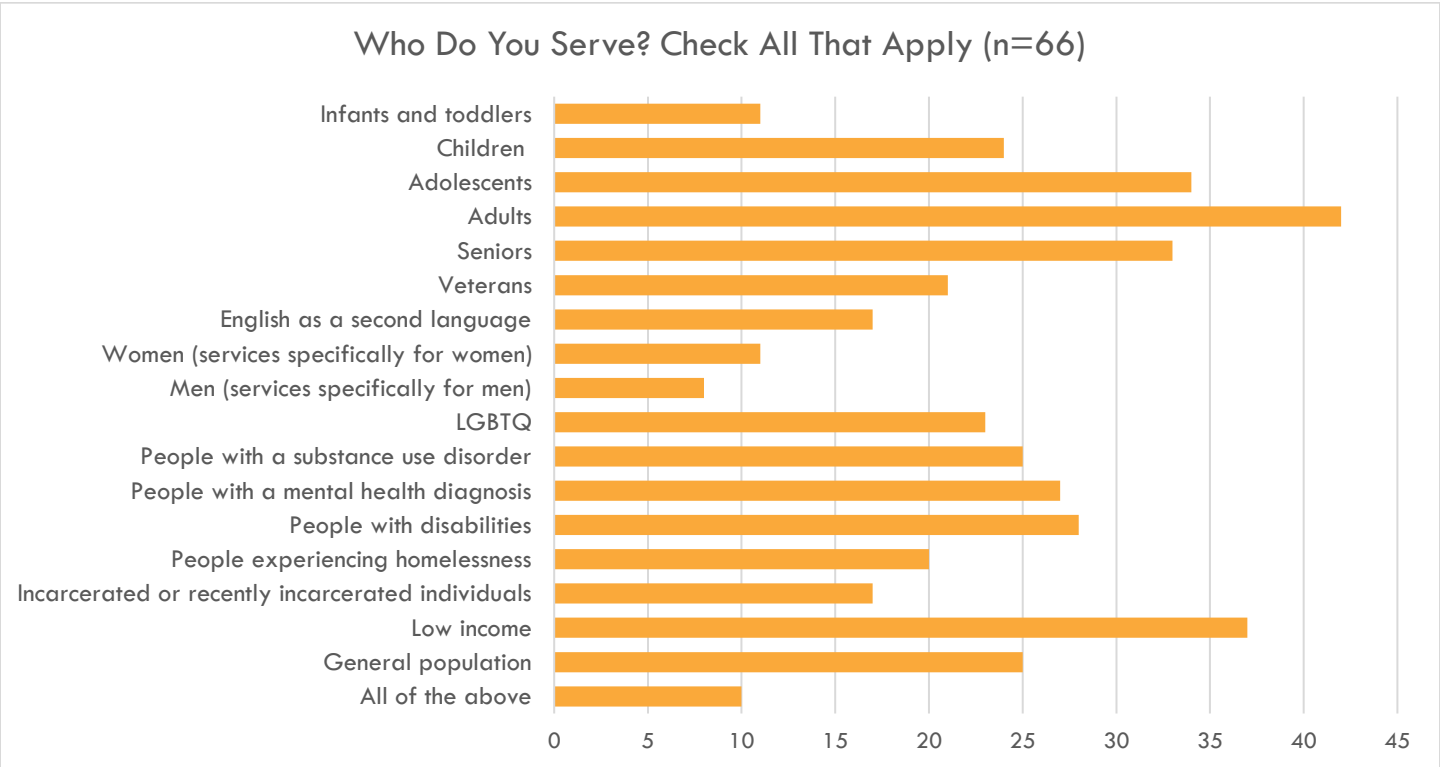
ORANGE COUNTY



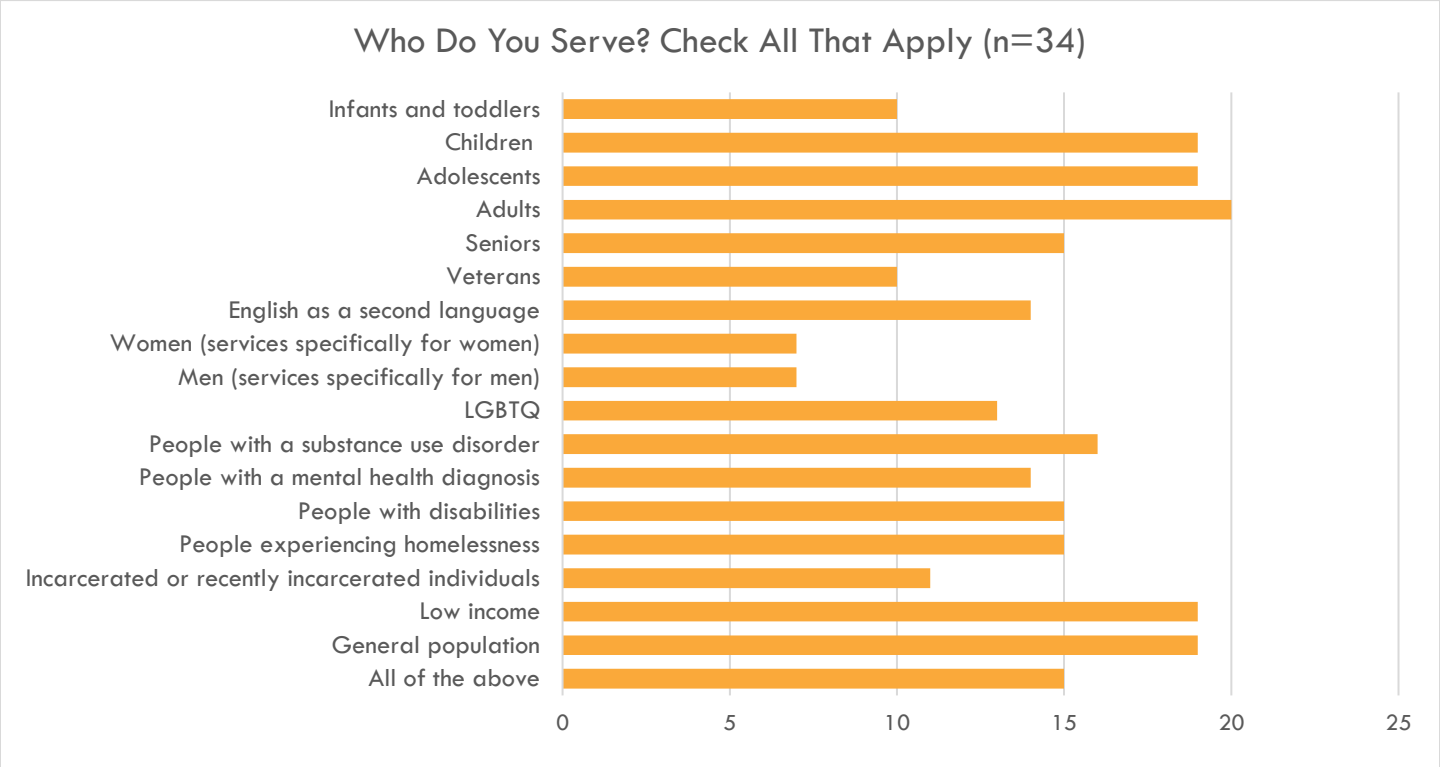
PUTNAM COUNTY



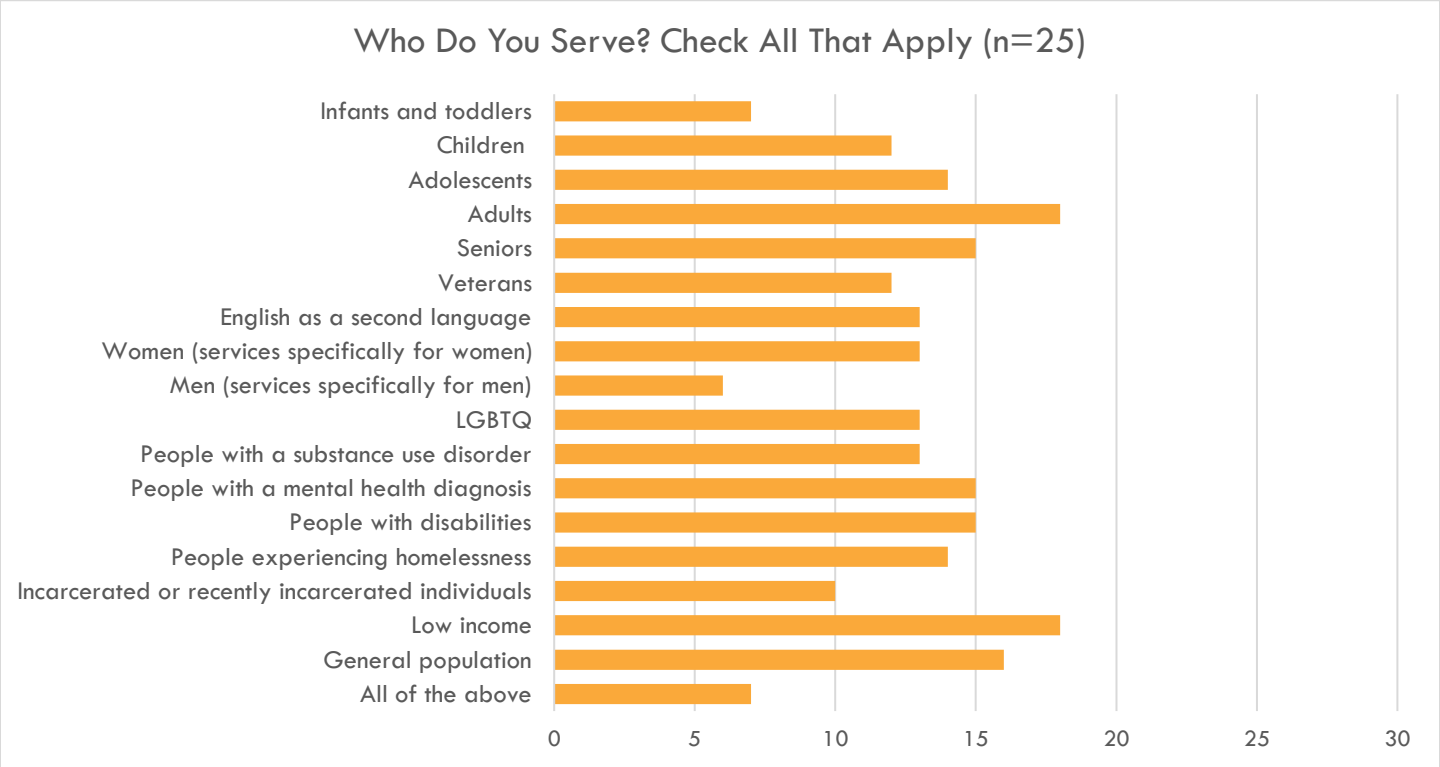
ROCKLAND COUNTY



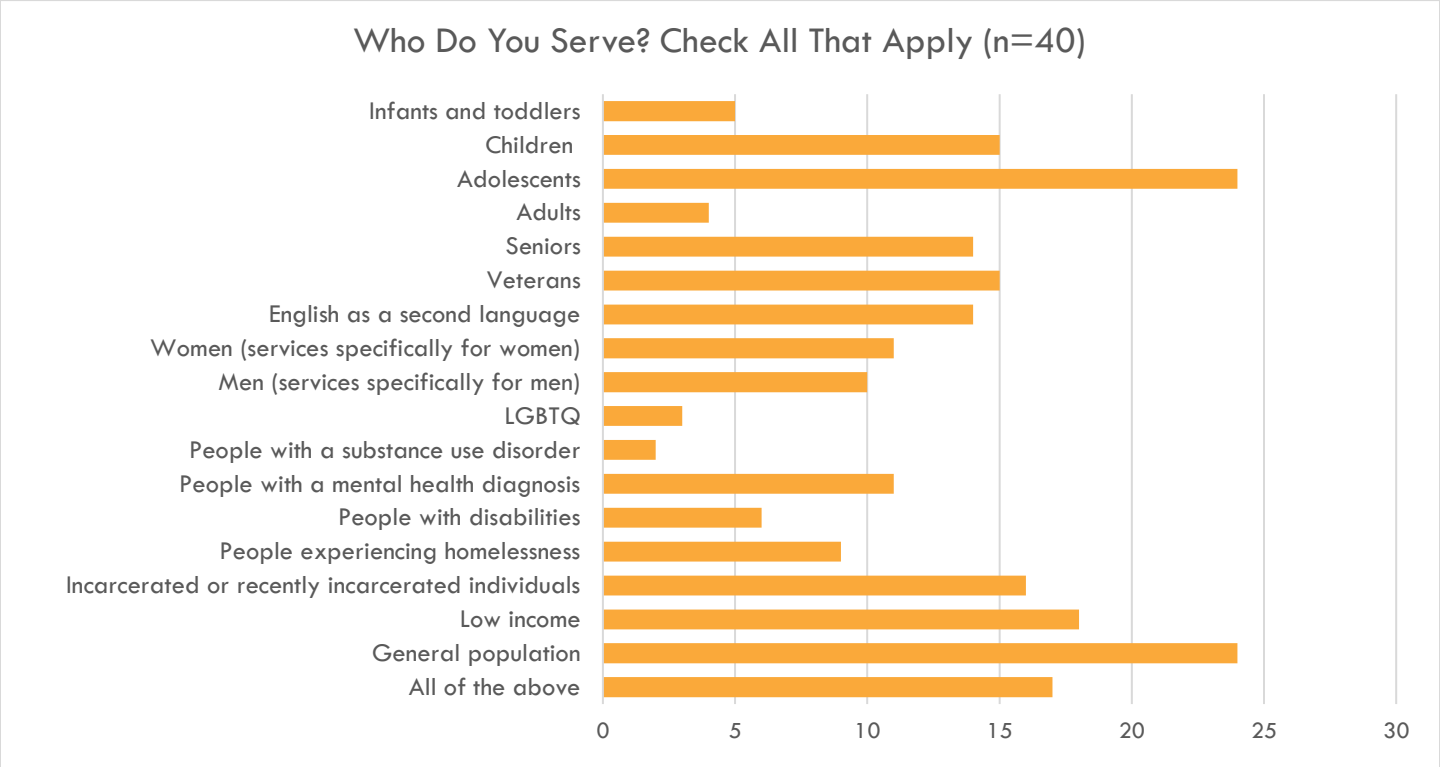
SULLIVAN COUNTY



ULSTER COUNTY



WESTCHESTER COUNTY



APPENDIX D

SIENAcollege

Institutional Review Board

Carla Sofka, Ph.D., M.S.W.
Professor of Social Work

Jami Cotler, Ph.D.
Assistant Professor of Computer Science

Dirk De Jong, Ph.D.
Assistant Professor of Social Work

John Felio, M.S.
Associate Vice-President for Student Life

Ira Goldstein, Ph.D.
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External Reviewer Independent Consultant

Janet Shideler, Ph.D.
Professor of Modern Languages

Jie Sun, Ph.D.
Assistant Professor of Marketing

Paul Thurston, Ph.D.
Associate Professor of Management

April 29, 2018

Leslie Foster, Principal Investigator
Siena College – 515 Loudon Road
Loudonville, NY 12211

Dear Leslie,

This letter is to document the approval of IRB proposal (# 04-18-044) entitled "Community Health Survey of the Hudson Valley"

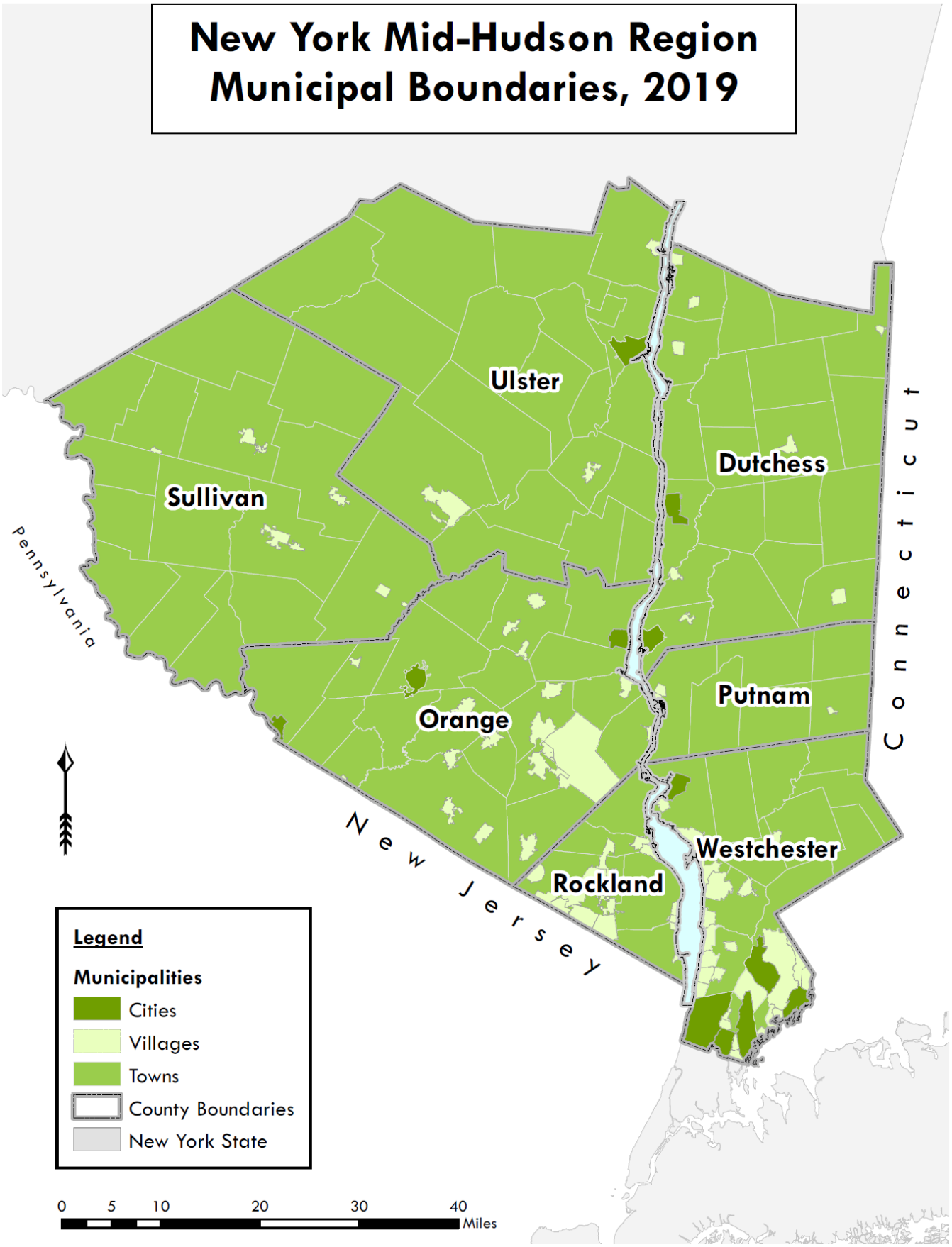
If any questions or concerns should arise while implementing your project, please don't hesitate to contact me at csofka@siena.edu.

Sincerely,

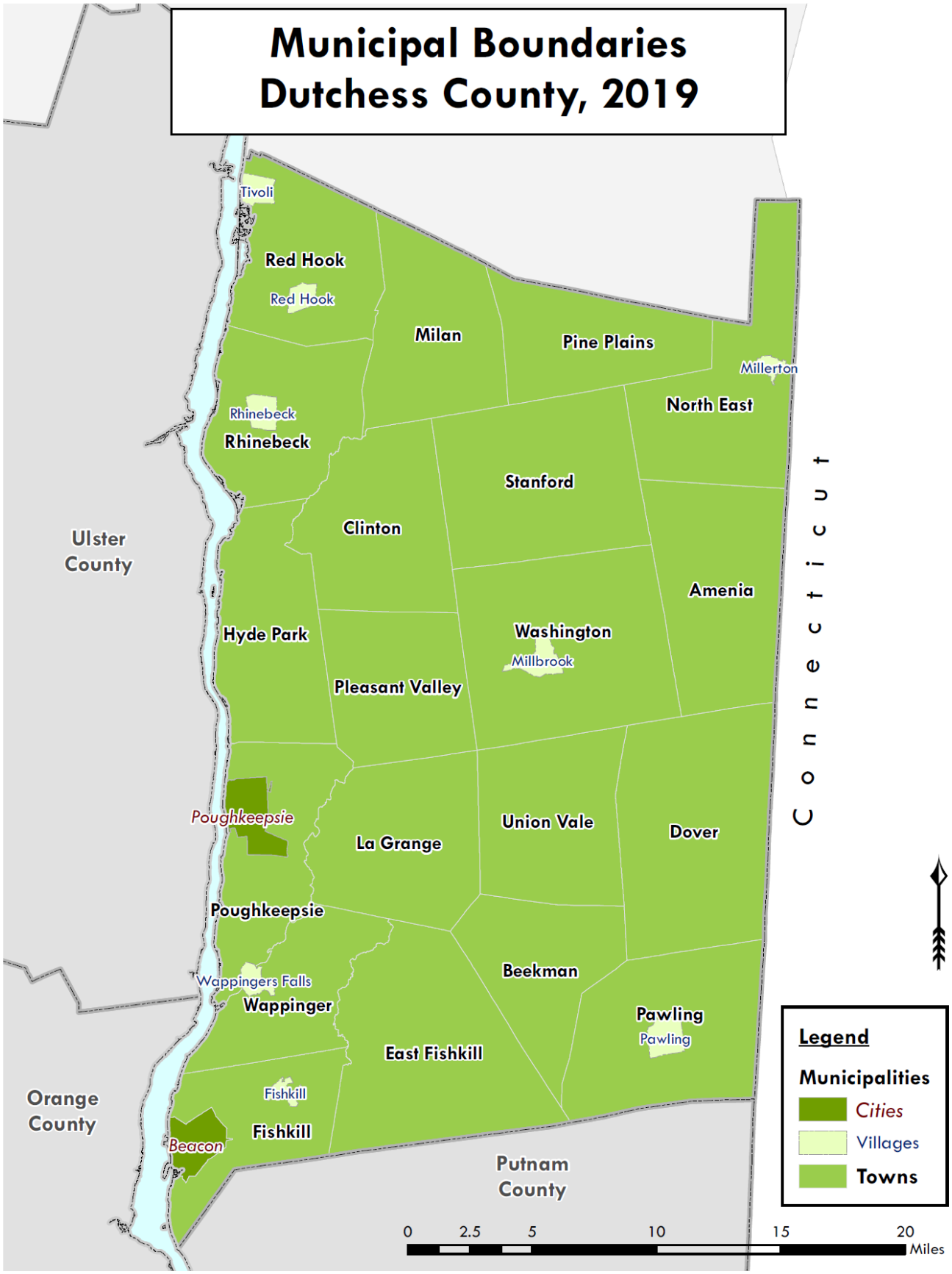
Carla J. Sofka

Carla Sofka, Chairperson
Institutional Review Board

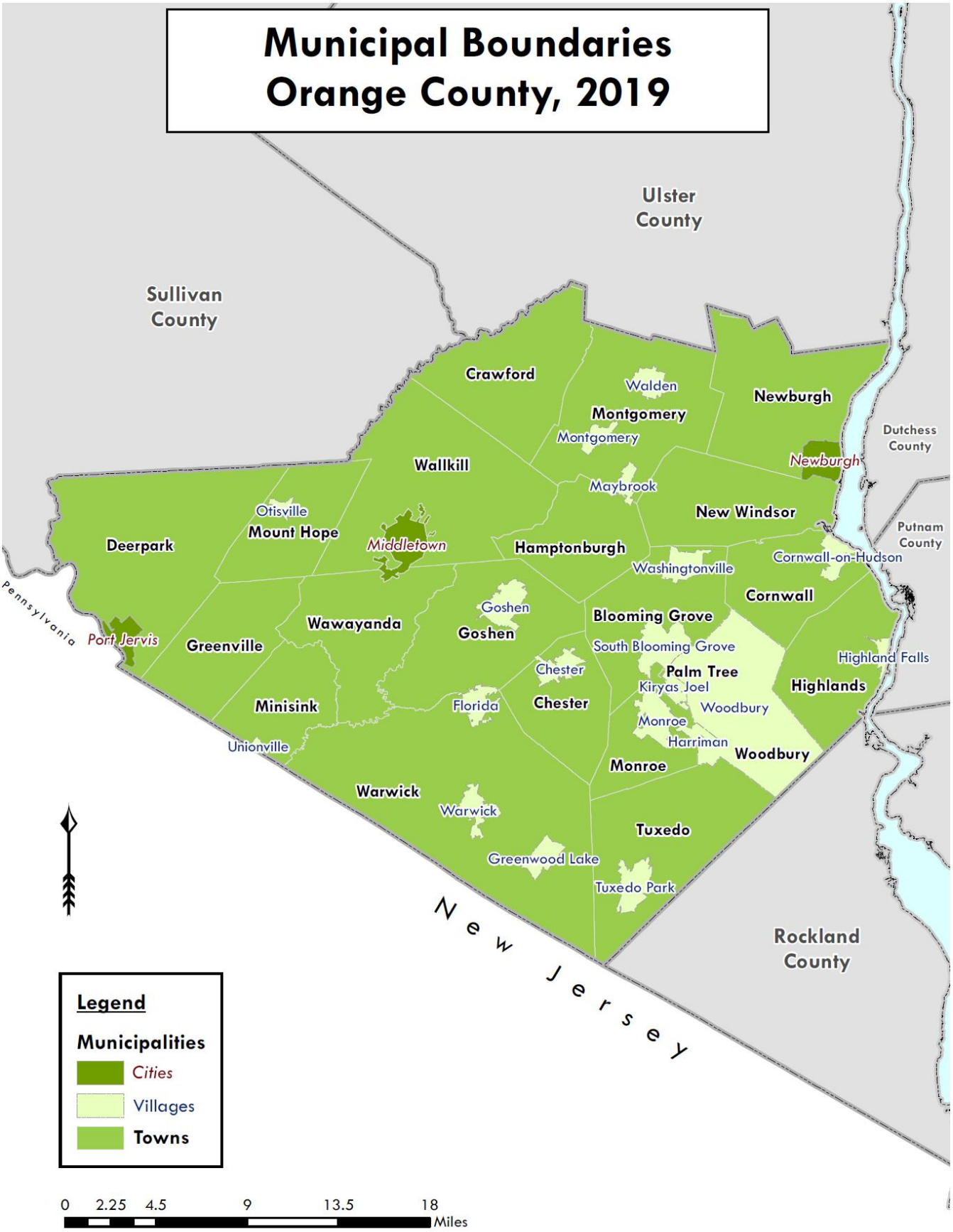
APPENDIX E


New York Mid-Hudson Region
Municipal Boundaries, 2019
Ulster
Dutchess
Sullivan
Putnam
Orange
Westchester
Rockland
Pennsylvania
New Jersey
Connecticut
Legend
Municipalities
Cities
Villages
Towns
County Boundaries
New York State
0 5 10 20 30 40
Miles

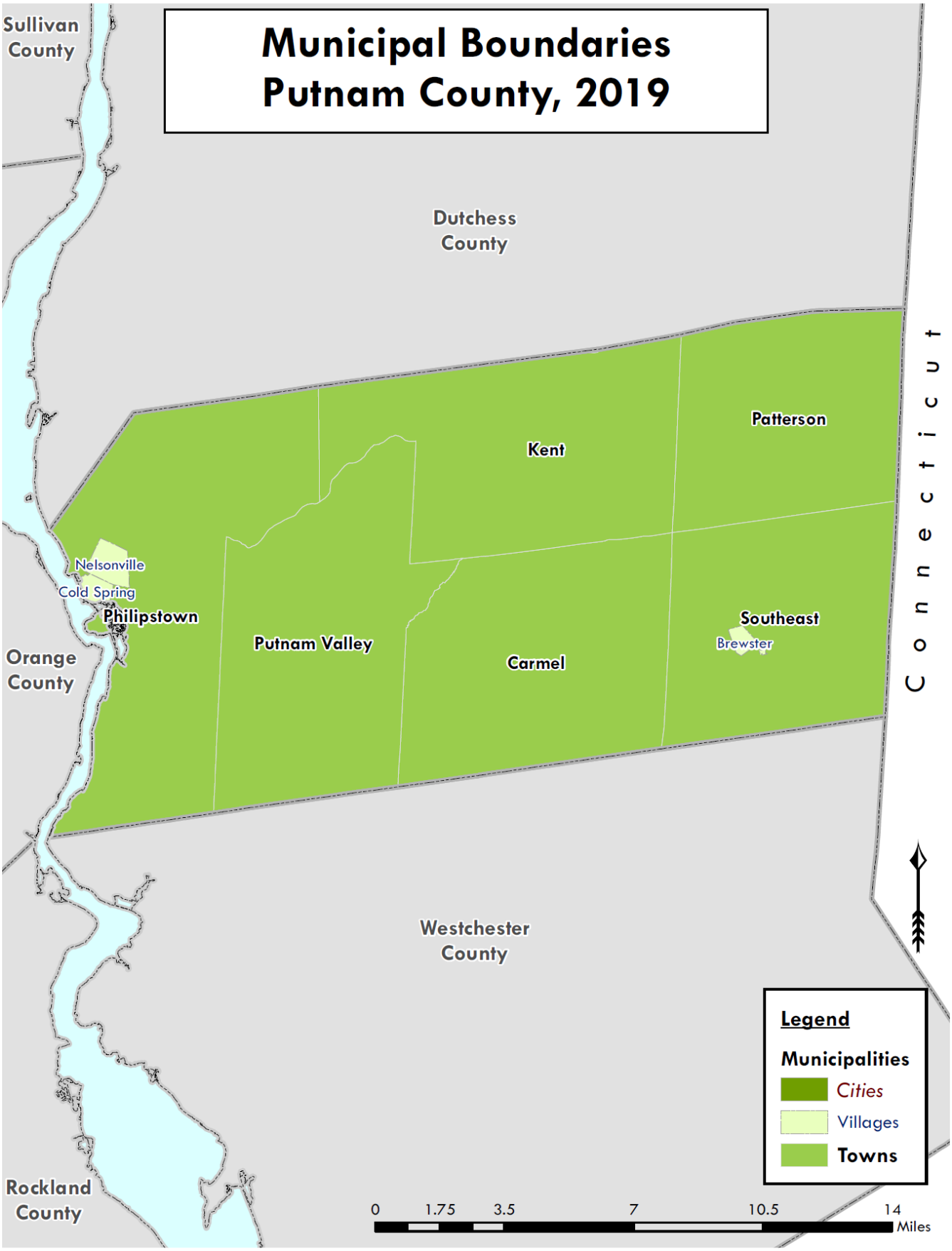
APPENDIX F


Municipal Boundaries
Dutchess County, 2019
Tivoli
Red Hook
Red Hook
Milan
Pine Plains
Millerton
North East
Rhinebeck
Rhinebeck
Stanford
Clinton
Ulster County
Amenia
Hyde Park
Washington
Millbrook
Pleasant Valley
Connecticut
Poughkeepsie
La Grange
Union Vale
Dover
Poughkeepsie
Beekman
Wappingers Falls
Wappinger
Pawling
Pawling
East Fishkill
Orange County
Fishkill
Fishkill
Beacon
Putnam County
Legend
Municipalities
Cities
Villages
Towns
0 2.5 5 10 15 20
Miles

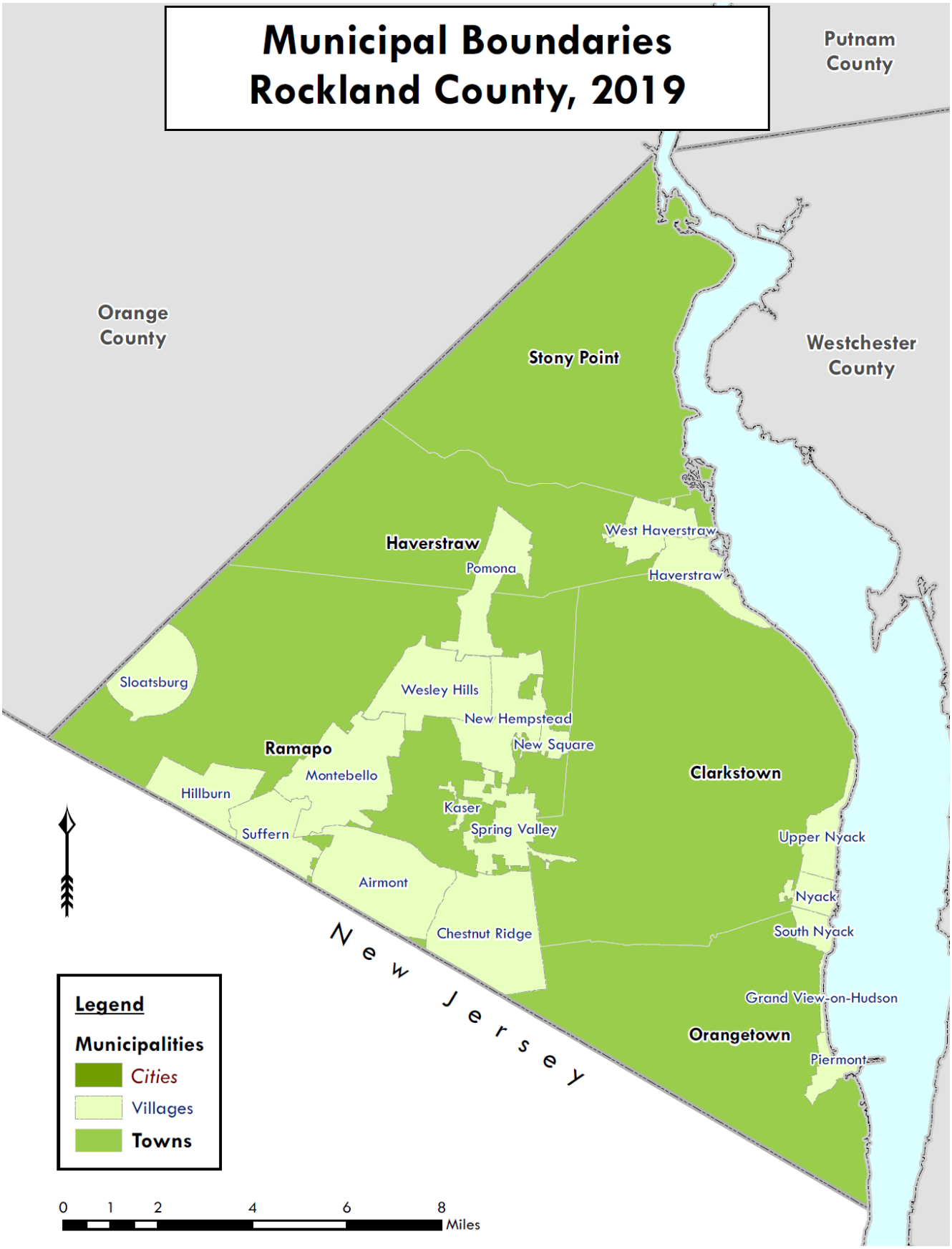
APPENDIX G


Municipal Boundaries
Orange County, 2019
Ulster County
Sullivan County
Dutchess County
Putnam County
Rockland County
New Jersey
Pennsylvania
Crawford
Walden
Montgomery
Montgomery
Newburgh
Newburgh
Wallkill
Maybrook
New Windsor
Otisville
Mount Hope
Middletown
Deerpark
Hamptonburgh
Washingtonville
Cornwall-on-Hudson
Cornwall
Goshen
Goshen
Blooming Grove
Wawayanda
Port Jervis
Greenville
South Blooming Grove
Highland Falls
Chester
Palm Tree
Kiryas Joel
Highlands
Minisink
Florida
Chester
Woodbury
Monroe
Harriman
Unionville
Woodbury
Monroe
Warwick
Warwick
Tuxedo
Greenwood Lake
Tuxedo Park
Legend
Municipalities
Cities
Villages
Towns
0 2.25 4.5 9 13.5 18
Miles

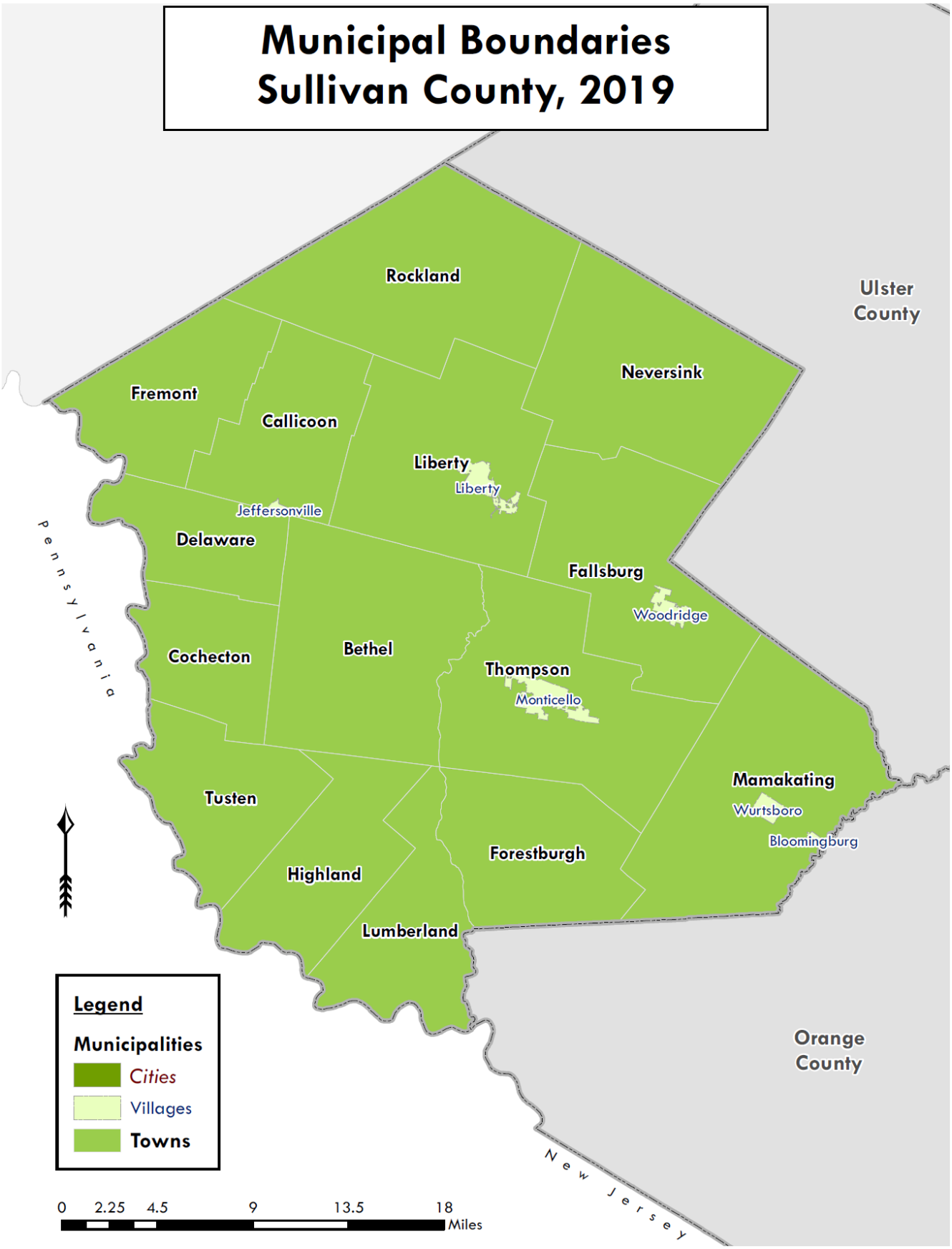
APPENDIX H


Municipal Boundaries
Putnam County, 2019
Sullivan County
Dutchess County
Orange County
Rockland County
Westchester County
Connecticut
Kent
Patterson
Philipstown
Putnam Valley
Carmel
Southeast
Nelsonville
Cold Spring
Brewster
Legend
Municipalities
Cities
Villages
Towns
0
1.75
3.5
7
10.5
14
Miles

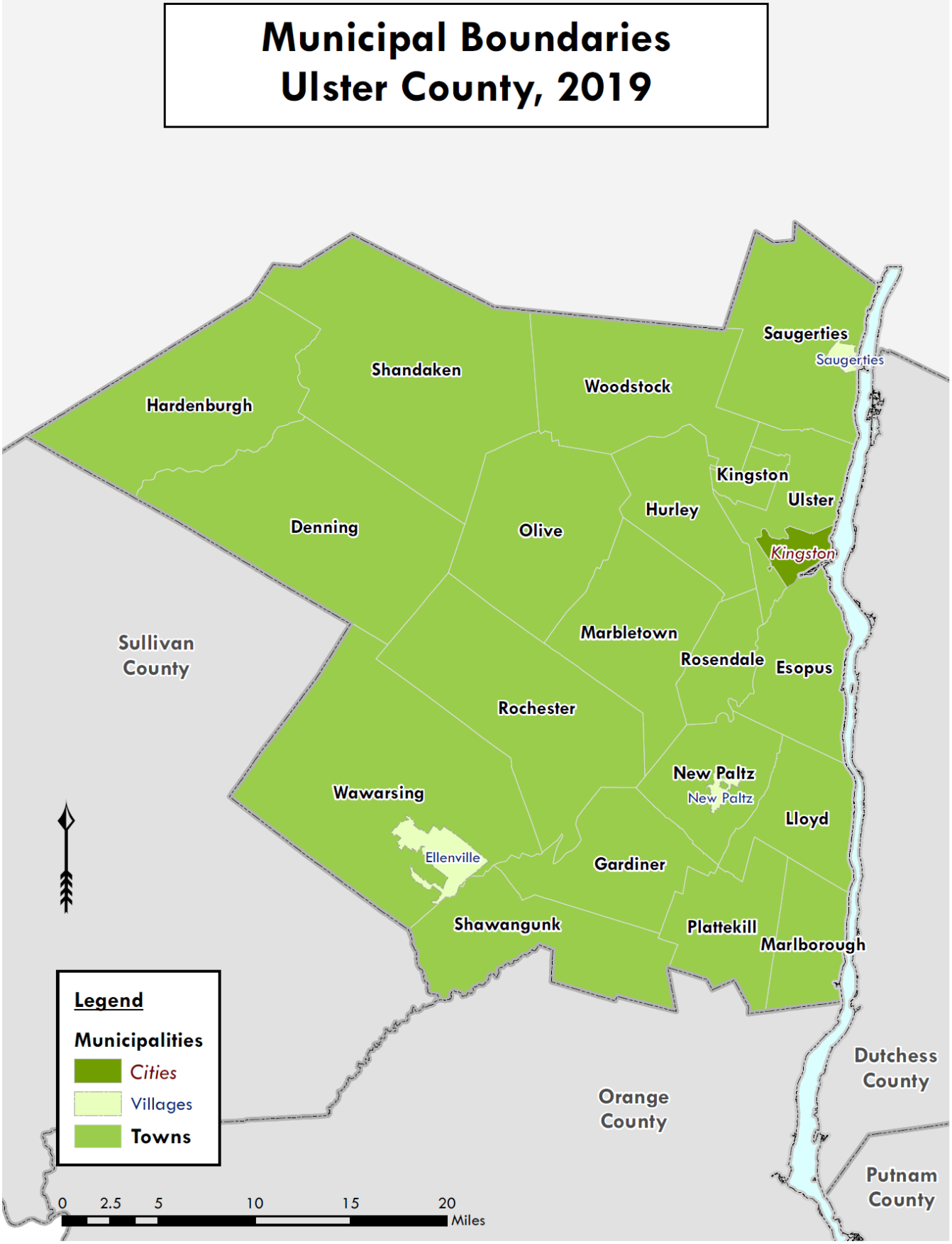
APPENDIX I


Municipal Boundaries
Rockland County, 2019
Putnam County
Orange County
Westchester County
Stony Point
Haverstraw
West Haverstraw
Haverstraw
Pomona
Sloatsburg
Wesley Hills
New Hempstead
New Square
Ramapo
Montebello
Hillburn
Kaser
Spring Valley
Suffern
Airmont
Chestnut Ridge
Clarkstown
Upper Nyack
Nyack
South Nyack
Grand View-on-Hudson
Orangetown
Piermont
New Jersey
Legend
Municipalities
Cities
Villages
Towns
0 1 2 4 6 8
Miles

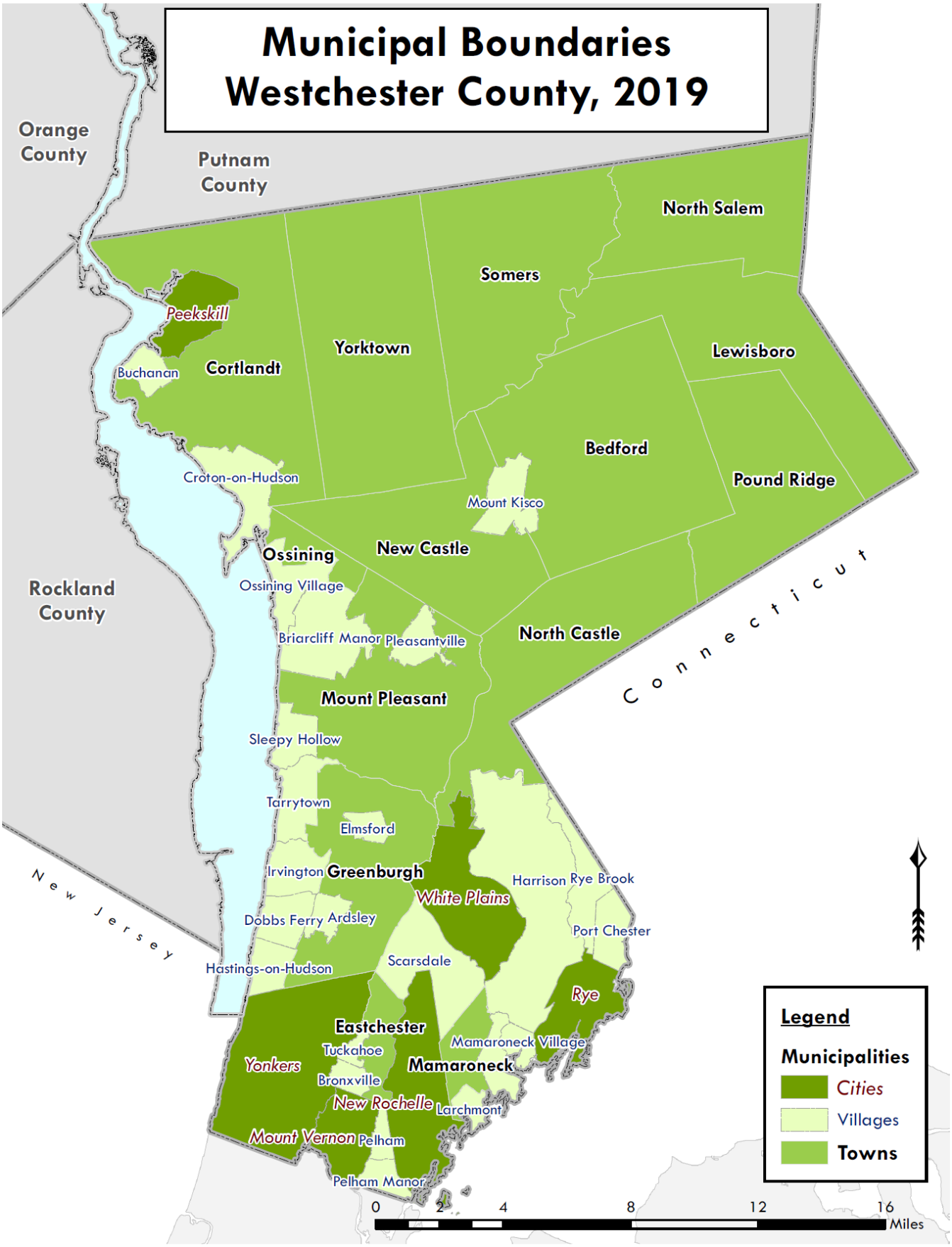
APPENDIX J


Municipal Boundaries
Sullivan County, 2019
Rockland
Ulster County
Neversink
Fremont
Callicoon
Liberty
Liberty
Jeffersonville
Delaware
Pennsylvania
Fallsburg
Woodridge
Cochecton
Bethel
Thompson
Monticello
Mamakating
Wurtsboro
Bloomingburg
Tusten
Forestburgh
Highland
Lumberland
Orange County
New Jersey
Legend
Municipalities
Cities
Villages
Towns
0 2.25 4.5 9 13.5 18
Miles

APPENDIX K


Municipal Boundaries
Ulster County, 2019
Saugerties
Saugerties
Shandaken
Woodstock
Hardenburgh
Kingston
Ulster
Hurley
Denning
Olive
Kingston
Marbletown
Sullivan County
Rosendale
Esopus
Rochester
New Paltz
New Paltz
Wawarsing
Lloyd
Ellenville
Gardiner
Shawangunk
Plattekill
Marlborough
Legend
Municipalities
Cities
Villages
Towns
Dutchess County
Orange County
Putnam County
0 2.5 5 10 15 20
Miles

APPENDIX L


Municipal Boundaries
Westchester County, 2019
Orange County
Putnam County
Rockland County
New Jersey
Connecticut
North Salem
Somers
Yorktown
Lewisboro
Peekskill
Cortlandt
Buchanan
Bedford
Pound Ridge
Croton-on-Hudson
Mount Kisco
Ossining
New Castle
Ossining Village
Briarcliff Manor
Pleasantville
North Castle
Mount Pleasant
Sleepy Hollow
Tarrytown
Elmsford
Irvington
Greenburgh
White Plains
Harrison
Rye Brook
Dobbs Ferry
Ardsley
Port Chester
Hastings-on-Hudson
Scarsdale
Rye
Eastchester
Tuckahoe
Mamaroneck Village
Yonkers
Mamaroneck
Bronxville
New Rochelle
Larchmont
Mount Vernon
Pelham
Pelham Manor
Legend
Municipalities
Cities
Villages
Towns
0 2 4 8 12 16
Miles

APPENDIX M

Data Informed Opioid Response Collaborative Membership List

1Life Project

Alcoholism and Drug Abuse Council of Orange County

Archdiocese of New York

Catholic Charities

Dutchess County Department of Behavioral & Community Health

Hudson Valley Community Services

Hudson Valley Regional EMS Council

Independent Living, Inc.

Montefiore Hudson Valley Collaborative

New York National Guard Counterdrug Task Force

Orange County Department of Health

Peekskill Police

POW'R Against Tobacco

Putnam County Department of Health

Regional Economic Community Action Program

Rockland Connects

Rockland County Department of Health

St. Luke's Cornwall Hospital

Sullivan County Public Health Services

The Council on Addiction Prevention & Education of Dutchess County, Inc.

Ulster County Department of Health and Mental Health

United Way of Dutchess and Orange

Westchester County Department of Health

APPENDIX N

Workplace Wellness Workgroup Membership List

American Heart Association

Catskill Hudson Area Health Education Center

Cornell Cooperative Extension

Dutchess County Department of Behavioral & Community Health

Eat Smart New York

Greater Hudson Valley Health System

HealthAlliance of the Hudson Valley

Independent Living, Inc.

Live Well Kingston

Mental Health Association of Rockland County

Orange County Mental Health Association

POW'R Against Tobacco

Rockland County Department of Health

Westchester County Department of Health

WMCHealth Performing Provider System

APPENDIX O

Social Determinants of Health Workgroup Membership List

Alzheimer's Association

Catskill Hudson Area Health Education Center

Dutchess County Department of Behavioral & Community Health

Ellenville Regional Hospital

Families Together in New York State

Lower Hudson Valley Perinatal Network

Maternal-Infant Services Network

Montefiore Hudson Valley Collaborative

MVP Healthcare

New York Medical College

Nuvance Health

Orange County Department of Health

Orange County Mental Health Association

Regional Economic Community Action Program

Rockland County Department of Health

Sullivan County Public Health Services

The Institute for Family Health

Westchester Community Opportunity Program

WMCHealth Performing Provider System

APPENDIX P

Behavioral Health Workgroup Membership List

Alcoholism and Drug Abuse Council (ADAC) of Orange County

Catskill Hudson Area Health Education Center

Dutchess County Department of Behavioral & Community Health

Independent Living, Inc.

Montefiore Hudson Valley Collaborative

MVP Healthcare

North Rockland School District

Nuvance Health

Open Door Family Medical Centers

Orange County Department of Health

Orange County Government - Mental Health Administration

Orange County Mental Health Association

Putnam County Department of Health

Recovery Coach Academy

Rehabilitation Support Services

Rockland County Department of Health

Rockland Jewish Family Service

Search for Change

Sullivan County Public Health Services

The Institute for Family Health

The Prevention Council of Putnam

Ulster County Department of Health and Mental Health

Ulster County Mental Health Association

Westchester County Department of Health

WMCHealth Performing Provider System

This Regional Community Health Assessment is made possible by HealtheConnections in collaboration with the hospitals and local health departments of the counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester.